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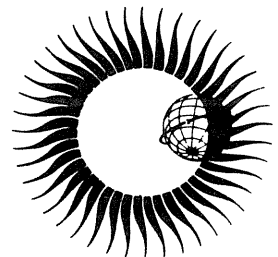
**COMBINED**  
**INTERNATIONAL CATALOG OF**  
**GEOMAGNETIC DATA**

C.C. Abston

N.E. Papitashvili

V.O. Papitashvili

July 1985



Published by:

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National Academy of Sciences  
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World Data Centers conduct international exchange of geophysical observations in accordance with the principles set forth by the International Council of Scientific Unions. WDC-A is established in the United States under the auspices of the National Academy of Sciences. Communications regarding data interchange matters in general and World Data Center A as a whole should be addressed to World Data Center A, Coordination Office (see address above). Inquiries and communications concerning data in specific disciplines should be addressed to the appropriate subcenter listed above.



**WORLD DATA CENTER A  
for  
Solar-Terrestrial Physics**

**WORLD DATA CENTER B2**

**WORLD DATA CENTERS C1 (GEOMAGNETISM)**

**WORLD DATA CENTERS C2 (GEOMAGNETISM)**

**REPORT UAG-92**

**COMBINED  
INTERNATIONAL CATALOG OF  
GEOMAGNETIC DATA**

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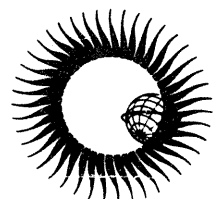
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Boulder, Colorado, USA 80303**



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Main body of handwritten text, consisting of several lines of cursive script. The text is very faint and difficult to decipher.

Bottom section of handwritten text, appearing to be a signature or a concluding statement. It includes some words that are partially legible, such as "I am" and "yours".



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## PREFACE

World Data Centers conduct international exchange of geophysical observations in accordance with the principles set forth by the International Council of Scientific Unions (ICSU). They were established in 1957 by the International Geophysical Year Committee (CSAGI) as part of the fundamental international planning for the IGY program to collect data from the numerous and widespread IGY observational programs and to make such data readily accessible to interested scientists and scholars for an indefinite period of time. WDC-A was established in the U.S.A.; WDC-B in the U.S.S.R.; and WDC-C, in Western Europe, Australia, and Japan. This new system for exchanging geophysical data was found to be very effective, and the operations of the World Data Centers were extended by ICSU on a continuing basis to other international programs; the WDC's were under the supervision of the Comité International de Géophysique (CIG) for the period 1960 to 1967 and are now supervised by the ICSU Panel on World Data Centres.

The current plans for continued international exchange of geophysical data through the World Data Centers are set forth in the "Fourth Consolidated Guide to International Data Exchange through the World Data Centres", issued by the ICSU Panel on World Data Centres, June 1979. These plans are broadly similar to those adopted under ICSU auspices for the IGY and IQSY. ICSU-sponsored exchange visits have taken place between WDC-A (Boulder) and WDC-B (Moscow) working staff for the overall purpose of improving data exchange between these centers. One goal was the creation of common formats for computer inventories and catalog publications. By joint agreement the first discipline for this effort was the collection of geomagnetic data. While this joint effort was developing, WDC-C2 for Geomagnetism (Kyoto) published a computer-based catalog of their geomagnetic holdings. A digital tape of this catalog was shared with WDC-A. After reformatting, this information was added to the joint catalog of holdings at WDC-A and WDC-B and the combined catalogs were published in Report UAG-86. This report, UAG-92, updates and supercedes UAG-86.

### Functions and Responsibilities of WDC's

The World Data Centers collect data and publications for the following disciplines: Glaciology; Meteorology; Oceanography; Rockets and Satellites; Solar-Terrestrial Physics disciplines (Solar and Interplanetary Phenomena, Ionospheric Phenomena, Flare Associated Events and Geomagnetic Phenomena, Aurora, Cosmic Rays, Airglow); Solid-Earth Geophysics disciplines (Seismology, Tsunamis, Gravimetry, Earth Tides, Recent Movements of the Earth's Crust, Rotation of the Earth, Magnetic Measurements, Paleomagnetism and Archeomagnetism, Volcanology, Geothermics); and Marine Geology and Geophysics. In planning for the various scientific programs, decisions on data exchange were made by the scientific community through the international scientific unions and committees. In each discipline the specialists themselves determined the nature and form of data exchange, based on their needs as research workers. Thus the type and amount of data in the WDC's differ from discipline to discipline.

The objectives of establishing several World Data Centers for collecting observational data were: (1) to insure against loss of data by the catastrophic destruction of a single center, (2) to meet the geographical convenience of, and provide easy communication for, workers in different parts of the world. Each WDC is responsible for: (1) endeavoring to collect a complete set of data in the field or discipline for which it is responsible; (2) safekeeping of the incoming data; (3) correct copying and reproduction of data, maintaining adequate standards of clarity and durability; (4) supplying copies to other WDC's; (5) preparation of catalogs of all data in its charge; and (6) making data in the WDC's available to the scientific community. Operating expenses for the WDC's are met by the sponsoring national institution in each host country and by appropriate charges to users.

### World Data Center A

The U.S. National Academy of Sciences has overall responsibility for World Data Center A through the Geophysics Research Board and its Committee on Geophysical Data. WDC-A consists of a Coordination Office at the NAS and discipline centers at scientific institutions in various parts of the United States. The GRB periodically reviews the activities of WDC-A and has conducted several studies on the effectiveness of the WDC system. As a result of these reviews and studies some of the centers have been relocated so that they could more effectively serve the scientific community. The addresses of the WDC-A centers and Coordination Office are given inside the front cover. For some data bases the responsibility is not simply based on discipline but may also reflect whether the data are collected on an experimental basis or for synoptic monitoring purposes and differing responsibilities of the sponsoring host institutions. For example, there are very close connections between WDC-A for Solar-Terrestrial Physics and WDC-A for Rockets and Satellites, which exchange solar-terrestrial geophysical data; if it is more convenient, data or requests may be sent to one WDC-A center through another.

## SECTION I

### Introduction

In this catalog we have attempted to: (1) consolidate all the geomagnetic data from standard, rapid-run, and digital measurements known to exist at all of the World Data Centers having responsibility for geomagnetic data; (2) indicate years of geomagnetic observatory operation from 1810; (3) provide the observed or simulated absolute 1980 values for all listed observatories; (4) provide first and most recent annual values for all listed observatories; (5) provide a list of alternate observatory names, and (6) provide a digital section including catalog inventory formats, data base design and all associated software coding necessary to manage, update, and produce the tables published here.

The World Data Centers with geomagnetic data holdings are located in Bombay, Boulder, Copenhagen, Edinburgh, Kyoto, and Moscow. Their holdings include data recorded before the IGY (when the WDC system was established). These geomagnetic data are held in the form of microfilm, magnetic tapes, yearbooks, and bulletins. They are in a variety of formats including magnetograms (normal, storm, and rapid-run), hourly values, 2.5-minute, 1-minute, and 10-second values, and various derived indices for individual observatories and global networks. Data from about 500 observatory locations are referenced in this catalog.

Section II, beginning on page 4, lists all observatories with their international 3-letter code, geographic, and geomagnetic coordinates. They are given first in alphabetical order and then sorted according to increasing geomagnetic co-latitude (dipole co-latitude). Some observatories are called by more than one name and where alternate names are known, these also are listed in Section II.

Section III is a map showing the location of all observatories listed in Tables 8a and 8b of this catalog.

Section IV is the main listing of the catalog and begins on page 63. It details for each observatory the years and months for which the WDC's retain digital data, magnetograms, or K and Q indices or annual values for the site. This information is also available on a standard magnetic tape in a common format adopted jointly by WDC-A for STP and WDC-B2.

Section V lists stations, codes, and dates for which there are holdings of high resolution geomagnetic digital data. These data are relatively new at the WDC's, most having come into existence as part of the program of data acquisition for the International Magnetospheric Study (IMS), 1976-1979. In general, where data exist with high time resolution there are also corresponding data averaged over less frequent sample times, e.g. 10-sec data also exist as 1-min and hourly averages. Often, summary values are plotted by computer on microfilm to provide a convenient means for visual examination of the high resolution data.

Section VI gives details about the availability of the principal derived magnetic activity indices other than the local K index for each observatory. Indices of geomagnetic activity may characterize the range and frequency of field variations at a single recording site or as measured by a physically significant array of observatories.

Section VII lists the actual software code prepared at WDC-A and WDC-B2 and used to manage this geomagnetic inventory and produce the various listings published here. The code is written in standard Fortran-77 and should operate on many different computer systems.

These geomagnetic data are available to users without restriction. Some WDC's must either recover their cost of data preparation or of reproduction. Inquiries and requests for data should be addressed to the nearest appropriate World Data Center. Their addresses are the following:

World Data Center-A for  
Solar-Terrestrial Physics  
NOAA/NGDC E/GC2  
325 Broadway  
Boulder, Colorado 80303  
USA

World Data Center B2  
Soviet Geophysical Committee  
Academy of Sciences of the USSR  
Moscow 117 296  
USSR

World Data Center C1 (Geomagnetism)  
Danish Meteorological Institute  
Division of Geophysics  
Lyngbyvej 100  
DK-2100 Copenhagen  
Denmark

World Digital Data Center-C1  
for Geomagnetism  
British Geological Survey  
Geomagnetism Research Group  
Murchison House  
West Mains Road  
Edinburgh EH9 3LA, Scotland

World Data Center C2  
for Geomagnetism  
Faculty of Sciences  
Kyoto University  
Kyoto 606  
Japan

World Digital Data Center C2  
for Geomagnetism  
Indian Institute of Geomagnetism  
Colaba  
Bombay 400005, India

While data copies are available by mail, working visits to the Data Centers are also encouraged. Such visits enable the user to browse through the archives and to have access to all the facilities of the Centers, and it is usually possible to minimize copying costs. Copying machines, microfilm readers and reader-printers, and calculators are available. Special arrangements may be made for the use of computers and other equipment. Arrangements for visits should be made in advance with the proposed World Data Center.

#### World Data Center A (Boulder)

Activities of WDC-A are coordinated by the U.S. National Academy of Sciences. WDC-A for STP holds the archive of magnetograms and digital geomagnetic data while WDC-A for Solid Earth is responsible for annual means and field models. Both are operated by the U.S. National Geophysical Data Center, NOAA.

Data received by WDC-A's (see inside front cover) are made available to the scientific community in a variety of ways: (1) in published reports containing data and results of experiments; (2) in digital form on magnetic tapes or discs; and (3) in tables, maps and analog records on either film or paper. WDC-A publications are exchanged with other Centers and data suppliers, and are available on a subscription basis to anyone. Observations in other formats are available upon request either in exchange for data of a comparable kind and quantity or for the cost of accessing and reproducing the measurements.

#### World Data Center B2 (Moscow)

The Academy of Sciences of the U.S.S.R. has overall responsibility for World Data Center B through the Soviet Geophysical Committee. WDC-B consists of two discipline centers: WDC-B1 (Glaciology, Meteorology and Oceanography) and WDC-B2 (Solar-Terrestrial Physics and Solid-Earth Geophysics). The addresses of the WDC-B centers are given above. The Soviet Geophysical Committee periodically reviews the activities of WDC-B and has conducted several studies on the effectiveness of the WDC system.

Data received by WDC-B are made available to the scientific community in the same ways as from the WDC-A centers--for the cost of accessing and reproducing the observational data.

#### World Data Center C1 (Copenhagen)

The Danish National IUGG Committee and the Danish Meteorological Institute are responsible for the administration of the WDC-C1 for Geomagnetism. The centre is part of the geomagnetic section of the Division of Geophysics. In the present catalogue normal-run magnetograms and geomagnetic hourly values are included. In addition the data collected in the center cover rapid-run magnetograms, tellurigrams, earth current, geomagnetic indices and a list of special events. Most of the data are held in the form of microfilm and microfiche, and some are publications such as annual reports.

### World Digital Data Center C1 (Edinburgh)

WDDC-C1 for Geomagnetism was established in 1966 in response to an IAGA resolution which recommended the creation of several digital data centres to satisfy the growing demand for digital data. The principal type of digital data held by WDDC-C1 are: (1) Annual, hourly and 2.5-min values from the worldwide network of geomagnetic observatories; (2) Marine, aerial satellite and repeat station magnetic survey data; (3) U.K. observatory data: Annual, hourly and minute values; (4) Array magnetometer data covering both IGY and IMS epochs.

WDDC-C1 is operated by the Geomagnetism Research Group of the British Geological Survey, which in turn is a component body of the Natural Environment Research Council.

### World Data Center C2 (Kyoto)

The World Data Center C2 for Geomagnetism is operated by the Data Analysis Center for Geomagnetism and Space Magnetism, Faculty of Science, Kyoto University. Data requests should be sent to the address on page 2. The following is a list of the WDC-C2's in Japan:

WDC-C2 for Airglow (Tokyo University)  
WDC-C2 for Aurora (National Institute of Polar Research)  
WDC-C2 for Solar Radio Emission (Nagoya University)  
WDC-C2 for Solar-Terrestrial Activity (Institute for Space and Aeronautical Sciences)  
WDC-C2 for Ionosphere (Radio Research Laboratories)  
WDC-C2 for Nuclear Radiation (Japan Meteorological Agency)

### World Digital Data Center C2 (Bombay)

The overall responsibility of the World Digital Data Centre C2 for Geomagnetism is with Director, Indian Institute of Geomagnetism, Colaba, Bombay 400005 India. The data received by this centre are made available to the scientific community in the same way as other WDC's at very nominal cost for reproducing the observations.

### Catalog of Data

This catalog, UAG-92, covers the data of standard, rapid run and digital measurements, subdiscipin D.1 in the ICSU Fourth Consolidated Guide to International Data Exchange through the World Data Centres, June 1979 associated with the ground-based monitoring of geomagnetic phenomena by standard and rapid-run measurements that have been received by WDC-A, WDC-B2 and WDC-C2 in both analog and digital form. This publication supersedes all previous catalogs of these data published by WDC-A, WDC-B, WDC-C1's and WDC-C2's.

### Acknowledgments

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## SECTION II

### Lists of Observatories, Codes, Coordinates, Annual Values and Years of Operation

Seven separate lists of geomagnetic observatories are presented in this section as described below. Tables 3 and 4 give all observatories ordered alphabetically and by geomagnetic co-latitude, respectively.

The listed observatories are those for which annual data are held in at least one of the WDC's. Their names, international 3-letter codes, and geographic coordinates are consistent with those given in the IAGA News of December 1979. We have corrected or updated entries where appropriate. Corrections to the information published here should be communicated to any appropriate World Data Center. Proposed new entries or other changes to this list should be approved by the appropriate IAGA Working Group or their designated agent.

Magnetic coordinates were calculated from the geographic coordinates for each observatory using the dipole, Gustaffsson, and Tsyganenko models. The geomagnetic dipole coordinates, co-latitude  $0'$  and each longitude  $0'$ , were defined by Schmidt (1895) in "Mitteilungen uber eine neue Berechnung des Erdmagnetischen Potentials". For these dipole coordinate calculations, geographic coordinates used for the North Geomagnetic Pole were  $11.32^\circ$  co-latitude and  $289.59^\circ$  East longitude.

Gustaffsson's corrected geomagnetic coordinates were computed according to the method described in "A Revised Corrected Geomagnetic Coordinate System," Ark. Geophysics, 5, 595-617, and also given in Kiruna Geophysical Observatory Report no. 694 (April 1969). These coordinates are given for all observatories with geographic latitudes greater than  $2^\circ$  to  $16^\circ$ , depending on longitude. They are not defined for sites within a latitude band of varying width near the geomagnetic equator, and observatories in this region have no entry in this column in Tables 3 and 4.

Tsyganenko's corrected geomagnetic coordinates were computed according to the method described in Tsyganenko, N.A., "Subroutines and Tables for the Geomagnetic Field Computations," Materials for the WDC-B2, Moscow, 1979 and in "Numerical Models of Quiet and Disturbed Geomagnetic Field in the Cislunar Part of the Magnetosphere," Annales de Geophysique, 37, 381-394, 1981. These coordinates are not given for all observatories within  $+30^\circ$  to  $-30^\circ$  geographic latitudes and they have no entry in this column in Tables 3 and 4.

IGRF calculated annual mean values for 1980 were included in Tables 3 and 4 were no annual means for 1980 were available. IGRF calculated values are marked by an asterisk (\*).

- Table 1. Alphabetically Sorted Alternate Name List. Since some observatories are more commonly known by a label other than the one used in this catalog, we tabulate here their alternate name or names.
- Table 2. Alphabetically Sorted List of Replacement Observatories. Here we tabulate stations that began near the site of a closed facility with perhaps a period of concurrent operation. We consider such sites as "replacement observatories".
- Table 3. Alphabetical listing of all observatories for which data are held at WDC-A for STP, WDC-B2, WDC-C1's, WDC-C2's.
- Table 4. Observatory listing sorted by increasing dipole geomagnetic co-latitude.
- Table 5. Alphabetical listing of the earliest and latest complete annual values from each observatory.
- Table 6. Alphabetical listing giving a complete log of years of operation for each observatory from 1810 - 1899.
- Table 7. Alphabetical listing giving a complete log of year of operation for each observatory from 1900 - present.

Table 1

Alternate/Replacement Observatories

<u>Other Name</u>	<u>Observatory Names used in this catalog</u>	<u>Other Name</u>	<u>Observatory Names in this catalog</u>
Amsterdam Island	Martin de Vivies	N Stekoliniy	Magadan
Amundsen Scott	South Pole	Nida	Nyda
Arctica I (NP-6)	North Pole 6	Ny-Alesund	New Aalesund
Arctica II (NP-7)	North Pole 7	Paratunka	Petropavlovsk
Arctica (NP-8)	North Pole 8	Patrony	Irkutsk
Arctica (NP-10)	North Pole 10	Peking	Beijing
Arequipa	Characato	Pleshentzi	Minsk
Athens	Pendeli	Podkamennaya Tunguska	P. Tunguska
Azores	Sao Miguel	Point Barrow	Barrow
Baudouin	Roi Baudouin	Puerto Rico	San Juan
Bereznyaki	Karaganda	Pruhonice	Prague
Bjornoya	Bear Island	Reykjavik	Leirvogur
Centro Geoficiso	Havana	She-shan	Sheshan
Chelyuskin	Cape Chelyuskin	Sanae Station	Sanae
Christchurch	Amberley	Shanghai	Sheshan
Colaba	Alibag	Syowa Base	Syowa Station
Crozet	Port Alfred	Stepanovka	Odessa
Dehra Dun	Sabhawala	Stekolinii	Magadan
Dikson	Dixon Island	St. Petersburg	Leningrad
Druzhnaya	Heiss Island	Tevris	Tevriz
Dusheti	Tbilisi	Tahiti	Pamatai
Dymer	Kiev	Tenerife	Canarias
Fanning	Fanning Island	Thule/Camp Tuto	Thule AFB
Faraday	Argentine Islands	Thule/Qanaq	Thule
Genova	Monte Capellino	Thule I	Thule
Goose Bay	Melville AFB	Thule II	Thule
Gornotayezhnaya	Vladivostok	Tikhaya Bay	Heiss Bay
Hawaii	Honolulu	Tiksi Bay	Tixie Bay
Hachijo(Hachiyojima)	Hatizyo	Tortosa	Ebro
Hallett	Cape Hallett	Tunguska	P. Tunguska
Isla de Pascua	Easter Island	Uelen	Cape Wellen
Kamchatka	Petropavlovsk	Ussurisk	Vladivostok
Karavia	Elizabethville	Vannovskaya	Ashkhabad
Kazalinskaya	Novokazalinskaya	Voyeykovo	Leningrad
Kerguelen	Port-aux-Francais	V. Dubrova	Sverdlovsk
Kinshasa-Binza	Binza	Vyssokaya Dubrava	Sverdlovsk
Kleine Karmakul	Maliye Karmakuly	Voroshilov	Vladivostok
Klyuchi	Novosibirsk	Warsawa	Swider
Krasnaya Pakhra	Moscow	White Shell	Whiteshell
Las Mesas	Canarias	Wien Auhof	Wien-Kobenzl
Lazarev	Novolazarevskaya	Yangi-Bazar	Tashkent
Leopoldville	Binza	Zaymishche	Kazan
Lourenzo Marquez	Maputo	Zo-Se	Sheshan
Luanda Belas	Luanda	Zuy	Irkutsk
Loparskaye	Murmansk		

Table 2

REPLACEMENT OBSERVATORIES

<u>MOST RECENT OBSERVATORY NAME</u>	<u>EARLIER OBSERVATORY NAME</u>
Amatsia.....	Modiim, previously Nitsanim
Alibag.....	Colaba
Brorfelde.....	Rude Skov, previously Copenhagen
Castellaccio.....	Pola
Chambon-la-Foret.....	Val Joyeux
Dourbes.....	Uccle
Dumont d'Urville.....	Terre Adelie
Elizabethville.....	Karavia
Eskdalemuir.....	Kew
Fredericksburg.....	Cheltenham
Gnangara.....	Watheroo
Hartland.....	Abinger, previously Greenwich
Hatizyo.....	Hachijo
Hatizyo.....	Hatijo
Hermanus.....	Cape Town
Heiss Island.....	Tikhaya Bay
Kakioka.....	Tokyo
Lauder.....	Amberley, previously Christchurch
Misallat.....	Helwan
Muntinlupa.....	Antipolo, previously Manila
Niemegk.....	Seddin, previously Potsdam
Ottawa.....	Agincourt, previously Toronto
Pamatai.....	Tahiti
Patacamaya.....	La Paz
Plaisance.....	Mauritius
Roburent.....	Monte Capellino
Sabhawala.....	Dehra Dun
Sanae.....	Norway Station
San Pablo.....	Toledo
San Juan.....	Vieques
Tangerang.....	Kuyper, previously Batavia
Tihany.....	Budakeszi
Tilaron.....	Costa Rica
Vassouras.....	Rio de Janeiro
Wingst.....	Wilhelmshaven
Witteveen.....	De Bilt



TABLE 3

## GEOMAGNETIC OBSERVATORY TABLE

FOR  
1 9 8 0

(SEQUENCED BY OBSERVATORY NAME)

OBSERVATORY	GEOGRAPHIC		GEOMAGNETIC MODELS				ANNUAL VALUES							
	CODE	COORDINATES		DIPOLE		GUSTAFFSSON		OBSERVED	OR	IGRF	CALCULATED(*)			
		LAT	LONG	CO-LAT	E LONG	CO-LAT	E LONG				D	H	Z	X
ABINGER	ABN	51.19	359.61	38.81	36.30	84.46	42.10	79.20	42.11	79.18	19024	43811	18918	-2005*
ABISKO	ABK	68.36	18.82	21.64	24.17	115.70	24.96	103.32	24.96	103.31	11798	51070	11784	566
ADAK	ADA	51.87	183.36	38.13	42.50	241.36	43.17	244.88	43.74	245.00	21897	42676	21641	3339*
ADDIS ABABA	AAE	9.03	38.77	80.97	84.83	110.50	90.96	109.98	-	36075	407	36073	36073	-367
AGINGCOURT	AGN	43.78	280.73	46.22	35.07	348.84	34.17	353.36	34.12	353.35	16906	55313	16685	-2723*
ALERT	ALE	82.50	297.50	7.50	4.03	165.16	3.30	115.03	3.21	117.77	3669	55887	829	-3574
ALIBAG	ABG	18.64	72.87	71.36	80.56	144.94	78.68	144.64	-	38282	17576	38278	38278	-518
ALMA ATA	AAA	43.25	76.92	46.75	56.53	151.87	52.03	148.71	52.02	148.70	25416	47923	25339	1982
ALMERIA	ALM	36.85	357.54	53.15	49.69	76.58	60.58	73.76	60.66	73.72	26689	33367	26590	-2294
AMATSIYA	AMT	31.55	34.92	58.45	62.04	111.48	65.74	106.28	65.71	106.22	30447	31765	30417	1362
AMBERLEY	AML	43.15	172.72	133.15	137.33	253.79	139.83	255.90	139.87	255.92	21312	-54641	19705	8118*
AMDERMA	AMD	69.47	61.42	20.53	29.27	147.68	25.54	138.05	25.55	137.94	9766	55773	8967	3869*
ANCHORAGE	AMU	61.24	210.13	28.76	28.75	259.73	29.25	262.11	29.26	262.06	15248	53429	13747	6598*
ANDREWS AFB	AWS	38.82	283.13	51.18	39.95	352.15	39.17	356.40	39.05	356.40	19791	51815	19545	-3113*
ANGRA HEROISMO	ANH	38.32	332.78	51.68	43.93	50.70	52.98	54.33	53.01	54.39	24661	37003	23811	-6420*
ANWAMALAINAGAR	ANN	11.37	79.68	78.63	88.50	150.72	83.22	151.24	83.22	151.24	40309	4213	40267	-1832
ANTIPOLLO	ANO	14.60	121.17	75.40	86.50	191.21	87.27	191.73	87.27	191.73	39293	10232	39291	-418*
APIA	API	13.81	188.23	103.81	105.75	261.58	105.23	261.90	105.23	261.90	34393	-19991	33579	7436
ARCTIC ICE FLO	AIF	83.53	193.05	6.47	13.65	208.33	10.61	212.50	10.64	212.40	42.89	2301	1686	1566*
ARCTIC VILLAGE	AVI	68.13	214.43	21.87	21.77	256.17	21.49	260.13	21.51	259.96	10425	56431	8827	5546*
ARGENTINE ISLAND	AIA	-65.25	295.74	155.25	143.96	4.37	139.30	9.17	139.22	8.99	22360	-34742	21401	6477
ARKHANGELSK	ARK	64.60	40.50	25.40	31.17	129.25	29.82	118.02	29.79	118.02	12777	51774	12457	2842*
ARTI	ARS	56.43	58.57	33.57	41.52	139.56	38.26	131.61	38.25	131.60	16653	52700	16312	3353
ASHKHBAD	ASH	37.95	58.11	52.05	59.57	134.30	57.30	129.78	57.31	129.77	27589	40940	27521	1941
ASO	ASO	32.88	131.01	57.12	67.74	199.35	64.36	201.99	64.37	202.01	32222	34058	32042	-3402*
ATHENS	ATH	37.97	23.72	52.03	53.70	102.64	58.92	96.31	58.92	96.23	26287	36589	26275	798*
AU TAU	AUT	22.45	114.05	67.55	78.85	184.19	75.04	184.82	75.11	184.83	38188	22969	38173	-1053*
AUCKLAND ISLAND	AU*	-50.87	166.08	140.87	145.98	250.20	149.22	253.12	149.27	253.19	15805	-60953	14024	7288*
AVERROES	AVE	33.30	352.59	56.70	52.22	70.44	65.34	69.15	65.50	69.13	28095	30115	27899	-3317*
BACK	BKC	57.68	265.77	32.32	22.39	325.46	21.38	329.56	21.28	329.34	8042	60702	8032	410*
BAGUIO	BAG	16.42	120.60	73.58	84.71	190.60	81.36	191.18	81.36	191.18	39058	13113	39053	-648*
BAKER LAKE	BLC	64.33	263.97	25.67	16.18	317.71	15.36	323.91	15.21	323.69	4637	60650	4633	201
BALDWIN	BAL	38.78	264.83	51.22	41.15	330.24	40.41	330.94	40.34	330.77	20703	52096	20578	2275*
BANGKOK	BKK	13.72	100.57	76.28	87.47	171.23	85.06	171.55	85.06	171.55	41080	8248	41079	-223*
BANGUI	BNG	4.44	18.57	85.56	85.46	89.86	98.43	89.59	98.43	89.59	32150	-9086	32102	-1750

(ALL VALUES AS OF 1980.5)

OBSERVATORY	CODE	G E O G R A P H I C		G E O M A G N E T I C		M O D E L S		A N N U A L V A L U E S						
		COORDINATES		DIPOLE		GUSTAFFSSON		TSYGANENKO		OBSERVED	OR	IGRF	CALCULATED(*)	
		LAT	LONG	CO-LAT	E LONG	CO-LAT	E LONG	CO-LAT	E LONG				D	H
BARNAUL	BM*	53.33	83.78	36.67	47.09	159.20	41.67	155.79	17958	55796	17796	2409*		
BARRACKPORE	BAC	22.78	88.36	67.22	77.84	160.02	74.86	159.80	38598	23671	38594	-559*		
BARROW	BRW	71.32	203.38	18.68	21.09	242.66	20.33	248.14	9798	56409	8815	4277		
BARTER ISLAND	BTI	70.13	216.02	19.87	19.78	254.50	19.24	259.15	34.92	8940	56963	5118*		
BARTH	BAH	54.37	12.75	35.63	35.86	98.98	39.43	90.89	-71	17471	45717	-216*		
BATAVIA	BTV	-6.18	106.83	96.18	107.48	177.12	106.08	177.69	.45	37396	-24118	37395	294*	
BEAR ISLAND	BJN	74.50	19.20	15.50	19.05	125.03	18.96	110.18	3.25	9280	52920	9265	526	
BEIJING	BJI	40.04	116.18	49.96	61.22	185.74	56.35	187.77	-5.99	29611	46183	29449	-3091	
BELLY ISLAND	BEY	73.30	70.00	16.70	26.40	155.67	22.13	147.04	28.57	7436	57107	6531	3556*	
BELOIT	BLT	39.48	261.87	50.52	40.77	326.62	40.10	326.94	8.28	20620	52271	20405	2970*	
BELSK	BEL	51.84	20.79	38.16	39.80	105.12	42.59	96.62	2.62	19063	45418	19043	871	
BEUTHEN	BEU	50.35	18.92	39.65	40.85	102.70	44.26	94.61	1.50	19437	44275	19430	509*	
BEUTHEN MIKILLOW	BMK	50.15	18.90	39.85	41.04	102.59	44.49	94.53	1.48	19539	44173	19532	505*	
BIG DELTA	BDE	64.00	214.27	26.00	25.45	260.95	25.62	263.72	29.28	13011	55291	11349	6363*	
BINZA	BIN	-4.27	15.37	94.27	93.34	85.01	106.87	85.68	-6.70	26563	-19703	26382	-3099*	
BOCHUM	BOC	51.49	7.23	38.51	37.50	92.15	42.37	85.40	-2.77	18887	44122	18865	-913*	
BODO	BOD	69.30	14.42	20.70	22.56	113.40	23.66	100.91	-46	11217	50930	11217	-90*	
BOROK	BOX	58.03	38.97	31.97	37.13	124.14	36.44	114.21	9.33	15688	49557	15480	2543*	
BOSSEKOP	BOP	69.97	23.25	20.03	23.52	121.05	23.63	108.01	5.33	10908	51579	10861	1013*	
BOULDER	BOU	40.14	254.76	49.86	40.96	318.22	40.72	317.98	12.23	21349	51156	20864	4525	
BOUZAREAH	BZR	36.80	3.02	53.20	50.79	82.10	60.99	78.21	-3.20	26656	33738	26614	-1488*	
BRESLAU	BS*	51.12	17.03	38.88	39.77	101.29	43.31	93.28	.91	19050	44506	19048	303*	
BRISBANE	BRS	-27.53	152.92	117.53	125.35	228.63	126.56	226.68	10.97	28572	-46059	28050	5437*	
BRORFELDE	BFE	55.63	11.67	34.37	34.46	98.71	37.94	90.50	-1.48	17204	46040	17198	-445	
BUCHAREST	BVC	44.42	26.10	45.58	47.92	106.98	51.10	99.51	2.82	22618	41603	22591	1113*	
BUDAKESZI	BUZ	47.52	18.90	42.48	43.55	101.44	47.53	93.84	1.35	20912	42771	20906	493*	
BUDAPEST	HB*	47.50	19.03	42.50	43.60	101.56	47.55	93.96	1.39	20923	42771	20917	508*	
BUDKOV	BDV	49.08	14.02	40.92	41.12	97.50	45.55	90.17	-.08	20323	43140	20323	-29	
BURLINGTON	BRT	39.38	257.73	50.62	41.33	321.83	40.91	321.73	10.60	21213	51449	20851	3902*	
BYRD STATION	BYR	-80.02	240.48	170.02	160.62	336.71	157.94	353.68	70.88	16257	-55648	5325	15360*	
CAMBRIDGE BAY	CBB	69.20	255.00	20.80	13.09	297.09	12.21	303.93	27.41	3095	60054	2747	1425	
CAMPBELL ISLAND	CAI	-52.50	169.20	142.50	146.96	254.43	150.26	258.16	29.97	15322	61148	13273	7654*	
CANARIAS	TEN	28.48	343.74	61.52	55.36	59.99	70.16	61.38	-10.21	29232	24047	28768	-5185	
CANBERRA	CAN	-35.32	149.36	125.32	133.61	226.14	135.71	226.06	12.14	23813	-53770	23280	5011	
CAP THORSEN	SL*	78.47	15.70	11.53	15.56	131.88	14.96	114.97	-.55	7631	53616	7631	-73*	

(ALL VALUES AS OF 1980.5)

OBSERVATORY	CODE	G E O G R A P H I C		G E O M A G N E T I C				M O D E L S				A N N U A L				V A L U E S			
		COORDINATES		DIPOLE		GUSTAFFSSON		TSYGAMENKO		OBSERVED		OR		IGRF		CALCULATED(*)			
		LAT	LONG	CO-LAT	E LONG	CO-LAT	E LONG	CO-LAT	E LONG	D	H	Z	X	Y	D	H	Z	X	Y
CAPE CHELYUSKIN	CCS	77.72	104.28	12.28	23.59	177.17	18.71	175.06	18.71	174.99	15.33	3460	59150	3337	915				
CAPE GOOD HOPE	CGH	-33.93	18.48	123.93	122.96	81.40	131.56	80.36	131.66	80.36	-23.68	11287	-25855	10337	-4533*				
CAPE HALLETT	HLL	-72.32	170.22	162.32	164.45	278.76	167.40	299.46	167.38	298.79	111.09	6994	-64985	-2517	6526*				
CAPE KAMENNIY	CKA	68.50	73.60	21.50	31.34	155.53	26.67	148.28	26.67	148.16	23.28	9285	57525	8529	3670*				
CAPE PARRY	CPY	70.17	235.28	19.83	16.01	271.95	15.29	276.44	15.21	276.11	44.58	5978	58582	4258	4196*				
CAPE SCHMIDT	CPS	68.92	180.52	21.08	26.90	228.72	25.78	235.01	25.82	235.06	8.00	12539	54528	12417	1745*				
CAPE TOWN	CTO	-33.95	18.47	123.95	122.98	81.38	131.58	80.27	131.67	80.34	-23.69	11286	-25852	10335	-4535*				
CAPE WELLEN	CWE	66.16	190.17	23.84	27.89	238.48	27.61	243.70	27.58	243.71	14.78	14195	53530	13725	3622				
CAPE ZHELANIA	CZA	77.00	68.60	13.00	22.77	157.58	18.76	148.26	18.77	148.08	32.04	6113	56855	5182	3243*				
CAPODIMONTE	CPD	40.86	14.26	49.14	49.06	94.51	55.62	88.42	55.66	88.33	-0.05	24561	37972	24561	-21*				
CAPRI	CPI	40.55	14.22	49.45	49.36	94.37	56.02	88.33	56.05	88.24	-0.07	24734	37730	24734	-30*				
CARROLLTON	CAX	39.37	266.47	50.63	40.42	332.06	39.57	333.04	39.49	332.98	5.07	20178	52728	20099	1783*				
CASEY	CSY	-66.28	110.53	156.28	167.59	181.76	170.79	154.48	170.86	154.86	-95.82	9223	-63241	-935	-9175*				
CASPER	CSR	42.83	253.63	47.17	38.46	316.17	38.14	315.98	38.06	315.91	13.46	19625	53433	19086	4568*				
CASTELLACCIO	CAO	44.43	8.93	45.57	44.58	90.64	51.01	84.73	51.07	84.63	-1.63	22570	40127	22561	-642				
CASTLE ROCK	CRC	37.24	237.87	52.76	46.36	300.27	47.12	299.72	47.12	299.66	16.24	24101	44746	23139	6740*				
CEBU	CCP	10.30	123.90	79.70	90.67	194.07	87.78	194.42	87.78	194.42	.15	39400	3419	39400	103*				
CHA PA	CPA	22.35	103.83	67.65	78.92	174.57	75.36	174.82	75.40	174.77	-0.78	38929	23036	38925	-530*				
CHAMBON-LA-FORET	CLF	48.02	2.26	41.98	39.83	85.57	46.14	80.31	46.20	80.24	-4.34	20844	42116	20784	-1579				
CHANGCHUN	CNH	43.83	125.30	46.17	57.15	193.44	52.81	196.92	52.79	196.93	-8.91	26609	47480	26288	-4121*				
CHARACATO	ARE	-16.47	288.52	106.47	95.15	358.96	92.32	359.33	92.32	359.33	1.29	25807	-2620	25800	581*				
CHARCOT	CTX	-69.37	139.03	159.37	167.92	235.89	173.45	242.60	173.40	242.69	165.00	3413	-66275	-3297	883*				
CHATONMAYE	CTE	46.67	06.83	43.33	42.02	89.50	48.10	83.61	48.19	83.50	-2.49	21364	41446	21344	-928*				
CHELTENHAM	CLM	38.73	283.16	51.27	40.04	352.18	39.26	356.42	39.17	356.49	-9.06	19857	51719	19609	-3127*				
CHESTERFIELD INL	CFI	63.33	269.28	26.67	16.52	327.34	15.12	330.07	15.64	333.68	-10.62	4659	60390	4579	-859*				
CHICHIJIMA	CBI	27.08	142.17	62.92	72.60	210.15	70.56	212.32	70.62	212.35	-3.13	32694	24133	32645	-1792				
CHICLAYO	CCL	-06.80	280.20	96.80	85.64	350.64	84.92	350.74	84.92	350.74	4.13	28768	5381	28693	2072*				
CHIMBOTE	CMB	-09.10	281.40	99.10	87.90	351.90	86.87	352.11	86.87	352.11	4.00	28261	3257	28192	1971*				
CHRISTCHURCH	CHR	-43.53	172.62	133.53	137.72	253.84	140.25	255.98	140.29	256.01	22.62	21087	-54935	19465	8110*				
CLAUSTHAL	CLZ	51.81	10.34	38.19	37.81	95.30	42.25	88.00	42.25	87.93	-1.54	18725	44417	18718	-503*				
CLIMAX	CLI	39.37	253.82	50.63	41.84	317.34	41.70	316.99	41.65	316.85	12.53	21635	50726	21120	4694*				
COIMBRA	COI	40.22	351.58	49.78	45.29	71.54	55.10	69.79	55.15	69.75	-7.54	24865	36412	24650	-3266				
COLLEGE	CMO	64.86	212.16	25.14	25.07	258.14	25.20	261.22	25.18	261.15	28.12	12997	55380	11462	6127				
COLLMBERG	CLL	51.32	13.00	38.68	38.79	97.60	42.91	90.03	42.95	89.94	-0.50	18959	44331	18958	-165*				
COPENHAGEN	COP	55.68	12.58	34.32	34.58	99.59	37.92	91.26	37.97	91.18	-0.84	16856	46259	16854	-247*				

(ALL VALUES AS OF 1980.5)

OBSERVATORY	G E O G R A P H I C			G E O M A G N E T I C				M O D E L S				A N N U A L				V A L U E S					
	CODE	COORDINATES		CO-LAT	E LONG	CO-LAT	E LONG	DIPOLE	GUSTAFFSSON		TSYGANENKO		OBSERVED	OR	IGRF	CALCULATED(*)	D	H	Z	X	Y
		LAT	LONG						CO-LAT	E LONG	CO-LAT	E LONG									
COSTA RICA	SNJ	9.91	276.04	80.09	69.11	345.69	68.71	345.52	44.65	95.37	44.65	95.35	3.05	29778	23168	29736	1584*				
CRACOW	CRA	50.05	19.95	39.95	41.34	103.52	44.65	95.37	61.44	328.03	61.44	328.03	1.80	19589	44210	19579	615*				
CUAJIMALPA	CUA	19.37	260.72	70.63	60.84	328.54	89.86	358.81	46.71	329.45	46.71	329.45	7.67	29508	31718	29244	3938*				
CUZCO	CUS	13.53	288.03	103.53	92.21	358.48	89.86	358.81	46.71	329.45	46.71	329.45	.82	26566	-154	26563	380*				
DALLAS	DAL	32.99	263.25	57.01	47.06	329.42	46.71	329.45	46.71	329.45	46.71	329.45	7.18	24015	46818	23827	3002*				
DAR ES SALAAM	DM*	-6.82	39.32	96.82	100.48	108.08	107.10	110.02	107.10	110.02	107.10	110.02	-2.60	26712	-20876	26685	-1212*				
DAVAO	DAV	7.05	125.38	82.95	93.84	195.70	91.13	195.97	164.50	99.16	164.49	99.04	.75	39308	-1588	39305	515*				
DAVIS	DVS	-68.58	77.97	158.58	166.86	122.53	164.50	99.16	41.54	83.90	41.54	83.90	-75.97	16631	-52607	4032	-16135*				
DE BILT	DBN	52.10	5.18	37.90	36.51	90.47	41.50	83.97	66.06	149.80	66.06	149.80	-3.72	18580	44360	18541	-1205*				
DEHRA DUN	DDI	30.32	78.06	59.68	69.48	151.17	66.06	149.78	38.82	75.39	38.82	75.39	.50	33817	34734	33816	295*				
DEKELEIA	DEK	38.10	23.77	51.90	53.58	102.73	58.76	96.38	58.76	96.38	58.76	96.38	1.76	26213	36704	26201	805*				
DIXON ISLAND	DIK	73.54	80.56	16.46	26.91	162.31	22.13	155.83	22.11	155.74	22.11	155.74	27.27	6404	58315	5692	2934				
DOMBAS	DOB	62.07	9.12	27.93	27.99	101.04	30.74	91.55	30.72	91.56	30.72	91.56	-3.35	14230	48348	14206	-832				
DOURBES	DOU	50.10	4.60	39.90	38.31	88.86	43.77	82.80	43.86	82.75	43.86	82.75	-3.64	19863	43346	19823	-1263				
DUBLIN	DL*	53.35	353.73	36.65	33.10	79.67	38.77	75.44	38.82	75.39	38.82	75.39	-9.43	17916	44989	17674	-2935*				
DUMONT DURVILLE	DRV	-66.67	140.01	156.67	165.32	232.33	170.72	235.41	170.61	235.32	170.61	235.32	158.20	1177	-70123	-1093	-437				
EAST PORT	EP*	44.90	293.02	45.10	33.81	4.35	34.18	11.47	34.09	11.62	34.09	11.62	-20.01	17400	53271	16350	-5954*				
EASTER ISLAND	EIC	-27.17	250.58	117.17	108.18	323.87	110.18	325.89	110.18	325.87	110.18	325.87	15.14	27342	-20533	26393	7141*				
EBRO	EBR	40.82	.49	49.18	46.41	80.90	55.32	76.96	55.34	76.93	55.34	76.93	-4.29	24464	37094	24395	-1830*				
EIELSON AFB	ENB	64.67	212.92	25.33	25.10	259.02	25.23	262.02	25.23	261.92	25.23	261.92	28.99	12783	55300	11181	6195*				
EIGHTS	EGS	-75.23	282.83	165.23	153.95	356.08	149.59	5.76	149.60	5.71	149.60	5.71	32.59	20278	-46498	17085	10922*				
EL ABIOD SIDI	EAS	32.90	.55	57.10	54.10	78.46	66.44	75.49	66.80	75.44	66.80	75.44	-3.92	28588	29751	28521	-1954*				
ELIZABETHVILLE	ELI	-11.66	27.47	101.66	102.96	95.40	112.86	97.26	112.86	97.26	112.86	97.26	-5.66	21545	-25323	21440	-2125*				
ENKOPING	ENK	59.60	17.02	30.40	31.77	106.21	33.92	96.47	33.95	96.45	33.95	96.45	1.11	15090	47988	15087	292*				
ESKDALEMUIR	ESK	55.32	356.80	34.68	31.85	84.04	36.88	78.62	36.93	78.60	36.93	78.60	-8.35	17294	45788	17110	-2513				
ESKIMO POINT	EKP	61.10	265.93	28.90	19.04	323.51	18.11	328.75	18.02	328.62	18.02	328.62	.74	5911	60722	5911	76*				
ESPANOLA	EPN	35.98	253.95	54.02	45.16	318.31	45.24	317.86	45.36	317.74	45.36	317.74	11.70	23500	47653	23012	4766*				
ETTAYAPURAM	ETT	09.00	78.00	81.00	90.67	148.84	89.76	149.45	89.76	149.45	89.76	149.45	-2.94	39990	426	39937	-2051*				
EUSEBIO	EUS	-3.89	321.56	93.89	84.29	32.06	91.26	33.75	91.26	33.75	91.26	33.75	-21.27	26896	-2023	25064	-9757*				
EYREWELL	EYR	-43.42	172.35	133.42	137.65	253.51	140.18	255.63	140.23	255.66	140.23	255.66	22.51	21116	-54927	19507	8084*				
FALMOUTH	FAL	50.15	354.92	39.85	36.37	79.15	42.72	75.19	42.80	75.15	42.80	75.15	-8.02	19509	43305	19318	-2722*				
FANNING	FAN	3.91	200.61	86.09	85.98	270.23	85.14	270.43	85.14	270.43	85.14	270.43	9.48	32665	5985	32219	5380*				
FLENSBURG	FLE	54.78	9.43	35.22	34.82	96.09	38.76	88.36	38.77	88.29	38.77	88.29	-2.16	17283	45736	17271	-651*				
FORT CHURCHILL	FCC	58.77	265.90	31.23	21.32	325.02	20.33	329.46	20.19	329.25	20.19	329.25	2.36	7555	60697	7549	312				
FORT RAE	FRA	62.80	243.90	27.20	20.81	292.95	20.23	294.90	20.18	294.64	20.18	294.64	32.54	8303	59633	7000	4466*				

(ALL VALUES AS OF 1980.5)

OBSERVATORY	CODE	G E O G R A P H I C		G E O M A G N E T I C M O D E L S				A N N U A L V A L U E S							
		COORDINATES		DIPOLE		GUSTAFSSON		TSYGANENKO		OBSERVED OR IGRF	CALCULATED(*)				
		LAT	LONG	CO-LAT	E LONG	CO-LAT	E LONG	CO-LAT	E LONG		D	H	Z	X	Y
FORT RAE 1	FE*	62.65	244.27	27.35	20.88	293.54	20.29	295.48	20.24	295.21	32.18	8318	59667	7040	4430*
FORT SIMPSON	FSP	61.75	238.77	28.25	22.72	288.15	22.33	289.42	22.32	289.29	32.72	10012	58896	8423	5412*
FORT SMITH	FSM	58.00	246.00	32.00	24.93	299.87	24.39	300.80	24.35	300.57	26.02	10902	59365	9797	4783*
FORT YUKON	FYU	66.57	214.73	23.43	23.08	258.48	23.00	261.89	22.99	261.73	31.20	11360	56106	9717	5885*
FREDERICKSBURG	FRD	38.21	282.63	51.79	40.59	351.57	39.76	355.59	39.64	355.61	-8.43	20449	51352	20228	-2998
FREETOWN	FTN	08.47	346.78	81.53	75.55	59.14	93.00	60.48			-12.19	31154	-1346	30452	-6578*
FREIBERG	FB*	50.92	13.35	39.08	39.24	97.73	43.39	90.18	43.43	90.09	-.37	19159	44156	19159	-124*
FUQUENE	FUQ	5.47	286.26	84.53	73.23	356.53	71.79	357.35			-2.27	28944	18761	28921	-1146
FURSTENFELDBRUCK	FUR	48.17	11.28	41.83	41.46	94.46	46.55	87.61	46.58	87.56	-.95	20820	42489	20817	-348
GENOVA	GEN	44.55	08.95	45.45	44.47	90.71	50.86	84.77	50.93	84.68	-1.63	22505	40200	22496	-640*
GIBILMANNA	GIB	37.99	14.02	52.01	51.79	93.34	59.30	87.69	59.37	87.62	-.17	26168	35617	26168	-78*
GILLAM	GIM	56.85	265.58	33.15	23.22	325.64	22.21	329.45	22.10	329.25	3.54	8600	60631	8584	531*
GJOAHAVN	GJO	68.63	264.08	21.37	12.13	311.67	11.39	320.90	11.29	320.36	-3.34	2229	59636	2225	-130*
GLENLEA	GLL	49.60	262.90	40.40	30.64	325.16	29.66	326.84	29.55	326.70	7.89	13860	58658	13729	1903*
GNANGARA	GNA	-31.78	115.95	121.78	133.01	187.40	134.37	185.90	134.37	185.94	-3.29	23409	-53652	23370	-1346
GODHAAB 1	GH*	64.18	308.28	25.82	15.50	31.48	18.41	39.16	18.36	39.27	-41.18	10110	54845	7609	-6657*
GODHAVN	GDH	69.25	306.47	20.75	10.43	34.62	13.37	41.91	13.25	41.84	-48.14	8537	56362	5696	-6358
GONZALES VIDELA	GVD	-64.82	297.15	154.82	143.56	5.40	138.89	9.76	138.81	9.66	16.00	22085	-34623	21229	6087*
GOTTINGEN	GT*	51.53	9.95	38.47	37.99	94.80	42.54	87.59	42.54	87.54	-1.67	18859	44267	18851	-550*
GREAT WHALE R.	GWC	55.27	282.22	34.73	23.56	349.44	23.16	356.71	23.00	356.80	-19.44	10665	59164	10057	-3550
GREENWICH	GRW	51.48	.00	38.52	36.10	85.00	41.81	79.61	41.79	79.59	-5.94	18876	43967	18775	-1953*
GROCKA	GCK	44.63	20.77	45.37	46.69	102.07	50.94	94.80	50.96	94.73	1.59	22693	41018	22684	630
GUAM	GUA	13.58	144.87	76.42	85.73	214.26	84.18	214.98			1.92	35805	7239	35785	1205
GUANGZHOU	GZH	23.09	113.34	66.91	78.21	183.52	74.36	184.16	74.62	203.81	-1.51	38104	23696	38090	-1004
HACKNEY WICK	HW*	51.55	359.97	38.45	36.01	85.01	41.72	79.61	41.58	79.38	-6.12	18800	44043	18693	-2004*
HACKNEY WICK 2	HW*	51.63	359.67	38.37	35.88	84.75	41.59	79.40	41.58	79.38	-6.12	18800	44042	18693	-2004*
HALLEY BAY	HBA	-75.52	333.32	165.52	156.04	25.20	150.98	28.21	150.76	28.19	-1.50	20200	-41500	20193	-529*
HAMBURG	HM*	53.55	9.98	36.45	36.08	95.90	40.22	88.32	40.21	88.26	-1.82	17869	45218	17860	-568*
HARTEBEESTHOEK	HBK	-25.88	27.71	115.88	116.93	92.49	126.10	93.60	126.18	93.65	-16.06	13197	26924	12681	-3652
HARTLAND	HAD	51.00	355.52	39.00	35.68	80.19	41.81	75.94	41.87	75.90	-7.73	19331	43769	19155	-2600
HATIZYO	HTY	33.07	139.83	56.93	66.82	207.28	64.42	210.31	64.48	210.32	-7.68	31415	31770	31133	-4201
HAVANA	HVN	22.97	277.86	67.03	55.99	346.93	55.10	347.90	55.02	347.84	-.31	26909	37949	26909	-146*
HEALY	HEA	63.86	211.03	26.14	26.19	298.16	26.44	261.08	26.42	261.01	27.49	13536	54714	12008	6248*
HEARD ISLAND	HII	-53.03	73.37	143.03	151.47	131.89	151.88	121.31	152.10	121.20	-57.14	17965	-47263	9748	-15091*
HEISS ISLAND	HIS	80.62	58.05	9.38	18.66	156.45	15.31	144.79	15.32	145.06	29.68	5481	56068	4762	2714*

(ALL VALUES AS OF 1980.5)

OBSERVATORY	G E O G R A P H I C			G E O M A G N E T I C			M O D E L S			A N N U A L					V A L U E S			
	COORDINATES			DIPOLE			GUSTAFFSSON			TSYGANENKO			OBSERVED	OR	IGRF	CALCULATED(*)		
	CODE	LAT	E LONG	CO-LAT	CO-LAT	E LONG	CO-LAT	E LONG	CO-LAT	E LONG	D	H				Z	X	Y
HEL	HLP	54.61	18.82	35.39	36.80	104.72	39.48	95.93	39.49	95.85	1.19	17653	46127	17649	367			
HELWAN	HLW	29.86	31.34	60.14	63.04	107.69	68.21	102.70	68.25	102.64	1.98	31031	29386	31012	1072*			
HERMANUS	HER	-34.43	19.23	124.43	123.58	81.98	131.99	80.87	132.07	80.93	-23.51	11363	-25753	10420	-4533			
HERSDORF	HDF	50.76	16.24	39.24	39.95	100.38	43.68	92.51	43.73	92.44	.64	19234	44272	19233	215*			
HOLLANDIA	HNA	-2.57	140.51	92.57	102.25	211.68	100.98	211.38			4.16	37411	-15199	37312	2714*			
HOLSTEINSBORG 1	HS*	66.87	306.73	23.13	12.75	31.67	15.61	39.48	15.47	39.42	-45.50	8834	55273	6192	-6301*			
HONG KONG	HKC	22.36	114.22	67.64	75.13	184.36	75.39	184.98	75.39	184.98	-1.55	38259	22569	38245	-1035*			
HONOLULU	HON	21.32	202.00	68.68	68.65	267.96	68.17	268.68	68.14	268.68	11.53	27705	22311	27145	5542			
HUANCAYO	HUA	-12.05	284.66	102.05	90.76	355.17	89.00	355.52			2.71	27225	985	27194	1290			
HURBANOVO	HRB	47.87	18.19	42.13	43.08	100.92	47.10	93.34	47.13	93.25	1.15	20996	42772	20992	425			
HYDERABAD	HYB	17.41	78.56	72.59	82.37	150.23	80.37	150.23			-1.64	39715	15194	39699	-1140			
IBADAN	IBD	7.43	3.90	82.57	79.67	76.02	95.89	75.74			-5.86	32198	-4819	32030	-3287*			
INUVIK	INK	68.25	226.70	21.75	19.29	267.09	18.87	270.56	18.86	270.36	38.75	8500	57837	6629	5320*			
IRKUTSK	IRT	52.17	104.45	37.83	49.13	175.83	43.37	176.45	43.35	176.45	-2.36	19559	56902	19542	-807			
ISLAND LAKE	ISL	53.88	265.32	36.12	26.17	326.66	25.14	329.66	25.02	329.50	4.70	10635	60138	10599	871*			
ISTANBUL-KANDILL	ISK	41.06	29.06	48.94	51.71	108.61	54.92	101.60	54.92	101.57	2.94	24534	39645	24502	1258*			
IVALO	IVA	68.60	27.48	21.40	25.43	122.68	25.25	110.12	25.25	110.06	7.71	11385	51503	11282	1527*			
IVIGTUT	IVI	61.20	311.85	28.80	18.78	34.53	21.97	41.46	21.97	41.58	-36.20	11876	53747	9583	-7014*			
IVIGTUT 1	IV*	61.20	311.73	28.80	18.77	34.36	21.94	41.33	21.84	41.44	-36.25	11861	53772	9565	-7014*			
JAIPUR	JAI	26.92	75.80	63.08	72.65	148.69	69.69	147.54	69.70	147.53	-.76	35737	29594	35734	-477			
JALUIT	JAL	5.92	169.65	84.08	89.80	239.53	88.77	239.87			9.60	34205	1537	33726	5704*			
JAN MAYEN 1	JM*	71.00	351.53	19.00	16.83	97.02	19.50	86.20	19.52	86.20	-17.52	10339	51399	9859	-3112*			
JARVIS ISLAND	JRV	-.38	199.97	90.38	90.29	270.43	89.51	270.51			9.66	33546	778	33070	5629*			
JASSY	JSS	47.18	27.53	42.82	45.51	109.32	47.92	101.35	47.95	101.24	3.47	21100	43410	21061	1277*			
JOHNSON POINT	JOP	72.47	241.70	17.53	12.93	272.78	11.97	279.07	11.90	278.72	50.86	3819	58635	2411	2962*			
JULIANEHAAB	JUL	60.72	313.97	29.28	19.50	37.21	22.91	43.49	22.90	43.70	-34.81	12351	53218	10141	-7051*			
KAKTOKA	KAK	36.23	140.19	53.77	63.69	207.26	61.27	210.76	61.25	210.73	-6.58	30192	34651	29993	-3464			
KALININGRAD	KNG	54.70	20.62	35.30	37.04	106.43	39.46	97.46	39.46	97.38	2.35	17292	46383	17277	709*			
KANDALAKSHA	KND	67.13	32.43	22.87	27.57	125.02	26.97	112.93	26.96	112.88	10.07	11888	51543	11705	2079*			
KANDYA	KNY	31.42	130.88	58.58	69.21	199.35	65.85	201.80	65.87	201.81	-5.44	32988	31976	32839	-3127			
KANOZAN	KNZ	35.25	139.96	54.75	64.69	207.17	62.25	210.52	62.25	210.51	-6.24	30539	33675	30358	-3320			
KAP TOBIN	KTG	70.42	238.03	19.58	15.27	274.21	14.48	278.87	14.41	278.64	45.70	5370	58741	3750	3843*			
KARAGANDA	KGD	49.82	73.08	40.18	49.67	149.75	45.13	145.04	45.09	145.03	7.66	20226	52344	20045	2698			
KARAVIA	KVA	-11.64	27.42	101.64	102.93	95.37	112.84	97.22			-5.66	21545	-25323	21440	-2125*			
KARSANI	KAS	41.83	44.70	48.17	53.71	123.16	53.45	116.59	53.43	116.56	4.90	24291	42193	24202	2075*			

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OBSERVATORY	G E O G R A P H I C			G E O M A G N E T I C				M O D E L S				A N N U A L				V A L U E S			
	COORDINATES			DIPOLE		GUSTAFFSSON		TSYGANENKO		OBSERVED	OR	IGRF	CALCULATED(*)		D	H	Z	X	Y
	CODE	LAT	E	LONG	CO-LAT	E	LONG	CO-LAT	E				LONG	Z					
KATUURA	KAT	33.63	135.95	56.37	66.64	203.73	63.76	206.67	63.78	206.73	33448	31278	-3409*	-6.22	31463	33448	31278	-3409*	
KAZAN	KZN	55.83	48.85	34.17	40.77	131.37	38.77	122.43	38.77	122.45	16830	16550	3058	10.46	16830	50407	16550	3058	
KELLES	KEL	41.42	69.21	48.58	57.55	144.84	53.80	140.99	53.78	140.98	25720	25626	2072*	4.62	25720	45626	25626	2072*	
KERQUELEN	KG*	-49.15	70.20	139.15	147.23	129.91	148.25	121.48	148.27	121.48	18344	11162	-14557*	-52.52	18344	44414	11162	-14557*	
KEW	KEW	51.47	359.69	38.53	36.05	84.68	41.79	79.36	41.77	79.34	18880	18774	-2000*	-6.08	18880	43961	18774	-2000*	
KEY WEST	QW*	24.55	278.20	65.45	54.38	347.23	53.47	348.47	53.38	348.37	26349	26346	-395*	-.86	26349	39611	26346	-395*	
KHABAROVSK	KHB	48.48	135.07	41.52	51.93	201.23	48.47	206.08	48.45	206.10	23994	23526	-4718*	-11.34	23994	48491	23526	-4718*	
KHARASAVEY	KHS	71.13	66.83	18.87	28.21	152.31	24.07	143.39	24.10	143.28	8627	7759	3771*	25.92	8627	56674	7759	3771*	
KIEL	KE*	54.33	10.15	35.67	35.38	96.51	39.33	88.75	39.33	88.69	17495	17486	-553*	-1.81	17495	45572	17486	-553*	
KIEV	KIV	50.72	30.30	39.28	42.63	113.24	43.92	104.54	44.02	104.51	19498	19424	1696	4.99	19498	45618	19424	1696	
KINGUAFJORD	KJ*	66.60	292.68	23.40	12.12	5.85	13.54	17.95	13.41	17.76	6775	57438	-5143*	-49.38	6775	57438	4411	-5143*	
KIRUNA	KIR	67.83	20.42	22.17	24.91	116.37	25.60	104.08	25.59	104.10	11179	50928	-1108	-5.69	11179	50928	11124	-1108	
KLAMENFURT	KF*	46.62	14.30	43.38	43.54	96.71	48.47	89.76	48.54	89.65	21395	21395	0*	-.00	21395	41879	21395	0*	
KODAIKANAL	KOD	10.23	77.46	79.77	89.40	148.43	88.37	148.97	88.37	148.97	39265	2444	-1636	-2.38	39265	2444	39231	-1636	
KONTAGORA	KNT	10.40	05.45	79.60	77.05	78.14	92.90	77.44	92.90	77.44	33251	-601	-2742*	-4.73	33251	-601	33138	-2742*	
KOROR	KOR	7.34	134.50	82.66	92.95	204.72	90.68	204.88	90.68	204.88	38172	-1184	966*	1.45	38172	-1184	38160	966*	
KOTZEBUE	KOT	66.88	197.37	23.12	26.00	243.51	25.78	248.31	25.79	248.31	13037	54268	4476*	20.08	13037	54268	12245	4476*	
KRAKAU (CRAKAU)	KX*	50.05	19.95	39.95	41.34	103.52	44.65	95.37	44.65	95.35	19589	19579	615*	1.80	19589	44210	19579	615*	
KREMSMUNSTER	KRE	48.06	14.13	41.94	42.12	97.16	46.77	89.98	46.81	89.89	20631	42699	-22*	-.06	20631	42699	20631	-22*	
KSARA	KSA	33.82	35.89	56.18	60.00	112.95	62.93	107.39	62.91	107.30	28879	34262	1421*	2.82	28879	34262	28844	1421*	
KUMASI	KUM	06.70	358.43	83.30	79.36	70.46	96.42	70.63	96.42	70.63	31392	-5506	-4288*	-7.85	31392	-5506	31098	-4288*	
KUTCHINO	KTC	55.76	37.97	34.24	39.13	122.19	38.74	112.66	38.73	112.61	16756	16587	2375*	8.15	16756	48598	16587	2375*	
KUYPER	KUY	-6.03	106.73	96.03	107.33	177.02	105.92	177.59	105.92	177.59	37452	-23906	294*	.45	37452	-23906	37451	294*	
KZIL-AGACH	KZA	45.37	78.73	44.63	54.59	153.75	49.84	150.53	49.82	150.52	23551	50209	2102*	5.12	23551	50209	23457	2102*	
L AQUILA	AQU	42.38	13.32	47.62	47.41	94.13	53.69	87.93	53.74	87.84	23943	38845	-59	-1.14	23943	38845	23943	-59	
LA MADDALENA	LMD	41.23	09.40	48.77	47.75	89.91	55.18	84.35	55.17	84.29	24325	37869	-586*	-1.38	24325	37869	24318	-586*	
LA PAZ	LPB	-16.54	291.90	106.54	95.21	2.22	92.38	2.41	92.38	2.41	25376	-2518	-585*	-1.32	25376	-2518	25369	-585*	
LA QUIACA	LQA	-22.10	294.40	112.10	100.81	4.52	98.54	4.44	98.17	4.44	23584	-6559	-759	-1.84	23584	-6559	23572	-759	
LANZHOU	LZH	36.09	103.85	53.91	65.19	174.88	60.30	175.30	60.29	175.25	31598	42469	-990	-1.78	31598	42469	31582	-990	
LAS ACACIAS	LAS	-35.01	302.31	125.01	113.92	11.38	111.49	10.12	111.36	10.07	20184	-13821	-1320*	-3.75	20184	-13821	20141	-1320*	
LAUDER	LAU	-45.04	169.68	135.04	139.72	251.36	142.45	253.60	142.47	253.57	19856	-56690	7813*	23.17	19856	-56690	18254	7813*	
LAZAREV	LZV	-69.97	12.90	159.97	155.97	56.70	152.03	52.93	152.06	52.93	18687	-37020	-8632*	-27.51	18687	-37020	16574	-8632*	
LEADVILLE	LDV	39.28	253.72	50.72	41.94	317.24	41.82	316.87	41.77	316.75	21697	50630	4715*	12.55	21697	50630	21179	4715*	
LEIRVOGUR	LRV	64.18	338.30	25.82	20.11	72.19	24.39	69.10	24.37	69.10	12401	49993	-4440	-20.98	12401	49993	11579	-4440	
LENINGRAD	LNN	59.95	30.71	30.05	33.93	118.29	34.18	107.77	34.21	107.78	15216	49053	1888	7.12	15216	49053	15098	1888	

(ALL VALUES AS OF 1980.5)

OBSERVATORY	CODE	GEOGRAPHIC		GEO MAGNETIC MODELS				ANNUAL VALUES							
		COORDINATES		DIPOLE		GUSTAFFSSON		OBSERVED OR		IGRF CALCULATED(*)					
		LAT	LONG	CO-LAT	E LONG	CO-LAT	E LONG	D	H	Z	X	Y			
LENINGRADSKAYA	LEN	-69.50	159.40	159.50	164.32	261.96	168.48	277.62	168.41	277.02	251.45	4729	-66109	-1504	-4483*
LERWICK	LER	60.13	358.82	29.87	27.76	89.62	31.80	82.55	31.78	82.53	-7.83	14952	47857	14812	-2039
LHASA	LSA	29.70	91.15	60.30	71.10	163.11	67.15	162.62	67.18	162.59	-28	35250	34323	35250	-172*
LISBON	LIS	38.72	350.85	51.28	46.62	70.28	57.11	68.84	57.13	68.85	-7.82	25354	35369	25118	-3450*
LITTLE AMERICA	LAA	-78.18	197.80	168.18	163.94	312.23	163.67	335.07	163.71	334.72	104.95	11881	-61168	-3065	11479*
LOGRONO	LGR	42.46	357.50	47.54	44.25	78.44	52.81	74.95	52.88	74.93	-5.58	23551	38305	23439	-2290*
LORING AFB	LOB	46.92	291.88	43.08	31.78	2.97	32.05	10.27	31.96	10.34	-20.79	16154	54580	15102	-5734*
LOS ANGELES	LA*	34.05	241.75	55.95	48.84	305.33	49.62	304.77	49.62	304.73	14.44	25182	42912	24386	6280*
LOVO	LOV	59.35	17.83	30.65	32.16	106.75	34.25	97.00	34.26	96.98	1.51	15499	48027	15494	410
LOVZERO	LOZ	67.97	35.02	22.03	27.21	127.73	26.24	115.54	26.24	115.47	11.72	11506	52026	11266	2337*
LUANDA	LUA	-8.92	13.17	98.93	97.47	81.94	111.05	82.70	111.05	82.70	-9.34	23227	-22792	22919	-3770*
LUBECK	LB*	53.87	10.70	36.13	35.93	96.76	39.90	89.02	39.89	88.96	-1.54	17714	45394	17708	-476*
LUKJAPANG	LKP	31.32	121.04	58.68	69.81	190.41	65.66	192.18	65.65	192.16	-4.57	33722	34711	33615	-2687*
LUNPING	LNP	25.00	121.17	65.00	76.11	190.79	72.37	191.98	72.36	191.98	-2.86	36584	25721	36538	-1825
LVOV	LVV	49.90	23.75	40.10	42.20	106.96	44.86	98.63	44.88	98.57	3.24	20077	44565	20045	1138
LWIRO	LWI	-2.25	28.80	92.25	94.00	98.59	103.44	99.82	103.44	99.82	-2.28	29160	-17547	29137	-1160*
LYNN LAKE	LYN	56.85	258.93	33.15	24.04	316.79	23.05	319.08	23.00	318.97	13.47	9336	60469	9079	2175*
M BOUR	MBO	14.39	343.04	75.61	69.09	56.40	85.95	58.53	85.95	58.53	-12.10	31944	7220	31234	-6697
MACQUARIE ISLAND	MCQ	-54.50	158.95	144.50	150.75	244.40	154.51	247.37	154.52	247.40	28.48	12723	-63768	11183	6067
MADRAS	MX*	13.07	80.25	76.93	86.86	151.44	85.34	151.84	85.34	151.84	-2.21	40321	7361	40291	-1535*
MADRID	MDD	40.42	356.32	49.58	46.00	76.50	55.41	73.57	55.50	73.52	-5.82	24609	36709	24482	-2495*
MAGADAN	MGD	60.12	151.02	29.88	39.04	211.56	36.68	218.04	36.70	218.04	-13.18	18047	52589	17571	-4117
MAGALLANES	MGS	-53.20	289.10	143.20	131.88	359.60	127.59	3.02	127.54	3.03	15.90	22438	-26116	21580	6147*
MAISACH	MAS	48.20	11.26	41.80	41.42	94.47	46.50	87.61	46.54	87.56	-1.01	20560	42587	20557	-362*
MAITUN	MAI	43.25	132.33	46.75	57.32	199.54	53.70	203.61	53.72	203.62	-9.60	26929	44763	26552	-4491*
MAJURO	MJR	7.08	171.38	82.92	88.36	241.01	87.26	241.32	87.26	241.32	9.83	33771	3353	33275	5766*
MAKERSTOUN	MQ*	55.58	357.48	34.42	31.72	84.90	36.66	79.26	36.72	79.24	-8.11	16885	45923	16716	-2382*
MALIYE KARMAKULY	MKL	72.30	52.50	17.70	25.62	143.81	22.67	132.32	22.67	132.27	22.51	9090	54931	8397	3480*
MANHAY	MAB	50.30	5.68	39.70	38.33	90.03	43.63	83.74	43.71	83.68	-3.28	19480	43462	19448	-1115*
MANILA	MAN	14.58	120.98	75.42	86.54	191.02	83.30	191.55	83.30	191.55	-60	39320	10209	39318	-412*
MAPUTO	LMM	-25.92	32.58	115.92	117.91	97.31	126.22	98.66	126.27	98.71	-15.86	14011	-27108	13478	-3829
MARION ISLAND	MRN	-46.88	37.85	136.88	139.25	95.86	141.92	92.03	141.87	92.09	-36.91	15530	-28837	12417	-9327*
MARTIN DE VIVIES	AMS	-37.83	77.57	127.83	137.12	142.00	139.17	137.80	139.20	137.72	-38.41	19058	-45530	14934	-11840*
MATCOCHKIN SHAR	MSR	73.26	56.40	16.74	25.16	147.14	21.88	136.09	21.88	136.02	24.82	8461	55505	7679	3552*
MAURITIUS	MRI	-20.09	57.55	110.09	116.75	123.97	120.49	125.06	120.50	125.06	-17.73	21484	-29691	20464	-6543*



(ALL VALUES AS OF 1980.5)

OBSERVATORY	G E O G R A P H I C			G E O M A G N E T I C			M O D E L S			A N N U A L V A L U E S					
	CODE	COORDINATES		DIPOLE CO-LAT E LONG	GUSTAFFSSON CO-LAT E LONG	TSYGANENKO CO-LAT E LONG	OBSERVED D H Z	IGRF X Y	CALCULATED(*) X Y	D	H	Z	X	Y	
		LAT	E												LONG
MAWSON	MAW	-67.61	62.88	157.61	163.30	105.07	160.24	89.38	160.23	89.30	-63.09	18432	-46784	8340	-16437
MCMURDO	MCM	-77.85	166.70	167.85	168.81	294.30	169.84	328.08	169.92	327.04	146.00	91171	-63239	-7603	5128*
MEANOOK	MEA	54.62	246.67	35.38	28.05	302.95	27.61	303.33	27.54	303.16	22.14	13488	58501	12493	5084
MELBOURNE	MEL	-37.83	144.98	127.83	136.70	221.82	138.97	221.42	139.03	221.45	11.21	21489	-56855	21079	4178*
MELVILLE AFB	MEV	53.28	299.47	36.72	25.64	13.71	27.10	22.51	27.09	22.53	-29.53	13928	54897	12119	-6865*
MEMAMBETSU	MMB	43.91	144.19	46.09	55.71	209.68	53.49	214.34	53.49	214.35	-8.29	26495	41352	26218	-3822
MEXICO	TEX*	19.42	260.92	70.58	60.78	328.75	61.36	328.25	61.36	328.25	7.75	31151	20941	30866	4201*
MIDWAY	MDY	28.21	182.62	61.79	65.61	247.73	65.25	248.69	65.28	248.61	10.07	26969	24708	26554	4716*
MINSK	MNK	54.50	27.88	35.50	38.58	112.82	39.91	103.49	40.29	102.15	5.29	17931	46832	17854	1655
MIRNY	MIR	-66.55	93.02	156.55	167.01	149.64	167.19	122.03	167.19	121.63	-83.93	14000	-58727	1480	-13922
MISALLAT	MLT	29.52	30.89	60.48	63.29	107.18	68.68	102.24	68.76	102.21	1.98	31299	28657	31280	1082
MITYAZU	MIU	35.32	135.12	54.68	64.93	203.13	60.62	205.08	62.01	206.01	-6.86	30813	35616	30592	-3680*
MIZUSAWA	MIZ	39.01	141.08	50.99	60.85	207.69	58.42	211.60	58.42	211.60	-7.40	28358	37235	28617	-3717
MOCA	MFP	3.34	8.66	86.66	84.59	79.92	99.98	79.79	99.98	79.79	-5.77	30892	-10470	30735	-3106*
MODIIM	MOD	31.93	34.98	58.07	61.69	111.64	65.29	106.37	65.28	106.32	2.52	29975	32156	29946	1318*
MOGADISCIO	MOG	02.03	45.35	87.97	92.89	115.68	97.53	116.65	97.53	116.65	-7.78	33547	-9945	33544	-457*
MOLODEZHAYA	MOL	-67.67	45.85	157.67	160.04	87.20	156.56	77.12	156.50	77.20	-50.63	19020	-41650	12064	-14703
MONTE CAPELLINO	MCP	44.55	8.96	45.45	44.47	90.71	50.86	84.77	50.93	84.68	-1.63	22505	40208	22496	-640*
MOSCOW	MOS	55.48	37.31	34.52	39.30	121.49	39.03	112.01	39.01	111.97	7.73	17294	48636	17137	2327
MOULD. BAY	MBC	76.20	240.60	13.80	10.60	258.34	9.25	267.03	9.19	266.53	60.57	2602	58258	1278	2266
MT. WILSON	MWC	34.22	241.93	55.78	48.65	305.48	49.42	304.92	49.41	304.87	14.47	25106	43121	24310	6273*
MUNICH	MNH	48.15	11.61	41.85	41.54	94.77	46.59	87.88	46.62	87.84	-8.89	20586	42581	20584	-320*
MUNTINLUPA	MUT	14.38	121.02	75.62	86.74	191.07	83.51	191.58	83.51	191.58	-5.3	39221	9691	39219	-432
MURCHISON BAY	MUB	80.50	18.25	9.50	14.57	138.99	13.38	121.50	13.37	122.08	.89	6754	54234	6753	105*
MURMANSK	MMK	68.25	33.08	21.75	26.65	126.54	25.88	114.21	25.88	114.13	12.28	11819	51547	11549	2514
NAGYCEK	NCK	47.63	16.72	42.37	43.03	99.43	47.34	92.04	47.39	91.95	.77	21126	42492	21124	285
NAIROBI	NAI	-1.33	36.82	91.33	94.62	106.65	101.69	107.87	101.69	107.87	-1.04	30542	-15546	30537	-554*
NANORTALIK 1	NN*	60.13	314.73	29.87	20.16	37.89	23.66	43.98	23.65	44.21	-33.89	12712	52930	10552	-7088*
NANTES	NTS	47.25	358.44	42.75	39.83	81.37	46.75	77.03	46.79	76.98	-5.87	21024	41583	20914	-2150*
NARSSARSUAQ	NAQ	61.10	314.80	28.90	19.23	38.70	22.71	44.66	22.71	44.85	-34.19	12078	53850	9991	-6787*
NERTSCHINSK	NK*	51.32	119.62	38.68	49.87	188.17	44.81	191.51	44.81	191.47	-9.65	20915	54754	20619	-3506*
NEUFARWASSER	NF*	54.42	18.65	35.58	36.95	104.47	39.68	95.73	39.69	95.64	1.61	17431	46116	17424	490*
NEW AALESUND	NAL	78.92	11.93	11.08	14.70	131.33	14.27	113.87	14.22	114.39	-3.78	7458	53652	7442	-492*
NEW YEARS ISLAND	NYI	-54.65	295.85	144.65	133.38	4.97	129.03	7.26	128.91	7.26	11.71	21851	-25866	21396	4435*
NEWPORT	NWP	48.26	242.88	41.74	34.79	301.85	34.81	301.39	34.76	301.28	20.22	18196	54513	17074	6290

OBSERVATORY	CODE	G E O G R A P H I C				G E O M A G N E T I C				A N N U A L				V A L U E S			
		COORDINATES				DIPOLE		GUSTAFFSSON		TSYGANENKO		OBSERVED	OR	IGRF	CALCULATED(*)		
		LAT	E	LONG	CO-LAT	CO-LAT	E	LONG	CO-LAT	E	LONG				D	H	Z
NICE	NCE	43.72	7.30	46.28	44.95	88.76	51.85	83.21	51.91	83.12	-2.13	22950	39548	22934	-853*		
NIEMECK	NGK	52.07	12.68	37.93	38.01	97.67	42.03	90.01	42.07	89.92	-1.58	18825	44570	18824	-192		
NITSANIM	NCK	31.73	34.60	58.27	61.87	111.23	65.57	105.99	65.53	105.92	2.47	30064	31918	30036	1296*		
NIZHNEDEVITSK	NVW	51.52	38.37	38.48	43.27	120.70	43.17	111.95	43.18	111.95	6.81	18855	46874	18722	2236*		
NORD	NRD	81.60	343.24	8.40	9.25	132.88	9.33	109.45	9.25	110.32	-30.72	5978	54388	5139	-3054*		
NORILSK	NOK	69.40	88.10	20.60	31.40	165.67	26.05	161.43	26.06	161.34	18.80	7619	59374	7213	2455*		
NORMAN WELLS	NOW	64.90	234.50	25.10	20.68	279.83	20.34	282.02	20.29	281.81	36.79	8998	58583	7206	5389*		
NORTH POLE 6	NPF	84.00	94.00	6.00	17.18	174.54	13.14	168.50	13.20	168.66	45.00	2718	57166	1922	1922*		
NORTH POLE 7	NPG	85.00	268.12	5.00	6.92	195.37	3.96	185.14	4.09	185.28	123.22	1928	56370	-1056	1613*		
NORTH POLE 8	NPH	77.00	189.00	13.00	18.69	223.64	16.65	230.34	16.62	230.23	18.94	6593	56892	6236	2140*		
NORTH POLE 10	NPJ	77.00	166.38	13.00	21.38	211.09	18.49	217.32	18.49	217.44	1.28	6700	57272	6698	150*		
NORTH POLE 12	NPL	79.00	187.00	11.00	17.38	218.57	14.92	225.01	14.93	224.86	19.90	5271	57118	4956	1794*		
NORTH POLE 13	NPM	81.00	165.00	9.00	18.01	204.62	14.68	209.29	14.69	209.16	7.74	3936	57502	3900	530*		
NORTHWAY	NRW	63.02	218.20	26.98	25.56	265.62	25.77	267.80	25.84	267.59	30.36	13090	55601	11295	6616*		
NORSUND	NOR	77.00	15.55	13.00	16.56	128.06	16.30	111.89	16.25	112.23	-0.36	8233	53200	8233	-52*		
NORWAY HOUSE	NHO	53.98	262.17	36.02	26.43	322.51	25.39	324.82	25.33	324.70	8.84	10895	60073	10766	1674*		
NORWAY STATION	NWS	-70.50	357.47	160.50	154.10	45.08	150.05	43.19	150.03	43.22	-17.67	18912	-36508	18020	-5740*		
NOVKAZALINSK	NKK	45.80	62.10	44.20	52.38	139.54	49.14	133.99	49.14	134.01	6.42	22681	47490	22539	2536		
NOVOLAZAREVSKAYA	NVL	-70.77	11.83	160.77	156.49	54.96	152.37	51.51	152.39	51.53	-27.16	18640	-37470	16584	-8510		
NOVOSIBIRSK	NVS	55.03	82.90	34.97	45.34	158.77	39.93	155.02	39.93	155.00	8.44	17269	56457	17082	2535		
NUMTO	NMT	63.50	71.40	26.50	36.04	152.03	31.40	145.00	31.41	144.92	18.47	12035	56605	11415	3813*		
NURMIJARVI	NUR	60.51	24.66	29.49	32.34	113.51	33.38	103.05	33.37	103.04	4.21	15202	49039	15161	1116		
NYDA	NDA	66.60	73.00	23.40	33.15	154.34	28.46	147.22	28.46	147.11	21.33	10284	57300	9580	3741*		
O GYALLA	OGY	47.88	18.19	42.12	43.08	100.92	47.10	93.34	47.13	93.25	1.16	20727	42907	20723	420*		
OASIS	OAS	-66.30	100.72	156.30	167.36	163.51	168.86	134.51	168.90	134.48	-89.05	11985	-60536	199	-11983*		
ODESSA	ODE	46.78	30.88	43.22	46.51	112.23	48.34	104.26	48.36	104.18	2.28	21435	43532	21418	855		
ONAGAWA	ONW	38.43	141.47	51.57	61.39	208.11	59.00	211.92	59.04	211.94	-7.27	29020	36935	28787	-3672*		
ORANGE BAY	OB*	-55.52	291.92	145.52	134.19	1.83	129.77	5.11	129.71	5.08	14.93	22326	-27329	21572	5752*		
ORCADAS DEL SUR	ORC	-60.73	315.22	150.73	140.24	19.30	136.31	19.27	136.26	19.23	1.88	20327	-28905	20316	667*		
OSLO	OSL	59.91	10.72	30.09	30.28	100.74	33.15	91.62	33.17	91.63	-2.01	14967	47794	14958	-525*		
OTOMARI	OTM	46.65	142.77	43.35	53.12	208.00	50.61	212.99	50.62	213.02	-9.81	25203	44444	24834	-4294*		
OTTAWA	OTT	45.40	284.45	44.60	33.34	353.42	32.80	359.08	32.68	359.10	-14.03	16658	55605	16161	-4040		
P. TUNGUSKA	POD	61.60	90.00	28.40	39.24	165.39	33.50	162.46	33.53	162.39	9.65	12418	59223	12242	2083		
PALAU	PLA	7.33	134.48	82.67	92.95	204.70	90.68	204.86	90.68	204.86	1.45	38174	-1184	38162	966*		
PALMYRA ISLAND	PAI	05.88	197.92	84.12	84.57	267.20	83.45	267.45	83.45	267.45	9.68	32308	7926	31848	5432*		

(ALL VALUES AS OF 1980.5)

OBSERVATORY	CODE	G E O G R A P H I C		G E O M A G N E T I C		M O D E L S		A N N U A L					V A L U E S		
		COORDINATES		DIPOLE		GUSTAFFSSON		TSYGANENKO		OBSERVED	OR	IGRF	CALCULATED(*)		
		LAT	E	LONG	CO-LAT	E	LONG	CO-LAT	E				LONG	D	H
PAMATAI	PPT	-17.57	210.43	107.57	105.10	284.08	106.08	284.32	53.40	97.34	11.21	31375	-18907	30776	6103
PANAGYURISHTE	PAG	42.52	24.18	47.48	49.39	104.52	53.38	97.44			1.86	23721	39784	23708	773
PARAMARIBO	PAB	5.81	304.78	84.19	73.28	15.78	73.42	19.04			-14.48	28493	15430	27588	-7124*
PARC ST. MAUR	PSM	48.82	2.48	41.18	39.12	86.15	45.18	80.72	45.24	80.65	-4.41	20231	42563	20171	-1556*
PATRICK	PAT	28.21	279.39	61.79	50.68	348.35	49.66	350.21	49.61	350.18	-2.52	24885	43258	24861	-1094*
PELLY BAY	PEB	68.53	270.48	21.47	11.37	322.55	10.82	333.76	10.79	333.38	-31.72	2592	59389	2205	-1363*
PENANG	PNN	4.47	100.15	85.53	96.70	170.52	95.17	171.04			-14	40768	-6075	40768	-100*
PENDELI	PEG	38.05	23.86	51.95	53.66	102.80	58.82	96.45	58.82	96.38	1.77	26243	36673	26230	811*
PERPIGNAN	PER	42.70	2.88	47.30	45.06	83.99	52.94	79.33	53.00	79.28	-3.58	23476	38611	23430	-1466*
PETROPAVLOVSK	PET	52.90	158.43	37.10	45.24	219.76	44.18	225.37	43.95	225.50	-5.30	22037	45831	21943	-2038
PETSAMO	PTS	69.53	31.25	20.47	25.21	126.47	24.53	113.71	24.53	113.66	10.14	10963	52070	10792	1930*
PHILADELPHIA	PH*	39.97	284.82	50.03	38.77	354.14	38.13	358.96	37.99	358.99	-11.04	19244	52312	18888	-3685*
PILAR	PIL	-31.67	296.12	121.67	110.40	5.91	107.70	5.66	107.45	5.70	.29	21416	-11985	21416	109
PIONERSKAYA	P10	-69.73	95.50	159.73	170.32	149.87	169.82	113.25	169.86	112.87	-91.84	13534	-58492	-435	-13527*
PITLEKAJ	PL*	67.08	186.62	22.92	27.63	234.91	27.06	240.58	27.08	240.59	12.21	13578	53737	13271	2872*
PLAISANCE	PLS	-20.43	57.67	110.43	117.10	124.02	120.84	125.06	120.85	125.06	-18.17	21343	-29865	20279	-6656*
PLATEAU	PTU	-79.25	40.50	169.25	167.52	53.79	161.57	51.11	161.58	51.13	-53.83	18106	-47944	10686	-14616*
POLA	POL	44.86	13.85	45.14	45.13	95.57	50.58	88.96	50.65	88.84	-1.13	22340	40759	22340	-51*
PORT ALFRED	CZT	-46.43	51.87	136.43	141.50	110.56	143.25	105.45	143.22	105.44	-42.44	16295	-33528	12024	-10998
PORT MORESBY	PMG	-9.41	147.15	99.41	108.27	219.29	107.93	219.01			6.47	35971	-23643	35742	4056
PORT-AUX-FRANCAI	KGL	-49.35	70.20	139.35	147.43	129.82	148.41	121.31	148.44	121.31	-51.40	18466	-43814	11521	-14432*
POTSDAM	POT	52.38	13.06	37.62	37.79	98.20	41.70	90.44	41.73	90.35	-51	18432	44842	18431	-164*
PRICE	PCU	39.60	249.17	50.40	42.26	312.00	42.39	311.36	42.31	311.39	14.38	22021	49882	21331	5459*
PRUHONICE	PRU	49.99	14.55	40.01	40.35	98.42	44.50	90.86	44.56	90.80	.06	19629	43764	19629	21*
QUETTA	QUE	30.19	66.95	59.81	68.41	140.96	65.75	138.71	65.76	138.72	1.28	32802	33512	32794	738
RANKIN INLET	RIT	62.80	267.67	27.20	17.19	324.72	16.34	331.11	16.26	331.00	-5.35	4914	60526	4893	-458*
REGENSBURG	REG	47.48	8.44	42.52	41.56	91.42	47.22	85.11	47.28	85.04	-1.97	20938	42012	20926	-720*
RESOLUTE BAY	RES	74.70	265.10	15.30	6.82	292.86	6.08	312.48	5.95	310.77	-58.18	865	58556	456	-735
RIO DE JANEIRO	RDJ	-22.91	316.83	112.91	102.75	25.60	105.42	23.05	105.38	22.99	-19.30	20856	-11593	19684	-6893*
ROBURENT	ROB	44.30	7.89	45.70	44.51	89.55	51.13	83.83	51.20	83.74	-1.97	22637	39977	22624	-778*
ROI BAUDOUIN	RBD	-70.43	24.30	160.43	158.32	64.66	154.18	59.41	154.17	59.49	-35.61	18760	-38692	15252	-10923*
ROSTOCK	RO*	54.10	12.15	35.90	35.99	98.27	39.70	90.30	39.72	90.22	-.95	17601	45568	17599	-292*
RUDE SKOV	RSV	55.84	12.46	34.16	34.41	99.57	37.73	91.22	37.77	91.14	-.07	17069	46304	17067	-252
SABHAWALA	SAB	30.36	77.80	59.64	69.42	150.94	66.00	149.52	66.04	149.54	.38	33863	34446	33862	227
SACHS HARBOUR	SAH	72.00	235.00	18.00	14.61	267.47	13.75	272.94	13.67	272.53	47.73	5130	58397	3451	3796*

(ALL VALUES AS OF 1980.5)

OBSERVATORY	G E O G R A P H I C				G E O M A G N E T I C				M O D E L S				A N N U A L				V A L U E S			
	CODE	COORDINATES		CO-LAT	DIPOLE		GUSTAFFSSON		TSYGAMENKO		D	H	Z	X	Y	OBSERVED	OR	IGRF	CALCULATED(*)	
		LAT	E		LONG	CO-LAT	E	LONG	CO-LAT	E										LONG
SAN FERNANDO	SFS	36.46	353.80	53.54	49.36	72.62	60.69	70.71	60.82	70.69	-6.46	26593	33248	26424	-2992*					
SAN JOSE LAJAS	SJL	23.02	277.35	66.98	55.96	346.37	55.11	347.28	55.02	347.20	-0.00	26934	37994	26934	0*					
SAN JUAN	SJG	18.11	293.85	71.89	60.61	4.64	60.14	8.22			-9.60	27299	31010	26916	-4554					
SAN PABLO-TOLEDO	SPT	39.55	355.65	50.45	46.71	75.53	56.51	72.85	56.63	72.79	-6.00	25054	35987	24917	-2619*					
SANAE	SMA	-70.33	357.51	160.33	153.95	45.27	149.94	43.32	149.93	43.45	-17.81	18999	-36266	18088	-5813					
SANTA CRUZ	SZT	28.48	343.72	61.52	55.35	59.98	70.15	61.38	71.64	61.39	-10.24	29575	25436	29104	-5258*					
SANTIAGO	SNT	-33.45	289.30	123.45	112.13	359.73	109.04	.81	109.00	.82	7.14	22161	-13782	21989	2754*					
SAO JOSE COMPOS	SJB	-23.20	314.13	113.20	102.83	23.04	104.63	20.72	104.58	20.65	-17.60	21081	-10848	20094	-6374*					
SAO MIGUEL	SMG	37.77	334.35	52.23	44.72	52.30	54.21	55.51	54.26	55.59	-14.40	25013	36250	24227	-6220*					
SCORESBYSUND	SCO	70.48	338.03	19.52	14.61	82.62	18.02	75.39	17.25	71.96	-30.95	9871	52336	8460	-5070*					
SCOTT BASE	SBA	-77.85	166.78	167.85	168.80	294.35	169.83	328.07	169.90	327.04	145.87	9174	-63237	-7594	5147*					
SEDDIN	SED	52.28	13.01	37.72	37.89	98.09	41.82	90.36	41.84	90.27	-0.53	18482	44792	18482	-171*					
SEFOL	SEF	38.58	127.05	51.42	62.29	195.36	58.30	198.43	58.30	198.45	-7.64	29561	41729	29299	-3930*					
SEYKHA	SEY	70.10	72.50	19.90	29.70	155.51	25.16	147.81	25.15	147.71	25.14	8620	57419	7803	3662*					
SHESHAN	SSH	31.10	121.19	58.90	70.03	190.54	65.90	192.31	65.89	192.29	-4.40	33711	34283	33611	-2590					
SHILLONG	SHL	25.57	91.88	64.43	75.27	163.51	71.79	163.22	71.81	163.22	-0.75	37468	27424	37465	-490*					
SIMFEROPOL	SIM	44.83	34.07	45.17	48.97	114.44	50.46	106.84	50.47	106.77	4.33	22423	42770	22359	1693*					
SIMOSATO	SSO	33.58	135.94	56.42	66.70	203.74	63.83	206.67	63.84	206.71	-6.20	31489	33385	31305	-3401*					
SINGAPORE	SG*	1.28	103.85	88.72	99.98	174.17	98.20	174.68			.32	39857	-12780	39856	223*					
SITKA	SIT	57.06	224.68	32.94	29.77	277.09	30.18	277.77	30.17	277.59	27.53	15877	54802	14078	7341					
SLUTZK	SLU	59.69	30.49	30.31	34.14	117.94	34.46	107.48	34.49	107.49	6.92	14999	49120	14890	1807*					
SODANKYLA	SOD	67.37	26.63	22.63	26.40	120.76	26.44	108.54	26.44	108.50	6.56	11932	50683	11854	1365					
SOUTH GEORGIA	SGE	-54.28	323.52	144.28	134.50	27.19	132.39	24.33	132.36	24.26	-8.72	18227	-24251	18016	-2764					
SOUTH POLE	SPA	-90.00	000.00	180.00	168.67	.04	163.99	19.51	163.80	18.14	-27.58	16006	-54650	14187	-7411*					
SPITZBERGEN	SPB	78.50	15.10	11.50	15.44	131.69	14.88	114.70	14.85	115.20	-1.05	7622	53608	7621	-140*					
SREDNIKAN	SRE	62.44	152.31	27.56	36.63	211.74	34.20	218.30	34.26	218.36	-10.43	16423	53575	16152	-2973*					
SSAGASTYR	GY*	73.38	126.60	16.62	27.64	190.39	22.96	193.56	22.96	193.60	-13.65	6386	59377	6206	-1507*					
ST HELIER	STH	49.19	357.91	40.81	37.86	81.72	44.26	77.21	44.33	77.17	-6.45	20020	42730	19893	-2249*					
ST JOHNS	STJ	47.60	307.32	42.40	31.78	22.94	34.52	30.86	34.50	31.07	-24.90	18375	50133	16666	-7738					
ST PETERSBURG	LN*	59.93	30.33	30.07	33.88	117.97	34.19	107.45	34.21	107.47	6.94	14886	49191	14777	1799*					
STARA DALA	STA	47.88	18.19	42.12	43.08	100.92	47.10	93.34	47.12	93.27	1.17	20722	42913	20718	423*					
STETTIN-ZABELSDO	SZA	53.45	14.57	36.55	37.07	100.17	40.55	92.04	40.59	91.94	.04	17907	45420	17907	13*					
STONYHURST	STO	53.85	357.53	36.15	33.37	83.86	38.68	78.60	38.72	78.56	-7.64	17705	45140	17548	-2354*					
SUKKERTOPPEN	SKT	65.42	307.10	24.58	14.18	30.73	17.01	38.60	16.92	38.61	-43.32	9445	55146	6872	-6480*					
SURLARI	SUA	44.68	26.25	45.32	47.68	107.21	50.79	99.69	50.82	99.60	2.81	22725	41607	22698	1117					

OBSERVATORY	G E O G R A P H I C			G E O M A G N E T I C			M O D E L S			A N N U A L					V A L U E S		
	CODE	COORDINATES		DIPOLE	GUSTAFFSSON	TSYGANENKO	OBSERVED	OR	IGRF	CALCULATED(*)	D	H	Z	X	Y		
		LAT	E													LONG	CO-LAT
SVERDLOVSK	SVD	56.73	61.07	33.27	41.54	141.69	37.99	134.02	37.97	134.01	13.10	16136	52743	15716	3657*		
SWIDER	SMI	52.12	21.25	37.88	39.62	105.68	42.27	97.11	42.34	97.06	2.36	18542	45314	18526	752*		
SYDNEY	SN*	-33.88	151.18	123.88	131.95	227.81	133.89	227.82	133.92	227.81	12.33	24624	-52530	24056	5258*		
SYOWA STATION	SYO	-69.01	39.59	159.01	159.96	79.39	156.12	70.88	156.11	70.83	-46.41	18937	-40597	13056	-13716		
TACUBAYA	TAC	19.41	260.81	70.59	60.80	328.63	61.39	328.13			7.65	29495	31769	29232	3926*		
TAHITI	TAH	-17.56	210.39	107.56	105.10	284.03	106.07	284.28			12.25	32233	-19016	31499	6839*		
TAIPEI	TAP	25.04	121.51	64.96	76.07	191.11	72.34	192.33	72.32	192.32	-2.99	36473	26012	36423	-1902*		
TALARA	TAL	-04.63	278.70	94.63	83.52	349.07	83.06	349.11			4.44	29225	7385	29137	2262*		
TALKEETNA	TLK	62.30	209.90	27.70	27.82	258.59	28.22	261.21	28.20	261.19	26.08	14619	53892	13131	6427*		
TAMNARASSET	TAM	22.79	5.53	67.21	64.93	80.86	79.25	78.48	86.02	78.39	3.28	32897	17263	32843	1384		
TAMBEY	TMB	71.50	71.80	18.50	28.28	155.76	23.82	147.73	23.84	147.63	26.71	8049	57340	7190	3618*		
TANANARIVE	TAN	-18.92	47.55	108.92	113.88	113.95	119.40	115.93			-13.28	19579	-27232	19055	-4497*		
TANGERANG	TNG	-6.17	106.63	96.17	107.46	176.91	106.08	177.48			.37	37307	-23904	37306	243		
TASHKENT	TKT	41.33	69.62	48.67	57.69	145.18	53.90	141.40	53.89	141.40	4.57	25804	45303	25722	2060		
TASUISAK	AJ*	65.62	322.45	24.38	16.03	54.24	19.88	56.09	19.88	56.21	-35.00	11044	52691	9047	-6335*		
TATUOCA	TTB	-1.21	311.49	91.21	80.71	22.19	81.30	24.42			-17.85	27758	5656	26421	-8512		
TBILISI	TFS	42.09	44.71	47.91	53.46	123.23	53.17	116.61	53.16	116.58	5.00	24161	42108	24069	2108		
TEHRAN	TEH	35.74	51.38	54.26	60.75	127.73	59.79	122.90	59.77	122.90	3.53	28179	38189	28126	1735*		
TEOLOYUCAN	TEO	19.75	260.82	70.25	60.46	328.60	61.03	328.11			7.65	29397	32185	29135	3913*		
TEVRIZ	TEV	57.50	72.40	32.50	42.02	150.97	37.33	144.97	37.31	144.93	13.33	15432	55284	15016	3558*		
THOMPSON	TMP	55.72	262.12	34.28	24.73	321.60	23.72	324.30	23.63	324.15	8.98	9694	60430	9575	1513*		
THULE	THL	77.48	290.83	12.52	1.23	12.65	4.00	38.76	3.75	38.80	-74.46	3921	56688	1050	-3778		
THULE AFB	THU	76.55	291.17	13.45	2.16	19.81	4.71	34.24	4.51	33.83	-73.03	4155	56403	1216	-3984*		
TIHANY	THY	46.90	17.89	43.10	43.96	100.24	48.22	92.85	48.27	92.77	1.12	21482	42183	21478	423		
TIKHAYA BAY	TKH	80.33	52.80	9.67	18.46	153.64	15.34	141.11	15.42	141.34	26.49	5866	55749	5250	2616*		
TIXIE BAY	TIK	71.58	129.00	18.42	29.34	192.37	24.71	196.28	24.74	196.33	-16.50	7896	59528	7570	-2243		
TOKYO	TOK	35.69	139.75	54.31	64.28	206.93	61.82	210.34	61.73	210.30	-6.58	30256	34646	30057	-3467*		
TOLEDO	TOL	39.88	355.95	50.12	46.45	75.95	56.09	73.17	56.21	73.10	-5.76	25121	36042	24994	-2523		
TOMSK	TMK	56.47	84.93	33.53	44.06	160.63	38.54	157.11	38.52	157.09	9.10	15737	57253	15539	2489*		
TOOLANGI	T00	-37.53	145.47	127.53	136.34	222.30	138.58	221.94	138.64	221.97	11.33	21739	-56548	21315	4271*		
TORONTO	AG*	43.67	280.50	46.33	35.20	348.56	34.28	353.02	34.22	353.00	-8.98	16964	55282	16756	-2648*		
TOULOUSE	TLS	43.61	1.46	46.39	43.90	82.90	51.68	78.39	51.71	78.37	-4.19	22974	39221	22913	-1679*		
TOUNG00	TGO	18.93	96.45	71.07	82.11	167.46	79.25	167.65			-.69	40179	17195	40176	-484*		
TOYOHARA	TOH	46.95	142.75	43.05	52.83	207.94	50.32	212.97	50.29	212.99	-9.92	25041	44734	24667	-4314*		
TRELEW	TRW	-43.25	294.69	133.25	121.95	4.36	118.30	5.23	118.15	5.27	7.18	21048	-18344	20883	2631*		

(ALL VALUES AS OF 1980.5)

OBSERVATORY	CODE	G E O G R A P H I C				G E O M A G N E T I C				M O D E L S				A N N U A L				V A L U E S			
		COORDINATES		DIPOLE		GUSTAFFSSON		TSYGAMENKO		OBSERVED		OR		IGRF		CALCULATED(*)					
		LAT	E	LONG	CO-LAT	E	LONG	CO-LAT	E	LONG	D	H	Z	X	Y						
TRIVANDRUM	TRD	8.48	76.95	81.52	91.08	147.75	90.25	148.37	23.64	104.54	-2.77	39896	-232	39849	-1928						
TRMSO	TRO	69.66	18.95	20.34	23.05	117.40	23.66	104.53	60.64	191.71	.53	11373	51561	11373	106						
Tsingtao	TSI	36.07	120.32	53.93	65.08	189.55	60.64	191.71	60.64	191.71	-5.73	31157	40720	31001	-3111*						
TSUMEB	TSU	-19.22	17.70	109.22	108.45	84.24	119.96	85.15			-13.83	15873	-27011	15413	-3794						
TUCSON	TUC	32.25	249.17	57.75	49.50	313.83	50.11	313.24	50.06	313.17	12.09	25618	42957	25049	5369						
TULSA	TUL	35.91	264.21	54.09	44.05	330.04	43.47	330.39	43.42	330.25	6.70	22395	49618	22242	2613*						
TUNTUNGAN	TUN	3.51	98.56	86.49	97.60	168.89	96.20	169.46			-.46	40345	-9619	40344	-324*						
UCCLE	UCC	50.80	4.36	39.20	37.60	88.99	42.95	82.86	43.01	82.79	-3.90	19227	43683	19182	-1308*						
UGUT	UGT	61.00	74.00	29.00	38.72	153.18	33.86	147.00	33.88	146.93	15.88	13288	56580	12781	3636*						
UJJAIN	UJJ	23.18	75.78	66.82	76.35	148.23	73.80	147.52	74.02	147.48	-.51	37031	24388	37030	-530*						
UKHTA	UKH	60.50	74.00	29.50	39.22	153.04	34.35	146.92	34.37	146.85	15.46	13580	56461	13089	3620*						
ULAN BATOR	UBA	47.85	107.05	42.15	53.39	177.90	46.22	177.38	47.88	178.65	-3.57	22670	54115	22626	-1412*						
URUMQI	URU	43.82	87.70	46.18	56.82	161.23	51.67	159.44	51.67	159.44	2.61	25389	50091	25362	1157						
UTRECHT	UTI	52.08	5.12	37.92	36.52	90.40	41.52	83.91	41.55	83.85	-3.74	18590	44349	18550	-1213*						
VAL JOYEUX	VLJ	48.82	2.02	41.18	39.01	85.69	45.13	80.35	45.20	80.29	-4.61	20230	42554	20165	-1626*						
VALENTIA	VAL	51.93	349.75	38.07	33.68	74.70	39.94	71.77	39.91	71.74	-10.84	18980	44450	18641	-3570						
VASSOURAS	VSS	-22.40	316.35	112.40	102.21	25.20	104.81	22.79	104.75	22.72	-19.23	21119	-11172	19940	-6956						
VICTORIA	VIC	48.52	236.58	41.48	35.64	294.73	35.95	294.23	35.93	294.14	21.52	19016	52877	17690	6976						
VIEQUES	VOS	18.15	294.55	71.85	60.59	5.41	60.24	9.13			-10.37	27392	31021	26945	-4931*						
VLADIVOSTOK	VLA	43.68	132.17	46.32	56.90	199.35	53.25	203.47	53.27	203.47	-9.69	26961	44974	26576	-4540						
VOSTOK	VOS	-78.45	106.87	168.45	179.41	111.68	173.22	52.90	173.33	53.65	118.73	13030	-59361	-6264	-11424						
VYKHODNOY	VYK	73.24	56.73	16.76	25.23	147.33	21.91	136.34	21.91	136.26	24.93	8449	55541	7662	3561*						
WAKE ISLAND	WKE	19.20	166.70	70.80	77.19	234.41	76.54	235.15			6.97	31011	14768	30782	3763*						
WARSAW	SW*	52.22	21.03	37.78	39.48	105.52	42.17	96.95	42.23	96.90	2.29	18497	45336	18482	739*						
WASHINGTON 1	CH*	38.88	283.00	51.12	39.90	351.99	39.11	356.22	38.98	356.22	-8.97	19755	51878	19513	-3080*						
WASHINGTON 2	FR*	38.90	282.95	51.10	39.88	351.93	39.08	356.15	38.96	356.15	-8.93	19743	51900	19504	-3065*						
WASHINGTON CITY	FR*	38.90	282.97	51.10	39.88	351.94	39.08	356.16	38.96	356.15	-8.93	19743	51900	19504	-3065*						
WASHINGTON NEW	FR*	38.92	282.95	51.08	39.87	351.93	39.07	356.15	38.96	356.15	-8.93	19743	51900	19504	-3065*						
WATHEROO	WAT	-30.32	115.88	120.32	131.55	187.24	132.71	185.97	132.71	186.02	-2.49	24207	-52753	24184	-1052*						
WESTON	WES	42.38	288.68	47.62	36.31	358.86	36.05	4.92	35.96	4.95	-15.49	18240	53001	17577	-4871*						
WHITESHELL	WHS	49.75	264.75	40.25	30.30	327.44	29.28	329.52	29.13	329.36	4.82	14089	58606	14039	1184*						
WIEN-KOBENZL	WIK	48.27	16.32	41.73	42.35	99.32	46.59	91.87	46.63	91.79	.67	20808	42906	20807	246						
WILHELMSHAVEN	WLH	53.53	8.15	36.47	35.74	94.13	40.08	86.86	40.11	86.79	-2.60	17886	45128	17868	-811*						
WILKES	WIL	-66.25	110.58	156.25	167.56	181.85	170.77	154.72	170.84	155.07	-95.76	9202	-63259	-924	9156*						
WINGST	WNG	53.74	9.07	36.26	35.73	95.14	39.92	87.67	39.92	87.61	-1.98	18092	45209	18081	-627						

(ALL VALUES AS OF 1980.5)

OBSERVATORY	G E O G R A P H I C			G E O M A G N E T I C M O D E L S				A N N U A L V A L U E S							
	CODE	COORDINATES		DIPOLE CO-LAT E LONG	GUSTAFFSSON CO-LAT E LONG		TSYGANENKO CO-LAT E LONG		D	H	Z	IGRF CALCULATED(*)			
		LAT	E		LONG	CO-LAT	E	LONG				X	Y		
WINNIEPEG	WNP	49.63	262.87	40.37	30.62	325.11	29.63	326.79	29.56	326.66	7.92	13864	58656	13732	1910*
WITTEVEEN	WIT	52.81	6.67	37.19	36.13	92.30	40.79	85.42	40.81	85.35	-3.05	18528	44662	18502	-986
WUHAN	WHN	30.53	114.56	59.47	70.77	184.52	66.40	185.67	66.38	185.67	-3.13	34738	34686	34686	-1897*
WUSTROW	WUS	54.35	12.40	35.65	35.80	98.65	39.43	90.60	39.45	90.51	-85	17481	45690	17479	-259*
YAKUTSK	YAK	62.02	129.72	27.98	38.80	194.93	34.29	199.83	34.33	199.88	-19.32	15107	58127	14255	-4999
YANOV	YNV	49.90	23.73	40.10	42.20	106.94	44.86	98.62	44.88	98.55	2.88	19662	44472	19637	988*
YAUCA	YAU	-15.53	285.33	105.53	94.24	355.88	92.06	356.33	92.06	356.33	3.27	26443	-2149	26400	1508*
YELLOWKNIFE	YKC	62.40	245.50	27.60	20.89	295.29	20.27	297.26	20.14	296.98	27.84	8721	60179	7711	4073
YUZHNO SAKHALINS	YSS	46.95	142.72	43.05	52.83	207.91	50.31	212.94	50.31	212.97	-10.02	25255	44678	24870	-4394
ZARIA	ZAR	11.15	07.65	78.85	76.74	80.47	92.15	79.50	92.15	79.50	-4.03	33634	527	33551	-2364*
ZIKAWEI	ZKW	31.21	121.44	58.79	69.91	190.77	65.79	192.56	65.77	192.55	-4.61	33745	34495	33636	-2712*
ZINSEN	ZIN	37.48	126.63	52.52	63.42	195.06	59.43	197.96	59.42	197.98	-7.23	30179	40660	29939	-3798*

GEOMAGNETIC OBSERVATORY TABLE

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TABLE 4

(SEQUENCED BY DIPOLE CO-LAT)

OBSERVATORY	CODE	G E O G R A P H I C		G E O M A G N E T I C M O D E L S				A N N U A L V A L U E S							
		COORDINATES		DIPOLE		GUSTAFFSSON		OBSERVED OR		IGRF CALCULATED(*)					
		LAT	E LONG	CO-LAT	E LONG	CO-LAT	E LONG	D	H	Z	X	Y			
THULE	THL	77.48	290.83	12.52	1.23	12.65	4.00	38.76	3.75	38.80	-74.46	3921	56688	1050	-3778
THULE AFB	THU	76.55	291.17	13.45	2.16	19.81	4.71	34.24	4.51	33.83	-73.03	4165	56403	1216	-3984*
ALERT	ALE	82.50	297.50	7.50	4.03	165.16	3.30	115.03	3.21	117.77	-76.93	3669	55887	829	-3574
RESOLUTE BAY	RES	74.70	265.10	15.30	6.82	292.86	6.08	312.48	5.95	310.77	-58.18	865	58556	456	-735
NORTH POLE 7	NPG	85.00	268.12	5.00	6.92	195.37	3.96	185.14	4.09	185.28	123.22	1928	56370	-1056	1613*
NORD	NRD	81.60	343.24	8.40	9.25	132.88	9.33	109.45	9.25	110.32	-30.72	5978	54388	5139	-3054*
GODHAVN	GDH	69.25	306.47	20.75	10.43	34.62	13.37	41.91	13.25	41.84	-48.14	8537	56362	5696	-6358
MOULD BAY	MBC	76.20	240.60	13.80	10.60	258.34	9.25	267.03	9.19	266.53	60.57	2602	58258	1278	2265
PELLY BAY	PEB	68.53	270.48	21.47	11.37	322.55	10.82	333.76	10.79	333.38	-31.72	2592	59389	2205	-1363*
KINGUAFJORD	KJ*	66.60	292.68	23.40	12.12	5.85	13.54	17.95	13.41	17.76	-49.38	6775	57438	4411	-5143*
GJOAHAVN	GJO	68.63	264.08	21.37	12.13	311.67	11.39	320.90	11.29	320.36	-3.34	2229	59636	2225	-130*
HOLSTEINSBORG 1	HS*	66.87	306.73	23.13	12.75	31.67	15.61	39.48	15.47	39.42	-45.50	8834	55273	6192	-6301*
JOHNSON POINT	JOP	72.47	241.70	17.53	12.93	272.78	11.97	279.07	11.90	278.72	50.86	3819	58635	2411	2962*
CAMBRIDGE BAY	CBB	69.20	255.00	20.80	13.09	297.09	12.21	303.93	12.21	303.59	27.41	3095	60054	2747	1425
ARCTIC ICE FLO	AIF	83.53	193.05	6.47	13.65	208.33	10.61	212.50	10.64	212.40	42.89	2301	57134	1686	1566*
SUKKERTOPPEN	SKT	65.42	307.10	24.58	14.18	30.73	17.01	38.60	16.92	38.61	-43.32	9445	55146	6872	-6480*
MURCHISON BAY	MUB	80.50	18.25	9.50	14.57	138.99	13.38	121.50	13.37	122.08	.89	6754	54234	6753	105*
SACHS HARBOUR	SAH	72.00	235.00	18.00	14.61	267.47	13.75	272.94	13.67	272.53	47.73	5130	58397	3451	3796*
SCORESBYSUND	SCO	70.48	338.03	19.52	14.61	82.62	18.02	75.39	17.25	71.96	-30.95	9871	52336	8460	-5070*
NEW AALESUND	NAL	78.92	11.93	11.08	14.70	131.33	14.27	113.87	14.22	114.39	-3.78	7458	53652	7442	-492*
KAP TOBIN	KTG	70.42	238.03	19.58	15.27	274.21	14.48	278.87	14.41	278.64	45.70	5370	58741	3750	3843*
SPITZBERGEN	SPB	78.50	15.10	11.50	15.44	131.69	14.88	114.70	14.85	115.20	-1.05	7622	53608	7621	-140*
GODHAB 1	GH*	64.18	308.28	25.82	15.50	31.48	18.41	39.16	18.36	39.27	-41.18	10110	54845	7609	-6657*
CAP THORSEN	SL*	78.47	15.70	11.53	15.56	131.88	14.96	114.97	14.93	115.46	-.55	7631	53616	7631	-73*
CAPE PARRY	CPY	70.17	235.28	19.83	16.01	271.95	15.29	276.44	15.21	276.11	44.58	5978	58582	4258	4196*
TASUISAK	AJ*	65.62	322.45	24.38	16.03	54.24	19.88	56.09	19.88	56.21	-35.00	11044	52691	9047	-6335*
BAKER LAKE	BLC	64.33	263.97	25.67	16.18	317.71	15.36	323.91	15.21	323.69	2.48	4637	60650	4633	201
CHESTERFIELD INL	CFI	63.33	269.28	26.67	16.52	327.34	15.12	330.07	15.64	333.68	-10.62	4659	60390	4579	-859*
NORUSUND	NOR	77.00	15.55	13.00	16.56	128.06	16.30	111.89	16.25	112.23	-0.36	8233	53200	8233	-52*
JAN MAYEN 1	JM*	71.00	351.53	19.00	16.83	97.02	19.50	86.20	19.52	86.20	-17.52	10339	51399	9859	-3112*
NORTH POLE 6	NPF	84.00	94.00	6.00	17.18	174.54	13.14	168.50	13.20	168.66	45.00	2718	57166	1922	1922*
RANKIN INLET	RIT	62.80	267.67	27.20	17.19	324.72	16.34	331.11	16.26	331.00	-5.35	4914	60526	4893	-458*
NORTH POLE 12	NPL	79.00	187.00	11.00	17.38	218.57	14.92	225.01	14.93	224.86	19.90	5271	57118	4956	1794*
NORTH POLE 13	NPM	81.00	165.00	9.00	18.01	204.62	14.68	209.29	14.69	209.16	7.74	3936	57502	3900	530*
TIKHAYA BAY	TKH	80.33	52.80	9.67	18.46	153.64	15.34	141.11	15.42	141.34	26.49	5866	55749	5250	2616*



(ALL VALUES AS OF 1980.5)

OBSERVATORY	CODE	G E O G R A P H I C		G E O M A G N E T I C		M O D E L S		A N N U A L					V A L U E S		
		COORDINATES		DIPOLE		GUSTAFFSSON		TSYGANENKO		OBSERVED	OR	IGRF	CALCULATED(*)		
		LAT	LONG	CO-LAT	E LONG	CO-LAT	E LONG	CO-LAT	E LONG				D	H	Z
HEISS ISLAND	HIS	80.62	58.05	9.38	18.66	156.45	15.31	144.79	15.32	145.06	29.68	5481	56068	4762	2714*
NORTH POLE 8	NPH	77.00	189.00	13.00	18.69	223.64	16.65	230.34	16.62	230.23	18.94	6593	56892	6236	2140*
IVIGTUT 1	IV*	61.20	311.73	28.80	18.77	34.36	21.94	41.33	21.84	41.44	-36.25	11861	53772	9565	-7014*
IVIGTUT	IVI	61.20	311.85	28.80	18.78	34.53	21.97	41.46	18.97	41.58	-36.20	11876	53747	9583	-7014*
ESKIMO POINT	EKP	61.10	265.93	28.90	19.04	323.51	18.11	328.75	18.02	328.62	.74	5911	60722	5911	76*
BEAR ISLAND	BJN	74.50	19.20	15.50	19.05	125.03	18.96	110.18	18.90	110.05	3.25	9280	52920	9265	526
NARSSARSSUAQ	NAQ	61.10	314.80	28.90	19.23	38.70	22.71	44.66	22.71	44.85	-34.19	12078	53850	9991	-6787*
INUVIK	INK	68.25	226.70	21.75	19.29	267.09	18.87	270.56	18.86	270.36	38.75	8500	57837	6629	5320*
JULIANEHAAB	JUL	60.72	313.97	29.28	19.50	37.21	22.91	43.49	22.90	43.70	-34.81	12351	53218	10141	-7051*
BARTER ISLAND	BTI	70.13	216.02	19.87	19.78	254.50	19.24	259.00	19.21	259.15	34.92	8940	56963	7330	5.18*
LEIRVOGUR	LRV	64.18	338.30	25.82	20.11	72.19	24.39	69.10	24.37	69.10	-20.98	12401	49993	11579	-4440
NANORTALIK 1	NN*	60.13	314.73	29.87	20.16	37.89	23.66	43.98	23.65	44.21	-33.89	12712	52930	10552	-7688*
NORMAN WELLS	NOW	64.90	234.50	25.10	20.68	279.83	20.34	282.02	20.29	281.81	36.79	8998	58583	7206	5389*
FORT RAE	FRA	62.80	243.90	27.20	20.81	292.95	20.23	294.90	20.28	294.64	32.54	8303	59633	7000	4466*
FORT RAE 1	FE*	62.65	244.27	27.35	20.88	293.54	20.29	295.48	20.24	295.21	32.18	8318	59667	7040	4430*
YELLOWKNIFE	YKC	62.40	245.50	27.60	20.89	295.29	20.27	297.26	20.14	296.98	27.84	8721	60179	7711	4073
BARROW	BRW	71.32	203.38	18.68	21.09	242.66	20.33	248.14	20.39	248.06	25.88	9798	56409	8815	4277
FORT CHURCHILL	FCC	58.77	265.90	31.23	21.32	325.02	20.33	329.46	20.19	329.25	2.36	7555	60697	7549	312
NORTH POLE 10	NPJ	77.00	166.38	13.00	21.38	211.09	18.49	217.32	18.49	217.44	1.28	6700	57272	6698	150*
ARCTIC VILLAGE	AVI	68.13	214.43	21.87	21.77	256.17	21.49	260.13	21.51	259.96	32.14	10425	56431	8827	5546*
BACK	BKC	57.68	265.77	32.32	22.39	325.46	21.38	329.56	21.28	329.34	2.92	8042	60702	8032	410*
BODO	BOD	69.30	14.42	20.70	22.56	113.40	23.66	100.91	23.67	100.87	-46	11217	50930	11217	-90*
FORT SIMPSON	FSP	61.75	238.77	28.25	22.72	288.15	22.33	289.42	22.32	289.29	32.72	10012	58996	8423	5412*
CAPE ZHELANIA	CZA	77.00	68.60	13.00	22.77	157.58	18.76	148.26	18.77	148.08	32.04	6113	56855	5182	3243*
TROMSO	TRO	69.66	18.95	20.34	23.05	117.40	23.66	104.53	23.64	104.54	.53	11373	51561	11373	106
FORT YUKON	FYU	66.57	214.73	23.43	23.08	258.48	23.00	261.89	22.99	261.73	31.20	11360	56106	9717	5885*
GILLAM	GIM	56.85	265.58	33.15	23.22	325.64	22.21	329.45	22.10	329.25	3.54	8600	60631	8584	531*
BOSSEKOP	BOP	69.97	23.25	20.03	23.52	121.05	23.63	108.01	23.63	108.00	5.33	10908	51579	10861	1013*
GREAT WHALE R.	GWC	55.27	282.22	34.73	23.56	349.44	23.16	356.71	23.00	356.80	-19.44	10665	59164	10057	-3550
CAPE CHELYUSKIN	CCS	77.72	104.28	12.28	23.59	177.17	18.71	175.06	18.71	174.99	15.33	3460	59150	3337	915
LYNN LAKE	LYN	56.85	258.93	33.15	24.04	316.79	23.05	319.08	23.00	318.97	13.47	9336	60469	9079	2175*
ABISKO	ABK	68.36	18.82	21.64	24.17	115.70	24.96	103.32	24.96	103.31	2.74	11798	51070	11784	566
THOMPSON	TMP	55.72	262.12	34.28	24.73	321.60	23.72	324.30	23.63	324.15	8.98	9694	60430	9575	1513*
KIRUNA	KIR	67.83	20.42	22.17	24.91	116.37	25.60	104.08	25.59	104.10	-5.69	11179	50928	11124	-1108
FORT SMITH	FSM	58.00	246.00	32.00	24.93	299.87	24.39	300.80	24.35	300.57	26.02	10902	59365	9797	4783*

(ALL VALUES AS OF 1980.5)

OBSERVATORY	CODE	G E O G R A P H I C				G E O M A G N E T I C				M O D E L S				A N N U A L				V A L U E S			
		COORDINATES		DIPOLE		GUSTAFFSSON		TSYGANENKO		OBSERVED	OR	IGRF	CALCULATED(*)	D	H	Z	X	Y			
		LAT	E	LONG	CO-LAT	E	LONG	CO-LAT	E										LONG	CO-LAT	E
COLLEGE	CMO	64.86	212.16	25.14	25.07	258.14	25.20	261.22	25.18	261.15	28.12	12997	55380	11462	6127						
EIEELSON AFB	ENB	64.67	212.92	25.33	25.10	259.02	25.23	262.02	25.23	261.92	28.99	12783	55300	11181	6195*						
MATOCHKIN SHAR	MSR	73.26	56.40	16.74	25.16	147.14	21.88	136.09	21.88	136.02	24.82	8461	55505	7679	3552*						
PETSAMO	PTS	69.53	31.25	20.47	25.21	126.47	24.53	113.71	24.53	113.66	10.14	10963	52070	10792	1930*						
VYKHODNOY	VYK	73.24	56.73	16.76	25.23	147.33	21.91	136.34	21.91	136.26	24.93	8449	55541	7662	3561*						
IVALO	IVA	68.60	27.48	21.40	25.43	122.68	25.25	110.12	25.25	110.06	7.71	11385	51503	11282	1527*						
BIG DELTA	BDE	64.00	214.27	26.00	25.45	260.95	25.62	263.72	25.62	263.57	29.28	13011	55291	11349	6363*						
NORTHWAY	NRW	63.02	218.20	26.98	25.56	265.62	25.77	267.80	25.84	267.59	30.36	13090	55601	11295	6616*						
MALIYE KARMAKULY	MKL	72.30	52.50	17.70	25.62	143.81	22.67	132.32	22.67	132.27	22.51	9090	54931	8397	3480*						
MELVILLE AFB	MEV	53.28	299.47	36.72	25.64	13.71	27.10	22.51	27.09	22.53	-29.53	13928	54897	12119	-6865*						
KOTZEBUE	KOT	66.88	197.37	23.12	26.00	243.51	25.78	248.31	25.79	248.31	20.08	13037	54268	12245	4476*						
ISLAND LAKE	ISL	53.88	265.32	36.12	26.17	326.66	25.14	329.66	25.02	329.50	4.70	10635	60138	10599	871*						
HEALY	HEA	63.86	211.03	26.14	26.19	258.16	26.44	261.01	26.42	261.01	27.49	13536	54714	12008	6248*						
BELIY ISLAND	BEY	73.30	70.00	16.70	26.40	155.67	22.13	147.04	22.15	146.94	28.57	7436	57107	6531	3556*						
SODANKYLA	SOD	67.37	26.63	22.63	26.40	120.76	26.44	108.54	26.44	108.50	6.56	11932	50683	11854	1365						
NORWAY HOUSE	NHO	53.98	262.17	36.02	26.43	322.51	25.39	324.82	25.33	324.70	8.84	10895	60073	10766	1674*						
MURMANSK	MMK	68.25	33.08	21.75	26.65	126.54	25.88	114.21	25.88	114.13	12.28	11819	51547	11549	2514						
CAPE SCHMIDT	CPS	68.92	180.52	21.08	26.90	228.72	25.78	235.01	25.82	235.06	8.00	12539	54528	12417	1745*						
DIXON ISLAND	DIK	73.54	80.56	16.46	26.91	162.31	22.13	155.83	22.11	155.74	27.27	6404	58315	5692	2934						
LOVZERO	LOZ	67.97	35.02	22.03	27.21	127.73	26.24	115.54	26.24	115.47	11.72	11506	52026	11266	2337*						
KANDALAKSHA	KND	67.13	32.43	22.87	27.57	125.02	26.97	112.93	26.96	112.88	10.07	11888	51543	11705	2079*						
PITILEKAJ	PL*	67.08	186.62	22.92	27.63	234.91	27.06	240.58	27.08	240.59	12.21	13578	53737	13271	2872*						
SSAGASTYR	GY*	73.38	126.60	16.62	27.64	190.39	22.96	193.56	22.96	193.60	-13.65	6386	59377	6206	-1507*						
LERWICK	LER	60.13	358.82	29.87	27.76	89.62	31.80	82.55	31.78	82.53	-7.83	14952	47857	14812	-2039						
TALKEETNA	TLK	62.30	209.90	27.70	27.82	258.59	28.22	261.21	28.20	261.19	26.08	14619	53892	13131	6427*						
CAPE WELLEN	CWE	66.16	190.17	23.84	27.89	238.48	27.61	243.70	27.58	243.71	14.78	14195	53530	13725	3622						
DOMBAS	DOB	62.07	9.12	27.93	27.99	101.04	30.74	91.55	30.72	91.56	-3.35	14230	48348	14206	-832						
MEANOOK	MEA	54.62	246.67	35.38	28.05	302.95	27.61	303.33	27.54	303.16	22.14	13488	58501	12493	5084						
KHARASAVEY	KHS	71.13	66.83	18.87	28.21	152.31	24.07	143.39	24.10	143.28	25.92	8627	56674	7759	3771*						
TAMBEY	TMB	71.50	71.80	18.50	28.28	155.76	23.82	147.73	23.84	147.63	26.71	8049	57340	7190	3618*						
ANCHORAGE	AMU	61.24	210.13	28.76	28.75	259.73	29.25	262.11	29.26	262.06	25.64	15248	53429	13747	6598*						
ANDERMA	AMD	69.47	61.42	20.53	29.27	147.68	25.54	138.05	25.55	137.94	23.34	9766	55773	8967	3869*						
TIXIE BAY	TIK	71.58	129.00	18.42	29.34	192.37	24.71	196.28	24.74	196.33	-16.50	7896	59528	7570	-2243						
SEYKHA	SEY	70.10	72.50	19.90	29.70	155.51	25.16	147.81	25.15	147.71	25.14	8620	57419	7803	3662*						
SITKA	SIT	57.06	224.68	32.94	29.77	277.09	30.18	277.77	30.17	277.59	27.53	15877	54802	14078	7341						

(ALL VALUES AS OF 1980.5)

G E O G R A P H I C

OBSERVATORY	CODE	COORDINATES	
		LAT	LONG
OSLO	OSL	59.91	10.72
WHITESHELL	WHS	49.75	264.75
WINNIPEG	WNP	49.63	262.87
GLENLEA	GLL	49.60	262.90
ARKHANGELSK	ARK	64.60	40.50
CAPE KAMENNYI	CKA	68.50	73.60
NORILSK	NOK	69.40	88.10
MAKERSTOUN	MQ*	55.58	357.48
ENKOPING	ENK	59.60	17.02
LORING AFB	LOB	46.92	291.88
ST JOHNS	STJ	47.60	307.32
ESKDALEMUIR	ESK	55.32	356.80
LOVO	LOV	59.35	17.83
NURMIJARVI	NUR	60.51	24.66
DUBLIN	DL*	53.35	353.73
NYDA	NDA	66.60	73.00
OTTAWA	OTT	45.40	284.45
STONYHURST	STO	53.85	357.53
VALENTIA	VAL	51.93	349.75
EAST PORT	EP*	44.90	293.02
ST PETERSBURG	LN*	59.93	30.33
LENINGRAD	LNN	59.95	30.71
SLUTZK	SLU	59.69	30.49
RUDE SKOV	RSV	55.84	12.46
BRORFELDE	BFE	55.63	11.67
COPENHAGEN	COP	55.68	12.58
NEWPORT	NEW	48.26	242.88
FLENSBURG	FLE	54.78	9.43
AGINCOURT	AGN	43.78	280.73
TORONTO	AG*	43.67	280.50
KIEL	KE*	54.33	10.15
VICTORIA	VIC	48.52	236.58
HARTLAND	HAD	51.00	355.52
WINGST	WNG	53.74	9.07
WILHELMSHAVEN	WLH	53.53	8.15

G E O M A G N E T I C M O D E L S

OBSERVATORY	CODE	DIPOLE		GUSTAFSSON		TSYGANENKO	
		CO-LAT	E LONG	CO-LAT	E LONG	CO-LAT	E LONG
OSLO	OSL	30.28	100.74	33.15	91.62	33.17	91.63
WHITESHELL	WHS	30.30	327.44	29.28	329.52	29.13	329.36
WINNIPEG	WNP	30.62	325.11	29.63	326.79	29.56	326.66
GLENLEA	GLL	30.64	325.16	29.66	326.84	29.55	326.70
ARKHANGELSK	ARK	31.17	129.25	29.82	118.02	29.79	118.02
CAPE KAMENNYI	CKA	31.34	155.53	26.67	148.28	26.67	148.16
NORILSK	NOK	31.40	165.67	26.05	161.43	26.06	161.34
MAKERSTOUN	MQ*	31.72	84.90	36.66	79.26	36.72	79.24
ENKOPING	ENK	31.77	106.21	33.92	96.47	33.95	96.45
LORING AFB	LOB	31.78	2.97	32.05	10.27	31.96	10.34
ST JOHNS	STJ	31.78	22.94	34.52	30.86	34.50	31.07
ESKDALEMUIR	ESK	31.85	84.04	36.88	78.62	36.93	78.60
LOVO	LOV	32.16	106.75	34.25	97.00	34.26	96.98
NURMIJARVI	NUR	32.34	113.51	33.38	103.05	33.37	103.04
DUBLIN	DL*	33.10	79.67	38.77	75.44	38.82	75.39
NYDA	NDA	33.15	154.34	28.46	147.22	28.46	147.11
OTTAWA	OTT	33.34	353.42	32.80	359.08	32.68	359.10
STONYHURST	STO	33.37	83.86	38.68	78.60	38.72	78.56
VALENTIA	VAL	33.68	74.70	39.94	71.77	39.91	71.74
EAST PORT	EP*	33.81	4.35	34.18	11.47	34.09	11.62
ST PETERSBURG	LN*	33.88	117.97	34.19	107.45	34.21	107.47
LENINGRAD	LNN	33.93	118.29	34.18	107.77	34.21	107.78
SLUTZK	SLU	34.14	117.94	34.46	107.48	34.49	107.49
RUDE SKOV	RSV	34.41	99.57	37.73	91.22	37.77	91.14
BRORFELDE	BFE	34.46	98.71	37.94	90.50	37.97	90.42
COPENHAGEN	COP	34.58	99.59	37.92	91.26	37.97	91.18
NEWPORT	NEW	34.79	301.85	34.81	301.39	34.76	301.28
FLENSBURG	FLE	34.82	96.09	38.76	88.36	38.77	88.29
AGINCOURT	AGN	35.07	348.84	34.17	353.36	34.12	353.35
TORONTO	AG*	35.20	348.56	34.22	353.02	34.22	353.00
KIEL	KE*	35.38	96.51	39.33	88.75	39.33	88.69
VICTORIA	VIC	35.64	294.73	35.95	294.23	35.93	294.14
HARTLAND	HAD	35.68	80.19	41.81	75.94	41.87	75.90
WINGST	WNG	35.73	95.14	39.92	87.67	39.92	87.61
WILHELMSHAVEN	WLH	35.74	94.13	40.08	86.86	40.11	86.79

A N N U A L V A L U E S

OBSERVATORY	CODE	D	H	OR	IGRF	CALCULATED(*)	
						X	Y
OSLO	OSL	-2.01	14967	47794	14958	-525*	
WHITESHELL	WHS	4.82	14089	58606	14039	1184*	
WINNIPEG	WNP	7.92	13864	58656	13732	1910*	
GLENLEA	GLL	7.89	13860	58658	13729	1903*	
ARKHANGELSK	ARK	12.85	12777	51774	12457	2842*	
CAPE KAMENNYI	CKA	23.28	9285	57525	8529	3670*	
NORILSK	NOK	18.80	7619	59374	7213	2455*	
MAKERSTOUN	MQ*	-8.11	16885	45923	16716	-2382*	
ENKOPING	ENK	1.11	15090	47988	15087	292*	
LORING AFB	LOB	-20.79	16154	54580	15102	-5734*	
ST JOHNS	STJ	-24.90	18375	50133	16666	-7738	
ESKDALEMUIR	ESK	-8.35	17294	45788	17110	-2513	
LOVO	LOV	1.51	15499	48027	15494	410	
NURMIJARVI	NUR	4.21	15202	49039	15161	1116	
DUBLIN	DL*	-9.43	17916	44989	17674	-2935*	
NYDA	NDA	21.33	10284	57300	9580	3741*	
OTTAWA	OTT	-14.03	16658	55605	16161	-4040	
STONYHURST	STO	-7.64	17705	45140	17548	-2354*	
VALENTIA	VAL	-10.84	18980	44450	18641	-3570	
EAST PORT	EP*	-20.01	17400	53271	16350	-5954*	
ST PETERSBURG	LN*	6.94	14886	49191	14777	1799*	
LENINGRAD	LNN	7.12	15216	49053	15098	1888	
SLUTZK	SLU	6.92	14999	49120	14890	1807*	
RUDE SKOV	RSV	-0.07	17069	46304	17067	-252	
BRORFELDE	BFE	-1.48	17204	46040	17198	-445	
COPENHAGEN	COP	-0.84	16856	46259	16854	-247*	
NEWPORT	NEW	20.22	18196	54513	17074	6290	
FLENSBURG	FLE	-2.16	17283	45736	17271	-651*	
AGINCOURT	AGN	-9.27	16906	55313	16685	-2723*	
TORONTO	AG*	-8.98	16964	55282	16756	-2648*	
KIEL	KE*	-1.81	17495	45572	17486	-553*	
VICTORIA	VIC	21.52	19016	52877	17690	6976	
HARTLAND	HAD	-7.73	19331	43769	19155	-2600	
WINGST	WNG	-1.98	18092	45209	18081	-627	
WILHELMSHAVEN	WLH	-2.60	17886	45128	17868	-811*	

(ALL VALUES AS OF 1980.5)

OBSERVATORY	CODE	G E O G R A P H I C		G E O M A G N E T I C				M O D E L S				A N N U A L				V A L U E S			
		COORDINATES		DIPOLE		GUSTAFFSSON		TSYGAMENKO		OBSERVED	OR	IGRF	CALCULATED(*)	D	H	Z	X	Y	
		LAT	LONG	CO-LAT	LONG	CO-LAT	LONG	CO-LAT	LONG										
WUSTROW	WUS	54.35	12.40	35.65	35.80	98.65	39.43	90.60	39.45	90.51	17481	45690	17479	-85	17481	45690	17479	-259*	
BARH	BAH	54.37	12.75	35.63	35.86	98.98	39.43	90.89	39.45	90.80	-71	17471	45717	17470	-71	17471	45717	17470	-216*
HACKNEY WICK 2	HW*	51.63	359.67	38.37	35.88	84.75	41.59	79.40	41.58	79.38	-6.12	18800	44042	18693	-6.12	18800	44042	18693	-2004*
LUBECK	LB*	53.87	10.70	36.13	35.93	96.76	39.90	89.02	39.89	88.96	-1.54	17714	45394	17708	-1.54	17714	45394	17708	-476*
ROSTOCK	RO*	54.10	12.15	35.90	35.99	98.27	39.70	90.30	39.72	90.22	-95	17601	45568	17599	-95	17601	45568	17599	-292*
HACKNEY WICK	HW*	51.55	359.97	38.45	36.01	85.01	41.72	79.61	41.58	79.38	-6.12	18800	44043	18693	-6.12	18800	44043	18693	-2004*
NUMTO	NMT	63.50	71.40	26.50	36.04	152.03	31.40	145.00	31.41	144.92	18.47	12035	56605	11415	18.47	12035	56605	11415	3813*
KEW	KEW	51.47	359.69	38.53	36.05	84.68	41.79	79.36	41.77	79.34	-6.08	18880	43961	18774	-6.08	18880	43961	18774	-2000*
HAMBURG	HM*	53.55	9.98	36.45	36.08	95.90	40.22	88.32	40.21	88.26	-1.82	17869	45218	17860	-1.82	17869	45218	17860	-588*
GREENWICH	GRW	51.48	.00	38.52	36.10	85.00	41.81	79.61	41.79	79.59	-5.94	18876	43967	18775	-5.94	18876	43967	18775	-1953*
WITTEVEEN	WIT	52.81	6.67	37.19	36.13	92.30	40.79	85.42	40.81	85.35	-3.05	18528	44662	18502	-3.05	18528	44662	18502	-986
ABINGER	ABN	51.19	359.61	38.81	36.30	84.46	42.10	79.20	42.11	79.18	-6.05	19024	43811	18918	-6.05	19024	43811	18918	-2005*
WESTON	WES	42.38	288.68	47.62	36.31	358.86	36.05	4.92	35.96	4.95	-15.49	18240	53001	17577	-15.49	18240	53001	17577	-4871*
FALMOUTH	FAL	50.15	354.92	39.85	36.37	79.15	42.72	75.19	42.80	75.15	-8.02	19509	43305	19318	-8.02	19509	43305	19318	-2722*
DE BILT	DBN	52.10	5.18	37.90	36.51	90.47	41.50	83.97	41.54	83.90	-3.72	18580	44360	18541	-3.72	18580	44360	18541	-1205*
UTRECHT	WI*	52.08	5.12	37.92	36.52	90.40	41.52	83.91	41.55	83.85	-3.74	18590	44349	18550	-3.74	18590	44349	18550	-1213*
SREDNIKAN	SRE	62.44	152.31	27.56	36.63	211.74	34.26	218.30	34.26	218.36	-10.43	16423	53575	16152	-10.43	16423	53575	16152	-2973*
HEL	HLP	54.61	18.82	35.39	36.80	104.72	39.48	95.93	39.49	95.85	1.19	17653	46127	17649	1.19	17653	46127	17649	367
NEUFABRWASSER	NF*	54.42	18.65	35.58	36.95	104.47	39.68	95.73	39.69	95.64	1.61	17431	46116	17424	1.61	17431	46116	17424	490*
KALININGRAD	KNG	54.70	20.62	35.30	37.04	106.43	39.46	97.46	39.46	97.38	2.35	17292	46383	17277	2.35	17292	46383	17277	709*
STETTIN-ZABELSDO	SZA	53.45	14.57	36.55	37.07	100.17	40.55	92.04	40.59	91.94	.04	17907	45420	17907	.04	17907	45420	17907	13*
BOROK	BOX	58.03	38.97	31.97	37.13	124.14	36.44	114.21	36.40	114.17	9.33	15688	49557	15480	9.33	15688	49557	15480	2543*
BOCHUM	BOC	51.49	7.23	38.51	37.50	92.15	42.37	85.40	42.42	85.32	-2.77	18887	44122	18865	-2.77	18887	44122	18865	-913*
UCCLE	UCC	50.80	4.36	39.20	37.60	88.99	42.95	82.86	43.01	82.79	-3.90	19227	43683	19182	-3.90	19227	43683	19182	-1308*
POTSDAM	POT	52.38	13.06	37.62	37.79	98.20	41.70	90.44	41.73	90.35	-.51	18432	44842	18431	-.51	18432	44842	18431	-164*
CLAUSTHAL	CLZ	51.81	10.34	38.19	37.81	95.30	42.25	88.00	42.25	87.93	-1.54	18725	44417	18718	-1.54	18725	44417	18718	-503*
ST HELIER	STH	49.19	357.91	40.81	37.86	81.72	44.26	77.21	44.33	77.17	-6.45	20020	42730	19893	-6.45	20020	42730	19893	-2249*
SEDDIN	SED	52.28	13.01	37.72	37.89	98.09	41.82	90.36	41.84	90.27	-.53	18482	44792	18481	-.53	18482	44792	18481	-171*
GOTTINGEN	GT*	51.53	9.95	38.47	37.99	94.80	42.54	87.59	42.54	87.54	-1.67	18859	44267	18851	-1.67	18859	44267	18851	-550*
NIEMEGK	NGK	52.07	12.68	37.93	38.01	97.67	42.03	90.01	42.07	89.92	-.58	18825	44570	18824	-.58	18825	44570	18824	-192
DOURBES	DOU	50.10	4.60	39.90	38.31	88.86	43.77	82.80	43.86	82.75	-3.64	19863	43346	19823	-3.64	19863	43346	19823	-1263
MANHAY	MAB	50.30	5.68	39.70	38.33	90.03	43.63	83.74	43.71	83.68	-3.28	19480	43462	19448	-3.28	19480	43462	19448	-1115*
CASPER	CSR	42.83	253.63	47.17	38.46	316.17	38.14	315.98	38.06	315.91	13.46	19625	53433	19086	13.46	19625	53433	19086	4568*
MINSK	MNK	54.50	27.88	35.50	38.58	112.82	39.91	103.49	40.29	102.15	5.29	17931	46832	17854	5.29	17931	46832	17854	1655
UGT	UGT	61.00	74.00	29.00	38.72	153.18	33.86	147.00	33.88	146.93	15.88	13288	56580	12781	15.88	13288	56580	12781	3636*

(ALL VALUES AS OF 1980.5)

OBSERVATORY	CODE	G E O G R A P H I C		G E O M A G N E T I C				M O D E L S				A N N U A L				V A L U E S			
		COORDINATES		DIPOLE		GUSTAFFSSON		TSYGANENKO		OBSERVED	OR	IGRF	CALCULATED(*)		D	H	Z	X	Y
		LAT	LONG	CO-LAT	CO-LONG	CO-LAT	CO-LONG	CO-LAT	CO-LONG				Z	X					
PHILADELPHIA	PH*	39.97	284.82	50.03	38.77	354.14	38.13	358.96	37.99	358.99	-11.04	19244	52312	18888	-3685*				
COLLUMBERG	CLL	51.32	13.00	38.68	38.79	97.60	42.91	90.03	42.95	89.94	-50	18959	44331	18958	-165*				
YAKUTSK	YAK	62.02	129.72	27.98	38.80	194.93	34.29	199.83	34.33	199.88	-19.32	15107	58127	14255	-4999				
VAL JOYEUX	VLJ	48.82	2.02	41.18	39.01	85.69	45.13	80.35	45.20	80.29	-4.61	20230	42554	20165	-1626*				
MAGADAN	MGD	60.12	151.02	29.88	39.04	211.56	36.68	218.04	36.70	218.04	-13.18	18047	52589	17571	-4117				
PARC ST. MAUR	PSM	48.82	2.48	41.18	39.12	86.15	45.18	80.72	45.24	80.65	-4.41	20231	42563	20171	-1556*				
KUTCHINO	KTC	55.76	37.97	34.24	39.13	122.19	38.74	112.66	38.73	112.61	8.15	16756	48598	16587	2375*				
UKHTA	UKH	60.50	74.00	29.50	39.22	153.04	34.35	146.92	34.37	146.85	15.46	13580	56461	13089	3620*				
FREIBERG	FB*	50.92	13.35	39.08	39.24	97.73	43.39	90.18	43.43	90.09	-37	19159	44156	19159	-124*				
P. TUNGUSKA	POD	61.60	90.00	28.40	39.24	165.39	33.53	162.46	33.53	162.39	9.65	12418	59223	12242	2983				
MOSCOW	MOS	55.48	37.31	34.52	39.30	121.49	39.03	112.01	39.01	111.97	7.73	17294	48636	17137	2327				
WARSAW	SW*	52.22	21.03	37.78	39.48	105.52	42.17	96.95	42.23	96.90	2.29	18497	45336	18482	739*				
SWIDER	SWI	52.12	21.25	37.88	39.62	105.68	42.27	97.11	42.34	97.06	2.36	18542	45314	18526	764*				
BRESLAU	BS*	51.12	17.03	38.88	39.77	101.29	43.31	93.28	43.34	93.20	.91	19050	44506	19048	303*				
BELSK	BEL	51.84	20.79	38.16	39.80	105.12	42.59	96.62	42.65	96.59	2.62	19063	45418	19043	871				
CHAMBON-LA-FORET	CLF	48.02	2.26	41.98	39.83	85.57	46.14	80.31	46.20	80.24	-4.34	20844	42116	20784	-1579				
NANTES	NTS	47.25	358.44	42.75	39.83	81.37	46.75	77.03	46.79	76.98	-5.87	21024	41583	20914	-2150*				
WASHINGTON NEW	FR*	38.92	282.95	51.08	39.87	351.93	39.07	356.15	38.96	356.15	-8.93	19743	51900	19504	-3065*				
WASHINGTON 2	FR*	38.90	282.95	51.10	39.88	351.93	39.08	356.15	38.96	356.15	-8.93	19743	51900	19504	-3065*				
WASHINGTON CITY	FR*	38.90	282.97	51.10	39.88	351.94	39.08	356.16	38.96	356.15	-8.93	19743	51900	19504	-3065*				
WASHINGTON 1	CH*	38.88	283.00	51.12	39.90	351.99	39.11	356.22	38.98	356.22	-8.97	19755	51878	19513	-3080*				
ANDREWS AFB	AWS	38.82	283.13	51.18	39.95	352.15	39.17	356.40	39.05	356.40	-9.05	19791	51815	19545	-3113*				
HERMSDORF	HDF	50.76	16.24	39.24	39.95	100.38	43.68	92.51	43.73	92.44	.64	19234	44272	19233	215*				
CHEL TENHAM	CLM	38.73	283.16	51.27	40.04	352.18	39.26	356.42	39.17	356.49	-9.06	19857	51719	19609	-3127*				
PRUHONICE	PRU	49.99	14.55	40.01	40.35	98.42	44.50	90.86	44.56	90.80	.06	19629	43764	19629	21*				
CARROLLTON	CAX	39.37	266.47	50.63	40.42	332.06	39.57	333.04	39.49	332.98	5.07	20178	52728	20099	1783*				
FREDERICKSBURG	FRD	38.21	282.63	51.79	40.59	351.57	39.76	355.59	39.64	355.61	-8.43	20449	51352	20228	-2998				
BELOIT	BLT	39.48	261.87	50.52	40.77	326.62	40.10	326.94	40.07	326.83	8.28	20620	52271	20405	2970*				
KAZAN	KZN	55.83	48.85	34.17	40.77	131.37	38.77	122.43	38.77	122.45	10.46	16830	50407	16550	3058				
BEUTHEN	BEU	50.35	18.92	39.65	40.85	102.70	44.26	94.61	44.28	94.56	1.50	19437	44275	19430	509*				
BOULDER	BOU	40.14	254.76	49.86	40.96	318.22	40.72	317.98	40.67	317.83	12.23	21349	51156	20864	4525				
BEUTHEN MIKILOW	BMK	50.15	18.90	39.85	41.04	102.59	44.49	94.53	44.51	94.49	1.48	19539	44173	19532	505*				
BUDKOV	BDV	49.08	14.02	40.92	41.12	97.50	45.55	90.17	45.62	90.09	-0.08	20323	43140	20323	-29				
BALDWIN	BAL	38.78	264.83	51.22	41.15	330.24	40.41	330.94	40.34	330.77	6.31	20703	52096	20578	2275*				
BURLINGTON	BRT	39.38	257.73	50.62	41.33	321.83	40.91	321.73	40.99	321.74	10.60	21213	51449	20851	3902*				

(ALL VALUES AS OF 1980.5)

OBSERVATORY	GEOGRAPHIC			GEOMAGNETIC MODELS				ANNUAL VALUES						
	CODE	COORDINATES		DIPOLE		GUSTAFFSSON		TSYGANENKO		OBSERVED	OR	IGRF	CALCULATED(*)	
		LAT	E	LONG	CO-LAT	E	LONG	CO-LAT	E				LONG	D
CRA	50.05	19.95	39.95	41.34	103.52	44.65	95.37	44.65	95.35	1.80	19589	44210	19579	615*
KRAKAU (CRAKAU)	KX*	50.05	19.95	41.34	103.52	44.65	95.37	44.65	95.35	1.80	19589	44210	19579	615*
MAS	48.20	11.26	41.80	41.42	94.47	46.50	87.61	46.54	87.56	-1.01	20560	42587	20557	-362*
FUR	48.17	11.28	41.83	41.46	94.46	46.55	87.61	46.58	87.56	-0.95	20820	42489	20817	-348
ARS	56.43	58.57	33.57	41.52	139.56	38.26	131.61	38.25	131.60	11.61	16653	52700	16312	3353
MUNICH	48.15	11.61	41.85	41.54	94.77	46.59	87.88	46.62	87.84	-0.89	20586	42581	20584	-320*
SVERDLOVSK	56.73	61.07	33.27	41.54	141.69	37.99	134.02	37.97	134.01	13.10	16136	52743	15716	3657*
REGENSBURG	47.48	8.44	42.52	41.56	91.42	47.22	85.11	47.28	85.04	-1.97	20938	42012	20926	-720*
CLIMAX	39.37	253.82	50.63	41.84	317.34	41.70	316.99	41.65	316.85	12.53	21635	50726	21120	4694*
LEADVILLE	39.28	253.72	50.72	41.94	317.24	41.82	316.87	41.77	316.75	12.55	21697	50630	21179	4715*
CHATONNAYE	46.67	06.83	43.33	42.02	89.50	48.10	83.61	48.19	83.50	-2.49	21364	41446	21344	-928*
TEVRIZ	57.50	72.40	32.50	42.02	150.97	37.33	144.97	37.31	144.93	13.33	15432	55284	15016	3558*
KREMSMUNSTER	48.06	14.13	41.94	42.12	97.16	46.77	89.98	46.81	89.89	-0.06	20631	42699	20631	-22*
LVOV	49.90	23.75	40.10	42.20	106.96	44.86	98.63	44.88	98.57	3.24	20077	44565	20045	1138
YANOV	49.90	23.73	40.10	42.20	106.94	44.86	98.62	44.88	98.55	2.88	19662	44472	19637	988*
PRICE	39.60	249.17	50.40	42.26	312.00	42.39	311.36	42.31	311.39	14.38	22021	49882	21331	5469*
WIEN-KOBENZL	48.27	16.32	41.73	42.35	99.32	46.59	91.87	46.63	91.79	0.67	20808	42906	20807	246
ADAK	51.87	183.36	38.13	42.50	241.36	43.17	244.88	43.74	245.00	8.77	21897	42676	21641	3339*
KIEV	50.72	30.30	39.28	42.63	113.24	43.92	104.54	44.02	104.51	4.99	19498	45618	19424	1696
NAGYGENK	47.63	16.72	42.37	43.03	99.43	47.34	92.04	47.39	91.95	0.77	21126	42492	21124	285
HURBANOVO	47.87	18.19	42.13	43.08	100.92	47.10	93.34	47.13	93.25	1.15	20996	42772	20992	425
O GYALLA	47.88	18.19	42.12	43.08	100.92	47.10	93.34	47.13	93.25	1.16	20727	42907	20723	420*
STARA DALA	47.88	18.19	42.12	43.08	100.92	47.10	93.34	47.12	93.27	1.17	20722	42913	20718	423*
NIZHNEDEVITSK	51.52	38.37	38.48	43.27	120.70	43.17	111.95	43.18	111.95	6.81	18855	46874	18722	2236*
KLAGENFURT	46.62	14.30	43.38	43.54	96.71	48.47	89.76	48.54	89.65	-0.00	21395	41879	21395	0*
BUDAKESZI	47.52	18.90	42.48	43.55	101.44	47.53	93.84	47.55	93.78	1.35	20912	42771	20906	493*
BUDAPEST	47.50	19.03	42.50	43.60	101.56	47.55	93.96	47.58	93.89	1.39	20923	42771	20917	508*
TOULOUSE	43.61	1.46	46.39	43.90	82.90	51.68	78.39	51.71	78.37	-4.19	22974	39221	22913	-1679*
ANGRA HEROISMO	38.32	332.78	51.68	43.93	50.70	52.98	54.33	53.01	54.39	-15.09	24661	37003	23811	-6420*
TIHANY	46.90	17.89	43.10	43.96	100.24	48.22	92.85	48.27	92.77	1.12	21482	42183	21478	423
TULSA	35.91	264.21	54.09	44.05	330.04	43.47	330.39	43.42	330.25	6.70	22395	49618	22242	2613*
TOMSK	56.47	84.93	33.53	44.06	160.63	38.54	157.11	38.52	157.09	9.10	15737	57253	15539	2489*
LOGRONO	42.46	357.50	47.54	44.25	78.44	52.81	74.95	52.88	74.93	-5.58	23551	38305	23439	-2290*
GENOVA	44.55	08.95	45.45	44.47	90.71	50.86	84.77	50.93	84.68	-1.63	22505	40208	22496	-640*
MONTE CAPELLINO	44.55	8.96	45.45	44.47	90.71	50.86	84.77	50.93	84.68	-1.63	22505	40208	22496	-640*

OBSERVATORY	CODE	G E O G R A P H I C		C O O R D I N A T E S		G E O M A G N E T I C				M O D E L S				A N N U A L				V A L U E S			
		L A T		L O N G		C O - L A T		D I P O L E		G U S T A F F S S O N		T S Y G A N E N K O		O B S E R V E D		O R		I G R F		C A L C U L A T E D (*)	
		E	W	E	W	E	W	E	W	E	W	E	W	D	H	Z	X	Y	X	Y	
ROBURENT	ROB	44.30	7.89	45.70	44.51	89.55	51.13	83.83	51.20	83.74	51.20	83.74	-1.97	22637	39977	22624	-778*	22624	-778*		
CASTELLACCIO	CAO	44.43	8.93	45.57	44.58	90.64	51.01	84.73	51.07	84.63	51.07	84.63	-1.63	22570	40127	22561	-642*	22561	-642*		
SAO MIGUEL	SMG	37.77	334.35	52.23	44.72	52.30	54.21	55.51	54.26	55.59	54.26	55.59	-14.40	25013	36250	24227	-6220*	24227	-6220*		
NICE	NCE	43.72	7.30	46.28	44.95	88.76	51.85	83.21	51.91	83.12	51.91	83.12	-2.13	22950	39548	22934	-853*	22934	-853*		
PERPIGNAN	PER	42.70	2.88	47.30	45.06	83.99	52.94	79.33	53.00	79.28	53.00	79.28	-3.58	23476	38611	23430	-1466*	23430	-1466*		
POLA	POL	44.86	13.85	45.14	45.13	95.57	50.58	88.96	50.65	88.84	50.65	88.84	-1.13	22340	40759	22340	-51*	22340	-51*		
ESPANOLA	EPN	35.98	253.95	54.02	45.16	318.31	45.24	317.86	45.36	317.74	45.36	317.74	11.70	23500	47653	23012	4766*	23012	4766*		
PETROPAVLOVSK	PET	52.90	158.43	37.10	45.24	219.76	44.18	225.37	43.95	225.50	43.95	225.50	-5.30	22037	45831	21943	-2038	21943	-2038		
COIMBRA	COI	40.22	351.58	49.78	45.29	71.54	55.10	69.79	55.15	69.75	55.15	69.75	-7.54	24865	36412	24650	-3266	24650	-3266		
NOVOSIBIRSK	NVS	55.03	82.90	34.97	45.34	158.77	39.93	155.02	39.93	155.00	39.93	155.00	8.44	17269	56457	17082	2535	17082	2535		
JASSY	JSS	47.18	27.53	42.82	45.51	109.32	47.92	101.35	47.95	101.24	47.95	101.24	3.47	21100	43410	21061	1277*	21061	1277*		
MADRID	MDD	40.42	356.32	49.58	46.00	76.50	55.41	73.57	55.50	73.52	55.50	73.52	-5.82	24609	36709	24482	-2495*	24482	-2495*		
CASTLE ROCK	CRC	37.24	237.87	52.76	46.36	300.27	47.12	299.72	47.12	299.66	47.12	299.66	16.24	24101	44746	23139	6740*	23139	6740*		
EBRO	EBR	40.82	49.49	49.18	46.41	80.90	55.32	76.96	55.34	76.93	55.34	76.93	-4.29	24464	37094	24395	-1830*	24395	-1830*		
TOLEDO	TOL	39.88	355.95	50.12	46.45	75.95	56.09	73.17	56.21	73.10	56.21	73.10	-5.76	25121	36042	24994	-2523	24994	-2523		
ODESSA	ODE	46.78	30.88	43.22	46.51	112.23	48.34	104.26	48.36	104.18	48.36	104.18	2.28	21435	43532	21418	855	21418	855		
LISBON	LIS	38.72	350.85	51.28	46.62	70.28	57.11	68.84	57.13	68.85	57.13	68.85	-7.82	25354	35369	25118	-3450*	25118	-3450*		
GROCKA	GCK	44.63	20.77	45.37	46.69	102.07	50.94	94.80	50.96	94.73	50.96	94.73	1.59	22693	41018	22684	630	22684	630		
SAN PABLO-TOLEDO	SPT	39.55	355.65	50.45	46.71	75.53	56.51	72.85	56.63	72.79	56.63	72.79	-6.00	25054	35987	24917	-2619*	24917	-2619*		
DALLAS	DAL	32.99	263.25	57.01	47.06	329.42	46.71	329.45	46.64	329.31	46.64	329.31	7.18	24015	46818	23827	3002*	23827	3002*		
BARNAUL	BM*	53.33	83.78	36.67	47.09	159.20	41.68	155.82	41.67	155.79	41.67	155.79	7.71	17958	55796	17796	2409*	17796	2409*		
L AQUILA	AQU	42.38	13.32	47.62	47.41	94.13	53.69	87.93	53.74	87.84	53.74	87.84	-1.14	23943	38845	23943	-59	23943	-59		
SURLARI	SUA	44.68	26.25	45.32	47.68	107.21	50.79	99.69	50.82	99.60	50.82	99.60	2.81	22725	41607	22698	1117	22698	1117		
LA MADDALENA	LMD	41.23	09.40	48.77	47.75	89.91	55.18	84.35	55.17	84.29	55.17	84.29	-1.38	24325	37869	24318	-586*	24318	-586*		
BUCHAREST	BVC	44.42	26.10	45.58	47.92	106.98	51.10	99.51	51.14	99.41	51.14	99.41	2.82	22618	41603	22591	1113*	22591	1113*		
MT WILSON	MWC	34.22	241.93	55.78	48.65	305.48	49.42	304.92	49.41	304.87	49.41	304.87	14.47	25106	43121	24310	6273*	24310	6273*		
LOS ANGELES	LA*	34.05	241.75	55.95	48.84	305.33	49.62	304.77	49.62	304.73	49.62	304.73	14.44	25182	42912	24386	6280*	24386	6280*		
SIMFEROPOL	SIM	44.83	34.07	45.17	48.97	114.44	50.46	106.84	50.47	106.77	50.47	106.77	4.33	22423	42770	22359	1693*	22359	1693*		
CAPDIMONTE	CPD	40.86	14.26	49.14	49.06	94.51	55.62	88.42	55.66	88.33	55.66	88.33	-.05	24561	37972	24561	-21*	24561	-21*		
IRKUTSK	IRT	52.17	104.45	37.83	49.13	175.83	43.37	176.45	43.35	176.45	43.35	176.45	-2.36	19559	56902	19542	-807	19542	-807		
CAPRI	CPI	40.55	14.22	49.45	49.36	94.37	56.02	88.33	56.05	88.24	56.05	88.24	-.07	24734	37730	24734	-30*	24734	-30*		
SAN FERNANDO	SFS	36.46	353.80	53.54	49.36	72.62	60.69	70.71	60.82	70.69	60.82	70.69	-6.46	26593	33248	26424	-2992*	26424	-2992*		
PANAGYURISHTE	PAG	42.52	24.18	47.48	49.39	104.52	53.38	97.44	53.40	97.34	53.40	97.34	1.86	23721	39784	23708	773	23708	773		
TUCSON	TUC	32.25	249.17	57.75	49.50	313.83	50.11	313.24	50.06	313.17	50.06	313.17	12.09	25618	42957	25049	5369	25049	5369		
KARAGANDA	KGD	49.82	73.08	40.18	49.67	149.75	45.13	145.04	45.09	145.03	45.09	145.03	7.66	20226	52344	20045	2698	20045	2698		

(ALL VALUES AS OF 1980.5)

OBSERVATORY	CODE	G E O G R A P H I C		G E O M A G N E T I C M O D E L S			A N N U A L V A L U E S						
		COORDINATES		DIPOLE CO-LAT E LONG	GUSTAFFSSON CO-LAT E LONG	TSYGANENKO CO-LAT E LONG	OBSERVED OR D L H	IGRF Z	CALCULATED(*) X Y				
		LAT	LONG							CO-LAT	E	LONG	
ALMERTIA	ALM	36.85	357.54	53.15	49.69	76.58	60.66	73.72	-4.93	26689	33367	26590	-2294
NERTSCHINSK	NK*	51.32	119.62	38.68	49.87	188.17	44.81	191.47	-9.65	20915	54754	20619	-3506*
PATRICK	PAT	28.21	279.39	61.79	50.68	348.35	49.66	350.21	-2.52	24885	43258	24861	-1094*
BOUZAREAH	BZR	36.80	3.02	53.20	50.79	82.10	60.99	78.21	-3.20	26856	33738	26614	-1488*
ISTANBUL-KANDILL	ISK	41.06	29.06	48.94	51.71	108.61	54.92	101.60	2.94	24534	39645	24502	1258*
GIBILMANNA	GIB	37.99	14.02	52.01	51.79	93.34	59.30	87.69	-1.17	26168	35617	26168	-78*
KHABAROVSK	KHB	48.48	135.07	41.52	51.93	201.23	48.47	206.08	-11.34	23994	48491	23526	-4718*
AVERROES	AVE	33.30	352.59	56.70	52.22	70.44	65.34	69.15	-6.78	28095	30115	27899	-3317*
NOVOKAZALINSK	NKK	45.80	62.10	44.20	52.38	139.54	49.14	133.99	6.42	22681	47490	22539	2536
TOYOHARA	TOH	46.95	142.75	43.05	52.83	207.94	50.32	212.97	-9.92	25041	44734	24667	-4314*
YUZHNO SAKHALINS	YSS	46.95	142.72	43.05	52.83	207.91	50.31	212.94	-10.02	25255	44678	24870	-4394
OTOMARI	OTM	46.65	142.77	43.35	53.12	208.00	50.61	212.99	-9.81	25203	44444	24834	-4294*
ULAN BATOR	UBA	47.85	107.05	42.15	53.39	177.90	46.22	177.38	-3.57	22670	54115	22626	-1412*
TBILISI	TFS	42.09	44.71	47.91	53.46	123.23	53.17	116.61	5.00	24161	42108	24059	2108
DEKELEIA	DEK	38.10	23.77	51.90	53.58	102.73	58.76	96.38	1.76	26213	36704	26201	805*
PENDELI	PEG	38.05	23.86	51.95	53.66	102.80	58.82	96.45	1.77	26243	36673	26230	811*
ATHENS	ATH	37.97	23.72	52.03	53.70	102.64	58.92	96.31	1.74	26287	36589	26275	798*
KARSANI	KAS	41.83	44.70	48.17	53.71	123.16	53.45	116.59	4.90	24291	42193	24202	2075*
EL ABIOD SIDI	EAS	32.90	.55	57.10	54.10	78.46	66.44	75.49	-3.92	28588	29751	28521	-1954*
KEY WEST	QW*	24.55	278.20	65.45	54.38	347.23	53.47	348.47	-8.86	26349	39611	26346	-395*
KZIL-AGACH	KZA	45.37	78.73	44.63	54.59	153.75	49.84	150.53	5.12	23551	50209	23457	2102*
SANTA CRUZ	SZT	28.48	343.72	61.52	55.35	59.98	70.15	61.38	-10.24	29575	25436	29104	-5258*
CANARIAS	TEN	28.48	343.74	61.52	55.36	59.99	70.16	61.38	-10.21	29232	24047	28768	-5185
MEMAMBETSU	MMB	43.91	144.19	46.09	55.71	209.68	53.49	214.35	-8.29	26495	41352	26218	-3822
SAN JOSE LAJAS	SJL	23.02	277.35	66.98	55.96	346.37	55.11	347.28	-0.00	26934	37994	26934	0*
HAVANA	HVN	22.97	277.86	67.03	55.99	346.93	55.10	347.90	-0.31	26909	37949	26909	-146*
ALMA ATA	AAA	43.25	76.92	46.75	56.53	151.87	52.03	148.71	4.47	25416	47923	25339	1982
URUMQI	WMQ	43.82	87.70	46.18	56.82	161.23	51.67	159.44	2.61	25389	50091	25362	1157
VLADIVOSTOK	VLA	43.68	132.17	46.32	56.90	199.35	53.25	203.47	-9.69	26961	44974	26576	-4540
CHANGCHUN	CNH	43.83	125.30	46.17	57.15	193.44	52.81	196.92	-8.91	26609	47480	26288	-4121*
MAITUN	MAI	43.25	132.33	46.75	57.32	199.54	53.72	203.62	-9.60	26929	44763	26552	-4491*
KELES	KEL	41.42	69.21	48.58	57.55	144.84	53.80	140.99	4.62	25720	45626	25636	2072*
TASHKENT	TKT	41.33	69.62	48.67	57.69	145.18	53.90	141.40	4.57	25804	45303	25722	2060
ASHKHABAD	ASH	37.95	58.11	52.05	59.57	134.30	57.30	129.78	4.03	27589	40940	27521	1941
KSARA	KSA	33.82	35.89	56.18	60.00	112.95	62.93	107.39	2.82	28879	34262	28844	1421*



(ALL VALUES AS OF 1980.5)

OBSERVATORY	CODE	G E O G R A P H I C		G E O M A G N E T I C				M O D E L S				A N N U A L				V A L U E S			
		COORDINATES		DIPOLE		GUSTAFFSSON		TSYGAMENKO		OBSERVED	OR	IGRF	CALCULATED(*)		D	H	Z	X	Y
		LAT	LONG	CO-LAT	LONG	CO-LAT	LONG	CO-LAT	LONG				Z	X					
TEOLOYUCAN	TEO	19.75	260.82	70.25	60.46	328.60	61.03	328.11	61.03	328.11	59.77	122.90	7.65	29397	32185	29135	29135	3913*	
VIEQUES	VQS	18.15	294.55	71.85	60.59	5.41	60.24	9.13	60.24	9.13			-10.37	27392	31021	26945	26945	-4931*	
SAN JUAN	SJG	18.11	293.85	71.89	60.61	4.64	60.14	8.22	60.14	8.22			-9.60	27299	31010	26916	26916	-4554	
TEHRAN	TEH	35.74	51.38	54.26	60.75	127.73	59.79	122.90	59.79	122.90			3.53	28179	38189	28126	28126	1735*	
MEXICO	TE*	19.42	260.92	70.58	60.78	328.75	61.36	328.25	61.36	328.25			7.75	31151	20941	30866	30866	4201*	
TACUBAYA	TAC	19.41	260.81	70.59	60.80	328.63	61.39	328.13	61.39	328.13			7.65	29495	31769	29232	29232	3926*	
CUAJIMALPA	CUA	19.37	260.72	70.63	60.84	328.54	61.44	328.03	61.44	328.03			7.67	29508	31718	29244	29244	3938*	
MIZUSAWA	MIZ	39.01	141.08	50.99	60.85	207.69	58.42	211.60	58.42	211.60			-7.40	28858	37235	28617	28617	-3717	
BEIJING	BJI	40.04	116.18	49.96	61.22	185.74	56.35	187.78	56.35	187.78			-5.99	29611	45183	29449	29449	-3091	
OMAGAWA	ONW	38.43	141.47	51.57	61.39	208.11	59.00	211.92	59.00	211.92			-7.27	29020	36935	28787	28787	-3672*	
MODIIM	MOD	31.93	34.98	58.07	61.69	111.64	65.29	106.37	65.29	106.37			2.52	29975	32156	29946	29946	1318*	
NITSANIM	NCK	31.73	34.60	58.27	61.81	111.23	65.57	105.99	65.57	105.99			2.47	30064	31918	30036	30036	1296*	
AMATSIA	AMT	31.55	34.92	58.45	62.04	111.48	65.74	106.28	65.74	106.28			2.56	30447	31765	30417	30417	1362	
SEOUL	SYO	38.58	127.05	51.42	62.29	195.36	58.30	198.43	58.30	198.43			-7.64	29561	41729	29299	29299	-3930*	
HELWAN	HLW	29.86	31.34	60.14	63.04	107.69	68.21	102.70	68.21	102.70			1.98	31031	29386	31012	31012	1072*	
MISALLAT	MLT	29.52	30.89	60.48	63.29	107.18	68.68	102.24	68.68	102.24			1.98	31299	28657	31280	31280	1082	
ZINSEN	ZIN	37.48	126.63	52.52	63.42	195.06	59.42	197.98	59.42	197.98			-7.23	30179	40660	29939	29939	-3798*	
KAKIOKA	KAK	36.23	140.19	53.77	63.69	207.26	61.27	210.76	61.25	210.73			-6.58	30192	34651	29993	29993	-3464	
TOKYO	TOK	35.69	139.75	54.31	64.28	206.93	61.82	210.34	61.73	210.30			-6.58	30256	34646	30057	30057	-3467*	
KANOZAN	KNZ	35.25	139.96	54.75	64.69	207.17	62.25	210.52	62.25	210.51			-6.24	30539	33675	30358	30358	-3320	
MIYAZU	MIU	35.32	135.12	54.68	64.93	203.13	60.62	205.08	62.01	206.01			-6.86	30813	35616	30592	30592	-3680*	
TAMANRASSET	TAM	22.79	5.53	67.21	64.93	80.86	79.25	78.48	86.02	78.39			3.28	32897	17263	32843	32843	1884	
TSINGTAO	TSI	36.07	120.32	53.93	65.08	189.55	60.64	191.71	60.64	191.71			-5.73	31157	40720	31001	31001	-3111*	
LANZHOU	LZH	36.09	103.85	53.91	65.19	174.88	60.30	175.30	60.29	175.25			-1.78	31598	42469	31582	31582	-990	
MIDWAY	MDY	28.21	182.62	61.79	65.61	247.73	65.25	248.69	65.28	248.61			10.07	26969	24708	26554	26554	4716*	
KATUURA	KAT	33.63	135.95	56.37	66.64	203.73	63.76	206.67	63.78	206.73			-6.22	31463	33448	31278	31278	-3409*	
STIMOSATO	SSO	33.58	135.94	56.42	66.70	203.74	63.83	206.67	63.84	206.71			-6.20	31489	33385	31305	31305	-3401*	
HATIZYO	HTY	33.07	139.83	56.93	66.82	207.28	64.42	210.31	64.48	210.32			-7.68	31415	31770	31133	31133	-4201	
ASO	ASO	32.88	131.01	57.12	67.74	199.35	64.36	201.99	64.37	202.01			-6.06	32222	34058	32042	32042	-3402*	
QUETTA	QUE	30.19	66.95	59.81	68.41	140.96	65.75	138.71	65.76	138.72			1.28	32802	33512	32794	32794	738	
HONOLULU	HON	21.32	202.00	68.68	68.65	267.96	68.17	268.68	68.14	268.68			11.53	27705	22311	27145	27145	5542	
M BOUR	MBO	14.39	343.04	75.61	69.09	56.40	85.95	58.53	85.95	58.53			-12.10	31944	7220	31234	31234	-6697	
COSTA RICA	SNJ	9.91	276.04	80.09	69.11	345.69	68.71	345.52	68.71	345.52			3.05	29778	23168	29736	29736	1584*	
KANOYA	KNY	31.42	130.88	58.58	69.21	199.35	65.85	201.80	65.87	201.81			-5.44	32988	31976	32839	32839	-3127	
SABHAWALA	SAB	30.36	77.80	59.64	69.42	150.94	66.00	149.52	66.04	149.54			.38	33863	34446	33862	33862	227	

(ALL VALUES AS OF 1980.5)

OBSERVATORY	G E O G R A P H I C			G E O M A G N E T I C			M O D E L S			A N N U A L					V A L U E S	
	CODE	COORDINATES		DIPOLE CO-LAT E LONG	GUSTAFFSSON CO-LAT E LONG	TSYGANENKO CO-LAT E LONG	OBSERVED	OR	IGRF	CALCULATED(*)	D	H	Z	X	Y	
		LAT	LONG													CO-LAT
DEHRA DUN	DDI	30.32	78.06	59.68	69.48	151.17	66.06	149.78	66.06	149.80	.50	33817	34734	33816	295*	
LUKIAPANG	LKP	31.32	121.04	58.68	69.81	190.41	65.66	192.18	65.65	192.16	-4.57	33722	34711	33615	-2687*	
ZIKAWEI	ZKW	31.21	121.44	58.79	69.91	190.77	65.79	192.56	65.77	192.55	-4.61	33745	34495	33636	-2712*	
SHESHAN	SSH	31.10	121.19	58.90	70.03	190.54	65.90	192.31	65.89	192.29	-4.40	33711	34283	33611	-2590	
WUHAN	WHN	30.53	114.56	59.47	70.77	184.52	66.40	185.67	66.38	185.67	-3.13	34738	34370	34686	-1897*	
LHASA	LSA	29.70	91.15	60.30	71.10	163.11	67.15	162.62	67.18	162.59	-.28	35250	34323	35250	-172*	
CHICHIJIMA	CBI	27.08	142.17	62.92	72.60	210.15	70.56	212.32	70.62	212.35	-3.13	32694	24133	32645	-1792	
JAIPUR	JAI	26.92	75.80	63.08	72.65	148.69	69.69	147.54	69.70	147.53	-.76	35737	29594	35734	-477	
FUQUENE	FUQ	5.47	286.26	84.53	73.23	356.53	71.79	357.35	71.79	357.35	-2.27	28944	18761	28921	-1146	
PARAMARIBO	PAB	5.81	304.78	84.19	73.28	15.78	73.42	19.04	73.42	19.04	-14.48	28493	15430	27588	-7124*	
SHILLONG	SHL	25.57	91.88	64.43	75.27	163.51	71.79	163.22	71.81	163.22	-.75	37468	27424	37465	-490*	
FREETOWN	FTN	08.47	346.78	81.53	75.55	59.14	93.00	60.48	93.00	60.48	-12.19	31154	-1346	30452	-6578*	
TAIPEI	TAP	25.04	121.51	64.96	76.07	191.11	72.34	192.33	72.32	192.32	-2.99	36473	26012	36423	-1902*	
LUNPING	LNP	25.00	121.17	65.00	76.11	190.79	72.37	191.98	72.36	191.98	-2.86	36584	25721	36538	-1825	
UJJAIN	UJJ	23.18	75.78	66.82	76.35	148.23	73.80	147.52	74.02	147.48	-.51	37031	24388	37030	-330*	
ZARIA	ZAR	11.15	07.65	78.85	76.74	80.47	92.15	79.50	92.15	79.50	-4.03	33634	527	33551	-2364*	
KONTAGORA	KNT	10.40	05.45	79.60	77.05	78.14	92.90	77.44	92.90	77.44	-4.73	33251	-601	33138	-2742*	
WAKE ISLAND	WKE	19.20	166.70	70.80	77.19	234.41	76.54	235.15	76.54	235.15	6.97	31011	14768	30782	3763*	
BARRACKPORE	BAC	22.78	88.36	67.22	77.84	160.02	74.79	159.80	74.86	159.76	-.83	38598	23671	38594	-559*	
GUANGZHOU	GZH	23.09	113.34	66.91	78.21	183.52	74.36	184.16	74.62	203.81	-1.51	38104	23696	38090	-1004	
AU TAU	AUT	22.45	114.05	67.55	78.85	184.19	75.04	184.82	75.11	184.83	-1.58	38188	22969	38173	-1053*	
CHA PA	CPA	22.35	103.83	67.65	78.92	174.57	75.36	174.82	75.40	174.77	-.78	38929	23036	38925	-530*	
HONG KONG	HKC	22.36	114.22	67.64	78.93	184.36	75.13	184.99	75.39	184.98	-1.55	38259	22569	38245	-1035*	
KUMASI	KUM	06.70	358.43	83.30	79.36	70.46	96.42	70.63	96.42	70.63	-7.85	31392	-5506	31098	-4288*	
IBADAN	IBD	7.43	3.90	82.57	79.67	76.02	95.89	75.74	95.89	75.74	-5.86	32198	-4819	32030	-3287*	
ALIBAG	ABG	18.64	72.87	71.36	80.56	144.94	78.68	144.64	78.68	144.64	-.77	38282	17576	38278	-518	
TATUOCA	TTB	-1.21	311.49	91.21	80.71	22.19	81.30	24.42	81.30	24.42	-17.85	27758	5656	26421	-8512	
TOUNGOO	TGO	18.93	96.45	71.07	82.11	167.46	79.25	167.65	79.25	167.65	-.69	40179	17195	40176	-484*	
HYDERABAD	HYB	17.41	78.56	72.59	82.37	150.23	80.37	150.23	80.37	150.23	-1.64	39715	15194	39699	-1140	
TALARA	TAL	-04.63	278.70	94.63	83.52	349.07	83.06	349.11	83.06	349.11	4.44	29225	7385	29137	2262*	
EUSEBIO	EUS	-3.89	321.56	93.89	84.29	32.06	91.26	33.75	91.26	33.75	-21.27	26396	-2023	25064	-9757*	
PALMYRA ISLAND	PAI	05.88	197.92	84.12	84.57	267.20	83.45	267.45	83.45	267.45	9.68	32308	7926	31848	5432*	
MOCA	MFP	3.34	8.66	86.66	84.59	79.92	99.98	79.79	99.98	79.79	-5.77	30892	-10470	30735	-3106*	
BAGUIO	BAG	16.42	120.60	73.58	84.71	190.60	81.36	191.18	81.36	191.18	-.95	39058	13113	39053	-648*	
ADDIS ABABA	AAE	9.03	38.77	80.97	84.83	110.50	90.96	109.98	90.96	109.98	-.58	36075	407	36073	-367	

## G E O G R A P H I C

## COORDINATES

OBSERVATORY CODE LAT E LONG CO-LAT

BANGUI 4.44 18.57 85.56  
 CHICLAYO CCL -06.80 280.20 96.80  
 GUAM GUA 13.58 144.87 76.42  
 FANNING FAN 3.91 200.61 86.09  
 ANTIPOLO ANO 14.60 121.17 75.40

MANILA 14.58 120.98 75.42  
 MUNTINLUPA MUT 14.38 121.02 75.62  
 MADRAS MX\* 13.07 80.25 76.93  
 BANGKOK BKK 13.72 100.57 76.28  
 CHIMBOTE CMB -09.10 281.40 99.10

MAJURO MJR 7.08 171.38 82.92  
 ANNAMALAINAGAR ANN 11.37 79.68 78.63  
 KODAIKANAL KOD 10.23 77.46 79.77  
 JALUIT JAL 5.92 169.65 84.08  
 JARVIS ISLAND JRV -38 199.97 90.38

CEBU CCP 10.30 123.90 79.70  
 ETTAYAPURAM ETT 09.00 78.00 81.00  
 HUANCAYO HUA -12.05 284.66 102.05  
 TRIVANDRUM TRD 8.48 76.95 81.52  
 CUZCO CUS -13.53 288.03 103.53

MOGADISCIO MOG 02.03 45.35 87.97  
 KOROR KOR 7.34 134.50 82.66  
 PALAU PLA 7.33 134.48 82.67  
 BINZA BIN -4.27 15.37 94.27  
 DAVAO DAV 7.05 125.38 82.95

LWIRO LWI -2.25 28.80 92.25  
 YAUCA YAU -15.53 285.33 105.53  
 NAIROBI NAI -1.33 36.82 91.33  
 CHARACATO ARE -16.47 288.52 106.47  
 LA PAZ LPB -16.54 291.90 106.54

PENANG PNN 4.47 100.15 85.53  
 LUANDA LUA -8.92 13.17 98.92  
 TUNTINGAN TUN 3.51 98.56 86.49  
 SINGAPORE SG\* 1.28 103.85 88.72  
 DAR ES SALAAM DM\* -6.82 39.32 96.82

## G E O M A G N E T I C M O D E L S

## DIPOLE

CO-LAT E LONG CO-LAT E LONG

85.46 89.86 98.43 89.59  
 85.64 350.64 84.92 350.74  
 85.73 214.26 84.18 214.98  
 85.98 270.23 85.14 270.43  
 86.50 191.21 83.27 191.73

86.54 191.02 83.30 191.55  
 86.74 191.07 83.51 191.58  
 86.86 151.44 85.34 151.84  
 87.47 171.23 85.06 171.55  
 87.90 351.90 86.87 352.11

88.36 241.01 87.26 241.32  
 88.50 150.72 87.22 151.24  
 89.40 148.43 88.37 148.97  
 89.80 239.53 88.77 239.87  
 90.29 270.43 89.51 270.51

90.67 194.07 87.78 194.42  
 90.67 148.84 89.76 149.45  
 90.76 355.17 89.00 355.52  
 91.08 147.75 90.25 148.37  
 92.21 358.48 89.86 358.81

92.89 115.68 97.53 116.65  
 92.95 204.72 90.68 204.88  
 92.95 204.70 90.68 204.86  
 93.34 85.01 106.87 85.68  
 93.84 195.70 91.13 195.97

94.00 98.59 103.44 99.82  
 94.24 355.88 92.06 356.33  
 94.62 106.65 101.69 107.87  
 95.15 358.96 92.32 359.33  
 95.21 2.22 92.38 2.41

96.70 170.52 95.17 171.04  
 97.47 81.94 111.05 82.70  
 97.60 168.89 96.20 169.46  
 99.98 174.17 98.20 174.68  
 100.48 108.08 107.10 110.02

## A N N U A L V A L U E S

## OBSERVED OR IGRF CALCULATED(\*)

D H Z X Y

-3.12 32150 -9086 32102 -1750  
 4.13 28768 5381 28693 2072\*  
 1.92 35805 7239 35785 1205  
 9.48 32665 5985 32219 5380\*  
 -.61 39293 10232 39291 -418\*

-.60 39320 10209 39318 -412\*  
 -.63 39221 9691 39219 -432  
 -2.21 40321 7361 40291 -1555\*  
 -.32 41080 8248 41079 -229\*  
 4.00 28261 3257 28192 1971\*

9.83 33771 3353 33275 5766\*  
 -2.60 40309 4213 40267 -1832  
 -2.38 39265 2444 39231 -1636  
 9.60 34205 1537 33726 5704\*  
 9.66 33546 778 33070 5629\*

.15 39400 3419 39400 103\*  
 -2.94 39990 426 39937 -2051\*  
 2.71 27225 985 27194 1290  
 -2.77 39896 -232 39849 -1928  
 .82 26566 -154 26563 380\*

-.78 33547 -9945 33544 -457\*  
 1.45 38172 -1184 38160 966\*  
 1.45 38174 -1184 38162 966\*  
 -6.70 26563 -19703 26382 -3099\*  
 .75 39308 -1588 39305 515\*

-2.28 29160 -17547 29137 -1160\*  
 3.27 26443 -2149 26400 1508\*  
 -1.04 30542 -15546 30537 -554\*  
 1.29 25807 -2620 25800 581\*  
 -1.32 25376 -2518 25369 -585\*

-.14 40768 -6075 40768 -100\*  
 -9.34 23227 -22792 22919 -3770\*  
 -.46 40345 -9619 40344 -324\*  
 .32 39857 -12780 39856 223\*  
 -2.60 26712 -20876 26685 -1212\*

(ALL VALUES AS OF 1980.5)

G E O G R A P H I C  
COORDINATES  
OBSERVATORY CODE LAT E LONG CO-LAT

G E O M A G N E T I C M O D E L S  
DIPOLE  
CO-LAT E LONG  
GUSTAFFSSON  
CO-LAT E LONG  
TSYGAMENKO  
CO-LAT E LONG

A N N U A L V A L U E S  
OBSERVED OR IGRF CALCULATED(\*)  
D H Z X Y

OBSERVATORY	CODE	LAT	E	LONG	CO-LAT	CO-LAT	E	LONG	CO-LAT	E	LONG	CO-LAT	E	LONG	D	H	Z	X	Y
LA QUIACA	LQA	-22.10	294.40	112.10	100.81	4.52	98.54	4.44	98.17	4.44	104.75	22.72	-1.84	23584	-6559	23572	-759		
VASSOURAS	VSS	-22.40	316.35	112.40	102.21	25.20	104.81	22.79	104.75	22.72	104.75	22.72	-19.23	21119	-11172	19940	-6956		
HOLLANDIA	HWA	-2.57	140.51	92.57	102.25	211.68	100.98	211.38	104.75	22.72	104.75	22.72	4.16	37411	-15199	37312	2714*		
RIO DE JANEIRO	RDJ	-22.91	316.83	112.91	102.75	25.60	105.42	23.05	105.38	22.99	105.38	22.99	-19.30	20856	-11593	19684	-6893*		
SAO JOSE COMPOS	SJB	-23.20	314.13	113.20	102.83	23.04	104.63	20.72	104.58	20.65	104.58	20.65	-17.60	21081	-10848	20094	-6374*		
KARAVIA	KVA	-11.64	27.42	101.64	102.93	95.37	112.84	97.22	112.84	97.22	112.84	97.22	-5.66	21545	-25323	21440	-2125*		
ELIZABETHVILLE	ELI	-11.66	27.47	101.66	102.96	95.40	112.86	97.26	112.86	97.26	112.86	97.26	-5.66	21545	-25323	21440	-2125*		
PAMATAI	PPT	-17.57	210.43	107.57	105.10	284.08	106.08	284.32	106.08	284.32	106.08	284.32	11.21	31375	-18907	30776	6103		
TAHITI	TAH	-17.56	210.39	107.56	105.10	284.03	106.07	284.28	106.07	284.28	106.07	284.28	12.25	32233	-19016	31499	6839*		
APIA	API	-13.81	188.23	103.81	105.75	261.58	105.23	261.90	105.23	261.90	105.23	261.90	12.48	34393	-19991	33579	7436		
KUYPER	KUY	-6.03	106.73	96.03	107.33	177.02	105.92	177.59	105.92	177.59	105.92	177.59	.45	37452	-23906	37451	294*		
TANGERANG	TNG	-6.17	106.63	96.17	107.46	176.91	106.08	177.48	106.08	177.48	106.08	177.48	.37	37307	-23904	37306	243		
BATAVIA	BTV	-6.18	106.83	96.18	107.48	177.12	106.08	177.69	106.08	177.69	106.08	177.69	.45	37396	-24118	37395	294*		
EASTER ISLAND	EIC	-27.17	250.58	117.17	108.18	323.87	110.21	325.89	110.18	325.87	110.18	325.87	15.14	27342	-20533	26393	7141*		
PORT MORESBY	PMG	-9.41	147.15	99.41	108.27	219.29	107.93	219.01	107.93	219.01	107.93	219.01	6.47	35971	-23643	35742	4056		
TSUMEB	TSU	-19.22	17.70	109.22	108.45	84.24	119.96	85.15	107.45	5.70	107.45	5.70	-13.83	15873	-27011	15413	-3794		
PILAR	PIL	-31.67	296.12	121.67	110.40	5.91	107.70	5.66	107.45	5.70	107.45	5.70	.29	21416	-11985	21416	109		
SANTIAGO	SNT	-33.45	289.30	123.45	112.13	359.73	109.04	81	109.00	.82	109.00	.82	7.14	22161	-13782	21989	2754*		
TAMANARIVE	TAN	-18.92	47.55	108.92	113.88	113.95	119.40	115.93	111.36	10.07	111.36	10.07	-13.28	19579	-27232	19055	-4497*		
LAS ACACIAS	LAS	-35.01	302.31	125.01	113.92	11.38	111.49	10.12	111.36	10.07	111.36	10.07	-3.75	20184	-13821	20141	-1320*		
MAURITIUS	MRI	-20.09	57.55	110.09	116.75	123.97	120.49	125.06	120.50	125.06	120.50	125.06	-17.73	21484	-29691	20464	-6543*		
HARTEBESTHOEK	HBK	-25.88	27.71	115.88	116.93	92.49	126.10	93.60	126.18	93.65	126.18	93.65	-16.06	13197	26924	12681	-3652		
PLAISANCE	PLS	-20.43	57.67	110.43	117.10	124.02	120.84	125.06	120.85	125.06	120.85	125.06	-18.17	21343	-29865	20279	-6656*		
MAPUTO	LMM	-25.92	32.58	115.92	117.91	97.31	126.22	98.66	126.27	98.71	126.27	98.71	-15.86	14011	-27108	13478	-3829		
TRELEW	TRW	-43.25	294.69	133.25	121.95	4.36	118.30	5.23	118.15	5.27	118.15	5.27	7.18	21048	-18344	20883	2631*		
CAPE GOOD HOPE	CGH	-33.93	18.48	123.93	122.96	81.40	131.56	80.30	131.66	80.36	131.66	80.36	-23.68	11287	-25855	10337	-4533*		
CAPE TOWN	CTO	-33.95	18.47	123.95	122.98	81.38	131.58	80.27	131.67	80.34	131.67	80.34	-23.69	11286	-25852	10335	-4535*		
HERMANUS	HER	-34.43	19.23	124.43	123.58	81.98	131.99	80.87	132.07	80.93	132.07	80.93	-23.51	11363	-25753	10420	-4533		
BRISBANE	BRS	-27.53	152.92	117.53	125.35	228.63	126.56	226.68	126.80	228.28	126.80	228.28	10.97	28572	-46059	28050	5437*		
WATHEROO	WAT	-30.32	115.88	120.32	131.55	187.24	132.71	185.97	132.71	186.02	132.71	186.02	-2.49	24207	-52753	24184	-1052*		
MAGALLANES	MGS	-53.20	289.10	143.20	131.88	359.60	127.59	3.02	127.54	3.03	127.54	3.03	15.90	22438	-26116	21580	6147*		
SYDNEY	SN*	-33.88	151.18	123.88	131.95	227.81	133.89	227.82	133.92	227.81	133.92	227.81	12.33	24624	-52530	24056	5258*		
GNANGARA	GNA	-31.78	115.95	121.78	133.01	187.40	134.37	185.90	134.37	185.94	134.37	185.94	-3.29	23409	-53652	23370	-1346		
NEW YEARS ISLAND	NYI	-54.65	295.85	144.65	133.38	4.97	129.03	7.26	128.91	7.26	128.91	7.26	11.71	21851	-25866	21396	4435*		
CANBERRA	CAN	-35.32	149.36	125.32	133.61	226.14	135.71	226.06	135.76	225.62	135.76	225.62	12.14	23813	-53770	23280	5011		

(ALL VALUES AS OF 1980.5)

G E O G R A P H I C

OBSERVATORY	CODE	COORDINATES	
		LAT	E LONG

ORANGE BAY	OB*	-55.52	291.92
SOUTH GEORGIA	SGE	-54.28	323.52
TOOLANGI	T00	-37.53	145.47
MELBOURNE	MEL	-37.83	144.98
MARTIN DE VIVIES	AMS	-37.83	77.57

AMBERLEY	AML	-43.15	172.72
EYREWELL	EYR	-43.42	172.35
CHRISTCHURCH	CHR	-43.53	172.62
MARION ISLAND	MRN	-46.88	37.85
LAUDER	LAU	-45.04	169.68

ORCADAS DEL SUR	ORC	-60.73	315.22
PORT ALFRED	CZT	-46.43	51.87
GONZALES VIDELA	GVD	-64.82	297.15
ARGENTINE ISLAND	AIA	-65.25	295.74
AUCKLAND ISLAND	AU*	-50.87	166.08

CAMPBELL ISLAND	CAI	-52.50	169.20
KERGUELEN	KG*	-49.15	70.20
PORT-AUX-FRAMCAI	KGL	-49.35	70.20
MACQUARIE ISLAND	MCQ	-54.50	158.95
HEARD ISLAND	HII	-53.03	73.37

EIGHTS	EGS	-75.23	282.83
SAMAE	SMA	-70.33	357.51
NORWAY STATION	NWS	-70.50	357.47
LAZAREV	LZV	-69.97	12.90
HALLEY BAY	HBA	-75.52	333.32

NOVOLAZAREVSKAYA	NVL	-70.77	11.83
ROI BAUDOJIN	RBD	-70.43	24.30
SYOWA STATION	SYO	-69.01	39.59
MOLODEZHAYA	MOL	-67.67	45.85
BYRD STATION	BYR	-80.02	240.48

MAWSON	MAW	-67.61	62.88
LITTLE AMERICA	LAA	-78.18	197.80
LENINGRADSKAYA	LEN	-69.50	159.40
CAPE HALLETT	HLL	-72.32	170.22
DUMONT DURVILLE	DRV	-66.67	140.01

G E O M A G N E T I C M O D E L S

OBSERVATORY	CODE	DIPOLE		GUSTAFFSSON		TSYGANENKO	
		CO-LAT	E LONG	CO-LAT	E LONG	CO-LAT	E LONG

ORANGE BAY	OB*	134.19	1.83	129.77	5.11	129.71	5.08
SOUTH GEORGIA	SGE	134.50	27.19	132.39	24.33	132.36	24.26
TOOLANGI	T00	136.34	222.30	138.58	221.94	138.64	221.97
MELBOURNE	MEL	136.70	221.82	138.97	221.42	139.03	221.45
MARTIN DE VIVIES	AMS	137.12	142.00	139.17	137.80	139.20	137.72

AMBERLEY	AML	137.33	253.79	139.83	255.90	139.87	255.92
EYREWELL	EYR	137.65	253.51	140.18	255.63	140.23	255.66
CHRISTCHURCH	CHR	137.72	253.84	140.25	255.98	140.29	256.01
MARION ISLAND	MRN	139.25	95.86	141.92	92.03	141.87	92.09
LAUDER	LAU	139.72	251.36	142.45	253.60	142.47	253.57

ORCADAS DEL SUR	ORC	140.24	19.30	136.31	19.27	136.26	19.23
PORT ALFRED	CZT	141.50	110.56	143.25	105.45	143.22	105.44
GONZALES VIDELA	GVD	143.56	5.40	138.89	9.76	138.81	9.66
ARGENTINE ISLAND	AIA	143.96	4.37	139.30	9.17	139.22	8.99
AUCKLAND ISLAND	AU*	145.98	250.20	149.22	253.12	149.27	253.19

CAMPBELL ISLAND	CAI	146.96	254.43	150.26	258.16	150.25	258.14
KERGUELEN	KG*	147.23	129.91	148.25	121.49	148.27	121.48
PORT-AUX-FRAMCAI	KGL	147.43	129.82	148.41	121.31	148.44	121.31
MACQUARIE ISLAND	MCQ	150.75	244.40	154.51	247.37	154.52	247.40
HEARD ISLAND	HII	151.47	131.89	151.88	121.31	152.10	121.20

EIGHTS	EGS	153.95	356.08	149.59	5.76	149.60	5.71
SAMAE	SMA	153.95	45.27	149.94	43.32	149.93	43.45
NORWAY STATION	NWS	154.10	45.08	150.05	43.19	150.03	43.22
LAZAREV	LZV	155.97	56.70	152.03	52.93	152.06	52.93
HALLEY BAY	HBA	156.04	55.20	150.98	28.21	150.76	28.19

NOVOLAZAREVSKAYA	NVL	156.49	54.96	152.37	51.51	152.39	51.53
ROI BAUDOJIN	RBD	158.32	64.66	154.18	59.41	154.17	59.49
SYOWA STATION	SYO	159.96	79.39	156.12	70.88	156.11	70.83
MOLODEZHAYA	MOL	160.04	87.20	156.56	77.12	156.50	77.20
BYRD STATION	BYR	160.62	336.71	157.94	353.68	157.92	353.58

MAWSON	MAW	163.30	105.07	160.24	89.38	160.23	89.30
LITTLE AMERICA	LAA	163.94	312.23	163.67	335.07	163.71	334.72
LENINGRADSKAYA	LEN	164.32	261.96	168.48	277.62	168.41	277.02
CAPE HALLETT	HLL	164.45	278.76	167.40	299.46	167.38	298.79
DUMONT DURVILLE	DRV	165.32	232.33	170.72	235.41	170.61	235.32

A N N U A L V A L U E S

OBSERVATORY	CODE	D	H	OR	IGRF	CALCULATED(*)	
						X	Y

ORANGE BAY	OB*	14.93	22326	-27329	21572	5752*	-2764*
SOUTH GEORGIA	SGE	-8.72	18227	-24251	18016	4271*	4271*
TOOLANGI	T00	11.33	21739	-56548	21315	4178*	4178*
MELBOURNE	MEL	11.21	21489	-56855	21079	4178*	4178*
MARTIN DE VIVIES	AMS	-38.41	19058	-45530	14934	-11840*	-11840*

AMBERLEY	AML	22.39	21312	-54641	19705	8118*	8118*
EYREWELL	EYR	22.51	21116	-54927	19507	8084*	8084*
CHRISTCHURCH	CHR	22.62	21087	-54935	19465	8110*	8110*
MARION ISLAND	MRN	-36.91	15530	-28837	12417	-9327*	-9327*
LAUDER	LAU	23.17	19856	-56690	18254	7813*	7813*

ORCADAS DEL SUR	ORC	1.88	20327	-28905	20316	667*	667*
PORT ALFRED	CZT	-42.44	16295	-33528	12024	-10998	-10998
GONZALES VIDELA	GVD	16.00	22085	-34623	21229	6087*	6087*
ARGENTINE ISLAND	AIA	16.83	22360	-34742	21401	6477	6477
AUCKLAND ISLAND	AU*	27.46	15805	-60953	14024	7288*	7288*

CAMPBELL ISLAND	CAI	29.97	15322	61148	13273	7654*	7654*
KERGUELEN	KG*	-52.52	18344	-44414	11162	-14557*	-14557*
PORT-AUX-FRAMCAI	KGL	-51.40	18466	-43814	11521	-14432*	-14432*
MACQUARIE ISLAND	MCQ	28.48	12723	-63768	11183	6067	6067
HEARD ISLAND	HII	-57.14	17965	-47263	9748	-15091*	-15091*

EIGHTS	EGS	32.59	20278	-46498	17085	10922*	10922*
SAMAE	SMA	-17.81	18999	-36266	18088	-5813	-5813
NORWAY STATION	NWS	-17.67	18912	-36508	18020	-5740*	-5740*
LAZAREV	LZV	-27.51	18687	-37020	16574	-8632*	-8632*
HALLEY BAY	HBA	-1.50	20200	-41500	20193	-529*	-529*

NOVOLAZAREVSKAYA	NVL	-27.16	18640	-37470	16584	-8510	-8510
ROI BAUDOJIN	RBD	-35.61	18760	-38692	15252	-10923*	-10923*
SYOWA STATION	SYO	-46.41	18937	-40597	13056	-13716	-13716
MOLODEZHAYA	MOL	-50.63	19020	-41650	12064	-14703	-14703
BYRD STATION	BYR	70.88	16257	-55648	5325	15360*	15360*

MAWSON	MAW	-63.09	18432	-46784	8340	-16437	-16437
LITTLE AMERICA	LAA	104.95	11881	-61168	-3065	11479*	11479*
LENINGRADSKAYA	LEN	251.45	4729	-66109	-1504	-4483*	-4483*
CAPE HALLETT	HLL	111.09	6994	-64985	-2517	6526*	6526*
DUMONT DURVILLE	DRV	158.20	1177	-70123	-1093	-437	-437

(ALL VALUES AS OF 1980.5)

OBSERVATORY	G E O G R A P H I C			G E O M A G N E T I C			M O D E L S			A N N U A L					V A L U E S			
	CODE	COORDINATES		DIPOLE CO-LAT E LONG	GUSTAFFSSON CO-LAT E LONG	TSYGAMENKO CO-LAT E LONG	OBSERVED	OR	IGRF	Z	CALCULATED(*)	X	Y	D	H	Z	X	Y
		LAT	E															
DAVIS	DVS	-68.58	77.97	158.58	166.86	122.53	164.50	99.16	164.49	99.04	-75.97	16631	-52607	4032	-16135*			
MIRNY	MIR	-66.55	93.02	156.55	167.01	149.64	167.19	122.03	167.19	121.63	-83.93	14000	-58727	1480	-13922			
OASTS	OAS	-66.30	100.72	156.30	167.36	163.51	168.86	134.51	168.90	134.48	-89.05	11985	-60536	199	-11983*			
PLATEAU	PTU	-79.25	40.50	169.25	167.52	53.79	161.57	51.11	161.58	51.13	-53.83	18106	-47944	10686	-14616*			
WILKES	WIL	-66.25	110.58	156.25	167.56	181.85	170.77	154.72	170.84	155.07	-95.76	9202	-63259	-924	9156*			
CASEY	CSY	-66.28	110.53	156.28	167.59	181.76	170.79	154.48	170.86	154.86	-95.82	9223	-63241	-935	-9175*			
CHARCOT	CTX	-69.37	139.03	159.37	167.92	235.89	173.45	242.60	173.40	242.69	165.00	3413	-66275	-3297	883*			
SOUTH POLE	SPA	-90.00	000.00	180.00	168.67	.04	163.99	19.51	163.80	18.14	-27.58	16006	-54650	14187	-7411*			
SCOTT BASE	SBA	-77.85	166.78	167.85	168.80	294.35	169.83	328.07	169.90	327.04	145.87	9174	-63237	-7594	5147*			
MCMURDO	MCM	-77.85	166.70	167.85	168.81	294.30	169.84	328.08	169.92	327.04	146.00	9171	-63239	-7603	5128*			
PIONERSKAYA	PIO	-69.73	95.50	159.73	170.32	149.87	169.82	113.25	169.86	112.87	-91.84	13534	-58492	-435	-13527*			
VOSTOK	VOS	-78.45	106.87	168.45	179.41	111.68	173.22	52.90	173.33	53.65	118.73	13030	-59361	-6264	-11424			

TABLE 5 OBSERVED GEOMAGNETIC ANNUAL MEANS

OBSERVATORY	CODE	-----EARLIEST COMPLETE YEAR-----					-----LATEST COMPLETE YEAR-----								
		ELE	D	H	X	Y	Z	ELE	D	H	X	Y	Z		
ABINGER	ABN	DHZ	1925	-13.378	18597	18092	-4303	42946	DHZ	1956	-8.613	18750	18539	-2808	43376
ABISKO	ABK	DHZ	1921	-3.685	12354	12328	-794	49598	DHZ	1983	3.070	11745	11728	629	51094
ADDIS ABABA	AAE	DHZ	1958	-4.437	36083	36082	-275	-634	DHZ	1982	-7.761	36006	36003	-477	303
AGINCOURT	AGN	DHZ	1899	-5.461	16491	16416	-1570	59789	DHZ	1968	-7.641	16287	16142	-2166	55987
ALERT	ALE	XYZ	1962	-79.205	3844	720	-3776	55379	XYZ	1983	-76.312	3627	860	-3524	55817
ALIBAG	ABG	DHI	1846	0.221	36541	36541	141	12318	DHZ	1983	-6.98	38139	38136	-464	17773
ALMA ATA	AAA	DHZ	1964	4.685	25455	25370	2079	48272	DHZ	1982	4.480	25264	25264	1980	47927
ALMERIA	ALM	DHZ	1955	-7.822	25801	25561	-3511	33618	DHZ	1982	-4.646	26733	26645	-2164	33353
AMATSIA	AMT	DHZ	1976	2.368	30450	30424	1258	31657	DHZ	1981	2.620	30414	30382	1391	31790
AMBERLEY	AML	DHZ	1929	17.752	22365	21300	6819	-55252	XYZ	1977	21.865	21661	20103	8067	-54508
ANCHORAGE	AMU	DHZ	1958	26.075	15241	13690	6699	54116	DHZ	1958	26.075	15241	13690	6699	54116
ANAMALAINAGAR	ANN	DHZ	1958	-2.742	40597	40551	-1942	3853	DHZ	1982	-2.599	40243	40202	-1824	4407
ANTIPOLO	ANO	DHZ	1911	.688	38072	38069	457	11140	DHZ	1938	.603	38356	38354	404	10844
APIA	API	DIH	1905	9.625	35672	35170	5964	-19912	XYZ	1983	12.483	34289	33479	7411	-19976
ARGENTINE ISLAND	AIA	DHZ	1958	17.180	23542	22492	6954	-36893	DHZ	1983	16.799	22184	21237	6411	-34499
ARTI	ARS	DHZ	1973	11.745	16663	16314	3392	52587	DHZ	1983	11.675	16590	16247	3357	52726
ASHKABAD	ASH	DHZ	1959	4.460	27618	27534	2148	40966	DHZ	1982	4.050	27512	27443	1943	40957
ASO	ASO	DHZ	1958	-5.517	31760	31613	-3053	34398	DHZ	1958	-5.517	31760	31613	-3053	34398
ATHENS	ATH	DIH	1900	-5.705	26063	25934	-2591	33514	DIH	1908	-4.883	26197	26102	-2230	33613
AU TAU	AUT	DIH	1928	-7.718	37478	37475	-470	22207	DIH	1939	-6.633	37705	37703	-417	22133
AVERROES	AVE	DHF	1967	-8.262	27725	27437	-3983	30235	DHZ	1976	-7.230	28114	27890	-3538	29969
BAKER LAKE	BLC	XYZ	1952	2.617	3655	3651	167	60224	XYZ	1983	1.838	4708	4706	151	60572
BALDWIN	BAL	DHZ	1901	8.365	21953	21719	3194	55944	DHZ	1908	8.550	21714	21473	3228	55972
BANGUI	BNG	DHZ	1955	-5.028	32234	32110	-2825	-7933	DHZ	1983	-2.733	32111	32074	-1530	-9173
BARRACKPORE	BAC	DIH	1904	1.373	37224	37213	892	21781	DIH	1914	.537	37403	37401	350	22459
BARROW	BRW	DIH	1949	26.785	9387	8380	4230	56336	DHZ	1982	25.799	9734	8764	4236	56408
BARTER ISLAND	BTI	DHZ	1958	35.533	8825	7182	5129	57116	DHZ	1958	35.533	8825	7182	5129	57116
BARTH	BAH	1898	-10.375	18160	17863	-3270	44540	DIH	1903	-9.882	18261	17990	-3134	44363	
BATAVIA	BTV	DHI	1884	1.921	36845	36824	1236	-19691	DHZ	1928	.890	36834	36830	572	-23226
BEAR ISLAND	BUN	DHZ	1951	1.505	9211	9208	242	51878	DHZ	1983	3.550	9200	9182	570	52905
BEIJING	BJI	DHI	1870	-2.491	28433	28406	-1236	43942	DHZ	1983	-6.036	29518	29354	-3103	46244
BELOIT	BLT	DHZ	1958	10.192	20822	20493	3684	53665	DHZ	1958	10.192	20822	20493	3684	53665
BELSK	BEL	DHZ	1960	1.867	18839	18829	614	44917	DHZ	1983	2.874	19033	19009	954	45499
BIG DELTA	BDE	DHZ	1958	29.847	12998	11274	6469	55372	DHZ	1958	29.847	12998	11274	6469	55372
BINZA	BIN	DHZ	1953	-9.162	27238	26890	-4337	-18110	DHZ	1973	-7.923	26730	26475	-3685	-19160
BOROK	BOX	HZF	1977		15938			49124	DHZ	1983	9.247	15856	15650	2548	49244
BOULDER	BOU	DHZ	1964	13.713	21235	20630	5034	51925	DHZ	1982	12.054	21315	20845	4451	51048
BOUZAREAH	BZR	1888	-13.906	24997	24264	-6008	34829	1888	1888	-13.906	24997	24264	-6008	34829	
BRORFELDE	BFE	DHZ	1980	-1.486	17204	17198	-445	46040	DHZ	1980	-1.499	17216	17210	-450	46034
BUDAKESZI	BUZ	DHZ	1949	-5.570	20800	20799	-207	41756	DHZ	1955	.057	20840	20840	21	41986

-----EARLIEST COMPLETE YEAR-----LATEST COMPLETE YEAR-----

OBSERVATORY	CODE	ELE YEAR	D	H	X	Y	Z	ELE YEAR	D	H	X	Y	Z
BUDKOV	BDV	DHZ 1967	-1.003	20097	20094	-352	42810	DHZ 1982	.132	20305	20305	47	43196
BURLINGTON	BRT	DHZ 1958	12.300	21150	20665	4506	52304	DHZ 1958	12.300	21150	20665	4506	52304
BYRD STATION	BYR	DHZ 1958	69.230	15893	5636	14860	-58669	DHZ 1967	70.483	16333	5457	15395	-57504
CAMBRIDGE BAY	CBB	DHZ 1972	31.558	2936	2502	1537	60025	XYZ 1983	25.812	3112	2802	1355	59989
CANARIAS	TEN	DHZ 1959	-12.770	28206	27508	-6235	25392	DHZ 1980	-10.219	29232	28768	-5185	24047
CANBERRA	CAN	DIF 1979	12.080	23842	23314	4990	-53777	DHZ 1983	12.270	23733	23191	5044	-53755
CAPE CHELYUSKIN	CCS	DHZ 1935	25.535	4024	3631	1735	57649	DHZ 1982	15.334	3420	3298	904	59060
CAPE GOOD HOPE	CGH	1842	-29.211	20659	18032	-10082	-27642	1845	-29.123	20795	18166	-10121	-28675
CAPE HALLETT	HLL	DHZ 1958	103.083	6170	-1397	6010	-67720	DHZ 1962	104.111	6282	-1532	6092	-66861
CAPE TOWN	CTO	DHZ 1933	-24.665	15050	13677	-6281	-29733	DHZ 1940	-24.267	14433	13158	-5932	-29164
CAPE WELLEN	CWE	DHZ 1935	16.053	13672	13139	3781	53559	DHZ 1982	14.834	14175	13703	3629	53520
CAPODIMONTE	CPD	DHI 1884	-10.523	23841	23440	-4354	36560	DIH 1911	-8.092	24171	23930	-3402	36099
CARROLLTON	CAX	DHZ 1958	6.933	19980	19834	2412	53772	DHZ 1958	6.933	19980	19834	2412	53772
CASEY	CSY	DHZ 1978	-89.072	9518	154	-9517	-64488	DHZ 1983	-90.533	9585	-88	-9584	-64326
CASPER	CSR	DHZ 1958	14.833	19620	18966	5023	54447	DHZ 1958	14.833	19620	18966	5023	54447
CASTELLACCIO	CAO	DIH 1933	-7.177	22087	21914	-2759	38616	DIH 1962	-3.582	22455	22411	-1403	39611
CASTLE ROCK	CRC	DHZ 1970	16.672	24326	23303	6979	44860	DHZ 1974	16.483	24298	23299	6894	44736
CHA PA	GPA	DHZ 1955	-805	39122	39118	-550	22108	DHZ 1978	-913	38859	38854	-619	22363
CHAMBON-LA-FORET	CLF	DHZ 1936	-9.482	20011	19738	-3297	41374	DHZ 1983	-3.908	20864	20815	-1421	42160
CHANGCHUN	CNH	DHZ 1980	-8.918	26609	26287	-4125	47480	DHZ 1983	-8.996	26532	26206	-4148	47539
CHELLENHAM	CLM	DHZ 1901	-5.083	20195	20116	-1789	56627	DHZ 1955	-7.202	18519	18373	-2322	53728
CHICHUJIMA	CBI	DHZ 1980	-3.134	32712	32663	-1788	24130	DHZ 1982	-3.186	32690	32639	-1816	24154
CHRISTCHURCH	CHR	DHZ 1902	16.252	22694	21787	6351	-55277	DHZ 1930	17.805	22108	21049	6760	-55570
COIMBRA	COI	DHZ 1867	-20.796	21775	20356	-7731	39609	DHZ 1983	-7.086	24948	24757	-3077	36362
COLLEGE	CMO	DHZ 1933	30.427	12572	10841	6367	55530	DHZ 1983	27.872	12914	11416	6037	55377
COPENHAGEN	COP	DHI 1892	-10.890	17341	17029	-3276	44781	DHI 1899	-10.263	17490	17210	-3116	44783
CUAJIMALPA	CUA	DIH 1904	7.382	33050	32776	4246	32960	DIH 1926	8.813	32274	31893	4945	33775
DALLAS	DAL	DHZ 1964	8.817	24340	24052	3731	47500	DHZ 1974	7.838	24386	24158	3326	46942
DAR ES SALAAM	DM*	1897	-8.505	29009	28690	-4290	-21745	1897	-8.505	29009	28690	-4290	-21745
DAVIS	DVS	DHZ 1981	-76.300	16587	3928	-16115	-52576	DHZ 1983	-76.423	16591	3895	-16126	-52464
DE BILT	DBN	DHZ 1899	-13.911	18502	17959	-4448	43701	DHZ 1938	-8.035	18219	18040	-2547	43262
DEHRA DUN	DDI	DIH 1903	2.692	33425	33388	1570	31437	DHZ 1942	.647	33525	33523	378	34199
DEKELEIA	DEK	DHZ 1935	-958	25962	25958	-434	34810	DHZ 1939	-573	26042	26041	-261	35002
DIXON ISLAND	DIK	DHZ 1933	28.527	6971	6125	3329	57430	DHZ 1982	27.167	6350	5649	2899	58290
DOMBAS	DOB	DHZ 1916	-11.217	14421	14146	-2805	46196	DHZ 1982	-3.091	14206	14185	-765	48388
DOURBES	DOU	DHZ 1955	-5.967	19289	19185	-2005	42830	DHZ 1983	-3.238	19874	19842	-1121	43400
DUBLIN	DI*	1842	-27.263	16000	14223	-7329	45689	DHI 1850	-26.470	16160	14466	-7203	45399
DUMONT DURVILLE	DRV	XYZ 1958	-99.994	461	-80	-454	-71446	XYZ 1983	-20.492	1294	-1212	-453	-69973
EAST PORT	EP*	DHZ 1860	-17.951	15230	14489	-4694	60570	DHZ 1864	-18.061	15260	14508	-4731	60180
EASTER ISLAND	EIC	DIH 1958	14.713	28808	27863	7317	-21809	DHZ 1963	16.148	28152	27041	7830	-21598



OBSERVATORY	CODE	ELE	YEAR	D	H	X	Y	Z	ELE	YEAR	D	H	X	Y	Z
EBRO	EBR	DHZ	1905	-13.948	23230	22545	-5599	37359	DHZ	1979	-4.303	24708	24638	-1854	36871
EIGHTS	EGS	DHZ	1964	32.693	21063	17726	11377	-48352	DHZ	1964	32.693	21063	17726	11377	-48352
ELIZABETHVILLE	ELI	DHZ	1935	-9.417	23700	23381	-3878	-24780	DHZ	1957	-8.548	22875	22621	-3400	-24950
ESKDALEMUIR	ESK	DHZ	1908	-18.555	16821	15947	-5353	45283	DHZ	1983	-7.861	17138	17138	-2365	45824
ESPANOLA	EPN	DHZ	1958	13.167	23700	23077	5398	48556	DHZ	1958	13.167	23700	23077	5398	48556
EYREWELL	EYR	DHZ	1978	22.073	21415	19845	8048	-54783	XYZ	1983	22.423	21317	19705	8131	-54626
FALMOUTH	FAL	1892	-19.218	18444	17416	-6071	43702	43118	DHZ	1912	-17.403	18799	17938	-5623	43118
FANNING	FAN	DHZ	1958	9.483	32924	32474	5424	6149	DHZ	1958	9.483	32924	32474	5424	6149
FORT CHURCHILL	FCC	DHZ	1958	2.833	6658	6650	329	60641	XYZ	1983	1.734	7636	7633	231	60578
FORT YUKON	FYU	DHZ	1958	31.767	11250	9565	5923	56131	DHZ	1958	31.767	11250	9565	5923	56131
FREDERICKSBURG	FRD	DHZ	1956	-6.507	19000	18878	-2153	53300	DHZ	1983	-8.773	20521	20281	-3129	51015
FUQUENE	FUQ	DHZ	1955	1.170	30458	30452	622	20394	DHZ	1982	-2.594	28813	28783	-1303	18642
FURSTENFELDBRUCK	FUR	DHZ	1939	-4.895	20295	20221	-1732	41356	DHZ	1983	-6.08	20812	20811	-220	42562
GIBILMANNA	GIB	DHZ	1956	-1.947	25855	25840	-878	34952	DHZ	1956	-1.947	25855	25840	-878	34952
GLENLEA	GLL	XYZ	1982	7.976	14004	13869	1943	58837	XYZ	1982	8.038	14068	13930	1967	58844
GNANGARA	GNA	DHZ	1959	-2.902	23954	23923	-1213	-53482	DHZ	1983	-3.319	23294	23255	-1348	-53730
GODHAVN	GDH	DHZ	1927	-58.473	8255	4317	-7037	55764	DHZ	1983	-47.358	8551	5793	-6289	56327
GONZALES VIDEA	GVD	DHZ	1961	14.945	22914	22139	5909	-36706	DHZ	1961	14.945	22914	22139	5909	-36706
GOTTINGEN	GT*	1867	-14.861	18412	17796	-4722	42938	42938	1867	-14.861	18412	17796	-4722	42938	
GREAT WHALE R.	GWC	DHZ	1966	-20.395	9719	9110	-3387	59269	XYZ	1983	-19.486	10816	10196	-3608	58981
GREENWICH	GRW	DHZ	1846	-22.826	17160	15816	-6657	44630	DHZ	1925	-13.165	18410	17926	-4193	43080
GROCKA	GCK	DHZ	1958	542	22421	22420	212	40489	DHZ	1983	1.832	22674	22662	725	41102
GUAM	GUA	DHZ	1958	1.813	35524	35506	1124	8134	DHZ	1983	1.919	35829	35809	1200	7201
GUANGZHOU	GZH	DHZ	1958	-9.33	38226	38221	-623	23399	DHZ	1981	-1.564	38100	38086	-1039	23749
HALLEY BAY	HBA	DHZ	1958	-1.352	20276	20270	-478	-43727	DHZ	1975	-1.058	20288	20285	-375	-42239
HAMBURG	HM*	1885	-12.603	17848	17418	-3894	43717	43717	1896	-11.611	18061	17691	-3635	43921	
HARTEBEESTHOEK	HBK	DHF	1973	-16.777	13599	13020	-3925	27495	DHZ	1983	-10.118	13057	12854	-2293	26692
HARTLAND	HAD	DHZ	1957	-10.287	18627	18328	-3326	43451	DHZ	1983	-7.251	19356	19201	-2442	43787
HATIZYO	HTY	DHZ	1980	-7.685	31415	31133	-4201	31770	DHZ	1983	-7.074	31483	31243	-3876	31918
HAVANA	HVN	DHZ	1968	1.758	27409	27396	841	38957	DHZ	1979	.182	27076	27076	86	37688
HEALY	HEA	DHZ	1958	27.903	13518	11946	6326	54869	DHZ	1958	27.903	13518	11946	6326	54869
HEARD ISLAND	HII	DHZ	1952	-49.968	18461	11874	-14135	-47099	DHZ	1953	-50.152	18471	11835	-14181	-47187
HEISS ISLAND	HIS	DHZ	1959	24.365	5486	4997	2263	56866	DHZ	1982	23.084	5320	4894	2086	57530
HEL	HLP	DHZ	1934	-2.592	17553	17535	-794	44384	DHZ	1983	1.477	17614	17608	454	46200
HELWAN	HLW	DHZ	1903	-3.373	30107	30055	-1771	25732	DHZ	1959	1.327	30905	30897	715	28697
HERMANUS	HER	DHZ	1941	-23.860	14252	13034	-5765	-29249	DHZ	1983	-23.266	11188	10278	-4418	-25496
HOLLANDIA	HWA	DHZ	1958	3.960	37314	37225	2577	-14315	DHZ	1961	3.980	37279	37189	2587	-14478
HONG KONG	HKC	DHI	1884	0.783	36026	36023	492	22902	DHZ	1978	-1.403	38078	38067	-933	22395
HONOLULU	HON	DHZ	1902	9.318	29255	28869	4737	24759	DHZ	1983	11.394	27651	27106	5463	22251
HUANCAYO	HUA	DHZ	1922	8.125	29734	29436	4202	324	DHZ	1983	2.214	27041	27021	1045	930

OBSERVATORY	CODE	ELE	YEAR	D	H	X	Y	Z	ELE	YEAR	D	H	X	Y	Z
HURBANOVO	HRB	DHZ	1949	- .847	20632	20630	-305	41853	DHZ	1983	1.450	20964	20957	531	42857
HYDERABAD	HYB	DHZ	1965	-1.712	40142	40124	-1199	14996	DHZ	1982	-1.634	39613	39597	-1129	15341
IBADAN	IBD	DHZ	1956	-8.687	32016	31649	-4835	-3306	DHZ	1962	-8.118	32089	31767	-4531	-3580
IRKUTSK	IRT	DHI	1887	2.398	20101	20083	841	55423	DHZ	1983	-2.353	19480	19464	-799	56888
ISTANBUL-KANDILLI	ISK	DHZ	1947	1.998	24714	24699	862	38216	DHZ	1979	3.173	24982	24944	1383	39553
JAIPIUR	JAI	DHZ	1979	- .760	35837	35834	-475	29661	DHZ	1983	- .713	35576	35573	-442	29708
JARVIS ISLAND	JRV	DHZ	1958	9.270	34462	34012	5551	1345	DHZ	1958	9.270	34462	34012	5551	1345
JASSY	JSS	DIH	1931	.393	21438	21437	147	40604	DIH	1963	2.800	21231	21206	1037	42729
JULIANEHAAB	JUL	DHZ	1933	-43.347	11616	8447	-7973	52989	DHZ	1933	-43.347	11616	8447	-7973	52989
KAKIOKA	KAK	DHZ	1913	-5.169	29749	29628	-2680	34851	DHZ	1983	-6.661	30172	29968	-3499	34720
KANOYA	KNY	DHZ	1958	-4.993	32943	32818	-2867	32187	DHZ	1983	-5.534	32976	32822	-3179	32052
KANOZAN	KNZ	DHZ	1961	-6.071	30474	30303	-3222	33891	DHZ	1983	-6.316	30523	30338	-3357	33744
KARAGANDA	KGD	DHZ	1965	8.797	20160	19923	3083	52539	DHZ	1983	7.325	20046	19882	2556	52269
KARAVIA	KVA	DHZ	1958	-8.442	22935	22686	-3367	-24930	DHZ	1959	-8.323	22875	22634	-3311	-24969
KARSANI	KAS	DIH	1905	2.405	25488	25466	1070	38309	DHZ	1934	4.433	24570	24497	1899	40390
KAZAN	KZN		1892	7.513	18551	18391	2426	47343	DHZ	1983	10.562	16773	16489	3075	50445
KELES	KEL	DHZ	1936	5.392	25373	25261	2384	44280	DHZ	1963	4.798	25836	25745	2161	45673
KEW	KEW		1858	-21.901	17488	16226	-6523	44117	DHZ	1924	-13.752	18392	17865	-4372	43205
KEY WEST	QW*	DHI	1860	4.776	31110	31002	2590	43810	DHI	1866	4.496	30980	30885	2430	43400
KIEL	KE*		1885	12.901	17630	17185	3936	44498		1885	12.901	17630	17185	3936	44498
KIEV	KIV	DHZ	1959	5.005	19286	19212	1683	45125	DHZ	1983	5.165	19452	19373	1751	45686
KIRUNA	KIR	DHZ	1965	-6.143	11112	11048	-1189	50401	DHZ	1981	-5.610	11152	11099	-1090	50946
KODAIKANAL	KOD	DHZ	1902	- .300	37394	37393	-196	1985	DHZ	1981	-2.384	39220	39186	-1631	2502
KOROR	KOR	DHZ	1958	2.088	37847	37822	1379	-54	DHZ	1965	1.993	37937	37914	1320	-381
KOTZEBUE	KOT	DHZ	1958	19.917	13000	12222	4428	54428	DHZ	1958	19.917	13000	12222	4428	54428
KREMSMUNSTER	KRE	DIH	1901	-9.280	20708	20437	-3339	40803	DIH	1904	-9.040	20730	20473	-3257	40752
KSARA	KSA	DHZ	1937	1.862	28586	28571	929	31979	DHZ	1970	2.647	29022	28991	1340	33674
KUTCHINO	KTC	DHZ	1926	6.432	17965	17852	2013	46442	DHZ	1938	6.483	17280	17169	1951	47260
KUYPER	KUY	DHZ	1929	.900	36824	36819	578	-23245	DHZ	1961	1.257	37389	37380	820	-23679
L AQUILA	AQU	DHZ	1960	-1.565	23542	23533	-643	38457	DHZ	1983	.182	23946	23946	76	38921
LA PAZ	LPB	DHZ	1974	- .228	25593	25593	-102	-2126	DHZ	1976	- .520	25479	25478	-231	-2019
LA QUITACA	LQA	DHZ	1920	6.055	26621	26473	2808	-5979	DHZ	1983	-2.403	23387	23366	-980	-6571
LANZHOU	LZH	DHZ	1959	-1.702	32024	32010	-951	42642	DHZ	1983	-1.813	31464	31448	-994	42537
LAS ACACIAS	LAS	DHZ	1964	-1.583	21290	21282	-588	-13430	DHZ	1978	-3.612	20310	20270	-1279	-13627
LAUDER	LAU	DHZ	1979	22.715	20213	18645	7805	-56529	DHZ	1979	22.715	20213	18645	7805	-56529
LAZAREV	LZV	DHZ	1960	-27.327	19202	17059	-8815	-39609	DHZ	1960	-27.327	19202	17059	-8815	-39609
LEADVILLE	LDV	DHZ	1958	13.883	21820	21183	5236	51033	DHZ	1958	13.883	21820	21183	5236	51033
LEIRVOGUR	LRV	DHZ	1958	-23.745	11872	10867	-4780	49322	DHZ	1983	-19.758	12406	11676	-4193	49993
LENINGRAD	LNN	DHZ	1947	5.967	15006	14925	1560	48141	DHZ	1982	7.272	15178	15056	1921	49095
LERWICK	LER	DHZ	1923	-15.672	14655	14110	-3959	46655	DHZ	1983	-7.376	14941	14817	-1917	47895

OBSERVATORY	CODE	ELE YEAR	D	H	X	Y	Z	ELE YEAR	D	H	X	Y	Z
LHASA	LSA	DHZ 1957	-383	35876	35875	-240	33912	DHZ 1974	-290	35695	35695	-181	33750
LISBON	LIS	1858	-21.670	22102	20540	-8161	39311	D1H 1900	-17.300	23516	22452	-6993	37507
LITTLE AMERICA V	LAA	DHZ 1958	102.698	11250	-2473	10975	-63870	DHZ 1958	102.698	11250	-2473	10975	-63870
LOGRONO	LGR	DHZ 1958	-7.937	23029	22808	-3180	38181	DHZ 1976	-6.008	23702	23572	-2481	38187
LOS ANGELES	LA*	DHI 1883	14.513	27283	26412	6837	46339	1889	14.376	27220	26367	6759	46186
LOVO	LOV	DHZ 1929	-3.138	15582	15559	-853	46340	XYZ 1983	1.813	15464	15456	489	48089
LUANDA BELAS	LUA	DHZ 1954	-11.588	24494	23995	-4920	-21346	DHZ 1983	-8.869	22986	22711	-3543	-23017
LUBECK	LB*	1885	-12.495	17792	17371	-3849	44070	1893	-11.845	17904	17523	-3675	44140
LUKIAPANG	LKP	D1H 1909	-2.977	33187	33142	-1723	33879	DHZ 1933	-3.590	33329	33264	-2087	33791
LUNPING	LNP	DHZ 1966	-2.368	36624	36593	-1513	25627	DHZ 1983	-3.008	36568	36518	-1918	25827
LVOV	LVV	DHZ 1952	2.125	19828	19814	735	43770	DHZ 1982	3.394	20050	20015	1187	44625
LWIRO	LWI	DHZ 1959	-4.183	29884	29804	-2180	-16799	DHZ 1970	-3.345	29632	29582	-1729	-17198
M BOUR	MBO	DHZ 1952	-15.448	31404	30269	-8365	10597	DHZ 1983	-11.684	31943	31281	-6468	6842
MACQUARIE ISLAND	MCQ	DHZ 1951	23.847	13383	12240	5411	-64589	DHZ 1983	28.915	12652	11075	6117	-63674
MAGADAN	MGD	DHZ 1960	-10.378	16637	16365	-2997	54289	DHZ 1983	-13.316	17956	17473	-4135	52571
MAITSACH	MAS	DHZ 1927	-6.875	20314	20168	-2432	40817	DHZ 1932	-5.988	20299	20188	-2118	41005
MAITUN	MAI	DHZ 1941	-8.688	26844	26536	-4055	44591	DHZ 1945	-8.788	26934	26618	-4115	44714
MAJURO	MJR	DHZ 1965	9.387	33395	32948	5447	3307	DHZ 1965	9.387	33395	32948	5447	3307
MANHAY	MAB	DHZ 1933	-8.545	19096	18884	-2837	42433	DHZ 1983	-2.844	19753	19729	-979	43641
MANILA	MAN	DHI 1891	0.828	37611	37607	544	11694	D1H 1904	.857	38215	38211	571	10961
MAPUTO	LMM	DHZ 1957	-15.950	15281	14693	-4199	-28881	DHZ 1983	-15.756	13913	13390	-3777	-26871
MARION ISLAND	MRN	DHZ 1974	-35.737	14522	11788	-8482	-30615	DHZ 1977	-36.172	14515	11717	-8567	-30319
MARTIN DE VIVIES	AMS	DHZ 1982	-40.733	19146	14508	-12492	-47422	XYZ 1983	-40.768	19144	14499	-12501	-47419
MATOKHIN SHAR	MSR	DHZ 1924	20.625	9491	8883	3343	54326	DHZ 1944	23.272	8880	8158	3508	54500
MAURITIUS	MRI	DHZ 1892	-10.170	23943	23567	-4228	-33921	DHZ 1965	-17.052	22220	21243	-6516	-30495
MAWSON	MAW	DHZ 1956	-58.887	18282	9447	-15652	-49006	DHZ 1983	-63.443	18439	8244	-16492	-46503
MEANOOK	MEA	D1H 1917	27.768	12941	11451	6029	60450	XYZ 1983	21.665	13457	12506	4968	58396
MELBOURNE	MEL	DHI 1893	8.160	23432	23195	3326	-55957	D1H 1920	7.927	22874	22655	3154	-56384
MEMAMBETSU	MMB	DHZ 1952	-8.168	26468	26199	-3761	41707	DHZ 1983	-8.374	26446	26164	-3851	41415
MIDWAY	MDY	DHZ 1964	10.277	27813	27367	4962	26042	DHZ 1964	10.277	27813	27367	4962	26042
MINSK	MNK	DHZ 1961	4.948	17763	17697	1532	46363	DHZ 1982	5.429	17895	17815	1693	46883
MIRNY	MIR	DHZ 1957	-78.150	13788	2831	-13494	-60436	DHZ 1982	-84.249	14000	1403	-13929	-58550
MISALLAT	MLT	DHZ 1960	1.283	31067	31059	696	28372	DHZ 1980	1.980	31299	31280	1082	28657
MIZUSAWA	MIZ	DHZ 1969	-7.285	28843	28610	-3657	37274	DHZ 1983	7.475	28830	28585	3751	37304
MOCA	MFP	DHZ 1958	-7.660	30724	30450	-4095	-8827	DHZ 1971	-6.755	30698	30485	-3611	-9553
MODIIM	MOD	DHZ 1975	2.195	30076	30054	1152	31960	DHZ 1975	2.195	30076	30054	1152	31960
MOLODEZHNYAYA	MOL	DHZ 1965	-49.190	18977	12402	-14363	-43219	DHZ 1982	-50.749	19005	12025	-14716	-41430
MONTE CAPELLINO	MCP	DHZ 1959	-3.488	22247	22206	-1353	39173	DHZ 1962	-3.258	22320	22284	-1269	39175
MOSCOW	MOS	DHZ 1946	7.083	17157	17026	2116	47707	DHZ 1982	7.844	17248	17087	2354	48673
MOULD BAY	MBC	DHZ 1963	65.613	2424	1001	2208	57940	XYZ 1983	59.999	2560	1281	2217	58219

-----EARLIEST COMPLETE YEAR-----

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OBSERVATORY	CODE	ELE YEAR	D	H	X	Y	Z	ELE YEAR	D	H	X	Y	Z
MUNICH	MNH	1842	-16.790	19282	18460	-5570	41860	DHZ 1913	-9.103	20623	20363	-3263	40609
MUNTINLUPA	MUT	1951	.532	38871	38869	361	10019	DHZ 1982	-7.716	39244	39241	-490	9729
MURMANSK	MMK	1959	11.445	11549	11319	2292	51214	DHZ 1981	12.414	11798	11522	2536	51565
NAGYCEMK	NCK	1961	-393	20816	20815	-143	42077	DHZ 1981	.873	21119	21117	322	42500
NAIROBI	NAI	1964	-2.360	30918	30892	-1273	-15669	DHZ 1978	-1.160	30487	30481	-617	-15477
NANTES	NTS	1923	-13.391	20212	19662	-4681	41009	DHZ 1958	-8.037	20678	20475	-2891	41564
NARSSARSSUAQ	NAQ	1969	-36.610	11661	9360	-6954	53686	DHZ 1983	-33.306	12152	10156	-6672	53764
NEW YEARS ISLAND	NYI	1902	15.955	27306	26254	7506	-32808	DIH 1916	15.040	26771	25854	6947	-31519
NEWPORT	NEW	1967	21.447	18034	16785	6594	54856	DHZ 1981	20.108	18187	17079	6253	54482
NICE	NCE	1885	-13.316	22035	21443	-5075	39298	DHI 1891	-12.715	22143	21600	-4874	39108
NIEMEGK	NGK	1931	-5.603	18526	18437	-1809	42999	XYZ 1983	-.249	18809	18809	-82	44639
NITSANIM	NCK	1967	2.368	30131	30105	1245	31600	DHZ 1967	2.368	30131	30105	1245	31600
NIZHNEVITSK	NWV	1935	5.560	18588	18501	1801	45060	DHZ 1936	5.662	18556	18465	1831	45104
NORTHWAY	NRW	1958	31.083	12900	11048	6660	55876	DHZ 1958	31.083	12900	11048	6660	55876
NORWAY STATION	NWS	1960	-18.400	19537	18538	-6166	-38803	DHZ 1961	-18.383	19524	18528	-6156	-38665
NOVOKAZALINSK	NKK	1974	6.438	22709	22566	2546	47466	DHZ 1983	6.464	22607	22463	2545	47512
NOVOLAZAREVSKAYA	NVL	1961	-27.287	18881	16780	-8656	-39831	DHZ 1982	-26.999	18620	16591	-8452	-37260
NOVOSIBIRSK	NVS	1967	9.033	17156	16943	2694	56645	DHZ 1983	8.445	17202	17015	2526	56448
NURMIJARVI	NUR	1953	3.345	14994	14968	875	48230	XYZ 1983	4.470	15154	15108	1181	49098
O GYALLA	OGY	1900	-7.480	21153	20973	-2754	40733	DIH 1914	-5.983	21024	20909	-2191	40531
OASIS	OAS	1957	-84.537	12020	1144	-11965	-62654	DHZ 1958	-84.993	12003	1048	-11957	-62653
ODESSA	ODE	1896	-4.826	22038	21960	-1854	42452	DHZ 1983	2.439	21392	21373	910	43607
ORCADAS DEL SUR	ORC	1905	5.277	25667	25558	2360	-36006	DHZ 1962	1.972	21759	21746	749	-30083
OSLO	OSL	1843	-18.578	15502	14694	-4939	46929	DIH 1907	-11.017	16388	16086	-3132	47034
OTTAWA	OTT	1969	-13.685	15760	15313	-3729	56467	XYZ 1983	-14.198	16813	16299	-4124	55304
P. TUNGUSKA	POD	1969	10.598	12312	12102	2264	59244	DHZ 1983	9.734	12343	12165	2087	59209
PAMATAI	PPT	1969	10.302	31613	31103	5654	-18713	DHZ 1983	11.237	31262	30663	6092	-18905
PANAGYURISHTE	PAG	1948	.263	23436	23436	108	38794	DHZ 1982	2.020	23695	23680	835	39839
PARAMARIBO	PAB	1958	-11.803	29119	28503	-5956	18427	DHZ 1974	-13.605	28612	27809	-6730	16067
PARC ST. MAUR	PSM	1883	-16.340	19351	18569	-5444	42112	DHZ 1900	-14.757	19558	18913	-4982	41736
PATRICK	PAT	1955	.480	24920	24919	209	45533	DHZ 1955	.480	24920	24919	209	45533
PENDELI	PEG	1959	.887	26177	26174	405	35976	DHZ 1960	.945	26183	26179	432	36021
PERPIGNAN	PER	1890	-14.446	22143	21443	-5524	38781	DHZ 1900	-13.622	22441	21810	-5285	38828
PETROPAVLOVSK	PET	1969	-5.273	22105	22011	-2031	45965	DHZ 1982	-5.374	21981	21884	-2058	45857
PILAR	PIL	1905	9.857	25892	25510	4432	-12655	DHZ 1983	-.191	21189	21189	-70	-12072
PIONERSKAYA	P10	1957	-85.713	13179	985	-13142	-60277	DHZ 1958	-86.235	13162	864	-13134	-60242
PLAISANCE	PLS	1966	-16.600	21829	20919	-6236	-29396	DHZ 1976	-16.917	21723	20783	-6321	-29034
PLATEAU	PTU	1966	-53.337	18215	10876	-14611	-49683	DHZ 1968	-53.438	18246	10869	-14655	-49574
POLA	POL	1883	-10.793	21854	21467	-4092	39146	DHZ 1922	-6.422	22049	21911	-2466	38690
PORT ALFRED	CZT	1974	-41.507	16291	12200	-10796	-33810	DHZ 1982	-43.356	16272	11831	-11170	-33470

OBSERVATORY	CODE	ELE	YEAR	D	H	X	Y	Z	ELE	YEAR	D	H	X	Y	Z
PORT MORESBY	PMG	DHZ	1959	6.022	36483	36282	3827	-22789	DHZ	1983	6.544	35935	35701	4095	-23713
PORT-AUX-FRANCAIS	KGL	DHZ	1958	-47.823	18736	12580	-13885	-44064	DHZ	1982	-51.674	18412	11418	-14443	-43766
POTSDAM	POT	DHZ	1890	-10.955	18731	18390	-3559	43044	DHZ	1928	-5.970	18467	18367	-1921	43010
PRICE	PCU	DHZ	1958	15.917	22290	21435	6113	50379	DHZ	1958	15.917	22290	21435	6113	50379
PRUHNICE	PRU	DHZ	1870	-12.015	19358	18934	-4030	41955	DHZ	1972	-5.518	19749	19748	-179	43406
QUETTA	QUE	DHZ	1954	1.520	32915	32903	873	33655	DHZ	1983	1.312	32656	32647	748	33603
REGENSBURG	REG	DHZ	1957	-3.792	20719	20674	-1370	41411	DHZ	1975	-2.513	21134	21114	-927	41811
RESOLUTE BAY	RES	DHZ	1954	-95.340	924	-86	-920	57981	XYZ	1983	-56.177	910	506	-756	58485
RIO DE JANEIRO	RDJ	DHI	1899	-7.790	25030	24800	-3393	-5900	DHZ	1906	-8.922	24772	24472	-3842	-6155
ROBURENT	ROB	DHZ	1965	-3.120	22603	22570	-1230	39668	DHZ	1973	-2.495	22828	22806	-994	39781
ROI BAUDOUIN	RBD	DHZ	1965	-35.427	18929	15424	-10971	-40753	DHZ	1966	-35.482	18930	15415	-10987	-40631
RUDE SKOV	RSV	DHZ	1907	-9.805	17426	17171	-2968	44730	DHZ	1981	-1.743	17072	17071	-220	46327
SABHAWALA	SAB	DHZ	1964	.348	34241	34240	208	34698	DHZ	1981	.392	33804	33803	231	34466
SAN FERNANDO	SFS	DHI	1891	-16.653	24329	23309	-6972	35905	DHZ	1977	-6.622	26812	26633	-3092	32951
SAN JOSE	SJL	DHZ	1965	2.178	27404	27384	1042	39206	DHZ	1973	1.028	27346	27342	491	38334
SAN JUAN	SJG	DHZ	1926	-4.352	27742	27662	-2105	35734	DHZ	1983	-10.051	27245	26827	-4754	30597
SANAE	SNA	DHZ	1963	-18.657	19464	18441	-6226	-38378	DHZ	1983	-17.799	18916	18011	-5781	-35920
SANTIAGO	SMT	1851	15.840	29858	28724	8150	-21359	-21359	1852	1852	16.245	29770	28581	8328	-21312
SAO MIGUEL	SMG	DIH	1911	-19.948	22987	21608	-7843	41467	DHZ	1977	-13.043	29590	24929	-5775	37981
SCOTT BASE	SBA	DHZ	1958	156.565	9777	-8971	3888	-69454	DHZ	1979	156.462	10649	-9763	4253	-67511
SEDDIN	SED	DHZ	1908	-9.320	18890	18641	-3059	42974	DHZ	1931	-5.482	18450	18366	-1762	43106
SHESHAN	SSH	DHZ	1934	-3.412	33247	33188	-1978	33855	DHZ	1983	-4.509	33678	33574	-2647	34398
SHILLONG	SHL	DHZ	1979	-7.38	37507	37504	-483	27372	DHZ	1981	-7.63	37409	37406	-498	27479
SIMFEROPOL	SIM	DHZ	1959	4.372	22498	22433	1715	41843	DHZ	1959	4.372	22498	22433	1715	41843
SIMOSATO	SSO	DHZ	1955	-5.758	31500	31341	-3160	33420	DHZ	1977	-6.008	31546	31373	-3302	33071
SINGAPORE	SG*	1841	1.600	36707	36693	1025	-8287	-8287	1847	1.608	37351	37336	1048	-8559	
SITKA	SIT	DHZ	1902	29.852	15441	13392	7686	56833	DHZ	1983	27.179	15838	14089	7234	54766
SLUTZK	SLU	1878	-1.128	16364	16361	-322	46686	46686	DHZ	1944	5.650	15150	15076	1492	47807
SODANKYLA	SOD	DHZ	1914	.305	12905	12905	69	49260	DHZ	1983	6.854	11866	11781	1416	50712
SOUTH GEORGIA	SGE	DHZ	1975	-8.683	18666	18452	-2817	-24425	DHZ	1981	-8.721	18129	17919	-2748	-24226
SOUTH POLE	SPA	DHZ	1959	-27.398	15810	14037	-7275	-57112	DHZ	1971	-27.662	16006	14177	-7431	-55793
SREDNIKAN	SRE	DHZ	1936	-8.803	16142	15952	-2470	53995	DHZ	1966	-10.317	16763	16492	-3002	54054
SSAGASTYR	GY*	1883	4.805	7168	7143	600	59655	59655	1883	4.805	7168	7143	600	59655	
ST JOHNS	STJ	DHZ	1969	-26.835	17503	15618	-7901	50777	XYZ	1983	-24.474	18523	16859	-7674	49879
ST PETERSBURG	LN*	1869	-2.350	16275	16262	-667	46604	46604	DHI	1877	-1.318	16396	16392	-377	47026
STARA DALA	STA	DHZ	1941	-1.785	20668	20658	-644	41550	DHZ	1944	-1.438	20674	20667	-519	41693
STONYHURST	STO	DHI	1876	-20.878	16840	15734	-6002	44676	DHZ	1967	-8.951	17646	17431	-2746	44796
SUALARI	SUA	DHZ	1950	1.653	22474	22465	648	40949	DHZ	1980	2.818	22725	22698	1117	41607
SVERLOVSK	SVD	DHZ	1887	9.251	17815	17583	2864	50537	DHZ	1976	12.807	16143	15741	3578	52282
SWIDER	SWI	DHZ	1921	-3.505	18712	18677	-1144	43185	DHZ	1969	1.542	18365	18358	494	45216

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OBSERVATORY	CODE	ELE YEAR	D	H	X	Y	Z	ELE YEAR	D	H	X	Y	Z
SYOWA STATION	SYO	DHZ 1958	-44.167	18911	13565	-13176	-43354	DHZ 1982	-46.459	19000	13088	-13772	-40381
TACUBAYA	TAC	DHZ 1895	7.760	33428	33122	4514	32701	DIH 1926	9.252	32141	31723	5167	34529
TAMANRASSET	TAM	DIH 1935	-7.860	31818	31519	-4351	17799	DHZ 1981	3.117	32912	32863	1790	17249
TANAWARIVE	TAN	DHI 1890	-13.123	23030	22429	-5229	-32546	DHZ 1983	-13.118	19964	19443	-4530	-27050
TANGERANG	TNG	DHZ 1964	1.025	37171	37165	665	-23983	DHZ 1983	.162	37417	37417	106	-23991
TASHKENT	TKT	1883	5.623	27109	26978	2656	41590	DHZ 1982	4.610	25732	25649	2068	45366
TATUOCA	TTB	DHZ 1958	-15.283	28648	27635	-7551	8940	DIH 1980	-17.857	27758	26421	-8512	5656
TBILISI	TFS	DHI 1880	0.808	25748	25745	363	37468	DHZ 1982	5.082	24105	24010	2135	42146
TEHRAN	TEH	DHZ 1960	3.857	28343	28279	1906	37688	DHZ 1973	3.473	28329	28277	1716	37611
TEOLOYUCAN	TEO	DHZ 1914	8.827	32521	32136	4990	33596	DHZ 1975	7.930	29631	29348	4088	31846
THULE	THL	DHZ 1947	-77.808	4436	937	-4336	55761	DHZ 1980	-74.467	3921	1050	-3778	56688
TIHANY	THY	DHZ 1955	-.385	21166	21165	-142	41530	DHF 1983	1.400	21460	21454	525	42258
TIKHAYA BAY	TKH	DHZ 1933	21.182	6598	6152	2384	54611	DHZ 1957	26.243	6130	5498	2711	55066
TIKIE BAY	TIK	DHZ 1944	-11.948	7356	7197	-1523	59234	DH 1982	-16.749	7860	7526	-2265	
TOKYO	TOK	DHZ 1887	-4.118	29179	29104	-2096	34342	DIH 1912	-5.057	29996	29879	-2644	34379
TOLEDO	SPT	DHZ 1982	-5.498	25275	25159	-2421	35732	DHZ 1981	-5.608	25147	25027	-2456	36034
TOMSK	TMK	DHZ 1958	10.023	15783	15542	2747	57169	DHZ 1969	9.218	15945	15739	2554	57226
TOOLANGI	T00	DIH 1919	8.130	23071	22839	3263	-55975	DHZ 1978	10.988	22099	21694	4212	-56304
TORONTO	AG*	DHZ 1842	-1.318	16300	16296	-375	62014	DHZ 1898	-4.916	16598	16537	-1423	60327
TOULOUSE	TLS	1894	-14.791	21834	21110	-5574	39738	DIH 1905	-13.995	22013	21360	-5324	39498
TOUNG00	TGO	DIH 1905	.807	38675	38671	544	16394	DIH 1932	-.692	39306	39303	-474	16727
TOYOHARA	TOH	DHZ 1933	-8.947	25035	24730	-3893	44591	DHZ 1944	-9.492	25191	24846	-4154	44764
TRELEW	TRW	DHZ 1958	9.192	22821	22528	3645	-18827	DHZ 1978	7.250	21229	21059	2679	-18104
TRIVANDRUM	TRD	DHZ 1958	-2.905	40062	40011	-2030	-423	DHZ 1983	-2.738	39847	39802	-1902	9
TROMSO	TRO	DHZ 1931	-3.993	11549	11521	-804	50198	DHZ 1983	.835	11323	11322	165	51587
TSINGTAO	TSI	DIH 1908	-3.727	30766	30701	-2000	39890	DHZ 1936	-4.627	30935	30834	-2495	39741
TSUMEB	TSU	DHZ 1965	-15.967	17340	16671	-4769	-27004	DHZ 1983	-13.236	15623	15208	-3576	-26940
TUCSON	TUC	DHZ 1910	13.430	27379	26630	6359	46160	DHZ 1983	11.970	25545	24990	5298	42807
TUNTUNGAN	DHZ	1982	-.599	40309	40307	-421	-9556	DHZ 1982	-.599	40309	40307	-421	-9556
UCCLE	UCC	1893	-14.811	18774	18151	-4800	43123	DIH 1917	-12.320	18964	18527	-4046	42684
UJJAIN	UJJ	DHZ 1979	-.520	37147	37145	-337	24365	DHZ 1981	-.475	36969	36968	-306	24441
ULAN BATOR	UBA	DHZ 1966	-3.687	23116	23068	-1486	54363	DHZ 1977	-3.648	23088	23041	-1469	53920
URUMQI	WMQ	DHZ 1980	2.612	25389	25362	1157	50091	DHZ 1983	2.635	25276	25249	1162	50082
UTRECHT	WI*	DHI 1891	-14.618	18354	17760	-4632	43769	DHI 1898	-13.985	18487	17939	-4468	43623
VAL JOYEUX	VLJ	DHZ 1901	-15.200	19680	18992	-5160	42167	DHZ 1936	-9.945	19647	19352	-3393	41668
VALENTIA	VAL	DHI 1899	-21.583	17739	16495	-6525	45149	DHZ 1983	-10.348	19022	18713	-3416	44454
VASSOURAS	VSS	DHZ 1919	-11.180	24419	23956	-4735	-6669	DHZ 1983	-19.583	20886	19678	-6999	-11491
VICTORIA	VIC	DHZ 1956	23.003	18689	17203	7303	53427	XYZ 1983	21.223	19006	17717	6880	52773
VIEQUES	VQS	DIH 1904	-1.518	29264	29254	-775	33962	DHZ 1923	-4.138	27629	27557	-1994	34900
VLADIVOSTOK	VLA	DHZ 1952	-8.997	26885	26554	-4204	45510	DHZ 1983	-9.756	26906	26517	-4558	45024

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OBSERVATORY	CODE	ELE	YEAR	D	H	X	Y	Z	ELE	YEAR	D	H	X	Y	Z
VOSTOK	VOS	DHZ	1958	116.600	12281	-5499	-10981	-61643	DHZ	1981	118.794	13067	-6293	-11450	-59269
VYKHODNOY	VYK	DHZ	1954	25.393	8648	7812	3709	54817	DHZ	1955	25.457	8622	7785	3706	54859
WARSAW	SW*	DHZ	1893	-6.815	19005	18871	-2255	43325	DHZ	1893	-6.815	19005	18871	-2255	43325
WASHINGTON 1	CH*	DHZ	1867	-2.801	19900	19876	-973	58160	DHZ	1868	-2.853	19960	19935	-994	58150
WASHINGTON 2	FR*	DHZ	1889	-4.025	19869	19820	-1395	58033	DHZ	1892	-4.236	19849	19794	-1466	57858
WASHINGTON NEW	FR*	DHZ	1894	-3.665	19979	19938	-1277	56644	DHZ	1894	-3.665	19979	19938	-1277	56644
WATHEROO	WAT	DHZ	1919	-4.380	24925	24852	-1903	-50780	DHZ	1958	-2.683	24858	24831	-1163	-52220
WHITESHELL	WHS	XYZ	1977	5.239	13985	13927	1277	58784	XYZ	1979	4.874	14054	14003	1194	58667
WIEN-KOBENZL	WIK	DHZ	1892	-8.926	20657	20407	-3205	40986	DHZ	1983	.960	20787	20784	348	42986
WILHELMSHAVEN	WLH	DHI	1884	-13.923	17797	17274	-4282	43998	DHZ	1911	-11.470	18110	17748	-3601	43747
WILKES	WIL	DHZ	1958	-82.990	9314	1137	-9244	-65010	DHZ	1966	-86.547	9238	556	-9221	-64641
WINGST	WNG	DHZ	1939	-5.985	17636	17540	-1839	44092	DHZ	1983	-1.614	18093	18086	-509	45269
WITTEVEEN	WIT	DHZ	1938	-7.460	17952	17800	-2331	43571	DHZ	1982	-2.788	18528	18506	-900	44707
WUHAN	WHN	DHZ	1980	-3.133	34738	34686	-1899	34370	DHZ	1983	-3.246	34659	34603	-1962	34502
YAKUTSK	YAK	DHZ	1937	-16.818	14464	13845	-4185	57960	DHZ	1982	-19.481	15043	14182	-5016	58111
YANOV	YNV	DHZ	1934	.212	20081	20081	74	42863	DHZ	1934	.212	20081	20081	74	42863
YELLOWKNIFE	YKC	DHZ	1975	29.140	8660	7564	4217	60249	XYZ	1983	27.197	8706	7743	3979	60109
YUZHNO SAKHAL INSK	YSS	DHZ	1942	-9.382	25149	24813	-4100	44700	DHZ	1983	-10.098	25200	24810	-4417	44733
ZIKAWEI	ZKW	DHI	1875	-1.996	32043	32024	-1116	33488	DIH	1907	-2.560	33056	33023	-1476	33768
ZINSEN	ZIN	DHZ	1918	-5.685	29978	29831	-2970	40170	DHZ	1943	-6.360	30229	30043	-3349	4034868

TABLE 6 G E O M A G N E T I C A N N U A L M E A N L O G : 1 8 1 0 - 1 8 9 9

OBSERVATORY	CODE	Y	1	8	2	1	8	3	1	8	6	1	8	8	1	1	8	8	9	
AGINCOURT	AGN																			
ALIBAG	ABG																			
ATHENS	ATH																			
AUCKLAND ISLAND	AU*																			
BARNAUL	BM*																			

BATH	BAH																			
BATAVIA	BTV																			
BEIJING	BJI																			
BEUTHEN	BEU																			
BOCHUM	BOC																			
BOSSEKOP 1	BP*																			
BOSSEKOP 2	BP*																			
BOUZAREAH	BZR																			
BRESLAU	BS*																			
BUCHAREST	BVC																			
BUDAPEST	HB*																			
CAP THORSEN	SL*																			
CAPE GOOD HOPE	CGH																			
CAPODIMONTE	CPD																			
CLAUSTHAL	CLZ																			
COIMBRA	COI																			
COPENHAGEN	COP																			
DAR ES SALAAM	DM*																			
DE BILT	DBN																			
DUBLIN	DL*																			
EAST PORT	EP*																			
FALMOUTH	FAL																			
FLENSBURG	FLE																			
FORT RAE 1	FE*																			
FREIBERG	FB*																			
GODHAAB 1	GH*																			
GOTTINGEN	GT*																			
GREENWICH	GRW																			
HACKNEY WICK	HW*																			
HACKNEY WICK 2	HW*																			

1=XHZ 2=DHZ 3=DIH 4=DI 5=DH 6=DZ 7=IHZ 8=IH 9=IZ D=D ONLY  
 F=F ONLY H=H ONLY I=I ONLY Z=Z ONLY Q=HZ P=DIF R=DHF S=XYF T=DHX U=HZ  
 \*=INCOMPLETE YEAR ?=UNKNOWN ELEMENTS



OBSERVATORY	CODE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
HAMBURG	HM*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
HAVANA	HVN	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
HOLSTEINSBORG 1	HS*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
HONG KONG	HKC	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
IRKUTSK	IRT	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
IVIGTUT 1	IV*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
JAN MAYEN 1	JM*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
KAZAN	KZN	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
KERGUELEN	KG*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
KEW	KEW	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
KEY WEST	QW*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
KIEL	KE*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
KINGUAFJORD	KJ*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
KLagenfurt	KF*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
KRAKAU (CRAKAU)	KX*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
KREMSMUNSTER	KRE	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
LISBON	LIS	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
LOS ANGELES	LA*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
LUANDA CAPELO	LUA	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
LUBECK	LB*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
MADRAS	MX*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
MADRID	MDD	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
MAKERSTOUN	MQ*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
MALIYE KARMAKULY	MKL	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
MANILA	MAN	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
MAURITIUS	MRI	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
MELBOURNE	MEL	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
MEXICO	TE*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
MOSCOW	MO*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
MUNICH	MNH	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
NAMORTALIK 1	NN*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
NERTSCHINSK	NK*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
NEUFARWASSER	NF*	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
NICE	NCE	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8
O GYALLA	OGY	1	8	2	3	8	5	8	6	8	7	8	8	8	8	8	8	8	8	8	8

1=XHZ 2=DHZ 3=DIH 4=DI 5=OH 6=DZ 7=IHZ 8=IH 9=IZ D=D ONLY  
 F=F ONLY H=H ONLY I=I ONLY Z=Z ONLY P=DIF R=DHF S=XYF T=DHX U=HZ  
 \*=INCOMPLETE YEAR ?=UNKNOWN ELEMENTS

OBSERVATORY	CODE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ODESSA	OB*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ORANGE BAY	OSL	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
OSLO	PSM	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
PARC ST. MAUR	PER	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PERPIGNAN	PH*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PHILADELPHIA	PL*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PITLEKAJ	POL	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
POLA	POT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
POTSDAM	PRU	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PRUHONICE	RDJ	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
RIO DE JANEIRO	RO*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ROSTOCK	SFS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SAN FERNANDO	SNT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SANTIAGO	SY*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SCORESBYSUND 1	SG*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SINGAPORE	SLU	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SLUTZK	SOD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SODANKYLA	SGE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SOUTH GEORGIA	GY*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SSAGASTYR	STH	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ST HELIER	LN*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ST PETERSBURG	SZA	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
STETTIN-ZABELSDO	STO	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
STONYHURST	SVD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SVERDLOVSK	SN*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SYDNEY	TAC	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TACUBAYA	TAN	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TANANARIVE	TKT	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TASHKENT	AJ*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TASUISAK	TFS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TBILISI	TOK	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOKYO	AG*	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TORONTO	TLS	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOULOUSE	TRD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TRIVANDRUM		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

1=XHZ 2=DHZ 3=DJH 4=DJ 5=DH 6=DZ 7=IHZ 8=IH 9=IZ 0=D ONLY  
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OBSERVATORY	CODE	1	2	3	4	5	6	7	8	9	0123456789	0123456789	0123456789	0123456789
UCCLE	UCC	1	8	1	1	1	1	1	1	1	1	1	1	1
UTRECHT	WI*	8	2	8	8	8	8	8	8	8	8	8	8	8
VALENTIA	VAL	1	8	3	4	5	6	7	8	9	0123456789	0123456789	0123456789	0123456789
WARSAW	SW*	1	8	3	4	5	6	7	8	9	0123456789	0123456789	0123456789	0123456789
WASHINGTON 1	CH*	1	8	3	4	5	6	7	8	9	0123456789	0123456789	0123456789	0123456789
WASHINGTON 2	FR*	1	8	3	4	5	6	7	8	9	0123456789	0123456789	0123456789	0123456789
WASHINGTON CITY	FR*	1	8	3	4	5	6	7	8	9	0123456789	0123456789	0123456789	0123456789
WASHINGTON NEW	FR*	1	8	3	4	5	6	7	8	9	0123456789	0123456789	0123456789	0123456789
WIEN-KOBENZL	WIK	1	8	3	4	5	6	7	8	9	0123456789	0123456789	0123456789	0123456789
WILHELMSHAVEN	WLH	1	8	3	4	5	6	7	8	9	0123456789	0123456789	0123456789	0123456789
WUSTROW	WUS	1	8	3	4	5	6	7	8	9	0123456789	0123456789	0123456789	0123456789
ZIKAWEI	ZKW	1	8	3	4	5	6	7	8	9	0123456789	0123456789	0123456789	0123456789

1=XHZ 2=DHZ 3=DIH 4=DI 5=DH 6=DZ 7=IHZ 8=IH 9=IZ D=D ONLY  
 F=F ONLY H=H ONLY I=I ONLY Z=Z ONLY Q=HZ R=DHF S=XYF T=DHX U=HZ  
 \*=INCOMPLETE YEAR ?=UNKNOWN ELEMENTS

OBSERVATORY	CODE	Y	1	9	0	1	9	0	1	9	0	1	9	0
ABINGER	ABN	1	1	1	1	1	1	1	1	1	1	1	1	1
ABISKO	ABK	9	9	9	9	9	9	9	9	9	9	9	9	9
ADAK	ADA	0	1	2	3	4	5	6	7	8	9	0	0	0
ADDIS ABABA	AAE	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789
AGINCOURT	AGN	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
ALERT	ALE	2	2	2	2	2	2	2	2	2	2	2	2	2
ALIBAG	ABG	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
ALMA ATA	AAA	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
ALMERIA	ALM	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
AMATSA	AMT	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
AMBERLEY	AML	2	2	2	2	2	2	2	2	2	2	2	2	2
ANCHORAGE	AMU	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
ANGRA HEROISMO	ANH	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
ANNAMALAINAGAR	ANN	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
ANTIPOLO	ANO	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
APIA	API	33333	33333	33333	33333	33333	33333	33333	33333	33333	33333	33333	33333	33333
ARGENTINE ISLAND	ATA	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
ARTI	ARS	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
ASHKHABAD	ASH	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
ASO	ASO	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
ATHENS	ATH	33333	33333	33333	33333	33333	33333	33333	33333	33333	33333	33333	33333	33333
AU TAU	AUT	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
AVERROES	AVE	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
BAKER LAKE	BLC	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
BALDWIN	BAL	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
BANGUI	BNG	33333	33333	33333	33333	33333	33333	33333	33333	33333	33333	33333	33333	33333
BARRACKPORE	BAC	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
BARROW	BRW	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
BARTER ISLAND	BTI	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
BARTH	BAH	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
BATAVIA	BTV	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
BEAR ISLAND	BJN	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
BEIJING	BJI	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
BELLOIT	BLT	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222
BELSK	BEL	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222	22222

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 \*=INCOMPLETE YEAR ?=UNKNOWN ELEMENTS

OBSERVATORY	CODE	Y	E	A	R	1	1	1	1	1	1	1	1	1	1	1	1	1
BEUTHEN	BEU	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
BEUTHEN MIKILOW	BMK	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
BIG DELTA	BDE	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
BINZA	BIN	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
BOCHUM	BOC	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
BOROK	BOX	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
BOULDER	BOU	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
BOUZAREAH	BZR	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
BRORFELDE	BFE	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
BUDAKESZI	BUZ	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
BUDKOV	BDV	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
BURLINGTON	BRT	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
BYRD STATION	BYR	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CAMBRIDGE BAY	CBB	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CANARIAS	TEN	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CANBERRA	CAN	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CAPE CHELYUSKIN	CCS	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CAPE HALLETT	HLL	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CAPE TOWN	CTO	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CAPE WELLEN	CWE	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CAPODIMONTE	CPD	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CARROLLTON	CAX	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CASEY	CSY	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CASPER	CSR	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CASTELLACCIO	CAO	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CASTLE ROCK	CRC	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CHA PA	CPA	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CHAMBON-LA-FORET	CLF	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CHANGCHUN	CNH	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CHARCOT	CTX	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CHELTENHAM	CLM	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CHICHIJIMA	CBI	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CHRISTCHURCH	CHR	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
CLAUSTHAL	CLZ	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0
COIMBRA	COI	0	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0

1=XHZ 2=DHZ 3=DJH 4=D1 5=DH 6=DZ 7=IHZ 8=IH 9=IZ 0=D ONLY  
 F=F ONLY H=H ONLY I=I ONLY Z=Z ONLY Q=HZ P=DIF R=DHF S=XYF T=DHX U=HZ  
 \*=INCOMPLETE YEAR ?=UNKNOWN ELEMENTS

OBSERVATORY	CODE	Y	1	9	0	1	9	0	1	9	0	1	9	0
COLLEGE	CNO	1	1	1	1	1	1	1	1	1	1	1	1	1
COSTA RICA	SNJ	9	9	9	9	9	9	9	9	9	9	9	9	9
CRACOW	CRA	0	1	2	3	4	5	6	7	8	9	0	0	0
CUAJIMALPA	CUA	0	1	2	3	4	5	6	7	8	9	0	0	0
DALLAS	DAL	0	1	2	3	4	5	6	7	8	9	0	0	0
DAVAO	DAV	0	1	2	3	4	5	6	7	8	9	0	0	0
DAVIS	DVS	0	1	2	3	4	5	6	7	8	9	0	0	0
DE BILT	DBN	0	1	2	3	4	5	6	7	8	9	0	0	0
DEHRA DUN	DDI	0	1	2	3	4	5	6	7	8	9	0	0	0
DEKELEIA	DEK	0	1	2	3	4	5	6	7	8	9	0	0	0
DIXON ISLAND	DIX	0	1	2	3	4	5	6	7	8	9	0	0	0
DOMBAS	DOB	0	1	2	3	4	5	6	7	8	9	0	0	0
DOURBES	DOU	0	1	2	3	4	5	6	7	8	9	0	0	0
DUMONT DURVILLE	DRV	0	1	2	3	4	5	6	7	8	9	0	0	0
EASTER ISLAND	EIC	0	1	2	3	4	5	6	7	8	9	0	0	0
EBRO	EBR	0	1	2	3	4	5	6	7	8	9	0	0	0
EIGHTS	EGS	0	1	2	3	4	5	6	7	8	9	0	0	0
EL ABIOD SIDI	EAS	0	1	2	3	4	5	6	7	8	9	0	0	0
ELIZABETHVILLE	ELI	0	1	2	3	4	5	6	7	8	9	0	0	0
ESKDALEMUIR	ESK	0	1	2	3	4	5	6	7	8	9	0	0	0
ESPANOLA	EPN	0	1	2	3	4	5	6	7	8	9	0	0	0
EUSEBIO	EUS	0	1	2	3	4	5	6	7	8	9	0	0	0
EYREWELL	EYR	0	1	2	3	4	5	6	7	8	9	0	0	0
FALMOUTH	FAL	0	1	2	3	4	5	6	7	8	9	0	0	0
FANNING	FAN	0	1	2	3	4	5	6	7	8	9	0	0	0
FLENSBURG	FLE	0	1	2	3	4	5	6	7	8	9	0	0	0
FORT CHURCHILL	FCC	0	1	2	3	4	5	6	7	8	9	0	0	0
FORT YUKON	FYU	0	1	2	3	4	5	6	7	8	9	0	0	0
FREDERICKSBURG	FRD	0	1	2	3	4	5	6	7	8	9	0	0	0
FUQUENE	FUQ	0	1	2	3	4	5	6	7	8	9	0	0	0
FURSTENFELDBRUCK	FUR	0	1	2	3	4	5	6	7	8	9	0	0	0
GIBILMANNA	GIB	0	1	2	3	4	5	6	7	8	9	0	0	0
GLENLEA	GLL	0	1	2	3	4	5	6	7	8	9	0	0	0
GNANGARA	GNA	0	1	2	3	4	5	6	7	8	9	0	0	0
GODHAVN	GDH	0	1	2	3	4	5	6	7	8	9	0	0	0

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OBSERVATORY	CODE	1	1	1	1	1	1	1	1	1	1	1	1
GONZALES VIDE LA	GVD	1	1	1	1	1	1	1	1	1	1	1	1
GREAT WHALE R.	GWC	9	9	9	9	9	9	9	9	9	9	9	9
GREENWICH	GRW	0	2	4	5	6	7	8	9	0	0	0	0
GROCKA	GCK	0	1	3	5	6	7	8	9	0	0	0	0
GUAM	GUA	0	1	2	4	5	6	7	8	9	0	0	0
GUANGZHOU	GZH	0	1	2	4	5	6	7	8	9	0	0	0
HALLEY BAY	HBA	0	1	2	4	5	6	7	8	9	0	0	0
HARTEBEESTHOEK	HBK	0	1	2	4	5	6	7	8	9	0	0	0
HARTLAND	HAD	0	1	2	4	5	6	7	8	9	0	0	0
HATIZYO	HTY	0	1	2	4	5	6	7	8	9	0	0	0
HAVANA	HVN	0	1	2	4	5	6	7	8	9	0	0	0
HEALY	HEA	0	1	2	4	5	6	7	8	9	0	0	0
HEARD ISLAND	HII	0	1	2	4	5	6	7	8	9	0	0	0
HEISS ISLAND	HIS	0	1	2	4	5	6	7	8	9	0	0	0
HEL	HLP	0	1	2	4	5	6	7	8	9	0	0	0
HELWAN	HLW	0	1	2	4	5	6	7	8	9	0	0	0
HERMANUS	HER	0	1	2	4	5	6	7	8	9	0	0	0
HERMSDORF	HDF	0	1	2	4	5	6	7	8	9	0	0	0
HOLLANDIA	HMA	0	1	2	4	5	6	7	8	9	0	0	0
HONG KONG	HKC	0	1	2	4	5	6	7	8	9	0	0	0
HONOLULU	HON	0	1	2	4	5	6	7	8	9	0	0	0
HUANCAYO	HUA	0	1	2	4	5	6	7	8	9	0	0	0
HURBANOVO	HRB	0	1	2	4	5	6	7	8	9	0	0	0
HYDERABAD	HYB	0	1	2	4	5	6	7	8	9	0	0	0
IBADAN	IBD	0	1	2	4	5	6	7	8	9	0	0	0
IRKUTSK	IRT	0	1	2	4	5	6	7	8	9	0	0	0
ISTAMBUL-KANDILL	ISK	0	1	2	4	5	6	7	8	9	0	0	0
JAI	JAI	0	1	2	4	5	6	7	8	9	0	0	0
JAIPUR	JAI	0	1	2	4	5	6	7	8	9	0	0	0
JALUIT	JAL	0	1	2	4	5	6	7	8	9	0	0	0
JARVIS ISLAND	JRV	0	1	2	4	5	6	7	8	9	0	0	0
JASSY	JSS	0	1	2	4	5	6	7	8	9	0	0	0
JULIANEHAAB	JUL	0	1	2	4	5	6	7	8	9	0	0	0
JULIANEHAAB II	JUL	0	1	2	4	5	6	7	8	9	0	0	0
KAKIOKA	KAK	0	1	2	4	5	6	7	8	9	0	0	0
KANOYA	KNY	0	1	2	4	5	6	7	8	9	0	0	0

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OBSERVATORY	CODE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KAMOZAN	KNZ	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KARAGANDA	KGD	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KARAVIA	KVA	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KARSANI	KAS	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KATUURA	KAT	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KAZAN	KZN	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KELES	KEL	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KEW	KEW	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KIEV	KIV	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KIRUNA	KIR	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KODAIKAMAL	KOD	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KOROR	KOR	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KOTZEBUJ	KOT	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KREMSMUNSTER	KRE	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KSARA	KSA	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KUTCHINO	KTC	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
KUYPER	KUY	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
L AQUILA	AQU	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LA PAZ	LPB	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LA QUIACA	LQA	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LANZHOU	LZH	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LAS ACACIAS	LAS	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LAUDER	LAU	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LAZAREV	LZV	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LEADVILLE	LDV	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LEIRVOGUR	LRV	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LENINGRAD	LNN	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LERWICK	LER	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LHASA	LHA	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LISBON	LIS	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LITTLE AMERICA	LAA	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LITTLE AMERICA I	LAA	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LITTLE AMERICA V	LAA	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LOGRONO	LGR	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LOVO	LOV	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

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OBSERVATORY	CODE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MUNICH	MNH	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MUNTINLUPA	MUT	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
MURMANSK	MMK	0	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0	0
NAGYCEMK	NCK	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789
NAIROBI	NAI	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
NANTES	NTS	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
NARSSARSSUAQ	NAQ	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333
NEW YEARS ISLAND	NYI	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
NEWPORT	NEW	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
NIEMEGK	NGK	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
NITSANIM	NCK	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
NIZHNEDEVITSK	MNV	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
NORTHWAY	NRW	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
NORWAY STATION	NWS	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
NOVOKAZALINSK	NKK	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
NOVOLAZAREVSKAYA	NVL	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
NOVOSIBIRSK	NVS	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
NURMIJARVI	NUR	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
O GYALLA	OGY	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
OASIS	OAS	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
ODESSA	ODE	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
ORCADAS DEL SUR	ORC	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
OSLO	OSL	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
OTOMARI	OTM	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
OTTAWA	OTT	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
P. TUNGUSKA	POD	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
PALAU	PLA	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
PAMATAI	PPT	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
PAMAGYURISHTE	PAG	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
PARAMARIBO	PAB	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
PARC ST. MAUR	PSM	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
PATRICK	PAT	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
PENANG	PNN	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
PENDELI	PEG	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222
PERPIGNAN	PER	22000	5	2	2	22*	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222	2222222222

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OBSERVATORY	CODE	Y	1	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PETROPAVLOVSK	PET	1	1	9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
PILAR	PIL	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
PIONERSKAYA	PIO	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
PLAISANCE	PLS	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
PLATEAU	PTU	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
POLA	POL	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
PORT ALFRED	CZT	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
PORT MORESBY	PMG	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
PORT-AUX-FRANCAI	KGL	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
POTSDAM	POT	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
PRICE	PCU	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
PRUHNICE	PRU	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
QUETTA	QUE	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
REGENSBURG	REG	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
RESOLUTE BAY	RES	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
RIO DE JANEIRO	RDJ	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
ROBURENT	ROB	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
ROI BAUDOIN	RBD	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
RUDE SKOV	RSV	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SABHAWALA	SAB	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SAN FERNANDO	SFS	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SAN JOSE	SJL	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SAN JUAN	SJG	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SAMAE	SMA	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SANTIAGO	SNT	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SAO JOSE CAMPOS	SJB	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SAO MIGUEL	SMG	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SCOTT BASE	SBA	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SEDDIN	SED	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SHESHAN	SSH	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SHILLONG	SHL	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SIMFEROPOL	SIM	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SIMOSATO	SOS	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SITKA	SIT	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0
SLUTZK	SLU	0	1	1	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0

1=XHZ 2=DHZ 3=DIH 4=DI 5=DH 6=DZ 7=IHZ 8=IH 9=IZ D=D ONLY  
 F=F ONLY H=H ONLY I=I ONLY Z=Z ONLY Q=HZ P=DIF R=DHF S=XYF T=DHX U=HZ  
 \*=INCOMPLETE YEAR ?=UNKNOWN ELEMENTS

Y E A R 1 9 0 1 9 1 1 9 2 1 9 3 1 9 4 1 9 5 1 9 6 1 9 7 1 9 8 1 9 9 0

OBSERVATORY	CODE	1	2	3	4	5	6	7	8	9	0
SODANKYLA	SOD	1	1	1	1	1	1	1	1	1	1
SOUTH GEORGIA	SGE	9	9	9	9	9	9	9	9	9	9
SOUTH POLE	SPA	0	1	2	3	4	5	6	7	8	9
SREDNIKAN	SRE	0	1	2	3	4	5	6	7	8	9
ST HELIER	STH	0	1	2	3	4	5	6	7	8	9
ST JOHNS	STJ	0	1	2	3	4	5	6	7	8	9
STARA DALA	STA	0	1	2	3	4	5	6	7	8	9
STONYHURST	STO	0	1	2	3	4	5	6	7	8	9
SURLARI	SUA	0	1	2	3	4	5	6	7	8	9
SVERDLOVSK	SVD	0	1	2	3	4	5	6	7	8	9
SWIDER	SWI	0	1	2	3	4	5	6	7	8	9
SYOWA STATION	SYO	0	1	2	3	4	5	6	7	8	9
TACUBAYA	TAC	0	1	2	3	4	5	6	7	8	9
TAHITI	TAH	0	1	2	3	4	5	6	7	8	9
TAIPEI	TAP	0	1	2	3	4	5	6	7	8	9
TAMARASSET	TAM	0	1	2	3	4	5	6	7	8	9
TANARARIVE	TAN	0	1	2	3	4	5	6	7	8	9
TANGERANG	TNG	0	1	2	3	4	5	6	7	8	9
TASHKENT	TKT	0	1	2	3	4	5	6	7	8	9
TATUOCA	TTB	0	1	2	3	4	5	6	7	8	9
TBLISI	TFS	0	1	2	3	4	5	6	7	8	9
TEHRAN	TEH	0	1	2	3	4	5	6	7	8	9
TEOLOYUCAN	TEO	0	1	2	3	4	5	6	7	8	9
THULE	THL	0	1	2	3	4	5	6	7	8	9
THIANY	THY	0	1	2	3	4	5	6	7	8	9
TIKHAYA BAY	TKH	0	1	2	3	4	5	6	7	8	9
TIXIE BAY	TIK	0	1	2	3	4	5	6	7	8	9
TOKYO	TOK	0	1	2	3	4	5	6	7	8	9
TOLEDO	SPT	0	1	2	3	4	5	6	7	8	9
TOMSK	TMK	0	1	2	3	4	5	6	7	8	9
TOOLANGI	T00	0	1	2	3	4	5	6	7	8	9
TOULOUSE	TLS	0	1	2	3	4	5	6	7	8	9
TOUNG00	TGO	0	1	2	3	4	5	6	7	8	9
TOYOHARA	TOH	0	1	2	3	4	5	6	7	8	9
TRLEW	TRW	0	1	2	3	4	5	6	7	8	9

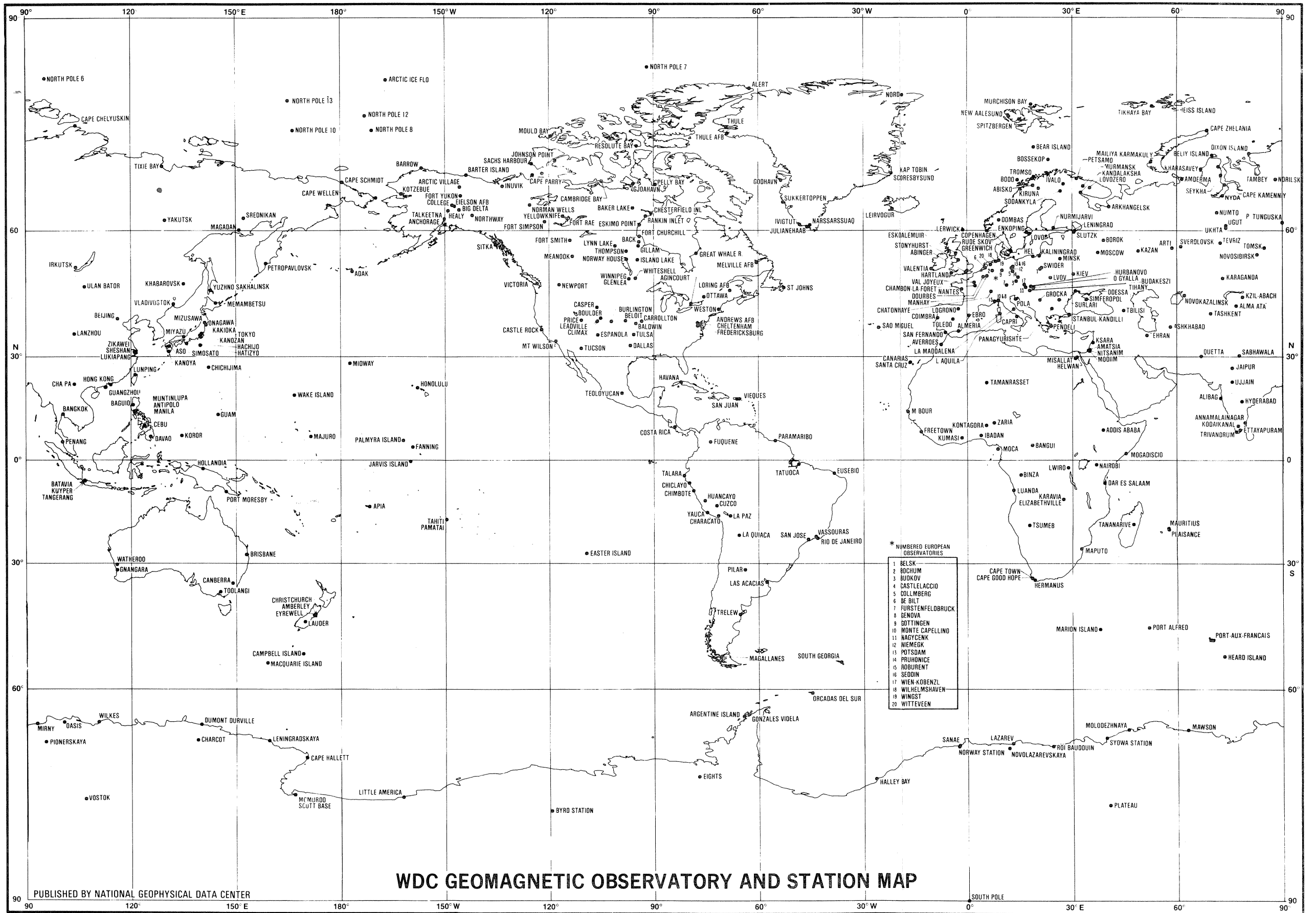
1=XHZ 2=DHZ 3=DIH 4=DI 5=DH 6=DZ 7=IHZ 8=IH 9=IZ D=0 ONLY  
 F=F ONLY H=H ONLY I=I ONLY Z=Z ONLY Q=HZ P=DIF R=DHF S=XVF T=DHX U=HZ  
 \*=INCOMPLETE YEAR ?=UNKNOWN ELEMENTS

OBSERVATORY	CODE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
TRIVANDRUM	TRD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
TROMSO	TRO	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	
TSINGTAO	TSI	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	
TSUMEB	TSU	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	
TUCSON	TUC	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	0123456789	
TULSA	TUL																			
TUNTUNGAN	TUN																			
UCCLE	UCC	3333333333	3333333333	4440000005	00000	0	00	DD											2	
UJJAIN	UJJ																		2 22	
ULAN BATOR	UBA																		2222 22222222	
URUMQI	URM																		2222	
VAL JOYEUX	VLJ	2223333333	3333333222	2222222222	22222222														2222	
VALENTIA	VAL	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	3333333333	2222222222	
VASSOURAS	VSS																			2222
VICTORIA	VIC																			2222
VIEQUES	VQS																			1111
VLADIVOSTOK	VLA	322222	2222222222	2222																*
VOSTOK	VOS																			111
VYKHODNOY	VYK																			*
WATHEROO	WAT																			111
WHITESHELL	WHS																			*
WIEN-KOBENZL	WIK																			111
WILHELMSHAVEN	WLH																			*
WILKES	WIL																			111
WINGST	WNG																			*
WITTEVEEN	WIT																			111
WUHAN	WHN																			*
WUSTROW	WUS																			111
YAKUTSK	YAK																			*
YANOV	YNO																			111
YELLOWKNIFE	YKC																			*
YUZHNO SAKHALINS	YSS																			111
ZIKAWEI	ZKW																			*
ZINSEN	ZIN																			111

1=XHZ 2=DHZ 3=DIH 4=DI 5=DH 6=DZ 7=IHZ 8=IH 9=IZ D=D ONLY  
 F=F ONLY H=H ONLY I=I ONLY Z=Z ONLY Q=HZ P=DIF R=DHF S=XYF T=DHX U=HZ  
 \*=INCOMPLETE YEAR ?=UNKNOWN ELEMENTS

### SECTION III

The map of geomagnetic observatories and stations producing data held at the WDC's is reproduced here from UAG-86. It does not include sites from which only annual means are available. We caution against scaling site coordinates from the map or adding sites unless allowance is made for the logarithmic scale of changing latitude used in this projection.

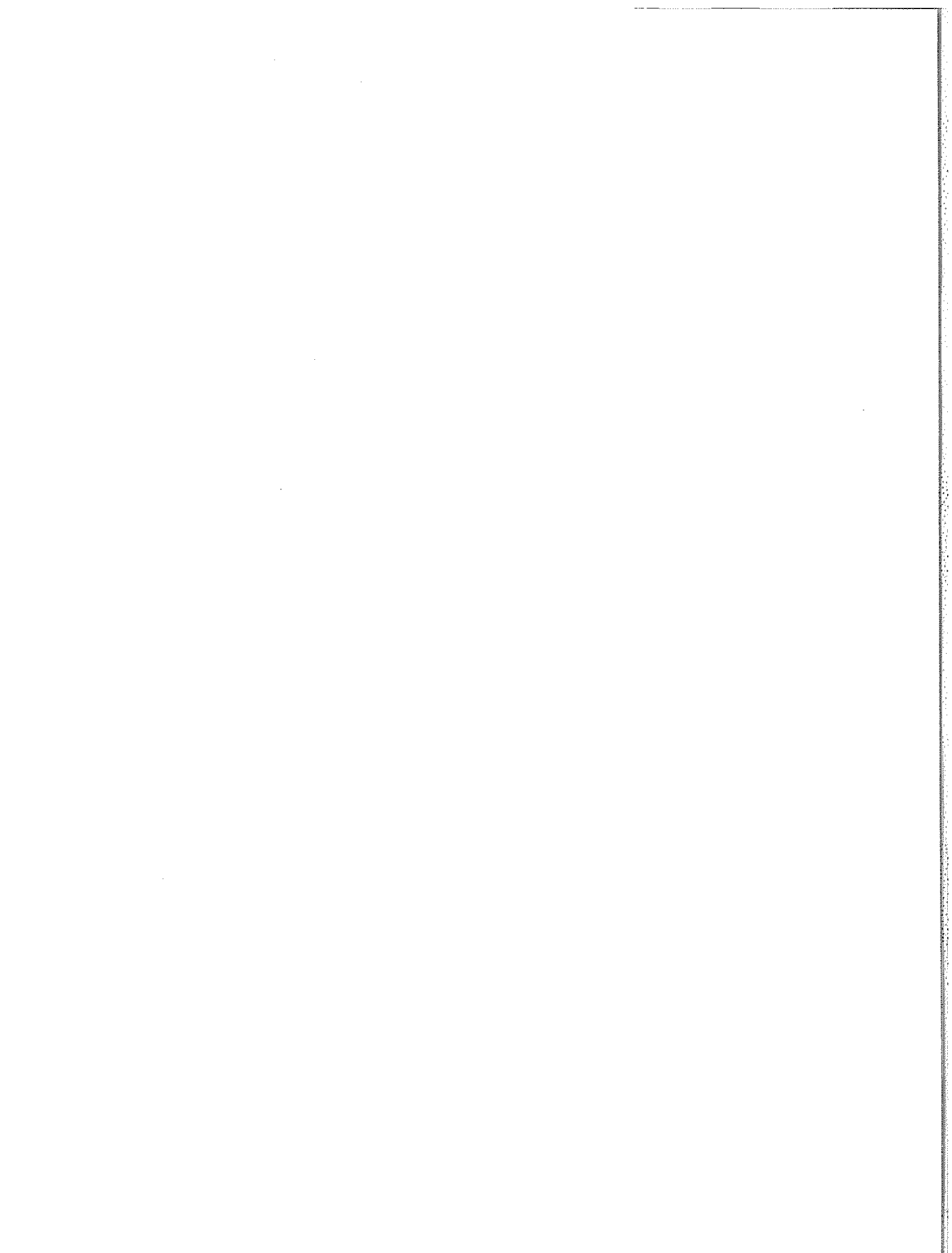


PUBLISHED BY NATIONAL GEOPHYSICAL DATA CENTER

**WDC GEOMAGNETIC OBSERVATORY AND STATION MAP**

NOVEMBER 1982

MILLER'S MODIFIED MERCATOR PROJECTION





SECTION IV

CATALOG OF GEOMAGNETIC DATA HELD AT WDC-A, B2, C1's, OR C2's

Table 8a summarizes the observatory names and codes listed in Table 8b. This table is sequenced by observatory codes.

Table 8b contains the observatory names, international 3-letter codes, and geographic coordinates are consistent with those published in "IAGA News", December 1979. The coordinates are latitude and east longitude. Components measured at each observatory are either Declination (D), Horizontal (H), and Vertical (Z) or Geographic North (X), Geographic East (Y), and Vertical (Z). If local K indices were available for some months of the year, this is indicated by the letter "K". Availability of annual mean values are indicated by the letter "A" and Q indices by the letter "Q". For each type of geomagnetic data, there is shown a symbol indicating which World Data Center holds the data: A = WDC-A for STP(Boulder), B = WDC-B2 (Moscow), C = WDC-C2 for Geomagnetism (Kyoto), D = WDC-C1 (Copenhagen), E = WDC-C1 (Edinburgh), and I = WDC (Bombay). The catalog does not contain sufficient detail to indicate when data are held for some months of a year by one WDC and for other months of the same year by another WDC.

Normal and rapid run magnetograms are usually archived on 35-mm microfilm but original magnetograms may also be retained in the archive. Hourly values "any medium" may include any or all of the formats in which hourly values are available, e.g. tables on microfilm, tables on paper, published in yearbooks and on magnetic tape. Hourly values "on tape" means specifically that the values exist in computer format on digital magnetic tape. High-resolution digital values (2.5-min or 1.0-min) are digital data either produced by digitizing analog magnetograms or originally recorded using digital magnetometer systems. The 1-minute data are indicated by an asterisk (\*).

Table 8b reflects the data holdings in the World Data Centers B and C's as of January 1, 1985 and WDC-A as of April 1, 1985.

TABLE 8a                                 SUMMARY OF OBSERVATORY NAMES AND CODES LISTED IN TABLE 8b  
(SORTED BY OBSERVATORY CODE)

CODE/NAME	CODE/NAME	CODE/NAME	CODE/NAME	CODE/NAME
AAA=ALMA ATA	ARC=ARCTOWSKI	BKK=BANGKOK	CBB=CAMBRIDGE BAY	CPS=CAPE SCHMIDT
AAE=ADDIS ABABA	ARE=CHARACATO	BLC=BAKER LAKE	CBI=CHICHIJIMA	CPY=CAPE PARRY
ABG=ALIBAG	ARK=ARKHANGELSK	BLT=BELOIT	CCL=CHICLAYO	CRC=CASTLE ROCK
ABK=ABISKO	ARS=ARTI	BNG=BANGUI	CCP=CEBU	CRP=CHIRIPA
ABN=ABINGER	ASH=ASHKHABAD	BOC=BOCHUM	CCS=CAPE CHELYUSKIN	CSR=CASPER
ADA=ADAK	ASO=ASO	BOD=BODO	CFI=CHESTERFIELD INL	CTE=CHATONNAYE
AGN=AGINCOURT	AVE=AVERROES	BOP=BOSSEKOP	CGH=CAPE GOOD HOPE	CTO=CAPE TOWN
AIA=ARGENTINE ISLAND	AVI=ARCTIC VILLAGE	BOU=BOULDER	CHR=CHRISTCHURCH	CTX=CHARCOT
AIF=ARCTIC ICE FLO	AWS=ANDREWS AFB	BOX=BOROK	CKA=CAPE KAMENNIY	CUS=CUZCO
ALE=ALERT	BAG=BAGUIO	BRS=BRISBANE	CLF=CHAMBON-LA-FORET	CWE=CAPE WELLEN
ALM=ALMERIA	BAL=BALDWIN	BRT=BURLINGTON	CLH=CHELTENHAM	CZA=CAPE ZHELANIA
AMD=AMDERMA	BDE=BIG DELTA	BRW=BARROW	CLI=CLIMAX	CZT=PORT ALFRED
AML=AMBERLEY	BDV=BUDKOV	BTI=BARTER ISLAND	CLL=COLLMBERG	DAL=DALLAS
AMS=MARTIN DE VIVIES	BEL=BELSK	BTV=BATAVIA	CMB=CHIMBOTE	DAV=DAVAO
AMT=AMATSIA	BEY=BELIY ISLAND	BUZ=BUDAKESZI	CMO=COLLEGE	DBN=DE BILT
AMU=ANCHORAGE	BFE=BRORFELDE	BYR=BYRD STATION	CNH=CHANGCHUN	DIK=DIXON ISLAND
ANN=ANNAMALAINAGAR	BIN=BINZA	CAI=CAMPBELL ISLAND	COI=COIMBRA	DLR=DEL RIO
ANO=ANTIPOLO	BJI=BEIJING	CAN=CANBERRA	COP=COPENHAGEN	DOB=DOMBAS
API=APIA	BJN=BEAR ISLAND	CAO=CASTELLACCIO	CPA=CHA PA	DOU=DOURBES
AQU=L AQUILA	BKC=BACK	CAX=CARROLLTON	CPI=CAPRI	DRS=DAR ES SALAAM

(Table 8a continued)

CODE/NAME	CODE/NAME	CODE/NAME	CODE/NAME	CODE/NAME
DRV=DUMONT DURVILLE	IVA=IVALO	MCQ=MACQUARIE ISLAND	PAI=PALMYRA ISLAND	TEV=TEVRIZ
EBR=EBRO	IVI=IVIGTUT	MDY=MIDWAY	PCU=PRICE	TFS=TBILISI
EGS=EIGHTS	JAI=JAIPUR	MEA=MEANOOK	PEB=PELLY BAY	THL=THULE
EIC=EASTER ISLAND	JOP=JOHNSON POINT	MEV=MELVILLE AFB	PEG=PENDELI	THU=THULE AFB
EKP=ESKIMO POINT	JRV=JARVIS ISLAND	MFP=MOCA	PET=PETROPAVLOVSK	THY=TIHANY
ELI=ELIZABETHVILLE	JUL=JULIANEHAAB	MGD=MAGADAN	PIL=PILAR	TIK=TIKIE BAY
ENB=EIELSON AFB	KAK=KAKIOKA	MGS=MAGALLANES	PIO=PIONERSKAYA	TKH=TIKHAYA BAY
ENK=ENKOPING	KGD=KARAGANDA	MIR=MIRNY	PLS=PLAISANCE	TKT=TASHKENT
EPN=ESPANOLA	KGL=PORT-AUX-FRANCAI	MIZ=MIZUSAWA	PMG=PORT MORESBY	TLK=TALKEETNA
ESK=ESKDALEMUJR	KHB=KHIABAROVSK	MJR=MAJURO	PNN=PENANG	TMB=TAMBEY
ETT=ETTAYAPURAM	KHS=KHARASAVEY	MKL=MALIYE KARMAKULY	POD=P. TUNGUSKA	TMK=TOMSK
EUS=EUSEBIO	KIR=KIRUNA	MLT=MISALLAT	POL=POLA	TMP=THOMPSON
EYR=EYREWELL	KIV=KIEV	MMB=MEMAMBETSU	POT=POTSDAM	TNG=TANGERANG
FAN=FANNING	KND=KANDALAKSHA	MMK=MURMANSK	PPT=PAMATAI	TOK=TOKYO
FCC=FORT CHURCHILL	KNG=KALININGRAD	MNK=MINSK	PRU=PRUHONICE	TOL=TOLEDO
FRA=FORT RAE	KNT=KONTAGORA	MOD=MODIIM	PTS=PETSAMO	TOO=TOLEANGI
FRD=FREDERICKSBURG	KNY=KANOYA	MOG=MOGADISCIO	PTU=PLATEAU	TRD=TRIVANDRUM
FSM=FORT SMITH	KNZ=KANOZAN	MOL=MOLODEZHNYA	QUE=QUETTA	TRO=TROMSO
FSP=FORT SIMPSON	KOD=KODAIKANAL	MOS=MOSCOW	RBD=ROI BAUDOUIN	TRW=TRELEW
FTN=FREETOWN	KOR=KOROR	MRI=MAURITIUS	RDJ=RIO DE JANEIRO	TSU=TSUMEB
FUQ=FUQUENE	KOT=KOTZEBUE	MRN=MARION ISLAND	RES=RESOLUTE BAY	TTB=TATUOCA
FUR=FURSTENFELDBRUCK	KSA=KSARA	MUB=MURCHISON BAY	RIT=RANKIN INLET	TUC=TUCSON
FYU=FORT YUKON	KTG=KAP TOBIN	MUT=MUNTINLUPA	ROB=ROBURENT	TUL=TULSA
GCK=GROCKA	KUM=KUMASI	MWC=MT WILSON	RSV=RUDE SKOV	UBA=ULAN BATOR
GDH=GODHAVN	KUY=KUYPER	NAI=NAIROBI	SAB=SABHAWALA	UGT=UGUT
GEN=GENOVA	KVA=KARAVIA	NAL=NEW AALESUND	SAH=SACHS HARBOUR	UJJ=UJJAIN
GIM=GILLAM	KZA=KZIL-AGACH	NAQ=NARSSARSSUAQ	SBA=SCOTT BASE	UKH=UKHTA
GJO=GJOAHAVN	KZN=KAZAN	NCK=NAGYCEK	SCO=SCORESBYSUND	VAL=VALENTIA
GLL=GLENLEA	LAA=LITTLE AMERICA	NDA=NYDA	SED=SEDDIN	VIC=VICTORIA
GNA=GNANGARA	LAS=LAS ACACIAS	NEW=NEWPORT	SEO=SEOUL	VLA=VLADIVOSTOK
GRM=GRAHAMSTOWN	LAU=LAUDER	NGK=NIEMEGK	SEY=SEYKHA	VLJ=VAL JOYEUX
GRW=GREENWICH	LDV=LEADVILLE	NHO=NORWAY HOUSE	SFS=SAN FERNANDO	VOS=VOSTOK
GTT=GOTTINGEN	LEN=LENINGRADSKAYA	NKK=NOVOKAZALINSK	SGE=SOUTH GEORGIA	VQS=VIEQUES
GUA=GUAM	LER=LERWICK	NMP=NAMPULA	SIM=SIMFEROPOL	VSS=VAUSSARAS
GVD=GONZALES VIDELA	LGR=LOGRONO	NMT=NUMTO	SIT=SITKA	WAT=WATHEROO
GWC=GREAT WHALE R.	LKP=LUKUPIANG	NOK=NORILSK	SJG=SAN JUAN	WES=WESTON
GZH=GUANGZHOU	LMD=LA MADDALENA	NOR=NORUSUND	SKT=SUKKERTOPPEN	WHN=WUHAN
HAD=HARTLAND	LMM=MAPUTO	NOW=NORMAN WELLS	SLU=SLUTZK	WHS=WHITESHELL
HBA=HALLEY BAY	LNN=LENINGRAD	NPF=NORTH POLE 6	SMG=SAO MIGUEL	WIK=WIEN-KOBENZL
HBK=HARTEBEESTHOEK	LNP=LUNPING	NPG=NORTH POLE 7	SNA=SANAE	WIL=WILKES
HEA=HEALY	LOB=LORING AFB	NPH=NORTH POLE 8	SNJ=COSTA RICA	WIT=WITTEVEEN
HER=HERMANUS	LOV=LOVO	NPJ=NORTH POLE 10	SOD=SODANKYLA	WKE=WAKE ISLAND
HII=HEARD ISLAND	LOZ=LOVOZERO	NPL=NORTH POLE 12	SPA=SOUTH POLE	WLH=WILHELMSHAVEN
HIS=HEISS ISLAND	LPB=LA PAZ	NPM=NORTH POLE 13	SPB=SPITZBERGEN	WMQ=URUMQI
HKC=HONG KONG	LQA=LA QUIACA	NRD=NORD	SRE=SREDNIKAN	WNG=WINGST
HLL=CAPE HALLETT	LRV=LEIRVOGUR	NRW=NORTHWAY	SSH=SHESHAN	WNP=WINNIPEG
HLP=HEL	LUA=LUANDA	NSM=NITSANIM	SSO=SIMOSATO	YAK=YAKUTSK
HLW=HELWAN	LVV=LVOV	NTS=NANTES	STJ=ST JOHNS	YAU=YAUCA
HNA=HOLLANDIA	LWI=LWIRO	NUR=NURMIJARVI	STO=STONYHURST	YKC=YELLOWKNIFE
HON=HONOLULU	LYN=LYNN LAKE	NVL=NOVOLAZAREVSKAYA	SUA=SURLARI	YSS=YUZHNO SAKHALIN
HRB=HURBANOVO	LYS=LYCKSELE	NVS=NOVOSIBIRSK	SVD=SVERDLOVSK	ZAR=ZARIA
HTY=HATIZYO	LZH=LANZHOU	NWS=NORWAY STATION	SWI=SWIDER	ZKW=ZIKAWEI
HUA=HUANCAYO	LZV=LAZAREV	OAS=OASIS	SYO=SYOWA STATION	
HVN=HAVANA	MAB=MANHAY	ODE=ODESSA	TAH=TAHITI	
HYB=HYDERABAD	MAN=MANILA	OGY=O GYALLA	TAL=TALARA	
IBD=IBADAN	MAW=MAWSON	ONW=ONAGAWA	TAM=TAMANRASSET	
INK=INUVIK	MBC=MOULD BAY	ORC=ORCADAS DEL SUR	TAN=TANANARIVE	
IRT=IRKUTSK	MBO=M BOUR	OTT=OTTAWA	TEH=TEHRAN	
ISK=ISTANBUL-KANDILL	MCM=MCMURDO	PAB=PARAMARIBO	TEN=CANARIAS	
ISL=ISLAND LAKE	MCP=MONTE CAPELLINO	PAG=PANAGYURISHTE	TEO=TEOLOYUCAN	

TABLE 8b

CATALOG LISTING OF ANALOG--DIGITAL GEOMAGNETIC DATA

WORLD DATA CENTER A=BOULDER B=MOSCOW C=KYOTO D=COPENHAGEN E=EDINBURGH I=BOMBAY

OBSERVATORY	YEAR COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE							
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE(*)						
ABINGER ABN (051.19 359.61)	D 1925	A	JFMAMJ	SO	I	FMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND			
	D 1926	A	J	MAM JA O D	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND		
	D 1927	A	M M	J SO	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND		
	D 1928	A	FM	JA ON	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND		
	D 1929	A	FM MJ	J SOND	A	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND		
	D 1930	A	F	J J O	A	C	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	
	D 1931	A	J M M	A O	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	
	D 1932	A	AM	AS	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	
	D 1933	A	F	J S D	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	
	D 1934	A	J	MAMJ J SO	A	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND		
	D 1935	A	A J	ON	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	
	D 1936	A	FMAM	ASO	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	
	D 1937	A	FMAM	JA O	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	
	D 1938	A	J	MAMJ J SON	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	
	D 1939	A	M J	JASO D	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	
	D 1940	KA	A	FMA	ON	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1941	KA	A	J	MAM ASOND	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1942	KA	A	FMA	ON	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1943	KA	A	J	MAM ASOND	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1944	KA	A	FMA	ON	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1945	KA	A	J	M O D	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1946	KA	A	FMAMJ	J S ND	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1947	KA	A	MAM	AS ND	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1948	KA	A	M	A O	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1949	KA	A	J	M SOND	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1950	KA	A	JFM	J ASOND	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1951	KA	A	FMA	J SO	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1952	KA	A	JFMAMJ	JASOND	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1953	KA	A	JFMAMJ	JASOND	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1954	KA	A	JFMAMJ	JASOND	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1955	KA	A	JFMAMJ	JASOND	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1956	KA	A	JFMAMJ	JASOND	A	A	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND
	D 1957	KA	A	JFMAMJ	JASOND	A	A	C	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ
					ABC													
ABISKO ABK (068.36 18.82)	D 1967	A	AM		A	DE	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND		
	D 1968	A	BCD		A	DE	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND		
	D 1969	A	ABCD		A	DE	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND	AB	EI	JFMAMJ	JASOND		
	D 1970	A	ABCD		A	DE	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND		
	D 1971	A	ABCD		A	DE	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND		
	D 1972	A	ABCD		A	DE	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND		
	D 1973	A	ABCD		AB	DE	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND		
	D 1974	A	ABCD		A	DE	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND		
	D 1975	A	ABCD		A	DE	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND		
	D 1976	A	ABCD		A	DE	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND		
	D 1977	A	ABCD		A	DE	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND		
	D 1978	A	ABCD		A	DE	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND		
D 1979	A	ABCD		A	DE	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND			
D 1980	A	ABCD		A	DE	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND			
D 1981	A	ABCD		A	DE	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND			
D 1982	A	ABCD		A	DE	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND	AB	E	JFMAMJ	JASOND			

OBSERVATORY	YEAR	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN WDC MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES		2.5-MINUTE		
						ANY	MEDIUM	ON TAPE	WDC	1.0-MINUTE	WDC	
ABISKO ABK (068.36 18.82)	D 1983	A	ABCD	JFMAMJ JASOND								
	D 1984		ABCD	JFMAMJ JAS								
ADAK ADA (051.87 183.36)	D 1964	A	ABCD	JASOND								
	D 1965	A	ABCD	JFMAMJ JASOND								
	D 1966	A	AB	J								
ADDIS ABABA AAE (009.03 38.77)	D 1958	KA	ABCD	JFMAMJ JASOND			ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1959	KA	ABCD	JFMAMJ JASOND			ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1960	KA	ABCD	JFMAMJ JASOND			ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1961	KA	ABCD	JFMAMJ JASOND			A EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1962	A	ABCD	JFMAMJ JASOND			A EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1963	A	ABCD	JFMAMJ JASOND			A EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1964	A	ABCD	JFMAMJ JASOND			ABCDE	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1965	A	ABCD	JFMAMJ JASOND			A E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1966	A	A	JFMAMJ JASOND			A E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1967	A	A	JFMAMJ JASOND			A E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1968	A	A	JFMAMJ JASOND			AB E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1969	A	ABCD	JFMAMJ JASOND			AB E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1970	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND	AB		JFMAMJ JASOND	
	D 1971	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND	AB		JFMAMJ JASOND	
	D 1972	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB		JFMAMJ JASOND	
	D 1973	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB		JFMAMJ JASOND	
	D 1974	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB		JFMAMJ JASOND	
	D 1975	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB		JFMAMJ JASOND	
	D 1976	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB		JFMAMJ JASOND	
	D 1977	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB		JFMAMJ JASOND	
	D 1978	A	A	JF OND			A	JFMAMJ JASOND	AB		JFMAMJ JASOND	
	D 1979	A	A	JFMA OND			A	JFMAMJ JASOND	AB		JFMAMJ JASOND	
	D 1980	A	A	JFMAMJ J SOND			A	JFMAMJ JASOND	AB		JFMAMJ JASOND	
	AGINCOURT AGN (043.78 280.73)	D 1908	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND			
		D 1909	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND			
		D 1910	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND			
		D 1911	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND			
		D 1912	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND			
D 1913		A	A	JFMAMJ JASOND			A	JFMAMJ JASOND				
D 1914		A	A	JFMAMJ JASOND			A	JFMAMJ JASOND				
D 1915		A	A	JFMAMJ JASOND			A	JFMAMJ JASOND				
D 1916		A	A	JFMAMJ JASOND			A	JFMAMJ JASOND				
D 1917		A	A	MJ J			A	JFMAMJ JASOND				
D 1918		A	A	JFMAMJ JASOND			A	JFMAMJ JASOND				
D 1919		A	A	JFMAMJ JASOND			A	JFMAMJ JASOND				
D 1920		A	A	JFMAMJ JASOND			A	JFMAMJ JASOND				
D 1921		A	A	JFMAMJ JASOND			A	JFMAMJ JASOND				
D 1922		A	A	JFMAMJ JASOND			A	JFMAMJ JASOND				
D 1923		A	A	JFMAMJ JASOND			A	JFMAMJ JASOND				
D 1924	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND					
D 1925	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND					
D 1926	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND					
D 1927	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND					
D 1928	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND					

OBSERVATORY	YEAR	KAQ	COMP	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	ON TAPE	WDC	WDC	1.0-MINUTE(*)	
AGINGCOURT AGN (043.78 280.73)	D 1929	A	A	JFMAMJ JASOND				I	JFMAMJ JASOND				
	D 1930	A	A	JFMAMJ JASOND				I	JFMAMJ JASOND				
	D 1931	A	A	JFMAMJ JASOND				A	JFMAMJ JASOND				
	D 1932	A	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1933	A	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1934	A	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1935	A	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1936	A	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1937	A	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1938	A	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1939	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1940	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1941	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1942	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1943	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1944	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1945	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1946	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1947	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1948	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
D 1949	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND					
D 1950	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND					
D 1951	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND					
D 1952	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND					
D 1953	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND					
D 1954	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND					
D 1955	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND					
D 1956	KA	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND					
D 1957	KA	ABCD	ABCD	JFMAMJ JASOND				ABCD	JFMAMJ JASOND				
D 1958	KA	ABCD	ABCD	JFMAMJ JASOND				ABCD	JFMAMJ JASOND				
D 1959	KA	ABCD	ABCD	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
D 1960	KA	ABCD	ABCD	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
D 1961	KA	ABCD	ABCD	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
D 1962	KA	ABCD	ABCD	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
D 1963	KA	ABCD	ABCD	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
D 1964	KA	ABCD	ABCD	JFMAMJ JASOND				ABCDEI	JFMAMJ JASOND				
D 1965	KA	ABCD	ABCD	JFMAMJ JASOND				ABCDEI	JFMAMJ JASOND				
D 1966	KA	ABCD	ABCD	JFMAMJ JASOND				ABCDEI	JFMAMJ JASOND				
D 1967	KA	ABCD	ABCD	JFMAMJ JASOND				ABCDEI	JFMAMJ JASOND				
D 1968	KA	ABCD	ABCD	JFMAMJ JASOND				ABCDEI	JFMAMJ JASOND				
D 1969	KA	ABCD	ABCD	JFMAMJ JASOND				ABCDEI	JFMAMJ JASOND				
X 1961	A	ABCD	ABCD	JFMAMJ JASOND				ABCD	JFMAMJ JASOND				
X 1962	A	AB	AB	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
X 1963	A	ABCD	ABCD	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
X 1964	A	ABCD	ABCD	JFMAMJ JASOND				ABCDEI	JFMAMJ JASOND				
X 1965	A	ABCD	ABCD	JFMAMJ JASOND				ABCDEI	JFMAMJ JASOND				
X 1966	A	ABCD	ABCD	JFMAMJ JASOND				ABCDEI	JFMAMJ JASOND				
X 1967	A	ABCD	ABCD	JFMAMJ JASOND				ABCDEI	JFMAMJ JASOND				
X 1968	A	ABCD	ABCD	JFMAMJ JASOND				ABCDEI	JFMAMJ JASOND				
X 1969	A	ABCD	ABCD	JFMAMJ JASOND				ABCDEI	JFMAMJ JASOND				
X 1970	A	ABCD	ABCD	JFMAMJ JASOND				ABCDE	JFMAMJ JASOND				

ALERT  
ALE  
(082.50 297.50)

OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES		WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)		
							ANY	MEDIUM				ON	TAPE	A
ALERT ALE (082.50 297.50)	X 1971	A	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND							
	X 1972	A	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND							
	X 1973	A	ABCD	JFMAMJ JASOND		C	JFMAMJ JASOND							
	X 1974	A	ABCD	JFMAMJ JASOND		C	JFMAMJ JASOND							
	X 1975	A	ABCD	JFMAMJ JASOND		C	JFMAMJ JASOND							
	X 1976	A	ABCD	JFMAMJ JASOND			JFMAMJ JASOND							
	X 1977	A	ABCD	JFMAMJ JASOND		C	JFMAMJ JASOND							
	X 1978	A	ABCD	JFMAMJ JASOND		A C	JFMAMJ JASOND			JFMAMJ JASOND		A	JFMAMJ JASOND*	
	X 1979	A	ABCD	JFMAMJ JASOND		ABC	JFMAMJ JASOND			JFMAMJ JASOND		A	JFMAMJ JASOND*	
	X 1980	A	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND			JFMAMJ JASOND		A	JFMAMJ JASOND*	
	X 1981	A	ABCD	JFMAMJ JASOND		A	JFMAMJ JASOND			JFMAMJ JASOND		A	JFMAMJ JASOND*	
	X 1982	A	ABCD	JFMAMJ JASOND		A	JFMAMJ JASOND			JFMAMJ JASOND		A	JFMAMJ JASOND*	
	X 1983	A	ABCD	JFMAMJ JASOND		A	JFMAMJ JASOND			JFMAMJ JASOND		A	JFMAMJ JASOND*	
	X 1984	A	ABCD	JFMAMJ JAS		A	JFMAMJ JASOND			JFMAMJ JASOND		A	JFMAMJ JASOND*	
	ALIBAG ABG (018.64 72.87)	D 1921	A	A	M M S N		A	JFMAMJ JASOND						
		D 1922	A	A	J M M SO		A	JFMAMJ JASOND						
		D 1923	A	A	M J SO		A	JFMAMJ JASOND						
		D 1924	A	A	J MJ SO		A	JFMAMJ JASOND						
		D 1925	A	A	MJ ASO		A	JFMAMJ JASOND						
D 1926		A	A	JFMA J SO		A	JFMAMJ JASOND							
D 1927		A	A	A J JA O D		A	JFMAMJ JASOND							
D 1928		A	A	M M J O		A	JFMAMJ JASOND							
D 1929		A	A	FM J ON		A	JFMAMJ JASOND							
D 1930		A	A	F J SO D		A	JFMAMJ JASOND							
D 1931		A	A	F J O		A	JFMAMJ JASOND							
D 1932		A	A	J M M A		A	JFMAMJ JASOND							
D 1933		A	A	F AM AS		A C	JFMAMJ JASOND							
D 1934		A	A	F J S D		A C	JFMAMJ JASOND							
D 1935		A	A	M M J SO		A C	JFMAMJ JASOND							
D 1936		A	A	A J ON		A C	JFMAMJ JASOND							
D 1937		A	A	A SO		A C	JFMAMJ JASOND							
D 1938		A	A	J AM A O		A C	JFMAMJ JASOND							
D 1939		A	A	F A A O		A C	JFMAMJ JASOND							
D 1940		KA	A	J MA J		A C	JFMAMJ JASOND							
D 1941		KA	A	FM JAS		A C	JFMAMJ JASOND							
D 1942		KA	A	FM O		A C	JFMAMJ JASOND							
D 1943		KA	A	F AS		A C	JFMAMJ JASOND							
D 1944		KA	A	A D		A C	JFMAMJ JASOND							
D 1945		KA	A	A D		A C	JFMAMJ JASOND							
D 1946		KA	A			A C	JFMAMJ JASOND							
D 1947		KA	A			A C	JFMAMJ JASOND							
D 1948		KA	A			A C	JFMAMJ JASOND							
D 1949		KA	A			A C	JFMAMJ JASOND							
D 1950		KA	A			A C	JFMAMJ JASOND							
D 1951		KA	A	I JFMAMJ JASOND		A C	JFMAMJ JASOND							
D 1952		KA	A	I JFMAMJ JASOND		A C	JFMAMJ JASOND							
D 1953		KA	A	I JFMAMJ JASOND		A C	JFMAMJ JASOND							
D 1954	KA	A	I JFMAMJ JASOND		A C	JFMAMJ JASOND								
D 1955	KA	A	I JFMAMJ JASOND		A C	JFMAMJ JASOND								
D 1956	KA	A	I JFMAMJ JASOND		A C	JFMAMJ JASOND								
D 1957	KA	A	I JFMAMJ JASOND		ABCD	JFMAMJ JASOND								

OBSERVATORY	YEAR	KAQ	COMP	RAPID RUN		NORMAL		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON	TAPE	WDC	1.0-MINUTE(*)
ALIBAG ABG (018.64 72.87)	D 1958	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1959	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	AB	I	JFMAMJ JASOND	
	D 1960	KA		I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	I	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
	D 1961	KA		I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	CD I	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND
	D 1962	KA		I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	A CD I	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
	D 1963	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	A CD I	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
	D 1964	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND
	D 1965	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND
	D 1966	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
	D 1967	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
	D 1968	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
	D 1969	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
	D 1970	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
	D 1971	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
	D 1972	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
	D 1973	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
	D 1974	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
	D 1975	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
	D 1976	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND
D 1977	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND	
D 1978	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND	
D 1979	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND	
D 1980	KA		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND	
D 1981	KA		I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND	
D 1982	KA		I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND	
D 1983	KA		I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND	AB	I	JFMAMJ JASOND	
D 1984	K							B D I	JFMAMJ JASOND				
D 1985	K							ABCD	JFMAMJ JASOND				
ALMA ATA AAA (043.25 76.92)	D 1963	A		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1964	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1965	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1966	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1967	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1968	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1969	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1970	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1971	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1972	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1973	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1974	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1975	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1976	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1977	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1978	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1979	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1980	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
	D 1981	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND	
D 1982	KA		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JA	JFMAMJ JASOND		
D 1983	K							ABC	JFMAMJ JASOND				
D 1984	K							ABC	JFMAMJ JAS				
D 1955	A							A C	JFMAMJ JASOND				
ALMERIA ALM (036.85 357.54)													

OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN WDC MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)
						ANY	MEDIUM	ON	TAPE		
ALMERIA ALM (036.85 357.54)	D 1956	A					JFMAMJ JASONJ				
	D 1957	A	ABCD	JASONJ			JFMAMJ JASONJ				
	D 1958	A	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1959	A	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1960	A					JFMAMJ JASONJ				
	D 1961	A					JFMAMJ JASONJ				
	D 1962	KA					JFMAMJ JASONJ				
	D 1963	KA					JFMAMJ JASONJ				
	D 1964	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1965	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1966	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1967	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1968	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1969	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1970	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1971	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1972	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1973	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1974	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1975	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ				
D 1976	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ					
D 1977	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ					
D 1978	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ					
D 1979	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ					
D 1980	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ					
D 1981	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ					
D 1982	KA	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ					
D 1983	K	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ					
D 1984	K	ABCD	JFMAMJ JASONJ			JFMAMJ JASONJ					
D 1985	K					JFMAMJ JASONJ					
AMATSIA AMT (031.55 34.92)	D 1975		B	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1976	A	AB D	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1977	A					JFMAMJ JASONJ				
	D 1978	A	A	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1979	A	A	FMA J J ND			JFMAMJ JASONJ				
	D 1980	A	A	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1981	A	A	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1982		A	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1983		A	JFMAMJ JASONJ			JFMAMJ JASONJ				
	D 1984						JFMAMJ JASONJ				
AMBERLEY AML (-43.15 172.72)	D 1929	A					JFMAMJ JASONJ				
	D 1930	A					JFMAMJ JASONJ				
	D 1931	A	A	C	I	JFMAMJ JASONJ					
	D 1932	A	A	C	I	JFMAMJ JASONJ					
	D 1933	A	A	C	I	JFMAMJ JASONJ					
	D 1934	A	A	C	I	JFMAMJ JASONJ					
	D 1935	A	A	C	I	JFMAMJ JASONJ					
	D 1936	A	A	C	I	JFMAMJ JASONJ					
	D 1937	A	A	C	I	JFMAMJ JASONJ					
	D 1938	A	A	C	I	JFMAMJ JASONJ					
	D 1939	KA					JFMAMJ JASONJ				
	D 1940	KA					JFMAMJ JASONJ				



OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		WDC	HOURLY ON TAPE	2.5-MINUTE		
						ANY	MEDIUM			WDC	1.0-MINUTE	
AMBERLEY AML (-43.15 172.72)	D	1941	KA									
	D	1942	KA									
	D	1943	KA									
	D	1944	KA									
	D	1945	KA									
	D	1946	KA									
	D	1947	KA									
	D	1948	KA									
	D	1949	KA									
	D	1950	KA									
	D	1951	KA									
	D	1952	KA									
	D	1953	KA									
	D	1954	KA									
	D	1955	KA									
	D	1956	KA									
	D	1957	KA		JASOND							
	D	1958	KA	ABCD	JFMAMJ JASOND							
	D	1959	KA	ABCD	JFMAMJ JASOND							
	D	1960	KA	AB								
	D	1961	KA									
	D	1962	KA									
	D	1963	KA									
	D	1964	KA	ABCD	JFMAMJ JASOND							
	D	1965	KA	ABCD	JFMAMJ JASOND							
	D	1966	KA									
	D	1967	KA									
D	1968	KA	ABCD	JFMAMJ JASOND								
D	1969	KA	AB D	JFMAMJ JASOND								
D	1970	KA	ABCD	JFMAMJ JASOND								
D	1971	KA	ABCD	JFMAMJ JASOND								
D	1972	KA	ABCD	JFMAMJ JASOND								
D	1973	KA	ABCD	JFMAMJ JASOND								
D	1974	KA	ABCD	JFMAMJ JASOND								
D	1975	KA	AB D	JFMAMJ JASOND								
X	1976	KA										
X	1977	KA										
X	1982											
ANDERMA AMD (069.47 061.42)	D	1973	ABCD	ND								
	D	1974	ABCD	JFMAMJ JASOND								
	D	1975	ABCD	JFMAMJ JASOND								
	D	1976	ABCD	JFMAMJ JASOND								
	D	1977	ABCD	JFMAMJ JASOND								
ANCHORAGE AMU (061.24 210.13)	D	1978	ABCD	JFMAMJ JASOND								
	D	1957	A	AMJ JASOND								
	D	1958	A	JFMAMJ JASOND								
	D	1959		J								
ANDREWS AFB AWS (038.82 283.13)	D	1972			ABC	ASOND						

OBSERVATORY	YEAR	COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
													2.5-MINUTE	1.0-MINUTE(*)
ANMAMALAINAGAR ANN (011.37 79.68)	D 1958	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I		
	D 1959	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I		
	D 1960	KA			JFMAMJ JASOND			JFMAMJ JASOND	A	I	JFMAMJ JASOND	I		
	D 1961	KA			JFMAMJ JASOND			JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I		
	D 1962	KA			JFMAMJ JASOND			JFMAMJ JASOND	A CD	I	JFMAMJ JASOND	I		
	D 1963	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	A CD	I	JFMAMJ JASOND	I		
	D 1964	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1965	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1966	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1967	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	A CDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	S0
	D 1968	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I		
	D 1969	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I		
	D 1970	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I		
	D 1971	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I		
	D 1972	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I		
	D 1973	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I		
	D 1974	KA	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I		
	D 1975	A	A	CD	I	JFMAMJ JASOND	A CD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I	
D 1976	A	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I			
D 1977	A	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I			
D 1978	A	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I			
D 1979	A	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I			
D 1980	A	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I			
D 1981	A			JFMAMJ JASOND			JFMAMJ JASOND	B D	I	JFMAMJ JASOND	I			
D 1982	A			JFMAMJ JASOND			JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I			
D 1983				JFMAMJ JASOND			JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	I			
ANTIPOLO ANO (014.60 121.17)	D 1911	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1912	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1913	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1914	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1915	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1916	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1917	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1918	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1919	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1920	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1921	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1922	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1923	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1924	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1925	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1926	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1927	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
	D 1928	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND			
D 1929	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND				
D 1930	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND				
D 1931	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND				
D 1932	A			JFMAMJ JASOND			JFMAMJ JASOND	A C		JFMAMJ JASOND				
D 1933	A			JFMAMJ JASOND			JFMAMJ JASOND	A C		JFMAMJ JASOND				
D 1934	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND				
D 1935	A			JFMAMJ JASOND			JFMAMJ JASOND	A		JFMAMJ JASOND				

OBSERVATORY	YEAR COMP	KAQ	NORMAL MAGNETOGRAMS		RAPID RUN MAGNETOGRAMS		HOURLY VALUES ANY MEDIUM		HOURLY VALUES ON TAPE		2.5-MINUTE 1.0-MINUTE(*)	
			WDC		WDC		WDC		WDC		WDC	
ANTIPOLO ANO (014.60 121.17)	D 1936	A					A	JFMAMJ JASOND				
	D 1937	A					A	JFMAMJ JASOND				
	D 1938	A					A	JFMAMJ JASOND				
APIA API (-13.81 188.23)	D 1905	A					A	I JFMAMJ JASOND				
	D 1906	A					A	I JFMAMJ JASOND				
	D 1907	A					A	I JFMAMJ JASOND				
	D 1908	A					A	I JFMAMJ JASOND				
	D 1909	A					A	I JFMAMJ JASOND				
	D 1910	A					A	I JFMAMJ JASOND				
	D 1911	A					A	I JFMAMJ JASOND				
	D 1912	A					A	I JFMAMJ JASOND				
	D 1913	A					A	I JFMAMJ JASOND				
	D 1914	A					A	I JFMAMJ JASOND				
	D 1915	A					A	I JFMAMJ JASOND				
	D 1916	A					A	I JFMAMJ JASOND				
	D 1917	A					A	I JFMAMJ JASOND				
	D 1918	A					A	I JFMAMJ JASOND				
	D 1919	A					A	I JFMAMJ JASOND				
	D 1920	A					A	I JFMAMJ JASOND				
	D 1921	A					A	I JFMAMJ JASOND				
	D 1922	A					A	I JFMAMJ JASOND				
	D 1923	A					A	I JFMAMJ JASOND				
	D 1924	A					A	I JFMAMJ JASOND				
	D 1925	A					A	I JFMAMJ JASOND				
	D 1926	A					A	I JFMAMJ JASOND				
	D 1927	A					A	I JFMAMJ JASOND				
	D 1928	A					A	I JFMAMJ JASOND				
	D 1929	A					A	I JFMAMJ JASOND				
	D 1930	A					A	I JFMAMJ JASOND				
	D 1931	A					A	I JFMAMJ JASOND				
	D 1932	A					A	I JFMAMJ JASOND				
D 1933	A					A	I JFMAMJ JASOND					
D 1934	A					A	I JFMAMJ JASOND					
D 1935	A					A	I JFMAMJ JASOND					
D 1936	A					A	I JFMAMJ JASOND					
D 1937	A					A	I JFMAMJ JASOND					
D 1938	A					A	I JFMAMJ JASOND					
D 1939	KA					A	I JFMAMJ JASOND					
D 1940	KA					A	I JFMAMJ JASOND					
D 1941	KA					A	I JFMAMJ JASOND					
D 1942	KA					A	I JFMAMJ JASOND					
D 1943	KA					A	I JFMAMJ JASOND					
D 1944	KA					A	I JFMAMJ JASOND					
D 1945	KA					A	I JFMAMJ JASOND					
D 1946	KA					A	I JFMAMJ JASOND					
D 1947	KA					A	I JFMAMJ JASOND					
D 1948	KA					A	I JFMAMJ JASOND					
D 1949	KA					A	I JFMAMJ JASOND					
D 1950	KA					A	I JFMAMJ JASOND					
D 1951	KA					A	I JFMAMJ JASOND					
D 1952	KA					A	I JFMAMJ JASOND					

OBSERVATORY	YEAR	COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		WDC	WDC
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON	TAPE		
APTA API (-13.81 188.23)	D 1953	KA						I	JFMAMJ JASOND				
	D 1954	KA						A	JFMAMJ JASOND				
	D 1955	KA						A	JFMAMJ JASOND				
	D 1956	KA						A	JFMAMJ JASOND				
	D 1957	KA	ABCD	JASOND	ABC	JASOND	ABC	ABCDEI	JFMAMJ JASOND	AB	E	JASOND	
	D 1958	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDEI	JFMAMJ JASOND	AB		JFMAMJ JASOND	
	D 1959	A						ABCD	JFMAMJ JASOND				
	D 1960	A						ABCD	JFMAMJ JASOND				
	D 1961	A						ABCD	JFMAMJ JASOND				
	D 1962	A						ABCD	JFMAMJ JASOND				
	D 1963	A	AB	JFMAMJ JASOND				ABCDEI	JFMAMJ JASOND				
	D 1964	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	JFMAMJ JASOND
	D 1965	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	JFMAMJ JASOND
	D 1966	A						ABC	JFMAMJ JASOND				
	D 1967	A						ABC	JFMAMJ JASOND				
	D 1968	A	ABCD	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1969	A						ABC	JFMAMJ JASOND				
	D 1970	A	ABCD	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1971	A	ABCD	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
	D 1972	A	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND				
D 1973	A	ABCD	JFMAMJ JASOND				ABC	JFMAMJ JASOND					
D 1974	A	ABCD	JFMAMJ JASOND				ABC	JFMAMJ JASOND					
D 1975	A	A	JFMAMJ JASOND				ABC	JFMAMJ JASOND					
D 1976	A						ABC	JFMAMJ JASOND					
D 1977	A						ABC	JFMAMJ JASOND					
D 1978	A	ABCD	JFMAMJ JASOND				ABC	JFMAMJ JASOND					
D 1979	A						ABC	JFMAMJ JASOND					
D 1980	A						A C	JFMAMJ JASOND					
-----													
ARCTIC ICE FLO AIF (083.53 193.05)	D 1957			ABCD	JASOND								
	D 1958			ABCD	JFMAMJ JASO								
-----													
ARCTIC VILLAGE AVI (068.13 214.43)	D 1978												MAMJ JASOND*
	D 1979												JFMAMJ JASOND*
	D 1980												JFMAMJ A OND*
	D 1981												JFMAMJ JASOND*
	D 1982												JFMAMJ JASOND*
D 1983												JFMAMJ JASOND*	
-----													
ARCTOWSKI ARC (-62.16 301.65)	D 1978	K							AMJ JASOND				
	D 1979								JFMAMJ JASOND				
-----													
ARGENTINE ISLAND AIA (-65.25 295.74)	D 1957	KA	ABCD	JASOND				ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1958	KA	ABCD	JFMAMJ JASOND				ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1959	KA	ABCD	JFMAMJ JASOND				ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1960	KA	ABCD	JFMAMJ JASOND				ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1961	KA	ABCD	JFMAMJ JASOND				ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1962	KA	ABCD	JFMAMJ JASOND				ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1963	KA	ABCD	JFMAMJ JASOND				ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1964	KA	ABCD	JFMAMJ JASOND				ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
D 1965	KA	ABCD	JFMAMJ JASOND				ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND		

OBSERVATORY	YEAR COMP	KAQ	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS		HOURLY VALUES ANY MEDIUM		HOURLY VALUES ON TAPE		WDC	2.5-MINUTE 1.0-MINUTE(*)		
				WDC	WDC	WDC	WDC	WDC	WDC				
ARGENTINE ISLAND ATA (-65.25 295.74)	D 1966	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	AB			
	D 1967	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	AB			
	D 1968	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND	E	JFMAMJ JASOND	AB			
	D 1969	A	A D	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB		
	D 1970	KA	A	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB		
	D 1971	A	A	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB		
	D 1972	A	A	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB		
	D 1973	A	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB		
	D 1974	A	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB		
	D 1975	A	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB		
	D 1976	A	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB		
	D 1977	A	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB		
	D 1978	A	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB		
	D 1979	A	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB		
	D 1980	A	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB		
D 1981	A	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB			
D 1982	A	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB			
D 1983	A	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB			
D 1983	A	A CD	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND	E	JFMAMJ JASOND	AB			
ARKHANGELSK ARK (064.60 040.50)	D 1969		JFMAMJ JASOND	BCD	JFMAMJ JASOND								
	D 1970		JFMAMJ JASOND	BCD	JFMAMJ JASOND								
	D 1971		JFMAMJ JASOND	BCD	JFMAMJ JASOND								
	D 1972		JFMAMJ JASOND	BCD	JFMAMJ JASOND								
	D 1976		JFMA	ABCD	JFMA	JFMA	JFMA	JFMA	JFMA	JFMA	JFMA		
	D 1977		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND		
	D 1978		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND		
	D 1979		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND		
	D 1980		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND		
	D 1981		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND		
	D 1982		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND		
	D 1983		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND		
	D 1984		JFMAMJ JAS	ABCD	JFMAMJ JAS	ABCD	JFMAMJ JAS	ABCD	JFMAMJ JAS	ABCD	JFMAMJ JAS		
	D 1957		K										
	D 1958		K										
D 1959		K											
D 1960		K											
D 1961		K											
D 1962		K											
D 1963		K											
D 1964		K											
D 1965		K											
D 1966		K											
D 1967		K											
D 1968		K											
D 1969		K											
D 1970		K											
D 1971		K	JFMAMJ JASOND	B	JFMAMJ JASOND								
D 1972		K	JFMAMJ JASOND	AB	JFMAMJ JASOND								
D 1973		KA	JFMAMJ JASOND	AB D	JFMAMJ JASOND								
D 1974		KA	JFMAMJ JASOND	B	JFMAMJ JASOND								
D 1975		KA	JFMAMJ JASOND	AB D	JFMAMJ JASOND								

OBSERVATORY	YEAR COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE (*)	
			MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	ON TAPE	WDC				
ARTI ARS (056.43 58.57)	D 1976	KA	AB D	JFMAMJ JASOND			AB D	JFMAMJ JASOND					
	D 1977	KA	AB D	JFMAMJ JASOND			AB D	JFMAMJ JASOND					
	D 1978	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND					
	D 1979	KA	BCD	JFMAMJ JASOND			BCD	JFMAMJ JASOND					
	D 1980	KA	BCD	JFMAMJ JASOND			BCD	JFMAMJ JASOND					
	D 1981	KA	B D	JFMAMJ JASOND			B D	JFMAMJ JASOND					
	D 1982	KA	B D	JFMAMJ JASOND			B D	JFMAMJ JASOND					
	D 1983	KA	B D	JFMAMJ JASOND			B D	JFMAMJ JASOND					
	D 1984		B D	JFMAMJ			B D	JFMAMJ					
	-----												
	ASHKHABAD ASH (037.95 58.11)	D 1958	K	ABCD	SOND	BC	J	JASOND		JFMAMJ JASOND	AB	JFMAMJ JASOND	
		D 1959	KA	ABCD	JFMAMJ JASOND	C	JFMAMJ	JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
		D 1960	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ	JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
		D 1961	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ	JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
		D 1962	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ	JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
		D 1963	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ	JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
		D 1964	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ	JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
		D 1965	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ	JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
		D 1966	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ	JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1967		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ	JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND		
D 1968		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ	JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND		
D 1969		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ	JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND		
D 1970		KA	ABCD	JFMAMJ	ABC	JFMAMJ	JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND		
D 1971		K		JFMAMJ	ABC	JFMAMJ		JFMAMJ					
D 1972		KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
D 1973		KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
D 1974		KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
D 1975		KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
D 1976		KA	AB D	JFMAMJ JASOND				JFMAMJ JASOND					
D 1977	KA	AB D	JFMAMJ JASOND				JFMAMJ JASOND						
D 1978	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND						
D 1979	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND						
D 1980	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND						
D 1981	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND						
D 1982	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND						
D 1983	K	ABCD	JFMAMJ JASOND				JFMAMJ JASOND						
D 1984	K		JFMAMJ				JFMAMJ						
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ASO ASO (032.88 131.01)	D 1932							ASOND					
	D 1933							JFMAMJ JA					
	D 1957	K	ABCD	JASOND				ASOND					
	D 1958	A	ABCD	AMJ JASOND				JASOND					
	D 1959		ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
-----													
AVERROES AVE (033.30 352.59)	D 1964		ABCD	JFMAMJ JASOND				JFMAMJ JA					
	D 1965		ABCD	JFMAMJ JASOND				JFMAMJ JA					
	D 1966	A		J J OND				JFMAMJ JA					
	D 1967	A		JFMAMJ JASOND				JFMAMJ JA					
	D 1968		A	JFMAMJ JASOND				JFMAMJ JASOND					
D 1969		A	JFMAMJ JASOND				JFMAMJ JASOND						
D 1970	K	A	JFMAMJ JASOND				JFMAMJ JASOND						
D 1971	KA	A	JFMAMJ JASOND				JFMAMJ JASOND						

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE 1.0-MINUTE (*)	
					WDC	WDC	ANY MEDIUM	ON TAPE	WDC	WDC	WDC	WDC
AVERROES AVE (033.30 352.59)	D 1972	K	A	JFMAMJ JASONJ			B	A				
	D 1973		A	JFMAMJ JASONJ								
	D 1974		A	JFMAMJ JASONJ								
	D 1975		A	JFMAMJ JASONJ								
	D 1976	KA		JFMAMJ JASONJ								
	D 1977		A	JFMAMJ JASONJ								
	D 1978		A	JFMAMJ JASONJ								
	D 1979		A	JFMAMJ JASONJ								
	D 1980		A	FM								
		D 1977										N *
BACK	D 1978										AMJ JASO *	
BKC	D 1979										FMAMJ JASONJ *	
(057.68 265.77)	D 1980										FMAMJ J	
BAGUIO BAG (016.42 120.60)	D 1961		ABCD	JFMAMJ JASONJ								
	D 1962											
	D 1963											
	D 1964		ABCD	JFMAMJ JASONJ								
	D 1965		ABCD	JFMAMJ JASONJ								
	D 1966		ABCD	JFMAMJ JASONJ								
	D 1967		ABCD	JFMAMJ JASONJ								
	D 1968		ABCD	JFMAMJ JASONJ								
	D 1969		ABCD	JFMAMJ JASONJ								
	D 1970		ABCD	JFMAMJ JASONJ								
	D 1971		ABCD	JFMAMJ JASONJ								
	D 1972		ABCD	JFMAMJ JASONJ								
	D 1973		ABCD	JFMAMJ JASONJ								
	D 1974		ABCD	JFMAMJ JASONJ								
	D 1975		ABCD	JFMAMJ JASONJ								
	D 1976		ABCD	JFMAMJ JASONJ								
	D 1977		ABCD	JFMAMJ JASONJ								
	D 1978		ABCD	JFMAMJ JASONJ								
	D 1979		ABCD	JFMAMJ JASONJ								
	D 1980		A CD	JFMAMJ JASONJ								
D 1981		A D	JFMAMJ JASONJ									
D 1982		ABCD	JFMAMJ JASONJ									
D 1983		A	JFMAMJ JASONJ									
D 1984		A	JFMAMJ JASONJ									
BAKER LAKE BLC (064.33 263.97)	X 1951	KA	A	JFMAMJ JASONJ								
	X 1952	KA	A	JFMAMJ JASONJ								
	X 1953	KA	A	JFMAMJ JASONJ								
	X 1954	KA	A	JFMAMJ JASONJ								
	X 1955	KA	A	JFMAMJ JASONJ								
	X 1956	A	A	JFMAMJ JASONJ								
	X 1957	A	ABCD	JFMAMJ JASONJ								
	X 1958	A	ABCD	JFMAMJ JASONJ								
	X 1959	A	ABCD	JFMAMJ JASONJ								
	X 1960	A	ABCD	JFMAMJ JASONJ								
	X 1961	A	ABCD	JFMAMJ JASONJ								
	X 1962	A	ABCD	JFMAMJ JASONJ								
	X 1963	A	ABCD	JFMAMJ JASONJ								
	X 1964	A	ABCD	JFMAMJ JASONJ								

OBSERVATORY	COMP	YEAR	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE (*)
BAKER LAKE BLC (064.33 263.97)	X	1965	A	ABCD	JFMAMJ JASOND			AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	X	1966	A	ABCD	JFMAMJ JASOND			AB	EI	JFMAMJ JASOND	A	JFMAMJ JAS ND	
	X	1967	A	ABCD	JFMAMJ JASOND			AB	EI	JFMAMJ JASOND	A	AM ASOND	
	X	1968	A	ABCD	JFMAMJ JASOND			AB	EI	JFMAMJ JASOND	A	MAMJ JASO	
	X	1969	A	ABCD	JFMAMJ JASOND			AB	EI	JFMAMJ JASOND	A	J JAS	
	X	1970	A	ABCD	JFMAMJ JASOND			AB	I	JFMAMJ JASOND	A	M	
	X	1971	A	ABCD	JFMAMJ JASOND			AB	I	JFMAMJ JASOND	A	ND*	
	X	1972	A	ABCD	JFMAMJ JASOND			A		JFMAMJ JASOND	A	JFMAMJ JASOND*	
	X	1973	A	ABCD	JFMAMJ JASOND			A	EI	JFMAMJ JASOND	A	JFMAMJ JASOND*	
	X	1974	A	ABCD	JFMAMJ JASOND			A		JFMAMJ JASOND	A	JFMAMJ JASOND*	
	X	1975	A	ABCD	JFMAMJ JASOND			A		JFMAMJ JASOND	A	JFMAMJ JASOND*	
	X	1976	A	ABCD	JFMAMJ JASOND			AB D		JFMAMJ JASOND	A	JFMAMJ JASOND*	
	X	1977	A	ABCD	JFMAMJ JASOND			ABCD		JFMAMJ JASOND	A	JFMAMJ JASOND*	
	X	1978	A	ABCD	JFMAMJ JASOND			ABCD		JFMAMJ JASOND	A	JFMAMJ JASOND*	
	X	1979	A	ABCD	JFMAMJ JASOND			AB		JFMAMJ JASOND	A	JFMAMJ JASOND*	
	X	1980	A	ABCD	JFMAMJ JASOND			AB		JFMAMJ JASOND	A	JFMAMJ JASONG*	
X	1981	A	ABCD	JFMAMJ JASOND			A		JFMAMJ JASOND	A	JFMAMJ JASOND*		
X	1982	A	ABCD	JFMAMJ JASOND			A		JFMAMJ JASOND	A	JFMAMJ JASOND*		
X	1983	A	ABCD	JFMAMJ JASOND			A		JFMAMJ JASOND	A	JFMAMJ JASOND*		
X	1984	A	ABCD	JFMAMJ JAS			A		JFMAMJ JASOND	A	JFMAMJ JASOND*		
BALDWIN BAL (038.78 264.83)	D	1901	A		JFMAMJ JASOND			A		JFMAMJ JASOND			
	D	1902	A		JFMAMJ JASOND			A		JFMAMJ JASOND			
	D	1903	A		JFMAMJ JASOND			A		JFMAMJ JASOND			
	D	1904	A		JFMAMJ JASOND			A		JFMAMJ JASOND			
	D	1905	A		JFMAMJ JASOND			A		JFMAMJ JASOND			
	D	1906	A		JFMAMJ JASOND			A		JFMAMJ JASOND			
	D	1907	A		JFMAMJ JASOND			A		JFMAMJ JASOND			
	D	1908	A		JFMAMJ JASOND			A		JFMAMJ JASOND			
	D	1909	A		JFMAMJ JAS			A		JFMAMJ JASOND			
BANGKOK BKK (013.72 100.57)	D	1966			JFMAMJ JASOND			A		JFMAMJ JASOND			
BANGUI BNG (004.44 18.57)	D	1955	A		JFMAMJ JASOND			A	E	JFMAMJ JASOND			
	D	1956	A		JFMAMJ JASOND			A	E	JFMAMJ JASOND			
	D	1957	KA	ABCD	JFMAMJ JASOND			A	E	JFMAMJ JASOND			
	D	1958	KA	ABCD	JFMAMJ JASOND			A	E	JFMAMJ JASOND			
	D	1959	KA	ABCD	JFMAMJ JASOND			A	E	JFMAMJ JASOND			
	D	1960	KA	ABCD	JFMAMJ J			A	E	JFMAMJ J			
	D	1961	A	ABCD	JFMAMJ JASOND			AB	E	ASOND		ASOND	
	D	1962	A	ABCD	JFMAMJ JASOND			AB	E	JFMAMJ JASOND			
	D	1963	A	ABCD	JFMAMJ JASOND			A	E	JFMAMJ JASOND			
	D	1964	A	ABCD	JFMAMJ JASOND			AB	E	JFMAMJ JASOND			
	D	1965	KA	ABCD	JFMAMJ JASOND			AB	E	JFMAMJ JASOND			
	D	1966	KA	ABCD	JFMAMJ JASOND			AB	E	JFMAMJ JASOND			
	D	1967	KA	ABCD	JFMAMJ JASOND			AB	E	JFMAMJ JASOND		ON	
	D	1968	KA	ABCD	JFMAMJ JASOND			AB	E	JFMAMJ JASOND		ND	
D	1969	KA	ABCD	JFMAMJ JASOND			AB	E	JFMAMJ JASOND		ASO D		
D	1970	KA	ABCD	JFMAMJ JASOND			AB	E	JFMAMJ JASOND		JF AMJ		
D	1971	KA	ABCD	JFMAMJ JASOND			AB	E	JFMAMJ JASOND		JASO		
D	1972	KA	ABCD	JFMAMJ JASOND			A	E	JFMAMJ JASOND		JFM		
							A	E	JFMAMJ JASOND		JFMAMJ JASOND		



OBSERVATORY	COMP	YEAR	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE		
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE(*)	
BANGUI BNG (004.44 18.57)	D 1973	A	ABCD	JFMAMJ JASOND				A CDE	JFMAMJ JASOND	A	E	JFMAMJ JASOND	A	
	D 1974	KA	ABCD	JFMAMJ JASOND				A CDE	JFMAMJ JASOND	A	E	JFMAMJ JASOND	A	
	D 1975	KA	ABCD	JFMAMJ JASOND				A CDE	JFMAMJ JASOND	A	E	JFMAMJ JASOND	A	
	D 1976	KA	ABCD	JFMAMJ JASOND				A CDE	JFMAMJ JASOND	A	E	JFMAMJ JASOND	A	
	D 1977	KA	ABCD	JFMAMJ JASOND				A CDE	JFMAMJ JASOND	A	E	JFMAMJ JASOND	A	
	D 1978	KA	ABCD	JFMAMJ JASOND				A CDE	JFMAMJ JASOND	A	E	JFMAMJ JASOND	A	
	D 1979	KA	A CD	JFMAMJ JASOND				A CDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	
	D 1980	KA	ABCD	JFMAMJ JASOND				A CDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	
	D 1981	KA	ABCD	JFMAMJ JASOND				A CDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	
	D 1982	KA	A CD	JFMAMJ JASOND				A CDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	
	D 1983	KA	A CD	JFMAMJ JASOND				A CDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	
	D 1984	K	A CD	JFMAMJ JAS				A CDE	JFMAMJ JASOND					
	BARROW BRW (071.30 203.25)	D 1949	A	A	ONDI									
		D 1950	A	A	JFMAMJ JASOND									
		D 1951	A	A	JFMAMJ JASOND									
		D 1952	A	A	JFMAMJ JASOND									
D 1953		A	A	JFMAMJ JASOND										
D 1954		A	A	JFMAMJ JASOND										
D 1955		A	A	JFMAMJ JASOND										
D 1956		A	A	JFMAMJ JASOND										
D 1957		KA	ABCD	JFMAMJ JASOND	ABC	JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A
D 1958		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A
D 1959		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A
D 1960		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A
D 1961		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A
D 1962		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A
D 1963		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A
D 1964		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A
D 1965	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A	
D 1966	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A	
D 1967	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A	
D 1968	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A	
D 1969	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A	
D 1970	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A	
D 1971	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A	
D 1972	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A	
D 1973	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A	
D 1974	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JAS			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A	
D 1975	A	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JAS			ABCD	JASOND	AB	EI	JFMAMJ JASOND	A	
D 1976	A	AB D	JFMAMJ JASOND	ABC	JFMAMJ JASOND			AB DE	JASOND	AB	EI	JFMAMJ JASOND	A	
D 1977	A	AB D	JFMAMJ JASOND	ABC	JFMAMJ JASOND			A D	JASOND	AB	I	JFMAMJ JASOND	A	
D 1978	A	AB D	JFMAMJ JASOND	ABC	JFMAMJ JASOND			A D	JASOND	AB	I	JFMAMJ JASOND	A	
D 1979	A	AB D	JFMAMJ JASOND	ABC	JFMAMJ JASOND			A	JASOND	AB	I	JFMAMJ JASOND	A	
D 1980	A	A	JFMAMJ JASOND	ABC	JFMAMJ JASOND			A	JASOND	AB	I	JFMAMJ JASOND	A	
D 1981	A	A	JFMAMJ JASOND	ABC	JFMAMJ JASOND			A	JASOND	AB	I	JFMAMJ JASOND	A	
D 1982	A	A	JFMAMJ JASOND	ABC	JFMAMJ JASOND			A	JASOND	AB	I	JFMAMJ JASOND	A	
D 1983	A	A	JFMAMJ JASOND	ABC	JFMAMJ JASOND			A	JASOND	AB	I	JFMAMJ JASOND	A	
D 1957			ABCD	MJ JASOND				ABCD	MJ JASOND					
D 1958	A		ABCD	JFMAMJ JASOND				ABCD	JFMAMJ JASOND					
D 1959			ABCD	J				A	J					
D 1867								A						

OBSERVATORY	YEAR	KAQ	WDC	NORMAL		RAPID RUN		WDC	HOURLY VALUES		HOURLY VALUES	
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC		ANY	MEDIUM	ON	TAPE
COMP												1.0-MINUTE(*)
BATAVIA	D	1868						A	JFMAMJ	JASOND		
BTU	D	1869						A	JFMAMJ	JASOND		
( -6.18 106.83)	D	1870						A	JFMAMJ			
	D	1882						A		JASOND		
	D	1883						A	JFMAMJ	JASOND		
	D	1884	A					A	JFMAMJ	JASOND		
	D	1885	A					A	JFMAMJ	JASOND		
	D	1886	A					A	JFMAMJ	JASOND		
	D	1887	A					A	JFMAMJ	JASOND		
	D	1888	A					A	JFMAMJ	JASOND		
	D	1889	A					A	JFMAMJ	JASOND		
	D	1890	A					A	JFMAMJ	JASOND		
	D	1891	A					A	JFMAMJ	JASOND		
	D	1892	A					A	JFMAMJ	JASOND		
	D	1893	A					A	JFMAMJ	JASOND		
	D	1894	A					A	JFMAMJ	JASOND		
	D	1895	A					A	JFMAMJ	JASOND		
	D	1896	A					A	JFMAMJ	JASOND		
	D	1897	A					A	JFMAMJ	JASOND		
	D	1898	A					A	JFMAMJ	JASOND		
	D	1899						A	JFMAMJ	JASOND		
	D	1900						A	JFMAMJ	JASOND		
	D	1901						A	JFMAMJ	JASOND		
	D	1902	A					A	JFMAMJ	JASOND		
	D	1903	A					A	JFMAMJ	JASOND		
	D	1904	A					A	JFMAMJ	JASOND		
	D	1905	A					A	JFMAMJ	JASOND		
	D	1906	A					A	JFMAMJ	JASOND		
	D	1907	A					A	JFMAMJ	JASOND		
	D	1908	A					A	JFMAMJ	JASOND		
	D	1909	A					A	JFMAMJ	JASOND		
	D	1910	A					A	JFMAMJ	JASOND		
	D	1911	A					A	JFMAMJ	JASOND		
	D	1912	A					A	JFMAMJ	JASOND		
	D	1913	A					A	JFMAMJ	JASOND		
	D	1914	A					A	JFMAMJ	JASOND		
	D	1915	A					A	JFMAMJ	JASOND		
	D	1916	A					A	JFMAMJ	JASOND		
	D	1917	A					A	JFMAMJ	JASOND		
	D	1918	A					A	JFMAMJ	JASOND		
	D	1919	A					A	JFMAMJ	JASOND		
	D	1920	A					A	JFMAMJ	JASOND		
	D	1921	A					A	JFMAMJ	JASOND		
	D	1922	A					A	JFMAMJ	JASOND		
	D	1923	A					A	JFMAMJ	JASOND		
	D	1924	A					A	JFMAMJ	JASOND		
	D	1925	A					A	JFMAMJ	JASOND		
	D	1926	A					A	JFMAMJ	JASOND		
	D	1927	A					A	JFMAMJ	JASOND		
	D	1928	A					A	JFMAMJ	JASOND		

OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)		
BATAVIA BTW ( -6.18 106.83)	D 1929						JFMAMJ JASOND	A					
	D 1930						JFMAMJ JASOND	A					
	D 1931						JFMAMJ JASOND	A					
	D 1932						JFMAMJ JASOND	A C					
	D 1933						JFMAMJ JASOND	A C					
	D 1934						JFMAMJ JASOND	A					
	D 1935						JFMAMJ JASOND	A					
	D 1936						JFMAMJ JASOND	A					
	D 1937						JFMAMJ JASOND	A					
	D 1938						JFMAMJ JASOND	A					
	D 1939						JFMAMJ JASOND	A					
	D 1940						JFMAMJ JASOND	A					
	BEAR ISLAND BJN (074.50 19.20)	D 1956	A					JFMAMJ JASOND	C				
		D 1957	KA										
		D 1958	KA										
D 1959		KA											
D 1960		KA											
D 1961		KA											
D 1962		KA											
D 1963		KA											
D 1964		KA											
D 1965		KA											
D 1974		A		ABCD	JFMAMJ JASOND								
D 1975		A		ABCD	JFMAMJ JASOND								
D 1976		A		ABCD	JFMAMJ JASOND								
D 1977		A		ABCD	JFMAMJ JASOND								
D 1978		A		ABCD	JFMAMJ JASOND								
D 1979	A		ABCD	JFMAMJ JASOND									
D 1980	A		ABCD	JFMAMJ JASOND									
D 1981	A		ABCD	JFMAMJ JASOND									
D 1982	A		ABCD	JFMAMJ JASOND									
D 1983	A		A CD	JFMAMJ JASOND									
D 1984	A		A CD	JFMAMJ JASOND									
BEIJING BJI (040.04 116.18)	D 1957	A					JFMAMJ JASOND	ABCD					
	D 1958	A					JFMAMJ JASOND	ABCD					
	D 1959	A					JFMAMJ JASOND	ABCD					
	D 1960	A					JFMAMJ JASOND	ABCD					
	D 1961	A					JFMAMJ JASOND	ABCD					
	D 1962	A					JFMAMJ JASOND	ABCD					
	D 1963	A					JFMAMJ JASOND	ABCD					
	D 1964	A					JFMAMJ JASOND	ABCD					
	D 1965	A					JFMAMJ JASOND	D					
	D 1966	A					JFMAMJ JASOND	D					
	D 1967	A					JFMAMJ JASOND	D					
	D 1968	A					JFMAMJ JASOND	D					
	D 1969	A					JFMAMJ JASOND	D					
	D 1970	A					JFMAMJ JASOND	D					
	D 1971	A					JFMAMJ JASOND	D					
D 1972	A					JFMAMJ JASOND	D						
D 1973	A					JFMAMJ JASOND	D						

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		2.5-MINUTE	
						ANY	MEDIUM	ON	TAPE
BEIJING BJI (040.04 116.18)	D 1974	A	A D	JFMAMJ JASONDI		JFMAMJ JASONDI			
	D 1975	A	A D	JFMAMJ JASONDI		JFMAMJ JASONDI			
	D 1976	A	A	JFMAMJ JASONDI		JFMAMJ JASONDI			
	D 1977	A	A	JFMAMJ JASONDI		JFMAMJ JASONDI			
	D 1978	A	A	JFMAMJ JASONDI		JFMAMJ JASONDI			
	D 1979	A	A C	JFMAMJ JASONDI		JFMAMJ JASONDI			
	D 1980	A	A C	JFMAMJ JASONDI		JFMAMJ JASONDI			
	D 1981	A	A C	JFMAMJ JASONDI		JFMAMJ JASONDI			
	D 1972			B	MJ JASONDI				
BELLY ISLAND BEY (073.30 070.00)	D 1973		ABCD	ND					
	D 1974		ABCD	JFMAMJ JASONDI					
	D 1975		ABCD	JFMA J JASONDI					
	D 1976		ABCD	JFMAMJ JASONDI					
	D 1977		ABCD	JFMAMJ JASONDI					
	D 1978		ABCD	JFMAMJ JASONDI					
	D 1957	A	ABCD	JASONDI			AB E	JASONDI	
	D 1958	A	ABCD	JFMAMJ JASONDI			AB E	JFMAMJ JASONDI	
	D 1959		ABCD	J			AB	JFMAMJ JASONDI	
BELOIT BLT (039.48 261.87)	D 1960	KA							
	D 1961	KA							
	D 1962	KA							
	D 1963	KA							
	D 1964	KA							
	D 1965	KA							
	D 1966	KA	ABCD	JFMAMJ JASONDI			ABCD I	JFMAMJ JASONDI	
	D 1967	KA	ABCD	JFMAMJ JASONDI			ABCD I	JFMAMJ JASONDI	
	D 1968	KA	AB D	JFMAMJ JASONDI			ABCD I	JFMAMJ JASONDI	
	D 1969	KA	AB	JASONDI			ABCD I	JFMAMJ JASONDI	
	D 1970	KA	AB	JFMAMJ JASONDI			ABCD I	JFMAMJ JASONDI	
	D 1971	KA	AB	JFMAMJ JASONDI			ABCD I	JFMAMJ JASONDI	
	D 1972	KA	AB	JFMAMJ			ABC EI	JFMAMJ JASONDI	
	D 1973	KA	AB	JFMAMJ JASONDI			ABC I	JFMAMJ JASONDI	
	D 1974	KA	AB	JFMAMJ JASONDI			ABC I	JFMAMJ JASONDI	
	D 1975	KA					A C I	JFMAMJ JASONDI	
	D 1976	KA					A C I	JFMAMJ JASONDI	
	D 1977	KA					A C I	JFMAMJ JASONDI	
	D 1978	KA					ABC	JFMAMJ JASONDI	
	D 1979	KA					AB	JFMAMJ JASONDI	
	D 1980	KA					ABC	JFMAMJ JASONDI	
D 1981	KA					ABC	JFMAMJ JASONDI		
D 1982	KA					ABC	JFMAMJ JASONDI		
D 1983	KA					A C	JFMAMJ JASONDI		
BIG DELTA BDE (064.00 214.27)	D 1957	A	ABCD	JASONDI		JASONDI		AB E	JASONDI
	D 1958	A	ABCD	JFMAMJ JASONDI		ABC JFMAMJ JASONDI		AB E	JFMAMJ JASONDI
	D 1959		ABCD	J		ABC J		AB	JFMAMJ JASONDI
BINZA BIN ( -4.27 15.37)	D 1954	A							
	D 1955	A							
	D 1956	A							
	D 1957	KA							
	D 1958	KA							
D 1959	KA								

OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE (*)	
BINZA BIN ( -4.27 15.37)	D 1960	KA		JFMAMJ JASOND								
	D 1961	KA	A	JFMAMJ JASOND								
	D 1962	KA	A	JFMAMJ JASOND								
	D 1963	KA	A	JFMAMJ JASOND								
	D 1964	KA	A	JFMAMJ JASOND								
	D 1965	KA	A	JFMAMJ JASOND								
	D 1966	KA	A	JFMAMJ JASOND								
	D 1967	KA	A	JFMAMJ JASOND								
	D 1968	KA	ABCD	JFMAMJ JASOND								
	D 1969	KA	AB D	JFMAMJ JASOND								
	D 1970	A	A	JFMAMJ JASOND								
	D 1971	A	A	JFMAMJ JASOND								
	D 1972	A	A	JFMAMJ JASOND								
	D 1973	A	A	JFMAMJ JASOND								
	D 1974		A	JFMAMJ JASOND								
	D 1975		A	JFMAMJ JASOND								
	D 1976	K	A	JFMAMJ JASOND								
	D 1977	K	A	JFMAMJ JASOND								
	D 1978	K	A	JFMAMJ JASOND								
D 1979	K	A	JFMAMJ JASOND									
BOCHUM BOC (051.49 7.23)	D 1902	A		JFMAMJ JASOND			JFMAMJ JASOND	A				
	D 1903	A		JFMAMJ JASOND			JFMAMJ JASOND	A				
	D 1904	A		JFMAMJ JASOND			JFMAMJ JASOND	A				
	D 1905	A		JFMAMJ JASOND			JFMAMJ JASOND	A				
	D 1906	A		JFMAMJ JASOND			JFMAMJ JASOND	A				
D 1907	A		JFMAMJ JASOND			JFMAMJ JASOND	A					
D 1908	A		JFMAMJ JASOND			JFMAMJ JASOND	A					
D 1909	A		JFMAMJ JASOND			JFMAMJ JASOND	A					
D 1910	A		JFMAMJ JASOND			JFMAMJ JASOND	A					
BODO BOD (069.30 014.42)	D 1932						JFMAMJ JA	C				
	D 1933						JFMAMJ JA	C				
							SONDI					
BOROK BOX (058.03 38.97)	D 1957	K		FMAMJ JASOND	ABC JFMA ASOND	A	JFMAMJ JASOND					
	D 1958	K	A	JFMAMJ JASOND	ABC JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1959	K	A	JFMAMJ JASOND	ABC JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1960	K		JFMAMJ JASOND	ABC JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1961	K	A	JFMAMJ JASOND	ABC JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1962	K	A	JFMAMJ JASOND	ABC JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1963	K	A	JFMAMJ JASOND	ABC JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1964	K	A	JFMAMJ JASOND	ABC JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1965	K	A	JFMAMJ J	ABC JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1966	K	A	JFMAMJ JASOND	ABC JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1968		A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1969		A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1970											
D 1971		A	JFMAMJ JASOND	B JFMAMJ JASOND	B	JFMAMJ JASOND						
D 1976	K	ABCD	JFMAMJ JASOND			JFMAMJ JASOND	A					
D 1977	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND	ABCD					
D 1977	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND	ABCD					

OBSERVATORY	COMP	YEAR	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				MAGNETOGRAMS	WDC	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE(*)
BOROK BOX (058.03 38.97)	D 1978	K	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1979		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1980		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1981	A	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1982	A	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1983	A	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1984		BCD	JFMAMJ	BCD	JFMAMJ	BCD	JFMAMJ	BCD	JFMAMJ	BCD	JFMAMJ	
	D 1932								C	JFMAMJ JA		OND	
D 1933								C	JFMAMJ JA				
BOULDER BOU (040.14 254.76)	D 1961		A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	AMJ JASOND	A	AMJ JASOND	A	JASOND	
	D 1962		A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1963	K	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1964	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1965	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1966	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1967	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1968	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1969	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1970	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1971	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1972	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1973	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1974	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1975	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1976	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1977	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1978	A	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	
	D 1979	A							A	JFMAMJ JASOND	A	JFMAMJ JASOND*	
	D 1980	A							A	JFMAMJ JASOND	A	JFMAMJ JASOND*	
D 1981	A							A	JFMAMJ JASOND	A	JFMAMJ JASOND*		
D 1982	A							A	JFMAMJ JASOND	A	JFMAMJ JASOND*		
D 1983	A							A	JFMAMJ JASOND	A	JFMAMJ JASOND*		
D 1984								A	JFMAMJ JASOND	A	JFMAMJ JASOND*		
D 1957	K											AMJ JASOND*	
D 1958	K											JFMAMJ JASOND*	
D 1959	K											JFMAMJ JASOND*	
D 1960	K											JFMAMJ JASOND*	
D 1961	K											JFMAMJ JASOND*	
D 1962	K											JFMAMJ JASOND*	
D 1963	K											JFMAMJ JASOND*	
D 1964	K											JFMAMJ JASOND*	
D 1980	A							AB D	JFMAMJ JASOND	AB D	JFMAMJ JASOND		
D 1982								AB D	JFMAMJ JASOND	AB D	JFMAMJ JASOND		
D 1984	K												
D 1985	K												
D 1949	A											JFMAMJ JASOND	
D 1950	A											JFMAMJ JASOND	

OBSERVATORY	YEAR	KAQ	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES ANY MEDIUM	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE	
								WDC	1.0-MINUTE(*)
BUDAKESZI BUZ (047.52 18.90)	D 1951	A			JFMAMJ JASOND				
	D 1952	A			JFMAMJ JASOND				
	D 1953	A			JFMAMJ JASOND				
	D 1954	A			JFMAMJ JASOND				
BUDKOV BDV (049.08 14.02)	D 1957	K			JFMAMJ JASOND				
	D 1958	K			JFMAMJ JASOND				
	D 1959	K			JFMAMJ JASOND				
	D 1960	K			JFMAMJ JASOND				
	D 1961	K			JFMAMJ JASOND				
	D 1962	K			JFMAMJ JASOND				
	D 1963	K			JFMAMJ JASOND				
	D 1964	K			JFMAMJ JASOND				
	D 1965	K			JFMAMJ JASOND				
	D 1966	K			JFMAMJ JASOND				
	D 1967	KA			JFMAMJ JASOND				
	D 1968	KA			JFMAMJ JASOND				
	D 1969	KA			JFMAMJ JASOND				
	D 1970	KA			JFMAMJ JASOND				
	D 1971	KA			JFMAMJ JASOND				
	D 1972	KA			JFMAMJ JASOND				
	D 1973	KA			JFMAMJ JASOND				
	D 1974	KA			JFMAMJ JASOND				
	D 1975	KA			JFMAMJ JASOND				
	D 1976	KA			JFMAMJ JASOND				
D 1977	KA			JFMAMJ JASOND					
D 1978	KA			JFMAMJ JASOND					
D 1979	KA			JFMAMJ JASOND					
D 1980	KA			JFMAMJ					
D 1981	KA								
D 1982	KA								
D 1983	K								
D 1984	K								
D 1985	K								
BURLINGTON BRT (039.38 257.73)	D 1957				J JASOND				
	D 1958	A			JFMAMJ JASOND				
	D 1959				J				
BYRD STATION BYR (-79.98 240.00)	D 1957	KA			JFMAMJ JASOND				
	D 1958	KA			JFMAMJ JASOND				
	D 1959	KA			JFMAMJ JASOND				
	D 1960	KA			JFMAMJ JASOND				
	D 1961	KA			JFMAMJ JASOND				
	D 1962	KA			JFMAMJ JASOND				
	D 1963	KA			JFMAMJ JASOND				
	D 1964	KA			JFMAMJ JASOND				
	D 1965	KA			JFMAMJ JASOND				
	D 1966				JFMAMJ JASOND				
	D 1967	KA			JFMAMJ JASOND				
	D 1968	KA			JFMAMJ JASOND				
(-80.02 240.48)	D 1969	K			JFMAMJ JASOND				
	D 1970	K			JFMAMJ JASOND				
	D 1971	K			JFMAMJ JASOND				

OBSERVATORY	COMP	YEAR	KAQ	RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE		
				WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	ON TAPE	WDC	1.0-MINUTE (*)		
CAMBRIDGE BAY CBB (069.20 255.00)	D 1972	A	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AMJ JASOND	A	AMJ JASOND	A	
	D 1973	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	D 1974	A	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	D 1975	A	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	D 1976	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	X 1977	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	X 1978	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	X 1979	A	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	X 1980	A	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	X 1981	A	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	X 1982	A	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	X 1983	A	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	X 1984		ABCD	JAS	JFMAMJ JAS	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	CAMPBELL ISLAND CAI (-52.50 169.20)	D 1979	K									
		D 1980	K									
D 1981		K										
CAMARIAS TEN (028.48 343.74)	D 1961	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1962	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1963	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1964	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1965	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1966	K	ABCD	JFMAM	JFMAM	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1967	KA	A CD	M	M	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1968	KA				ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1969	KA				ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1970	KA				ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1971	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1972	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1973	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1974	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
	D 1975	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A	
D 1976	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A		
D 1977	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A		
D 1978	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A		
D 1979	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A		
D 1980	KA	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A		
D 1981	K	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A		
D 1982	K	ABCD	JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A		
D 1983		A CD		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A		
D 1984	K			JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A		
CAMBERRA CAN (-35.32 149.36)	D 1979	KA				A	JFMAM	JFMAM	A	SOND		
	D 1980	KA				A	JFMAM	JFMAM	A	SOND		
	D 1981	KA										
CAPE CHELYUSKIN CCS	D 1983	KA										
	D 1984	K										
	D 1985	K										
D 1955	KA											



OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES		2.5-MINUTE 1.0-MINUTE(*)
					ANY MEDIUM	WDC	ON TAPE	WDC	
CAPE CHELYUSKIN CCS (077.72 104.28)	D 1956	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1957	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1958	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1959	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1960	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1961	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1962	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1963	KA	JFMAMJ JASOND	B	JFMAMJ JASOND	ABCD			
	D 1964	KAQ	JFMAMJ JASOND	B	JFMAMJ JASOND	ABCD			
	D 1965	KAQ	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1966	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1967	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1968	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1969	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1970	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1971	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1972	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1973	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1974	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1975	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
D 1976	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				
D 1977	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				
D 1978	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				
D 1979	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				
D 1980	KA	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				
D 1981	KA	A CD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
D 1982	KA	A CD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
D 1983	K	A	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
D 1984	K		JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
CAPE GOOD HOPE CGH (-33.93 018.48)	D 1841	A			AMJ JASOND	A			
	D 1842	A			JFMAMJ JASOND	A			
	D 1843	A			JFMAMJ JASOND	A			
	D 1844	A			JFMAMJ JASOND	A			
	D 1845	A			JFMAMJ JASOND	A			
	D 1846	A			JFMAMJ JASOND	A			
CAPE HALLETT HLL (-72.32 170.22)	D 1957	K	JASOND		JASOND	A			
	D 1958	K	JFMAMJ JASOND		JFMAMJ JASOND	A			
	D 1959	K	JFMAMJ JASOND		JFMAMJ JASOND	A			
	D 1960	K	JFMAMJ JASOND		JFMAMJ JASOND	A			
	D 1961	K	JFMAMJ JASOND		JFMAMJ JASOND	A			
	D 1962	K	JFMAMJ JASOND		JFMAMJ JASOND	A			
CAPE KAMENNIY CKA (068.50 073.60)	D 1973		ND						
	D 1974		JFMAMJ JASOND						
	D 1975		JFMAMJ JASOND						
	D 1976		JFMAMJ JASOND						
	D 1977		JFMAMJ JASOND						
D 1978		AB D	JFMAMJ JASOND						
CAPE PARRY CPY (070.17 235.28)	D 1977								ND*
	D 1978								JFMAMJ JASOND*
	D 1979								JFMAMJ JASOND*
	D 1980								JFMAMJ JASOND*

OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES		2.5-MINUTE 1.0-MINUTE(*)	
						ANY	MEDIUM	ON	TAPE	WDC	WDC
CAPE PARRY CPY (070.17 235.28)	D 1981									A	JFMAMJ JA OND*
	D 1982									A	JFMAMJ JASOND*
	D 1983									A	JFMAMJ JASOND*
CAPE SCHMIDT CPS (068.92 180.52)	D 1967		AB	JASOND							
	D 1968		AB	JASOND							
CAPE TOWN CTO (-33.95 18.47)	D 1932						JFMAMJ	JASOND	JFMAMJ	JASOND	
	D 1933	A					JFMAMJ	JASOND	JFMAMJ	JASOND	
	D 1934	A					JFMAMJ	JASOND	JFMAMJ	JASOND	
	D 1935	A					JFMAMJ	JASOND	JFMAMJ	JASOND	
	D 1936	A					JFMAMJ	JASOND	JFMAMJ	JASOND	
	D 1937	A					JFMAMJ	JASOND	JFMAMJ	JASOND	
	D 1938	A					JFMAMJ	JASOND	JFMAMJ	JASOND	
	D 1939	A					JFMAMJ	JASOND	JFMAMJ	JASOND	
	D 1940	KA					JFMAMJ	JASOND	JFMAMJ	JASOND	
CAPE WELLEN CWE (066.16 190.17)	D 1952	KA									
	D 1953	KA									
	D 1954	KA									
	D 1955	KA									
	D 1956	KA									
	D 1957	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1958	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1959	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1960	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1961	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1962	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1963	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1964	KAQ	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1965	KAQ	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1966	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1967	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1968	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1969	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1970	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
	D 1971	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND		
D 1972	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND			
D 1973	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND			
D 1974	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND			
D 1975	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND			
D 1976	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND			
D 1977	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND			
D 1978	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND			
D 1979	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND			
D 1980	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND			
D 1981	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND			
D 1982	KA	ABCD	JFMAMJ	JASOND		ABCD	JFMAMJ	JASOND			
D 1983	K	AB	JFMAMJ	JASOND		AB	JFMAMJ	JASOND			
D 1984	K										
CAPE ZHELANIA CZA (077.00 068.60)	D 1974		ABCD	JF	OND						
	D 1975		B	JFMAMJ	JASO						

OBSERVATORY	YEAR	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)
CAPE ZHELANIA	D	1976	B	JFMAMJ JASO							
CZA											
(077.00 068.60)											
CAPRI	D	1957	K	JASOND			JASOND				
CPT	D	1958	K	JFMAMJ JASOND			JFMAMJ JASOND				
(040.55 014.22)	D	1959		JFMAMJ JASOND			JFMAMJ JA				
	D	1961		FMAMJ JASOND			FMAMJ JASOND				
	D	1962		JFMAMJ JASOND			JFMAMJ JASOND				
	D	1963		JFMAMJ JASOND			JFMAMJ JASOND				
	D	1964		JFMAMJ JASOND			JFMAMJ JASOND				
	D	1965		JFMAMJ JASOND			JFMAMJ JASOND				
	D	1966		JFMAMJ JASOND			JFMAMJ JASOND				
	D	1967		JFMAMJ JASOND			JFMAMJ JASOND				
	D	1968		JFMAMJ JASOND			JFMAMJ JASOND				
	D	1969		JFMAMJ JASOND			JFMAMJ JASOND				
	D	1970		JFMAMJ JASOND			JFMAMJ JASOND				
	D	1971		AB D			JFMAMJ JASOND				
	D	1972		AB D			JFMAMJ JASOND				
	D	1973		A D			JFMAMJ JASOND				
	D	1974		A D			JFMAMJ JASOND				
	D	1975		A			JFMAMJ JASOND				
	D	1976		A			JFMAMJ JASOND				
	D	1977					JFMAMJ JASOND				
	D	1978					JFMAMJ JASOND				
	D	1979					JFMAMJ JASOND				
CARROLLTON	D	1957		JASOND			JFMAMJ JASOND				
CAX	D	1958	A	JFMAMJ JASOND			J				
(039.37 266.47)	D	1959		JF							
CASPER	D	1957		JASOND			ASOND				
CSR	D	1958	A	JFMAMJ JASOND			JF AMJ JASON				
(042.83 253.63)	D	1959		JF							
CASTELLACCIO	D	1933	A				JFMAMJ JASOND				
CAO	D	1934	A				JFMAMJ JASOND				
(044.43 8.93)	D	1935	A				JFMAMJ JASOND				
	D	1936	A				JFMAMJ JASOND				
	D	1937	A				JFMAMJ JASOND				
	D	1938	A				JFMAMJ JASOND				
	D	1939	A				JFMAMJ JASOND				
	D	1940	A				JFMAMJ JASOND				
	D	1941	A				JFMAMJ JASOND				
	D	1942	A				JFMAMJ JASOND				
	D	1943	A				JFMAMJ JASOND				
	D	1944	A				JFMAMJ JASOND				
	D	1945	A				JFMAMJ JASOND				
	D	1946	A				JFMAMJ JASOND				
	D	1947	A				JFMAMJ JASOND				
	D	1957	A	JASOND			JFMAMJ JASOND				
	D	1958	A	JFMAMJ JASOND			JFMAMJ JASOND				

OBSERVATORY	YEAR COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	ANY	ON TAPE	WDC	1.0-MINUTE(*)
CASTELLACCIO CAO (044.43 8.93)	D 1959	A	AB D	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	D 1960	A	AB D	JFMAMJ JASOND			AB D	JFMAMJ JASOND				
	D 1961	A	AB D	JFMAMJ JASOND			AB D	JFMAMJ JASOND				
	D 1962	A	AB D	JFMAMJ JASOND			AB D	JFMAMJ JASOND				
CASTLE ROCK CRC (037.24 237.87)	D 1970	A					A D	AMJ JASOND	A	AMJ JASOND	A	AMJ JASOND
	D 1971	A					A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1972	A					A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1973	A					A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND
D 1974	A					A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
CEBU CCP (010.30 123.90)	D 1961		ABCD	JASOND								
CHA PA CPA (022.35 103.83)	D 1957	A	ABCD	ASOND			ABCD	JASOND				
	D 1958	A	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND				
	D 1959	A	ABCD	JFMAMJ JASOND			ABCD	JASOND				
	D 1960	A										
	D 1961	A					B	JFMAMJ JASOND				
	D 1962	A					B	JFMAMJ JASOND				
	D 1963	A					B	JFMAMJ JASOND				
	D 1964	A					I	JFMAMJ JASOND				
	D 1965	A					I	JFMAMJ JASOND				
	D 1966	A					B	JFMAMJ JASOND				
	D 1967	A					B	JFMAMJ JASOND				
CHAMBON-LA-FORET CLF (048.02 2.26)	D 1936	A					A	JFMAMJ JASOND				
	D 1937	A					A	JFMAMJ JASOND				
	D 1938	A					A	JFMAMJ JASOND				
	D 1939	A					A	JFMAMJ JASOND				
	D 1940	KA					A	JFMAMJ JASOND				
	D 1941	KA					A	JFMAMJ JASOND				
	D 1942	KA					A	JFMAMJ JASOND				
	D 1943	KA					A	JFMAMJ JASOND				
	D 1944	KA					A	JFMAMJ JASOND				
	D 1945	KA					A	JFMAMJ JASOND				
	D 1946	KA					A	JFMAMJ JASOND				
	D 1947	KA					A	JFMAMJ JASOND				
	D 1948	KA					A	JFMAMJ JASOND				
	D 1949	KA					A	JFMAMJ JASOND				
	D 1950	KA					A	JFMAMJ JASOND				
	D 1951	KA					A	JFMAMJ JASOND				
	D 1952	KA					A	JFMAMJ JASOND				
	D 1953	KA					A	JFMAMJ JASOND				
	D 1954	KA					A	JFMAMJ JASOND				
	D 1955	KA					A	JFMAMJ JASOND				
	D 1956	KA					A	JFMAMJ JASOND				
	D 1957	KA		ABCD	JFMAMJ JASOND	ABC	JASOND	AB D	JFMAMJ JASOND			
	D 1958	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB D	JFMAMJ JASOND			
	D 1959	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB D	JFMAMJ JASOND			
	D 1960	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB D	JFMAMJ JASOND			
	D 1961	KA		ABCD	JFMAMJ JASOND			AB D	JFMAMJ JASOND			
D 1962	KA		ABCD	JFMAMJ JASOND			AB D	JFMAMJ JASOND				

OBSERVATORY YEAR KAQ COMP

OBSERVATORY	YEAR	KAQ	COMP	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON	TAPE	WDC	1.0-MINUTE
CHAMBON-LA-FORET CLF (048.02 2.26)	D 1963	KA		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB D	JFMAMJ JASOND	AB E	JFMAMJ JASOND	
	D 1964	KA		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB DE	JFMAMJ JASOND			
	D 1965	KA		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	D	JFMAMJ JASOND			
	D 1966	KA		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	D	JFMAMJ JASOND			
	D 1967	KA		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	D	JFMAMJ JASOND			
	D 1968	KA		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
	D 1969	KA		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
	D 1970	KA		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
	D 1971	KA		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
	D 1972	KA		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
	D 1973	KA		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
	D 1974	KA		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
	D 1975	KA		JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A CD	JFMAMJ JASOND			
	D 1976	KA		JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A CD	JFMAMJ JASOND			
	D 1977	KA		JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A CD	JFMAMJ JASOND			
	D 1978	KA		JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD	JFMAMJ JASOND			
	D 1979	KA		JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A CD	JFMAMJ JASOND			
	D 1980	KA		JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD	JFMAMJ JASOND			
	D 1981	KA		JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD	JFMAMJ JASOND			
	D 1982	KA		JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD	JFMAMJ JASOND			
D 1983	KA		JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD	JFMAMJ JASOND				
D 1984	K							A CD	JFMAMJ JASOND				
D 1985	K							A	JFMAMJ JASOND				

CHANGCHUN D 1980  
CNH  
(044.05 125.21)

CHARACATO ARE (-16.47 288.52)	D 1959			AMJ JASOND	A	AMJ JASOND	A	AMJ JASOND					
	D 1960			F AMJ JASOND	A	F AMJ JASOND	A	F AMJ JASOND					
	D 1961			JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1962			JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1963			JFM M J JASOND	A	JFM M J JASOND	A	JFM M J JASOND					
	D 1964			JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB E	JFMAMJ JASOND	
	D 1965			JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND			
	D 1966			JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND			
	D 1967			JASOND	A	JASOND	A	JASOND					
	D 1968			JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
	D 1969			JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
	D 1970			JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
	D 1971			JFMAMJ ASOND	A	JFMAMJ ASOND	A	JFMAMJ ASOND					
	D 1972			JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1973			JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1974			JFMAM ND	A	JFMAM ND	A	JFMAM ND						
D 1975			JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND						

CHARCOT D 1932  
CTX (-69.37 139.03)  
D 1933  
D 1934  
D 1935  
D 1936  
D 1937  
D 1938

OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		WDC	WDC	2.5-MINUTE 1.0-MINUTE(*)
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON	TAPE			
CHARCOT CTX (-69.37 139.03)	D 1939							AB E	JFMAMJ JASOND	AB E	JFMAMJ JASOND	AB E	JFMAMJ JASOND	
	D 1940							AB E	JFMAMJ JASOND	AB E	JFMAMJ JASOND	AB E	JFMAMJ JASOND	
	D 1957 KA		D		MJ JASOND			AB D	MJ JASOND					
	D 1958 KA		D	J	ASOND			AB D	MJ JASOND					
CHATONWAYE CTE (046.67 006.83)	D 1967							AB	JFMAM ASOND					
	D 1968							B	J J SO D					
	D 1969							B	J ASOND					
	D 1970							B	A					
CHELTENHAM CLH (038.73 283.16)	D 1901	A	A		AMJ JASOND			A	AMJ JASOND			AB	AMJ JASOND	
	D 1902	A	A		AM J			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1903	A	A		A J JASO D			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1904	A	A		MAMJ JASO			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1905	A	A		FMA J JAS N			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1906	A	A		F MJ JAS D			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1907	A	A		JFM M JA ON			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1908	A	A		M M JAS			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1909	A	A		J M M ASO			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1910	A	A		MA ASO			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1911	A	A		FMA ASO D			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1912	A	A		A O D			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1913	A	A		J MA SO			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1914	A	A		A J J SON			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1915	A	A		MA J ASOND			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1916	A	A		J MAM A ON			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1917	A	A		JF A J JASO D			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1918	A	A		MAMJ ASOND			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1919	A	A		JF M ASO D			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1920	A	A		MAM S D			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1921	A	A		AM S N			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1922	A	A		J M SO			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1923	A	A		M J SO			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1924	A	A		J MJ O			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1925	A	A		ASO			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1926	A	A		JFMA J SO			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1927	A	A		J MAM JA O			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1928	A	A		M JASO			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1929	A	A		FM JA N			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1930	A	A		M MJ S D			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1931	A	A		J J SO			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
	D 1932	A	A		M M ASO			A	JFMAMJ JASOND			AB	JFMAMJ JASOND	
D 1933	A	A		M JAS			A	JFMAMJ JASOND			AB	JFMAMJ JASOND		
D 1934	A	A		F J S D			A	JFMAMJ JASOND			AB	JFMAMJ JASOND		
D 1935	A	A		M MJ J SO			A	JFMAMJ JASOND			AB	JFMAMJ JASOND		
D 1936	A	A		A J ON			A	JFMAMJ JASOND			AB	JFMAMJ JASOND		
D 1937	KA	A		JFMAMJ JASOND			A	JFMAMJ JASOND			AB	JFMAMJ JASOND		
D 1938	KA	A		JFMAMJ JASOND			A	JFMAMJ JASOND			AB	JFMAMJ JASOND		
D 1939	KA	A		JFMAMJ JASOND			A	JFMAMJ JASOND			AB	JFMAMJ JASOND		
D 1940	KA	A		JFMAMJ JASOND			A	JFMAMJ JASOND			AB	JFMAMJ JASOND		
D 1941	KA	A		JFMAMJ JASOND			A	JFMAMJ JASOND			AB	JFMAMJ JASOND		
D 1942	KA	A		JFMAMJ JASOND			A	JFMAMJ JASOND			AB	JFMAMJ JASOND		

OBSERVATORY	YEAR	COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE (*)
CHELTENHAM CLH (038.73 283.16)	D 1943	KA	A	JFMAMJ JASOND				A E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1944	KA	A	JFMAMJ JASOND				A E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1945	KA	A	JFMAMJ JASOND				A E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1946	KA	A	JFMAMJ JASOND				A E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1947	KA	A	JFMAMJ JASOND				A E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1948	KA	A	JFMAMJ JASOND				A E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1949	KA	A	JFMAMJ JASOND				A E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1950	KA	A	JFMAMJ JASOND				A E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1951	KA	A	JFMAMJ JASOND				A E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1952	KA	A	JFMAMJ JASOND				A E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1953	KA	A	JFMAMJ JASOND				A C E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1954	KA	A	JFMAMJ JASOND				A C E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1955	KA	A	JFMAMJ JASOND				A C E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1956	KA	A	JFMAMJ JAS				A E	JFMAMJ JASOND	AB E	JFMAMJ JASOND		
	D 1932	INL	D					A	SONE				
	D 1933	CFI	D					A	JFMAMJ JA				
	(063.33 269.28)												
CHICHIJIMA CBI (027.08 142.17)	D 1973							A	JFMAMJ JASOND				
	D 1974							A	JFMAMJ JASOND				
	D 1975							A	JFMAMJ JASOND				
	D 1976							A	JFMAMJ JASOND				
	D 1980	A						A D	JFMAMJ JASOND				
D 1981	A						A D	JFMAMJ JASOND					
D 1982	A						A D	JFMAMJ JASOND					
CHICLAYO	D 1957		ABCD	ASOND				ABCD	ASOND				
	D 1958		ABCD	JFMAMJ JASOND				ABCD	JFMAMJ JASOND				
	D 1959		ABCD	JFMAMJ JASOND				ABCD	JFMAMJ JASOND				
	D 1960		ABCD	JF				ABCD	JF				
	D 1974		ABCD					ABCD					
D 1975		ABCD					ABCD						
CHIMBOTE CMB (-09.10 281.40)	D 1957		ABCD	ONDI				ABCD	ONDI				
	D 1958		ABCD	JFMAMJ JASOND				ABCD	JFMAMJ JASOND				
	D 1959		ABCD	JFMAMJ JASOND				ABCD	JFMAMJ JASOND				
	D 1960		ABCD	J				ABCD	J				
	D 1974							B	JFMAMJ JASOND				
D 1975							B	JFMAMJ JASOND					
CHIRIPA CRP (010.44 275.09)	D 1982	A											
CHRISTCHURCH CHR (-43.53 172.62)	D 1928	A						A	JFMAMJ JASOND				
	D 1929	A						A	JFMAMJ JASOND				
	D 1930	A						A	JFMAMJ JASOND				

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE (*)	
											2.5-MINUTE	1.0-MINUTE (*)
CLIMAX CLI (039.37 253.82)	D 1957		BC	J JASOND		BC	J JASOND					
	D 1958		BC	JFMAMJ JASOND		BC	MJ JASOND					
	D 1959		BC	J		B	J					
COIMBRA COI (040.21 351.58)	D 1921	A	A	MAM S N		A	JFMAMJ JASOND	A				
	D 1922	A	A	J M M O		A	JFMAMJ JASOND	A				
	D 1923	A	A	M J SO		A	JFMAMJ JASOND	A				
	D 1924	A	A	M J O		A	JFMAMJ JASOND	A				
	D 1925	A	A	MJ ASON		A	JFMAMJ JASOND	A				
	D 1926	A				A	JFMAMJ JASOND	A				
	D 1927	A				A	JFMAMJ JASOND	A				
	D 1928	A				A	JFMAMJ JASOND	A				
	D 1929	A				A	JFMAMJ JASOND	A				
	(040.22 351.58)	D 1938	A				A	JFMAMJ JASOND	A			
D 1939	A					A	JFMAMJ J	A				
D 1940	A					A	JFMAMJ JASOND	A				
D 1941	A					A	JFMAMJ JASOND	A				
D 1951	A					A	OND	A				
D 1952	KA					A	JFMAMJ JASOND	A				
D 1953	KA					A	JFMAMJ JASOND	A				
D 1954	KA					A	JFMAMJ JASOND	A				
D 1955	KA					A	JFMAMJ JASOND	A				
D 1956	KA					A	JFMAMJ JASOND	A				
D 1957	KA			JASOND		A	JFMAMJ JASOND	A				
D 1958	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1959	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1960	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1961	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1962	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1963	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1964	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1965	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1966	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1967	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1968	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1969	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1970	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1971	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1972	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1973	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1974	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
D 1975	KA			JFMAMJ JASOND		A	JFMAMJ JASOND	A				
									AB E JFMAMJ JASOND			
									AB E JFMAMJ JASOND			



OBSERVATORY	YEAR	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES		WDC	ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)
						ANY	MEDIUM	ON TAPE	WDC				
COIMBRA COI (040.22 351.58)	D 1976	KA	A	JFMAMJ JASOND		A	D	JFMAMJ JASOND					
	D 1977	KA	A	JFMAMJ JASOND		D	D	JFMAMJ JASOND					
	D 1978	KA				B	D	JFMAMJ JASOND					
	D 1979	KA				B		JFMAMJ JASOND					
	D 1980	KA				AB		JFMAMJ JASOND					
	D 1981	K											
	D 1982	KA											
	D 1983	KA											
	D 1984	K											
	D 1985	K											
	D 1932						A	I	OND				
	D 1933	A					A	I	JFMAMJ JASOND				
	D 1934						A	I	JFM				
	D 1941	KA	A		JASOND								
	D 1942	KA	A		JFMAMJ JASOND		A	E	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1943	KA	A		JFMAMJ JASOND		A	E	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND		
D 1944	KA	A		JFMAMJ JASOND		A	C	E	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1945	KA	A		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1946	KA	A		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1947	KA	A		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1948	KA	A		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1949	KA	A		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1950	KA	A	C	JFMAMJ JASOND		A	C	E	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1951	KA	A	C	JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1952	KA	A	C	JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1953	KA	A	C	JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1954	KA	A	C	JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1955	KA	A	C	JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1956	KA	A	C	JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1957	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1958	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1959	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1960	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1961	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1962	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1963	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1964	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1965	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1966	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1967	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1968	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1969	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1970	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1971	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
D 1972	KA	ABCD		JFMAMJ JASOND		A	C	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	

OBSERVATORY	YEAR COMP	KAQ	NORMAL MAGNETOGRAMS		RAPID RUN MAGNETOGRAMS		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE 1.0-MINUTE(*)		
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	ON TAPE	WDC	WDC	WDC	
COLLEGE CMO (064.86 212.16)	D 1973	KA	ABCD	JFMAMJ JASONDI	ABC	JFMAMJ JASONDI	ABCDE	JFMAMJ JASONDI	AB	EI	JFMAMJ JASONDI	A	
	D 1974	KA	ABCD	JFMAMJ JASONDI	ABC	JFMAMJ JASONDI	ABCDE	JFMAMJ JASONDI	AB	EI	JFMAMJ JASONDI	A	
	D 1975	KA	ABCD	JFMAMJ JASONDI	ABC	JFMAMJ JASONDI	ABCDE	JFMAMJ JASONDI	AB	EI	JFMAMJ JASONDI*	A	
	D 1976	KA	ABCD	JFMAMJ JASONDI	ABC	JFMAMJ JASONDI	ABCDE	JFMAMJ JASONDI	AB	EI	JFMAMJ JASONDI*	A	
	D 1977	KA	ABCD	JFMAMJ JASONDI	ABC	JFMAMJ JASONDI	ABCDE	JFMAMJ JASONDI	AB	EI	JFMAMJ JASONDI*	A	
	D 1978	KA	ABCD	JFMAMJ JASONDI	ABC	JFMAMJ JASONDI	ABCD	JFMAMJ JASONDI	AB	I	JFMAMJ JASONDI*	A	
	D 1979	KA	ABCD	JFMAMJ JASONDI	ABC	JFMAMJ JASONDI	ABCD	JFMAMJ JASONDI	AB	JFMAMJ JASONDI	JFMAMJ JASONDI*	A	
	D 1980	KA	ABCD	JFMAMJ JASONDI	ABC	JFMAMJ JASONDI	ABCD	JFMAMJ JASONDI	AB	JFMAMJ JASONDI	JFMAMJ JASONDI*	A	
	D 1981	KA	ABCD	JFMAMJ JASONDI	ABC	JFMAMJ JASONDI	ABCD	JFMAMJ JASONDI	AB	JFMAMJ JASONDI	JFMAMJ JASONDI*	A	
	D 1982	KA	ABCD	JFMAMJ JASONDI	ABC	JFMAMJ JASONDI	ABCD	JFMAMJ JASONDI	A	JFMAMJ JASONDI	JFMAMJ JASONDI*	A	
	D 1983	KA	ABCD	JFMAMJ JASONDI	ABC	JFMAMJ JASONDI	ABCD	JFMAMJ JASONDI	A	JFMAMJ JASONDI	JFMAMJ JASONDI*	A	
	D 1984	K					A	JFMAMJ JASONDI					
	D 1985	K					A	JFMAMJ JASONDI					
	COLLMBERG CLL (051.32 13.00)	D 1954	K										
		D 1955	K										
		D 1956	K										
		D 1957	K										
D 1958		K											
D 1959		K											
D 1960		K											
D 1961		K											
D 1962		K											
D 1964		K											
D 1965	K												
D 1966	K												
D 1967	K												
COPENHAGEN COP (055.68 12.58)	D 1892	A					A	AMJ JASONDI					
	D 1893	A					A	JFMAMJ JASONDI					
	D 1894	A					A	JFMAMJ JASONDI					
	D 1895	A					A	JFMAMJ JASONDI					
	D 1896	A					A	JFMAMJ JASONDI					
	D 1897	A					A	JFMAMJ JASONDI					
	D 1898	A					A	JFMAMJ JASONDI					
	D 1899	A					A	JFMAMJ JASONDI					
	D 1900						A	JFMAMJ JASONDI					
	D 1979	A	A				A						
COSTA RICA SNJ ( 9.91 276.04)	D 1965												
	D 1966												
CUZCO CUS (-13.53 288.03)	D 1965												
	D 1966												
DALLAS DAL (032.99 263.25)	D 1964	A	ABCD	JFMAMJ JASONDI	ABCDE	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	
	D 1965	A	ABCD	JFMAMJ JASONDI	ABCDE	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	
	D 1966	KA	ABCD	JFMAMJ JASONDI	ABCDE	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	
	D 1967	KA	ABCD	JFMAMJ JASONDI	ABCDE	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	
	D 1968	KA	ABCD	JFMAMJ JASONDI	ABCDE	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	
	D 1969	KA	ABCD	JFMAMJ JASONDI	ABCDE	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	
	D 1970	KA	ABCD	JFMAMJ JASONDI	ABCDE	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	AB	E	JFMAMJ JASONDI	

OBSERVATORY	YEAR	KAQ	COMP	RAPID RUN		NORMAL		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	ON TAPE	WDC	1.0-MINUTE(*)	
DALLAS DAL (032.99 263.25)	D 1971	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	AB E	JFMAMJ JASOND	A	MAMJ JASOND		
	D 1972	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	AB E	JFMAMJ JASOND	A	JFMAMJ JASOND		
	D 1973	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	AB E	JFMAMJ JASOND	A	JFMAMJ JASOND		
	D 1974	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	AB E	JFMAMJ JASOND	A	JFMAMJ		
	D 1975			ABCD	JFMAM								
DAR ES SALAAM DRS ( -6.78 39.22)	D 1968			A	ASOND								
	D 1969			AB	JFMAMJ JASOND								
	D 1970			AB	JFMAMJ JASOND								
	D 1971			AB	JFMAMJ JASOND								
	D 1972			ABCD	JFMAMJ JASOND								
D 1973			AB	JFMAMJ JASOND									
D 1974			AB	JFMAM									
D 1976			A	JFMAMJ JAS									
DAVAO DAV (007.05 125.38)	D 1965			ABCD	AMJ JASOND								
	D 1966			ABCD	JFMAMJ JASOND								
	D 1967			ABCD	JFMAMJ JASOND								
	D 1968		A	ABCD	JFMAMJ JASOND			AB D	JFMAMJ JASOND				
	D 1969		A	ABCD	JFMAMJ JASOND			AB D	JFMAMJ JASOND				
	D 1970		A	ABCD	JFMAMJ JASOND			AB D	JFMAMJ JASOND				
	D 1971		A	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	D 1972		A	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	D 1973		A	ABCD	JFMAMJ JASOND			A CD	JFMAMJ JASOND				
	D 1974		A	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	D 1975		A	ABCD	JFMAMJ JASOND			A CD	JFMAMJ JASOND				
	D 1976		A	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	D 1977		A	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	D 1978			ABCD	JFMAMJ JASOND			AB D	JFMAMJ JASOND				
	D 1979			ABCD	JFMAMJ JASOND			A	JFMAMJ JASOND				
	D 1980			ABCD	JFMAMJ JASOND			A	JFMAMJ JASOND				
	D 1981			ABCD	JFMAMJ JASOND			A	JFMAMJ JASOND				
	D 1982	K		ABCD	JFMAMJ JASOND			A D	JFMAMJ JASOND				
	D 1983			A	JFMAMJ JASOND			A	JFMAMJ JASOND				
	D 1984			A	JFMAMJ JASO D			A	JFMAMJ JASO D				
DE BILT DBN (052.10 5.18)	D 1903		A										
	D 1904		A										
	D 1905		A										
	D 1906		A										
	D 1907		A										
	D 1908		A										
	D 1909		A										
	D 1910		A										
	D 1911		A										
	D 1912		A										
	D 1913		A										
	D 1914		A										
	D 1915		A										
	D 1916		A										
	D 1917		A										
D 1918		A											
D 1919		A											

OBSERVATORY	YEAR COMP	KAQ	NORMAL MAGNETOGRAMS		RAPID RUN MAGNETOGRAMS		HOURLY VALUES ANY MEDIUM		HOURLY VALUES ON TAPE		2.5-MINUTE 1.0-MINUTE(*)	
			WDC		WDC		WDC		WDC		WDC	
DE BILT DBN (052.10 5.18)	D 1920	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1921	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1922	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1923	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1924	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1925	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1926	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1927	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1928	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1929	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1930	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1931	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1932	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1933	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1934	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1935	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1936	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
D 1937	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	
D 1938	A					A	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	
DEL RIO	D 1982						A	JFMAMJ	A	JFMAMJ	A	JFMAMJ
DLR (029.49 259.08)	D 1983						A	JFMAMJ	A	JFMAMJ	A	JFMAMJ
DIXON ISLAND	D 1955	KA						JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1956	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1957	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1958	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1959	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1960	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1961	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1962	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1963	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1964	KAQ							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1965	KAQ							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1966	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1967	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1968	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1969	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1970	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1971	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1972	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1973	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1974	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1975	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1976	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1977	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1978	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1979	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1980	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1981	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ
D 1982	KA							JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ

OBSERVATORY	YEAR	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE(*)
DIXON ISLAND DIK (073.54 80.56)	D 1983	K	AB	JFMAMJ JASOND								
	D 1984	K										
DOMBAS DOB (062.08 9.10)	D 1916	A					C	AMJ JASOND				
	D 1917	A					C	JFMAMJ JASOND				
	D 1918	A					C	JFMAMJ JASOND				
	D 1919	A					C	JFMAMJ JASOND				
	D 1920	A					C	JFMAMJ JASOND				
	D 1921	A					C	JFMAMJ JASOND				
	D 1922	A					C	JFMAMJ JASOND				
	D 1923	A					C	JFMAMJ JASOND				
	D 1924	A					C	JFMAMJ JASOND				
	D 1925	A					C	JFMAMJ JASOND				
	D 1926	A					C	JFMAMJ JASOND				
	D 1927	A					C	JFMAMJ JASOND				
	D 1928	A					C	JFMAMJ JASOND				
	D 1929	A					C	JFMAMJ JASOND				
	D 1930	A					C	JFMAMJ JASOND				
	D 1931	A					C	JFMAMJ JASOND				
	D 1932	A					C	JFMAMJ JASOND				
(062.07 9.12)	D 1938	A					I	JASOND				
	D 1939	A					I	JFMAMJ JASOND				
	D 1940	KA					I	JFMAMJ JASOND				
	D 1941	KA					I	JFMAMJ JASOND				
	D 1942	KA					I	JFMAMJ JASOND				
	D 1943	KA					I	JFMAMJ JASOND				
	D 1944	KA					I	JFMAMJ JASOND				
	D 1945	KA					I	JFMAMJ JASOND				
	D 1946	KA					I	JFMAMJ JASOND				
	D 1947	KA					I	JFMAMJ JASOND				
	D 1948	KA					I	JFMAMJ JASOND				
	D 1949	KA					I	JFMAMJ JASOND				
	D 1950	KA					I	JFMAMJ JASOND				
	D 1951	KA					I	JFMAMJ JASOND				
	D 1952	KA					I	JFMAMJ JASOND				
	D 1953	KA					I	JFMAMJ JASOND				
	D 1954	KA					I	JFMAMJ JASOND				
D 1955	KA					I	JFMAMJ JASOND					
D 1956	KA					I	JFMAMJ JASOND					
D 1957	KA					I	JFMAMJ JASOND					
D 1958	KA					I	JFMAMJ JASOND					
D 1959	KA					I	JFMAMJ JASOND					
D 1960	KA					I	JFMAMJ JASOND					
D 1961	KA					I	JFMAMJ JASOND					
D 1962	KA					I	JFMAMJ JASOND					
D 1963	KA					I	JFMAMJ JASOND					
D 1964	KA		ABCD	JFMAMJ JASOND			AB	EI JFMAMJ JASOND				
D 1965	KA		ABCD	JFMAMJ JASOND			AB	EI JFMAMJ JASOND				
D 1966	KA		ABCD	JFMAMJ JASOND			AB	EI JFMAMJ JASOND				

OBSERVATORY	YEAR	COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		2.5-MINUTE	
							ANY	MEDIUM	ON TAPE	1.0-MINUTE(*)
DOMBAS DOB (062.07 9.12)	D 1967	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND	AB	EI	J JAS
	D 1968	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1969	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1970	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1971	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1972	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1973	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1974	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1975	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1976	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1977	KA	CD	CD	JFMAMJ JASOND		A CD I JFMAMJ JASOND			
	D 1978	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1979	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1980	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1981	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1982	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1983	KA	ABCD	JFMAMJ JASOND		ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
D 1984	K	A								
D 1985	K									
DORBES DOU (050.10 4.60)	D 1955	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1956	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1957	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1958	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1959	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1960	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1961	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1962	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1963	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1964	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1965	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1966	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1967	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1968	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1969	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1970	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
	D 1971	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND			
D 1972	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND				
D 1973	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND				
D 1974	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND				
D 1975	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND				
D 1976	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND				
D 1977	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND				
D 1978	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND				
D 1979	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND				
D 1980	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND				
D 1981	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND				
D 1982	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND				
D 1983	KA	ABCD	JASOND	JASOND	ABCD I JFMAMJ JASOND	ABCD I JFMAMJ JASOND				
D 1984	K									
D 1985	K									
DUMONT DURVILLE	X	1951						A		AMJ JASOND
DRV										

OBSERVATORY	YEAR	KAQ	WDC	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	ON TAPE	1.0-MINUTE	WDC		
DUMONT DURVILLE DRV (-66.67 140.01)	X 1952												
	X 1957	KA	ABCD	AMJ JASOND				AMJ JASOND					
	X 1958	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1959	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1960	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1961	K											
	X 1962	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1963	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1964	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1965	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1966	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1967	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1968	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1969	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1970	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1971	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1972	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1973	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1974	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1975	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1976	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1977	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1978	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1979	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1980	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1981	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1982	A	ABCD	JFMAMJ JASOND				JFMAMJ JASOND					
	X 1983												
EASTER ISLAND	D 1958	A	ABCD	M MJ JA ON									
EIC (-27.17 250.58)	D 1960		ABCD	JFMAMJ JASOND									
	D 1961	A	ABCD	JFMAMJ J									
	D 1962	A	A	JFMAMJ JASOND									
	D 1963	A	ABCD	JFMAMJ JASOND									
	D 1964		A D	JFMAMJ JASOND									
	D 1968	A	A	MAM									
EBRO	D 1910	A											
EBR (040.82 0.49)	D 1911	A											
	D 1912	A											
	D 1913	A											
	D 1914	A											
	D 1915	A											
	D 1916	A											
	D 1917	A											
	D 1918	A											
	D 1919	A											
	D 1920	A											

OBSERVATORY	YEAR COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		2.5-MINUTE		
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ON TAPE	WDC	1.0-MINUTE(*)	
EBRO EBR (040.82 0.49)	D 1921	A					A	JFMAMJ JASOND			
	D 1922	A					A	JFMAMJ JASOND			
	D 1923	A					A	JFMAMJ JASOND			
	D 1924	A					A	JFMAMJ JASOND			
	D 1925	A					A	JFMAMJ JASOND			
	D 1926	A					A	JFMAMJ JASOND			
	D 1927	A					A	JFMAMJ JASOND			
	D 1928	A					A	JFMAMJ JASOND			
	D 1929	A					A	JFMAMJ JASOND			
	D 1930	A					A	JFMAMJ JASOND			
	D 1931	A					A	JFMAMJ OND			
	D 1932	A					A C	JFMAMJ JASOND			
	D 1933	A					A C	F AMJ JASOND			
	D 1934	A					A C	JFM JASOND			
	D 1935	A					A	JFMAMJ JASOND			
	D 1936	A					A	JFMAMJ JASOND			
	D 1937	A					A	JFMAMJ JASOND			
	D 1942	K									
	D 1943	KA									
	D 1944	KA									
	D 1945	KA									
	D 1946	KA									
	D 1947	KA									
	D 1948	KA									
	D 1949	KA									
	D 1950	KA									
	D 1951	KA									
	D 1952	KA									
	D 1953	KA									
	D 1954	KA									
	D 1955	KA									
	D 1956	KA									
	D 1957	KA		ABCD	JASOND		ABCD		JASOND		
	D 1958	KA		ABCD	JFMAMJ JASOND		ABCD		JFMAMJ JASOND		
	D 1959	KA									
	D 1960	KA									
	D 1961	KA									
D 1962	KA										
D 1963	KA										
D 1964	KA		ABCD	JFMAMJ JASOND		ABCD		JFMAMJ JASOND			
D 1965	KA		ABCD	JFMAMJ JASOND		ABCD		JFMAMJ JASOND			
D 1966	KA		ABCD	JFMAMJ JASOND		ABCD		JFMAMJ JASOND			
D 1967	KA		ABCD	JFMAMJ JASOND		ABCD		JFMAMJ JASOND			
D 1968	KA		ABCD	JFMAMJ JASOND		ABCD		JFMAMJ JASOND			
D 1969	KA		ABCD	JFMAMJ JASOND		ABCD		JFMAMJ JASOND			
D 1970	KA		ABCD	JFMAMJ JASOND		ABCD		JFMAMJ JASOND			
D 1971	KA		ABCD	JFMAMJ JASOND		ABCD		JFMAMJ JASOND			
D 1972	KA		ABCD	JFMAMJ JASOND		ABCD		JFMAMJ JASOND			
D 1973	KA		ABCD	JFMAMJ JASOND		ABCD		JFMAMJ JASOND			
D 1974	KA		ABCD	JFMAMJ JASOND	B	JFMAMJ JASOND	A CD	JFMAMJ JASOND	JFMAMJ JASO	S	



OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
						ANY	MEDIUM				WDC	WDC
EBRO EBR (040.82 0.49)	D 1975	A	ABCD	JFMAMJ JASONDI		ABCD	JFMAMJ JASONDI					
	D 1976	A	ABCD	JFMAMJ JASONDI		ABCD	JFMAMJ JASONDI					
	D 1977	A	A	JFMAMJ JASONDI		A	JFMAMJ JASONDI					
	D 1978	A	A	JFMAMJ JASONDI		A	JFMAMJ JASONDI		JFMAMJ JASONDI	AB		
	D 1979	A	A	JFMAMJ JASONDI		A	JFMAMJ JASONDI					
EIELSON AFB ENB (064.67 212.92)	D 1983					A	ASO					
	D 1966		ABC	JFMAMJ JASONDI								
	D 1967		ABC	JFMAMJ JASONDI								
	D 1968		ABC	JFMAMJ JASONDI								
	D 1969		ABC	JFMAMJ JASONDI								
EIGHTS EGS (-75.23 282.83)	D 1970		ABC	JFMAMJ JASONDI								
	D 1971		ABC	JFMAMJ JASONDI								
	D 1972		ABC	JFMAMJ JASONDI								
	D 1973		A	JFMAMJ JASONDI								
	D 1974		A	JFMAMJ JASONDI								
ELIZABETHVILLE ELI (-11.66 27.47)	D 1976		B	JFMAMJ JASONDI								
	D 1963	KA	A	J JASONDI	JFMAMJ JASONDI	A	J JASONDI	JFMAMJ JASONDI	AB E	AB E	A	SOND
	D 1964	KA	A	JFMAMJ JASONDI	JFMAMJ JASO	AB E	JFMAMJ JASO	JFMAMJ JASO	AB E	AB E	A	JFMAMJ JAS
	D 1965	KA	A	JFMAMJ JASO		AB E					A	
	D 1932	A				A C	ND					
ENKOPING ENK (059.60 017.02)	D 1933	A				A C	JFMAMJ JASONDI					
	D 1934	A				A	JFMAMJ JAS					
	D 1938	A				A	JFMAMJ JASONDI					
	D 1939	A				A	JFMAMJ JASONDI					
	D 1940	A				A	JFMAMJ JASONDI					
ENKOPING ENK (059.60 017.02)	D 1941	A				A	JFMAMJ JASONDI					
	D 1942	A				A	JFMAMJ JASONDI					
	D 1943	A				A	JFMAMJ JASONDI					
	D 1944	A				A	JFMAMJ JASONDI					
	D 1945	A				A	JFMAMJ JASONDI					
	D 1965					BC	JFMAMJ JASONDI					
	D 1966					BC	JFMAMJ JASONDI					
	D 1967					BC	JFMAMJ JASONDI					
	D 1968					ABC	JFMAMJ JASONDI					
	D 1969					ABC	JFMAMJ JASONDI					
D 1970					ABC	JFMAMJ JASONDI						
D 1971					BC	JFMAMJ JASONDI						
D 1972					A C	JFMAMJ JASONDI						
D 1973					C	JFMAMJ JASONDI						
D 1974					A C	JFMAMJ JASONDI						
D 1975					A C	JFMAMJ JASONDI						
D 1977					A C	JFMAMJ JASONDI						
D 1978					A C	JFMAMJ JASONDI						
D 1979					A C	JFMAMJ JASONDI						

OBSERVATORY	YEAR	COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				MAGNETOGRAMS	JASOND	MAGNETOGRAMS	A C JFMAMJ JASOND	WDC	ANY	MEDIUM	ON TAPE	WDC	1.0-MINUTE
ENKOPING	1980	D	A		JFMAMJ JASOND		A C JFMAMJ JASOND						
ENK													
(059.60 017.02)													
ESKDALEMUIR	1911	D	A										
ESK	1912	D	A										
(055.32 356.80)	1913	D	A										
	1914	D	A										
	1915	D	A										
	1916	D	A										
	1917	D	A										
	1918	D	A										
	1919	D	A										
	1920	D	A										
	1921	D	A										
	1922	D	A										
	1923	D	A										
	1924	D	A										
	1925	D	A										
	1926	D	A										
	1927	D	A										
	1928	D	A										
	1929	D	A										
	1930	D	A										
	1931	D	A										
	1932	D	A										
	1933	D	A										
	1934	D	A										
	1935	D	A										
	1936	D	A										
	1937	D	A										
	1938	D	A										
	1939	D	A										
	1940	D	KA										
	1941	D	KA										
	1942	D	KA										
	1943	D	KA										
	1944	D	KA										
	1945	D	KA										
	1946	D	KA										
	1947	D	KA										
	1948	D	KA										
	1949	D	KA										
	1950	D	KA	AB D	JFMAMJ JASOND								
	1951	D	KA	AB D	JFMAMJ JASOND								
	1952	D	KA	AB D	JFMAMJ JASOND								
	1953	D	KA	AB D	JFMAMJ JASOND								
	1954	D	KA	AB D	JFMAMJ JASOND								
	1955	D	KA	AB D	JFMAMJ JASOND								
	1956	D	KA	AB D	JFMAMJ JASOND								
	1957	D	KAQ	ABCD	JFMAMJ JASOND								

OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES		2.5-MINUTE 1.0-MINUTE(*)
					WDC	WDC	ANY	MEDIUM	
ESKDALEMUIR ESK (055.32 356.80)	D 1958	KAQ	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1959	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1960	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1961	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1962	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1963	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1964	KA	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1965	KA	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1966	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1967	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1968	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1969	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1970	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1971	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1972	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1973	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1974	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1975	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1976	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1977	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
D 1978	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND		
D 1979	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND		
D 1980	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND		
D 1981	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND		
D 1982	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND		
D 1983	KA	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND		
D 1984	K	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND		
D 1985	K	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND		
ESKIMO POINT EKP (061.10 265.93)	D 1974		ASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1975		JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1976		JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1977				ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1978				ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
D 1979				ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND		
D 1980				ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND		
D 1981				ABCDEI	JFMAMJ JASOND	ABC	JFMAMJ JASOND		
ESPANOLA EPN (035.98 253.95)	D 1957		J JASOND		ABC	J JASOND	ABC	J JASOND	
	D 1958	A	JFMAMJ JASOND		ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	
	D 1959		J		ABC	J	ABC	J	
	D 1976		FM						
ETTAYAPURAM ETT (009.00 078.00)	D 1977	A							
	D 1978								
EUSEBIO EUS (-3.89 321.56)	D 1977	A							
	D 1978								
	D 1979								
	D 1980								
D 1981									
D 1982									
EYREWELL EYR	D 1978	KA							
	D 1979	KA							

OBSERVATORY	YEAR	KAQ	COMP	Rapid Run Magnetograms	Normal Magnetograms	WDC	Hourly Values		Hourly Values Any Medium	WDC	Hourly Values On Tape	WDC	2.5-Minute 1.0-Minute(*)	
							Any	Medium					On	Tape
EYREWELL EYR (-43.42 172.35)	D 1981	K	A		ND									
	D 1983	KA												
	D 1984	K												
	D 1985	K												
FANNING FAN (003.91 200.61)	D 1957	A	ABCD		JASOND		AB	E	JASOND					
	D 1958	A	ABCD		JASOND		AB	E	JASOND					
	D 1959						AB	E	JASOND					
	D 1960						AB	E	JASOND					
FORT CHURCHILL FCC (058.77 265.90)	D 1957	A	ABCD		J JASOND		ABCD		JFMAMJ JASOND					
	D 1958	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1959				JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1960				JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1961				JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1962				JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1963				JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1964	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1965	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1966	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1967	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1968	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1969	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1970	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1971	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1972	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1973	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1974	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1975	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
	D 1976	KA	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND					
X 1977	KA	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND						
X 1978	KA	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND						
X 1979	KA	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND						
X 1980	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND						
X 1981	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND						
X 1982	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND						
X 1983	A	ABCD		JFMAMJ JASOND		ABCD		JFMAMJ JASOND						
X 1984		ABCD		JFMAMJ JAS		ABCD		JFMAMJ JASOND						
FORT RAE FRA (062.80 243.90)	D 1932						A		ASOND					
	D 1933						A		JFMAMJ JA					
	D 1964						A		JFMAMJ JASOND					
FORT SIMPSON FSP (061.75 238.77)	D 1977													JASOND*
	D 1978													J MAMJ JASOND*
	D 1979													JFM JA OND*
	D 1980													JFMAMJ JASOND*
	D 1981													JFMAMJ JASOND*
	D 1982													JFMAMJ JASOND*
D 1983													A JFMAMJ JASOND*	
FORT SMITH FSM (058.00 246.00)	D 1977													D*
	D 1978													A J JASOND*
	D 1979													JFMAMJ JASOND*

OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE (*)		
											J	SOND*	
FORT SMITH FSM (058.00 246.00)	D 1980										A	J SOND*	
	D 1981										A	FMAMJ JASOND*	
	D 1982										A	JFMAMJ JASOND*	
	D 1983										A	JFMAMJ JASOND*	
												A	JFMAMJ JASOND*
FORT YUKON FYU (066.57 214.73)	D 1957	A	J JASOND	ABCD			J JA OND	ABCD			AB		
	D 1958	A	JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD			E		
	D 1959												
	D 1968		FM										
	D 1973		JFMAMJ JASOND	A									
	D 1974		JFMAMJ JASOND	A									
	D 1975		JFMAMJ JASOND	A									
	D 1976		JFMAMJ JASOND	A									
	D 1977												
	D 1978												
	D 1979												
	D 1980												
	D 1981												
	D 1982												
D 1983													
FREDERICKSBURG FRD (038.21 282.63)	D 1956	KA	JFMAMJ JASOND	A C	JFMAMJ JASOND	ABC	J JASOND	A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1957	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1958	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1959	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1960	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1961	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1962	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1963	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1964	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1965	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1966	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1967	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1968	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1969	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1970	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1971	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1972	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1973	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1974	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1975	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1976	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1977	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1978	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1979	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1980	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1981	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1982	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1983	KA	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1984	K											
	D 1985	K											

OBSERVATORY	YEAR	COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		WDC		WDC		WDC		2.5-MINUTE	1.0-MINUTE (*)
				MAGNETOGRAMS	JASOND	MAGNETOGRAMS	MAGNETOGRAMS	ANY	MEDIUM	ON	TAPE	HOURLY VALUES	WDC	HOURLY VALUES	WDC		
FREETOWN FTN (008.47 346.78)	D 1961			ABCD	JASOND			ABCD	JASOND								
	D 1962			ABCD	JFMAMJ			ABCD	JFMAMJ								
	D 1963			ABCD	JFMAMJ			ABCD	JFMAMJ								
	D 1964			ABCD	JFMAMJ			ABCD	JFMAMJ								
	D 1965			ABCD	JFMAMJ			ABCD	JFMAMJ								
	D 1966			ABCD	JFMAMJ			ABCD	JFMAMJ								
	D 1967			ABCD	JF J			ABCD	JFMAMJ								
FUQUENE FUQ (005.47 286.26)	D 1955		A					A	JFMAMJ								
	D 1956		A					A C	JFMAMJ								
	D 1957	KA		ABCD	JASOND			ABCD	JASOND								
	D 1958	KA		ABCD	JASOND			ABCD	JASOND								
	D 1959	KA		ABCD	JASOND			ABCD	JASOND								
	D 1960	KA		ABCD	JASOND			ABCD	JASOND								
	D 1961	KA		ABCD	JASOND			ABCD	JASOND								
	D 1962	KA		ABCD	JASOND			ABCD	JASOND								
	D 1963	KA		ABCD	JASOND			ABCD	JASOND								
	D 1964	KA		ABCD	JASOND			ABCD	JASOND								
	D 1965	KA		ABCD	JASOND			ABCD	JASOND								
	D 1966	KA		ABCD	JASOND			ABCD	JASOND								
	D 1967	KA		ABCD	JASOND			ABCD	JASOND								
	D 1968	KA		ABCD	JASOND			ABCD	JASOND								
	D 1969	KA		ABCD	JASOND			ABCD	JASOND								
	D 1970	KA		ABCD	JASOND			AB D	JFMAMJ								
	D 1971	KA		ABCD	JASOND			AB D	JFMAMJ								
	D 1972	KA		ABCD	JASOND			AB D	JFMAMJ								
	D 1973	KA		A				A	JFMAMJ								
	D 1974	KA		A				A	JFMAMJ								
D 1975	KA		A				A	JFMAMJ									
D 1976	KA		ABCD	JASOND			ABCD	JASOND									
D 1977	KA		ABCD	JASOND			ABCD	JASOND									
D 1978	KA		ABCD	JASOND			ABC	JFMAMJ									
D 1979	KA		ABCD	JASOND			ABCD	JASOND									
D 1980	KA		ABCD	JASOND			ABCD	JASOND									
D 1981	KA		ABCD	JASOND			AB D	JFMAMJ									
D 1982	A		A				A	JFMAMJ									
FURSTENFELDBRUCK FUR (048.17 11.28)	D 1940		A					ABCD	JASOND								
	D 1941		A					ABCD	JASOND								
	D 1942		A					ABCD	JASOND								
	D 1943		A					ABCD	JASOND								
	D 1944	KA		ABCD	JASOND			ABCD	JASOND								
	D 1945	KA		ABCD	JASOND			ABCD	JASOND								
	D 1946	KA		ABCD	JASOND			ABCD	JASOND								
	D 1947	KA		ABCD	JASOND			ABCD	JASOND								
	D 1948	KA		ABCD	JASOND			ABCD	JASOND								
	D 1949	KA		ABCD	JASOND			A CD I	JFMAMJ								
	D 1950	KA		ABCD	JASOND			A CD I	JFMAMJ								
	D 1951	KA		ABCD	JASOND			A CD I	JFMAMJ								
	D 1952	KA		ABCD	JASOND			A CD I	JFMAMJ								
	D 1953	KA		ABCD	JASOND			A CD I	JFMAMJ								
	D 1954	KA		ABCD	JASOND			A CD I	JFMAMJ								
D 1955	KA		ABCD	JASOND			A CD I	JFMAMJ									

OBSERVATORY	COMP	YEAR	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		WDC	ON TAPE	2.5-MINUTE	
							ANY	MEDIUM			WDC	1.0-MINUTE (*)
FURSTENFELDBRUCK FUR (048.17 11.28)	D 1956	KA		A	JFMAMJ JASOND							
	D 1957	KA		CD I	JFMAMJ JASOND							
	D 1958	KA		ABCD I	JFMAMJ JASOND							
	D 1959	KA		ABCD I	JFMAMJ JASOND							
	D 1960	KA		ABCD I	JFMAMJ JASOND							
	D 1961	KA		ABCD I	JFMAMJ JASOND							
	D 1962	KA		ABCD I	JFMAMJ JASOND							
	D 1963	KA		ABCD I	JFMAMJ JASOND							
	D 1964	KA		ABCD	JFMAMJ JASOND							
	D 1965	KA		ABCD	JFMAMJ JASOND							
	D 1966	KA		ABCD	JFMAMJ JASOND							
	D 1967	KA		ABCD	JFMAMJ JASOND							
	D 1968	KA		ABCD	JFMAMJ JASOND							
	D 1969	KA		ABCD	JFMAMJ JASOND							
	D 1970	KA		ABCD	JFMAMJ JASOND							
	D 1971	KA		ABCD	JFMAMJ JASOND							
	D 1972	KA		ABCD	JFMAMJ JASOND							
	D 1973	KA		ABCD	JFMAMJ JASOND							
	D 1974	KA		ABCD	JFMAMJ JASOND							
	D 1975	KA		ABCD	JFMAMJ JASOND							
D 1976	KA		ABCD	JFMAMJ JASOND								
D 1977	KA		ABCD	JFMAMJ JASOND								
D 1978	KA		ABCD	JFMAMJ JASOND								
D 1979	KA		ABCD	JFMAMJ JASOND								
D 1980	KA		ABCD	JFMAMJ JASOND								
D 1981	KA		ABCD	JFMAMJ JASOND								
D 1982	KA		ABCD	JFMAMJ JASOND								
D 1983	KA		ABCD	JFMAMJ JASOND								
D 1984	KA		A	JFMAMJ JASOND								
GENOVA GEN (044.55 008.95)	D 1958			B I	JASOND							
	D 1959			B I	JFMAMJ JASOND							
	D 1960			BC	JFMAMJ JASOND							
	D 1961			BC	JFMAMJ JASOND							
	D 1962			BC	JFMAMJ JASOND							
	D 1962											
GILLAM GIM (056.85 265.58)	D 1973			A	MJ JASOND							
	D 1974			ABC	JFMAM							
	D 1975			ABC	JASOND							
	D 1976			ABC	JFMAM							
	D 1977											
	D 1978											
	D 1979											
	D 1980											
GJOAHAVN GJO (068.63 264.08)	D 1903			A	JFMAMJ JASOND							
	D 1904			A	JFMAMJ JASOND							
	D 1905			A	JFMAMJ JASOND							
GLENLEA GLL (049.60 262.90)	X 1980			AB	JFMAMJ JASOND							
	X 1981			ABCD	JFMAMJ JASOND							
	X 1982	A		ABCD	JFMAMJ JASOND							
	X 1983			ABCD	JFMAMJ JASOND							
	X 1984			ABCD	JFMAMJ JAS							
GNANGARA	D 1957	K		A	CDE	JASOND						

OBSERVATORY	YEAR	COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE		
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE (*)	
GNANGARA GNA (-31.78 115.95)	1958	D	K	ABCD	JFMAMJ JASOND			A CDE	JFMAMJ JASOND	E	JFMAMJ JASOND	E	JFMAMJ JASOND	
	1959	D	KA	ABCD	JFMAMJ JASOND			A CDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1960	D	KA	ABCD	JFMAMJ JASOND			A CD	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1961	D	KA	ABCD	JFMAMJ JASOND			A CDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1962	D	KA	ABCD	JFMAMJ JASOND			A CD	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1963	D	KA	ABCD	JFMAMJ JASOND			A CD	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1964	D	KA	ABCD	JFMAMJ JASOND			ABCDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1965	D	KA	ABCD	JFMAMJ JASOND			ABCDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1966	D	KA	ABCD	JFMAMJ JASOND			ABCDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1967	D	KA	ABCD	JFMAMJ JASOND			ABCDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1968	D	KA	ABCD	JFMAMJ JASOND			ABCDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1969	D	KA	ABCD	JFMAMJ JASOND			ABCDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1970	D	KA	ABCD	JFMAMJ JASOND			ABCDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1971	D	KA	ABCD	JFMAMJ JASOND			A DE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1972	D	KA	ABCD	JFMAMJ JASOND									
	1973	D	KA	ABCD	JFMAMJ JASOND									
	1974	D	KA	A D	JFMAMJ JASOND									
	1975	D	KA	ABCD	JFMAMJ JASOND									
	1976	D	KA	AB D	JFMAMJ JASOND									
	1977	D	KA	ABCD	JFMAMJ JASOND									
1978	D	KA	ABCD	JFMAMJ JASOND										
1979	D	KA	ABCD	JFMAMJ JASOND										
1980	D	KA	ABCD	JFMAMJ JASOND										
1981	D	KA	ABCD	JFMAMJ JASOND										
1982	D	KA	ABCD	JFMAMJ JASOND										
1983	D	KA	A	JFMAMJ JASO										
1984	D	K												
1985	D	K												
GODHAVN GDH (069.24 306.48)	1926	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1927	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1928	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1929	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1930	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1931	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1932	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1933	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1934	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1935	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1936	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1937	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1938	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1939	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1940	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1941	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1942	D	A	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1943	D	KA	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1944	D	KA	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
	1945	D	KA	D	JFMAMJ JASOND			A	JFMAMJ JASOND					
1946	D	KA	D	JFMAMJ JASOND			A C	JFMAMJ JASOND						
1947	D	KA	D	JFMAMJ JASOND			A C	JFMAMJ JASOND						
1948	D	A	D	JFMAMJ JASOND			A C I	JFMAMJ JASOND						



OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
						ANY	MEDIUM				ANY	MEDIUM
GODHAVN GDH (069.24 306.48)	D 1949	A	D	JFMAMJ JASOND		I	JFMAMJ JASOND	A C				
	D 1950	A	D	JFMAMJ JASOND		I	JFMAMJ JASOND	A C				
	D 1951	KA	D	JFMAMJ JASOND		I	JFMAMJ JASOND	A C				
	D 1952	KA	D	JFMAMJ JASOND		I	JFMAMJ JASOND	A C				
	D 1953	KA	D	JFMAMJ JASOND		I	JFMAMJ JASOND	A C				
	D 1954	KA	D	JFMAMJ JASOND		I	JFMAMJ JASOND	A C				
	D 1955	KA	D	JFMAMJ JASOND		I	JFMAMJ JASOND	A				
	D 1956	KA	D	JFMAMJ JASOND		I	JFMAMJ JASOND	A				
	D 1957	KAQ	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	ABCD				
	D 1958	KAQ	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	ABCD		JFMAMJ JASOND		
	D 1959	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	ABCD		JFMAMJ JASOND		
	D 1960	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	ABCD		JFMAMJ JASOND		
	D 1961	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB D		JFMAMJ JASOND		
	D 1962	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	ABCD		JFMAMJ JASOND		
	D 1963	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	ABCD		JFMAMJ JASOND		
	D 1964	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND		I	JFMAMJ JASOND	AB	JFMAMJ JASOND		SONC
	D 1965	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND		I	JFMAMJ JASOND	AB	JFMAMJ JASOND		JASOND
	D 1966	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND		M
	D 1967	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND		
	D 1968	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND		SO D
	D 1969	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND		JF AMJ
	D 1970	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND		JASO
	D 1971	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND		M
	D 1972	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND		
	D 1973	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND		
	D 1974	KA	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND		
	D 1975	A	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND		
	D 1976	A	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND		
D 1977	A	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND			
D 1978	A	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND			
D 1979	A	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND			
D 1980	A	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND			
D 1981	A	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND			
D 1982	A	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND			
D 1983	A	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND			
D 1984	A	ABCD	JFMAMJ JASOND		I	JFMAMJ JASOND	AB		JFMAMJ JASOND			
GONZALES VIDELA	D 1961	A	A	MAMJ JASOND			MAMJ JASOND	A				
GVD												
(-64.82 297.15)												
GOTTINGEN	D 1957		AB D	JASOND								
GTT	D 1958		AB D	JFMAMJ JASOND								
(051.53 9.97)												
GRAHAMSTOWN	D 1974						JFMAMJ JASOND	A				
GRM	D 1975						JFMAMJ JASOND	A				
(-33.32 26.50)	D 1976						JFMAMJ JASOND	A				
	D 1977						JFMAMJ JASOND	A				
	D 1978						JFMAMJ JASOND	A				
	D 1979						JFMAMJ JASOND	A				
	D 1980						JFMAMJ JASOND	A				

OBSERVATORY	YEAR	COMP	KAQ	NORMA L		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	ANY	MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE(*)
GREAT WHALE R. GWC (055.27 282.22)	D 1965			ABCD	JFM ASOND	ABC JFM ASOND	A DE	JFMAMJ JASOND	SOND	EI	A	JFMAMJ	JASOND
	D 1966		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	A DE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	D 1967		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	D 1968		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	D 1969		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	D 1970		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	D 1971		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	D 1972		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	D 1973		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	D 1974		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	AB	JFMAMJ	JASOND
	D 1975		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	X 1976		KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	X 1977		KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	X 1978		KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	X 1979		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	X 1980		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	X 1981		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
	X 1982		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND
X 1983		A	ABCD	JFMAMJ JASOND	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND	
X 1984		A	ABCD	JFMAMJ JAS	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND	EI	A	JFMAMJ	JASOND	
GREENWICH GRW (051.48 0.00)	D 1916		A		JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND				
	D 1917		A		JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND				
	D 1918		A		JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND				
	D 1919		A		JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND				
	D 1920		A		JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND				
	D 1921		A		JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND				
	D 1922		A		JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND				
	D 1923		A		JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND				
	D 1924		A		JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND				
	D 1925		A		JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND				
	D 1926		A		JFMAMJ JAS	ABC JFMAMJ	ABCDE	JFMAMJ JASOND	JFMAMJ JASOND				
	GROCKA GCK (044.63 20.77)	D 1958		KA	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND			
D 1959			KA										
D 1960			KA										
D 1961			KA										
D 1962			KA										
D 1963			KA										
D 1964			KA	B	JFMAMJ JASOND	JFMAMJ JASOND	AB	JFMAMJ JASOND	JFMAMJ JASOND				
D 1965			KA	B	JFMAMJ JASOND	JFMAMJ JASOND	AB	JFMAMJ JASOND	JFMAMJ JASOND				
D 1966			KA										
D 1967			KA										
D 1968			KA										
D 1969			KA										
D 1970		KA											
D 1971		KA											
D 1972		KA											
GUAM GUA (013.58 144.87)	D 1957		KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	JFMAMJ JASOND	E	A	JFMAMJ	JASOND
	D 1958		KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	JFMAMJ JASOND	E	A	JFMAMJ	JASOND
	D 1959		KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	JFMAMJ JASOND	E	A	JFMAMJ	JASOND
	D 1960		KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	JFMAMJ JASOND	E	A	JFMAMJ	JASOND
	D 1961		KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	JFMAMJ JASOND	E	A	JFMAMJ	JASOND



OBSERVATORY	YEAR	KAQ	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)
					ANY	MEDIUM	ON TAPE	WDC		
HARTEBEESTHOEK HBK (-25.88 27.71)	D 1972				A	JFMAMJ JASOND				
	D 1973				A	JFMAMJ JASOND				
	D 1974				A	JFMAMJ JASOND				
	D 1975				A	JFMAMJ JASOND				
	D 1976				A	JFMAMJ JASOND				
	D 1977	A			A D	JFMAMJ JASOND				
	D 1978	A			A D	JFMAMJ JASOND				
	D 1979	A			A D	JFMAMJ JASOND				
	D 1980	A			B D	JFMAMJ JASOND				
	D 1981	A			B D	JFMAMJ JASOND				
	D 1982	A			B D	JFMAMJ JASOND				
	D 1972	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND			
	D 1958	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND			
D 1959	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1960	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1961	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1962	KA	A CD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1963	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1964	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1965	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1966	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1967	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1968	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1969	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1970	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1971	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1972	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1973	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1974	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1975	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1976	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1977	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1978	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1979	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1980	KA	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND				
D 1981	KA	BCD	JFMAMJ JASOND		ABCDE	JFMAMJ JASOND				
D 1982	KA	BCD	JFMAMJ JASOND		ABCDE	JFMAMJ JASOND				
D 1983	K				E	JFMAMJ JASOND				
D 1984	K				E	JFMAMJ JASOND				
D 1985					E	JFMAMJ JASOND				
D 1967	A				A	J JASOND				
D 1968	A				A	JFMAMJ JASOND				
D 1969	A	ABCD	JFMAMJ JASOND		A	JFMAMJ JASOND				
D 1970	A	ABCD	JFMAMJ JASOND		A	JFMAMJ JASOND				
D 1971		ABCD	JFMAMJ JASOND		AB D	JFMAMJ JASOND				
D 1972		ABCD	JFMAMJ JASOND		AB D	JFMAMJ JASOND				
D 1973					AB D	JFMAMJ JASOND				
D 1979	KA	ABCD	JFMAMJ JASOND		A	JFMAMJ JASOND				
D 1980	A	ABCD	JFMAMJ JASOND		ABC	JFMAMJ JASOND				
D 1981	A	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND				
D 1982	KA	A CD	JFMAMJ JASOND		A CD	JFMAMJ JASOND				

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
HATIZYO HTY (033.07 139.83)	D 1983	A	CD	JFMAMJ JASONDJ									
HAVANA HVN (022.97 277.86)	D 1964 D 1965 D 1966 D 1967 D 1968 D 1969 D 1970 D 1971 D 1972	K KA KA KA KA K K K K	ABCD ABCD ABCD ABCD ABCD AB K K K	ASONDI JFMAMJ JASONDI JFMAMJ JASONDI JFMAMJ JASONDI JFMAMJ JASONDI JFMAMJ JASONDI JFMAMJ JASONDI JFMAMJ JASONDI JFMAMJ JASONDI	ABCD ABCD ABCD ABCD ABCD AB K K K			ASONDI JFMAMJ JASONDI JFMAMJ JASONDI JFMAMJ JASONDI JFMAMJ JASONDI JFMAMJ JASONDI JFMAMJ JASONDI JFMAMJ JASONDI JFMAMJ JASONDI	ABCD ABCD ABCD ABCD ABCD B B B B	E E E E E E E E E	A A A A A A A A A	JF AMJ JF AMJ JF AMJ JF AMJ JF AMJ JF AMJ JF AMJ JF AMJ JF AMJ	
HEALY HEA (063.86 211.03)	D 1957 D 1958 D 1959	A A A	ABCD ABCD A	JASONDI JFMAMJ JASONDI J	ABCD ABCD A	ABC ABC JFMAMJ JASONDI A C J		JASONDI JASONDI JASONDI	ABCD ABCD	JFMAMJ JASONDI JFMAMJ JASONDI			
HEARD ISLAND HII (-53.03 73.37)	D 1952 D 1953 D 1954	KA KA A						MAMJ JASONDI JFMAMJ JASONDI JFMAMJ JASO	A A A				
HEISS ISLAND HIS (080.62 58.05)	D 1957 D 1958 D 1959 D 1960 D 1961 D 1962 D 1963 D 1964 D 1965 D 1966 D 1967 D 1968 D 1969 D 1970 D 1971 D 1972 D 1973 D 1974 D 1975 D 1976 D 1977 D 1978 D 1979 D 1980	K KA KA KA KA KA KA KAQ KAQ KA KA KA KA KA KA KA KA KA KA KA KA KA KA KA K	BC ABCD	JFMAMJ JASONDI JFMAMJ JASONDI	BC ABCD	A C JFMAMJ JASO D A C JFMAMJ JASONDI		JFMAMJ JASONDI JFMAMJ JASONDI	ABC ABCD	E E	JFMAMJ JASONDI JFMAMJ JASONDI		

OBSERVATORY	YEAR COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	ANY	MEDIUM	ON	TAPE	WDC	1.0-MINUTE(*)
HEISS ISLAND HIS (080.62 58.05)	D 1981	KA	ABCD	JFMAMJ JASOND								
	D 1982	KA	AB	JFMAMJ JASOND								
	D 1983	K	AB	JFMAMJ JASOND								
	D 1984	K										
HEL HLP (054.61 18.82)	D 1957	KA	AB D	JASOND								
	D 1958	KA	AB D	JFMAMJ JASOND								
	D 1959	KA	AB D	JFMAMJ JASOND								
	D 1960	KA										
	D 1961	KA	ABCD	JFMAMJ JASOND								
	D 1962	KA										
	D 1963	KA	ABCD	JFMAMJ JASOND								
	D 1964	KA	ABCD	JFMAMJ JASOND								
	D 1965	KA										
	D 1966	KA										
	D 1967	KA										
	D 1968	KA										
	D 1969	KA										
	D 1970	KA										
	D 1971	KA										
	D 1972	KA										
	D 1973	KA										
	D 1974	KA										
	D 1975	KA										
	D 1976	KA										
D 1977	KA											
D 1978	KA											
D 1979	KA											
D 1980	KA											
D 1981	KA											
D 1982	KA											
D 1983	KA											
HELMAN HLW (029.86 31.34)	D 1947	A										
	D 1948	A										
	D 1949	A										
HERMANUS HER (-34.43 19.23)	D 1956	KA										
	D 1957	KA										
	D 1958	KA										
	D 1959	KA										
	D 1960	KA										
	D 1979											
D 1980												
HERMANUS HER (-34.43 19.23)	D 1941	KA										
	D 1942	KA										
	D 1943	KA										
	D 1944	KA										
	D 1945	KA										
	D 1946	KA										
	D 1947	KA										
	D 1948	KA										

OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS		RAPID RUN MAGNETOGRAMS		HOURLY VALUES ANY MEDIUM		WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM				
HERMANUS HER (-34.43 19.23)	D 1949	KA						A EI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1950	KA						A EI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1951	KA						A EI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1952	KA						A EI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1953	KA						A EI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1954	KA						A EI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1955	KA						A EI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1956	KA						A EI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1957	KA		ABCD	JASOND	ABC	JASOND	ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1958	KA		ABCD	JASOND	ABC	JFMAMJ JASONJ	ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1959	KA		ABC	JFMAMJ JASONJ	ABC	JFMAMJ JASONJ	ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1960	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1961	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1962	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1963	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1964	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1965	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	
	D 1966	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1967	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1968	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1969	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1970	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1971	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1972	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1973	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1974	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1975	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1976	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1977	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1978	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1979	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1980	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
	D 1981	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ
D 1982	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	
D 1983	KA		ABCD	JASOND			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	
D 1984	K		A	JFMAMJ JA			ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	
D 1985	K						ABCDEI	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	AB	JFMAMJ JASONJ	
HOLLANDIA HMA (-2.57 140.51)	D 1957	KA	ABCD	JASOND	ABC	JAS	ABC	ABCD	JASOND	ABCD	JASOND	ABCD	
	D 1958	KA	ABCD	JASOND	ABC	JFMAMJ JASONJ	ABC	ABCD	JASOND	ABCD	JASOND	ABCD	
	D 1959	KA	ABCD	JFMAMJ JASONJ				ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	
	D 1960	KA	ABCD	JFMAMJ JASONJ				ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	
	D 1961	KA	ABCD	JFMAMJ JASONJ				ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	
	D 1962	KA	ABCD	JFMAMJ JA				ABCD	JFMAMJ JASONJ	ABCD	JFMAMJ JASONJ	ABCD	
HONG KONG HKC (022.36 114.22)	D 1971		A	JFMAMJ JASOND		ND		A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	D 1972		A	JFMAMJ JASOND		ND		A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	D 1973		ABCD	JFMAMJ JASOND				ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
	D 1974	A	A	JFMAMJ JASOND				A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	D 1975	A	A	JFMAMJ JASOND				A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	D 1976	A	A	JFMAMJ JASOND				AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	
	D 1977	A	A	JFMAMJ JASOND				AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	
	D 1978	A	A	JFMAMJ JASOND				AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	

OBSERVATORY	YEAR	KAQ	COMP	RAPID RUN		NORMAL		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE		1.0-MINUTE	
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	WDC	MEDIUM	WDC	ON	TAPE	WDC
HONOLULU	D 1902	A	A	AM	J	A	J	JFMAMJ	JASOND	AB	JFMAMJ	JASOND			
HON	D 1903	A	A	A	J	A	J	JFMAMJ	JASOND	AB	JFMAMJ	JASOND			
(021.32 201.94)	D 1904	A	A	MAMJ	JASON	A		JFMAMJ	JASOND	AB	JFMAMJ	JASOND			
	D 1905	A	A	FMA	JAS N	A		JFMAMJ	JASOND	AB	JFMAMJ	JASOND			
	D 1906	A	A	F	MJ	JAS	D	A	C	AB	JFMAMJ	JASOND			
	D 1907	A	A	FM	M	J	ON	A	C	AB	JFMAMJ	JASOND			
	D 1908	A	A	M	M	JAS		A	C	AB	JFMAMJ	JASOND			
	D 1909	A	A	J	M	ASO		A	C	AB	JFMAMJ	JASOND			
	D 1910	A	A	J	MA	ASO		A	C	AB	JFMAMJ	JASOND			
	D 1911	A	A	FMAM	ASO	D		A	C	AB	JFMAMJ	JASOND			
	D 1912	A	A	AS	D			A	C	AB	JFMAMJ	JASOND			
	D 1913	A	A	J	MA	SO		A	C	AB	JFMAMJ	JASOND			
	D 1914	A	A	A	J	J	SON	A	C	AB	JFMAMJ	JASOND			
	D 1915	A	A	MA	J	ASOND		A	C	AB	JFMAMJ	JASOND			
	D 1916	A	A	J	MAM	JA	ON	A	C	AB	JFMAMJ	JASOND			
	D 1917	A	A	JF	A	J	ASO	D	A	C	AB	JFMAMJ	JASOND		
	D 1918	A	A	MAMJ	ASOND			A	C	AB	JFMAMJ	JASOND			
	D 1919	A	A	JF	M	ASO	D	A	C	AB	JFMAMJ	JASOND			
	D 1920	A	A	MAM	S	D		A	C	AB	JFMAMJ	JASOND			
	D 1921	A	A	AM	S	N		A		AB	JFMAMJ	JASOND			
	D 1922	A	A	J	M	SO		A		AB	JFMAMJ	JASOND			
	D 1923	A	A	M	J	SO		A	C	AB	JFMAMJ	JASOND			
	D 1924	A	A	J	MJ	O		A	C	AB	JFMAMJ	JASOND			
	D 1925	A	A		ASO			A	C	AB	JFMAMJ	JASOND			
	D 1926	A	A	JFMA	J	SO		A		AB	JFMAMJ	JASOND			
	D 1927	A	A	J	M	JA	O	A		AB	JFMAMJ	JASOND			
	D 1928	A	A	M	M	JASO		A		AB	JFMAMJ	JASOND			
	D 1929	A	A	FM	MJ	S	D	A		AB	JFMAMJ	JASOND			
	D 1930	A	A	M	MJ	O		A		AB	JFMAMJ	JASOND			
	D 1931	A	A	M	M	ASOND		A		AB	JFMAMJ	JASOND			
	D 1932	A	A	A	JAS			A		AB	JFMAMJ	JASOND			
	D 1933	A	A	F	M	J	D	A		AB	JFMAMJ	JASOND			
	D 1934	A	A	M	MJ	J	SO	A		AB	JFMAMJ	JASOND			
	D 1935	A	A	A	J	J	ON	A		AB	JFMAMJ	JASOND			
	D 1936	A	A	A	J	J	ON	A		AB	JFMAMJ	JASOND			
	D 1937	A	A	FMAM	A	O		A		AB	JFMAMJ	JASOND			
	D 1938	KA	A	J	AM	S		A	E	AB	JFMAMJ	JASOND			
	D 1939	KA	A	JFMAMJ	JASOND			A	E	AB	JFMAMJ	JASOND			
	D 1940	KA	A	JFMAMJ	JASOND			A	E	AB	JFMAMJ	JASOND			
	D 1941	KA	A	JFMAMJ	JASOND			A	E	AB	JFMAMJ	JASOND			
	D 1942	KA	A	JFMAMJ	JASOND			A	E	AB	JFMAMJ	JASOND			
	D 1943	KA	A	JFMAMJ	JASOND			A	E	AB	JFMAMJ	JASOND			
	D 1944	KA	A	JFMAMJ	JASOND			A	E	AB	JFMAMJ	JASOND			
	D 1945	KA	A	JFMAMJ	JASOND			A	E	AB	JFMAMJ	JASOND			
	D 1946	KA	A	JFMAMJ	JASOND			A	E	AB	JFMAMJ	JASOND			
	D 1947	KA	A	JFMAMJ	JASOND			A	E	AB	JFMAMJ	JASOND			
	D 1948	KA	A	JFMAMJ	JASOND			A	E	AB	JFMAMJ	JASOND			
	D 1949	KA	A	JFMAMJ	JASOND			A	C	AB	JFMAMJ	JASOND			
	D 1950	KA	A	JFMAMJ	JASOND			A	C	AB	JFMAMJ	JASOND			
	D 1951	KA	A	JFMAMJ	JASOND			A	C	AB	JFMAMJ	JASOND			
	D 1952	KA	A	JFMAMJ	JASOND			A	C	AB	JFMAMJ	JASOND			

(021.31 201.91)





OBSERVATORY	YEAR	COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE		
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	ON	TAPE	WDC	1.0-MINUTE	
HUANCAYO HUA (-12.05 284.66)	D 1942	KA						A	EI	JFMAMJ	JASOND			
	D 1943	KA						A	EI	JFMAMJ	JASOND			
	D 1944	KA						A	EI	JFMAMJ	JASOND			
	D 1945	KA						A	EI	JFMAMJ	JASOND			
	D 1946	KA						A	EI	JFMAMJ	JASOND			
	D 1947	KA						A	EI	JFMAMJ	JASOND			
	D 1948	KA						A	C	EI	JFMAMJ	JASOND		
	D 1949	KA						A	C	EI	JFMAMJ	JASOND		
	D 1950	KA						A	C	EI	JFMAMJ	JASOND		
	D 1951	KA						A	C	EI	JFMAMJ	JASOND		
	D 1952	KA						A	C	E	JFMAMJ	JASOND		
	D 1953	KA						A	C	E	JFMAMJ	JASOND		
	D 1954	KA						A	C	EI	JFMAMJ	JASOND		
	D 1955	KA						A	C	EI	JFMAMJ	JASOND		
	D 1956	KA						A	C	EI	JFMAMJ	JASOND		
	D 1957	KA						A	C	EI	JFMAMJ	JASOND		
	D 1958	KA						A	BCDEI	JFMAMJ	JASOND			
	D 1959	KA						A	BCDEI	JFMAMJ	JASOND			
	D 1960	KA						A	BCDE	JFMAMJ	JASOND			
	D 1961	KA						A	BCDEI	JFMAMJ	JASOND			
	D 1962	KA						A	ABCD I	JFMAMJ	JASOND			
	D 1963	KA						A	A	JFMAMJ	JASOND			
	D 1964	KA						A	AB	E	JFMAMJ	JASOND		
	D 1965	KA						A	DE	JFMAMJ	JASOND			
	D 1966	KA						A	A	E	JFMAMJ	JASOND		
	D 1967	KA						A	A	E	JFMAMJ	JASOND		
	D 1968	KA						A	A	E	JFMAMJ	JASOND		
	D 1969	KA						A	A	E	JFMAMJ	JASOND		
	D 1970	KA						A	A	E	JFMAMJ	JASOND		
	D 1971	KA						A	A	A	JFMAMJ	JASOND		
	D 1972	KA						A	A	A	JFMAMJ	JASOND		
	D 1973	KA						A	A	A	JFMAMJ	JASOND		
	D 1974	KA						A	A	A	JFMAMJ	JASOND		
D 1975	KA						A	A	A	JFMAMJ	JASOND			
D 1976	KA						A	A	A	JFMAMJ	JASOND			
D 1977	KA						A	A	C	JFMAMJ	JASOND			
D 1978	KA						A	A	A	JFMAMJ	JASOND			
D 1979	KA						A	A	A	JFMAMJ	JASOND			
D 1980	KA						A	A	A	JFMAMJ	JASOND			
D 1981	KA						A	A	A	JFMAMJ	JASOND			
D 1982	KA						A	A	A	JFMAMJ	JASOND			
D 1983	KA						A	A	A	JFMAMJ	JASOND			
D 1984	K						A	A	A	JFMAMJ	JASOND			
D 1949	A						A	I	JFMAMJ	JASOND				
D 1950	A						A	I	JFMAMJ	JASOND				
D 1951	KA						A	A	JFMAMJ	JASOND				
D 1952	KA						A	A	JFMAMJ	JASOND				
D 1953	KA						A	A	JFMAMJ	JASOND				
D 1954	KA						A	A	JFMAMJ	JASOND				
D 1955	KA						A	I	JFMAMJ	JASOND				
D 1956	KA						A	I	JFMAMJ	JASOND				
HURBANOVO														
HRB														
(047.87 18.19)														

OBSERVATORY	YEAR COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		2.5-MINUTE	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ON TAPE	WDC	1.0-MINUTE(*)
HURBANOVO HRB (047.87 18.19)	D 1957	KA					WDC	ANY MEDIUM		
	D 1958	KA					AB D I	JFMAMJ JASOND		
	D 1959	KA					AB D I	JFMAMJ JASOND		
	D 1960	KA					AB D I	JFMAMJ JASOND		
	D 1961	KA					A CD I	JFMAMJ JASOND		
	D 1962	KA					ABC I	JFMAMJ JASOND		
	D 1963	KA					ABC I	JFMAMJ JASOND		
	D 1964	KA					ABCDE	JFMAMJ JASOND	A E	JFMAMJ JASOND
	D 1965	KA					ABCDEI	JFMAMJ JASOND	A E	JFMAMJ JASOND
	D 1966	KA					ABCD I	JFMAMJ JASOND		
	D 1967	KA					ABCD	JFMAMJ JASOND		
	D 1968	KA					ABCD	JFMAMJ JASOND		
	D 1969	KA					ABCD I	JFMAMJ JASOND		
	D 1970	KA					ABCD I	JFMAMJ JASOND		
	D 1971	KA		JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
	D 1972	KA		JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
	D 1973	KA		JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
	D 1974	KA		JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
	D 1975	KA		JFMAMJ JASOND			ABCD	JFMAMJ JASOND		
	D 1976	KA		BCD			A CD	JFMAMJ JASOND		
	D 1977	KA					ABCD	JFMAMJ JASOND		
D 1978	KA					ABCD	JFMAMJ JASOND			
D 1979	KA		JFMAMJ JASOND			ABCD	JFMAMJ JASOND			
D 1980	KA					ABCD	JFMAMJ JASOND			
D 1981	KA					ABCD	JFMAMJ JASOND			
D 1982	KA					ABCD	JFMAMJ JASOND			
D 1983	K					ABCD	JFMAMJ JASOND			
D 1984	K					ABCD	JFMAMJ JASOND			
D 1985	K					A CD	JFMAMJ JASOND			
HYDERABAD HYB (017.41 78.56)	D 1965	KA	ABCD	JFMAMJ JASOND			ABCDEI	JFMAMJ JASOND	A E	JFMAMJ JASOND
	D 1966	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND	A	FM J JASOND
	D 1967	KA	ABCD	JFMAMJ JASOND			ABCDEI	JFMAMJ JASOND	A	J M D
	D 1968	KA	ABCD	JFMAMJ JASOND			ABCDEI	JFMAMJ JASOND	E	JFMAMJ
	D 1969	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND	A	
	D 1970	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
	D 1971	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
	D 1972	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
	D 1973	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
	D 1974	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
	D 1975	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
	D 1976	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
	D 1977	KA	A CD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
	D 1978	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
	D 1979	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND		
D 1980	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND			
D 1981	KA	ABCD	JFMAMJ JASOND			AB D I	JFMAMJ JASOND			
D 1982	KA	BCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND			
D 1983	K									
D 1984	K									
D 1985	K									
IBADAN IBD (007.43 3.90)	D 1957	A	ABCD	JASOND			ABCD	JASOND		

OBSERVATORY	YEAR COMP	KAQ	NORMAL MAGNETOGRAMS		RAPID RUN MAGNETOGRAMS		HOURLY VALUES ANY MEDIUM		HOURLY VALUES ON TAPE		2.5-MINUTE 1.0-MINUTE (*)	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE (*)
IBADAN IBO (007.43 3.90)	D 1958	A	ABCD	JFMAMJ JASONDI			ABCD	JFMAMJ JASONDI				
	D 1959	A	A	JFMAMJ JASONDI			ABCD	JFMAMJ JASONDI				
	D 1960	A	A	JFMAMJ JASONDI			A	JFMAMJ JASONDI				
	D 1961	A	A	JFMAMJ JASONDI			A	JFMAMJ JASONDI				
	D 1962	A	A	JFMAMJ JASONDI			A	JFMAMJ JASONDI				
	D 1963	A	A	JFMAMJ JASONDI			A	MJ JASONDI				
	D 1964			ABCD	JFMAMJ JASONDI			A	JFMAMJ JASONDI			
	D 1965			ABCD	JFMAMJ JASONDI			E	JFMAMJ JASONDI			
	D 1966			A	JFMAMJ JASONDI			A	JFMAMJ JASONDI			
	D 1968			A	JFMAMJ JASONDI			A	JFMAMJ JASONDI			
	D 1969			A	JFMAMJ JASONDI			A	JFMAMJ JASONDI			
	D 1970			ABCD	JFMAMJ JASONDI			A	JFMAMJ JASONDI			
	D 1971			ABCD	JFMAMJ JASONDI			A	JFMAMJ JASONDI			
	D 1972			ABCD	JFMAMJ JASONDI			A	JFMAMJ JASONDI			
	D 1973			A	JFMAMJ JASONDI			A	JFMAMJ JASONDI			
	D 1974			A	JFMAMJ JASONDI			A	JFMAMJ JASONDI			
	D 1975			A	JFMAMJ JASONDI			A	JFMAMJ JASONDI			
D 1976			A	JFMAMJ JASONDI			A	JFMAMJ JASONDI				
D 1977			A	JFMAMJ JASONDI			A	JFMAMJ JASONDI				
INUUVIK INK (068.25 226.70)	D 1977										A	OND*
	D 1978										A	JFMAMJ JASONDI*
	D 1979										A	JFMAMJ JASONDI*
	D 1980										A	JFMAMJ JASONDI*
	D 1981										A	JFMAMJ JASONDI*
	D 1982										A	JFMAMJ JASONDI*
	D 1982										A	JFMAMJ JASONDI*
	D 1982										A	JFMAMJ JASONDI*
	D 1982										A	JFMAMJ JASONDI*
	D 1983										A	JFMAMJ JASONDI*
IRKUTSK IRT (052.46 104.04)	D 1941	KA										
	D 1942	KA										
	D 1943	KA										
	D 1944	KA										
	D 1945	KA										
	D 1946	KA										
	D 1952	KA										
	D 1953	KA										
	D 1954	KA										
	D 1955	KA										
	D 1956	KA										
	D 1957	KA										
	D 1958	KA										
	D 1959	KA										
	D 1960	KA										
	D 1961	KA										
	D 1962	KA										
D 1963	KA											
D 1964	KA											
D 1965	KA											
D 1966	KA											
D 1967	KA											
D 1968	KA											
(052.17 104.45)	D 1957	KA	ABCD	JASONDI	A		ABCE	JASONDI	AB	E	AB	JASONDI
	D 1958	KA	ABCD	JASONDI			ABCE	JASONDI	AB	E	AB	JASONDI
	D 1959	KA	ABCD	JASONDI			ABCE	JASONDI	AB	E	AB	JASONDI
	D 1960	KA	ABCD	JASONDI			ABCE	JASONDI	AB	E	AB	JASONDI
	D 1961	KA	ABCD	JASONDI			ABCE	JASONDI	AB	E	AB	JASONDI
	D 1962	KA	ABCD	JASONDI			ABCE	JASONDI	AB	E	AB	JASONDI
	D 1963	KA	ABCD	JASONDI			ABCE	JASONDI	AB	E	AB	JASONDI
	D 1964	KA	ABCD	JASONDI			ABCE	JASONDI	AB	E	AB	JASONDI
	D 1965	KA	ABCD	JASONDI			ABCE	JASONDI	AB	E	AB	JASONDI
	D 1966	KA	ABCD	JASONDI			ABCE	JASONDI	AB	E	AB	JASONDI
	D 1967	KA	ABCD	JASONDI			ABCE	JASONDI	AB	E	AB	JASONDI
	D 1968	KA	ABCD	JASONDI			ABCE	JASONDI	AB	E	AB	JASONDI
	D 1957	KA										J
	D 1958	KA										J
	D 1959	KA										J
	D 1960	KA										J
	D 1961	KA										J
D 1962	KA										J	
D 1963	KA										J	
D 1964	KA										J	
D 1965	KA										J	
D 1966	KA										J	
D 1967	KA										J	
D 1968	KA										J	

OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		WDC	HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE (*)	
						ANY	MEDIUM		ON	TAPE		ANY	MEDIUM
IRKUTSK IRT (052.17 104.45)	D 1969	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A		JASO
	D 1970	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND	AB	E	JFMAMJ JASOND			
	D 1971	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND						
	D 1972	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND						
	D 1973	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND						
	D 1974	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND						
	D 1975	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND						
	D 1976	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND						
	D 1977	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND						
	D 1978	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND						
	D 1979	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND						
	D 1980	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND						
	D 1981	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND						
	D 1982	KA	ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND						
D 1984	K	ABCD	JFMAMJ JA		AB	JFMAMJ JA							
ISLAND LAKE ISL (053.88 265.32)	D 1976		A C	OND								JFMAMJ	OND*
	D 1977											JFMAMJ	JAS*
D 1978												JFMAMJ	JAS D*
D 1979												JFMAMJ	J*
D 1980												JFMAMJ	J*
D 1981												JFMAMJ	J*
D 1982												JFMAMJ	J*
ISTANBUL - KANDILLI ISK (041.06 29.06)	D 1947	A											
	D 1948	A											
	D 1949	A											
	D 1950	A											
	D 1951	A											
	D 1952	KA											
	D 1953	KA											
	D 1954	KA											
	D 1955	KA											
	D 1956	KA											
	D 1957	KA											
	D 1958	KA											
	D 1959	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D 1960	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D 1961	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D 1962	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D 1963	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D 1964	KA		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D 1965	KA		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D 1966	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D 1967	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D 1968	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D 1969	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D 1970	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D 1971	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D 1972	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND					
D 1973	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND						
D 1974	KA			JFMAMJ JASOND		AB	JFMAMJ JASOND						

OBSERVATORY	YEAR	KAQ	NORMAL	RAPID RUN		HOURLY VALUES		HOURLY VALUES		WDC	ON	TAPE	WDC	2.5-MINUTE	
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM					1.0-MINUTE	
COMP			WDC												
ISTANBUL-KANDILL ISK (041.06 29.06)	D 1975	KA	AB	JFMAMJ JASOND		ABCD I	JFMAMJ JASOND								
	D 1976	KA	AB	JFMAMJ JASOND		ABCD I	JFMAMJ JASOND								
	D 1977	KA	AB	JFMAMJ JASOND		A CD I	JFMAMJ JASOND								
	D 1978	KA	AB	JFMAMJ JASOND		ABCD	JFMAMJ JASOND								
IVALO IVA (068.60 027.48)	D 1979	KA	AB	JFMAMJ JASOND		ABCD	JFMAMJ JASOND								
	D 1980	K				A	JFMAMJ JASOND								
	D 1981	K				A C	JFMAMJ JASOND								
IVIGTUT IVI (061.20 311.85)	D 1943	K													
	D 1944	K													
	D 1945	K													
JAIPUR JAI (026.92 75.80)	D 1975		B	JASOND		B	JASOND								
	D 1976		AB	JFMAMJ JASOND		B	JFMAMJ JASOND								
	D 1977		AB	JFMAMJ JASOND		AB	JFMAMJ JASOND								
	D 1978		B	JFMAMJ JASOND		B	JFMAMJ JASOND								
JARVIS ISLAND JRV (-0.38 199.97)	D 1979	A	B	JFMAMJ JASOND		B	JFMAMJ JASOND								
	D 1957	A	ABCD	JASOND		ABCDEI	JASOND								
	D 1958	A	ABCD	JFMAMJ JASOND		ABCDEI	JFMAMJ JASOND								
	D 1959		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND								
JOHNSON POINT JOP (072.47 241.70)	D 1977														
	D 1978														
	D 1979														
	D 1980														
	D 1981														
	D 1982														
JULIANEHAAB JUL (060.72 313.97)	D 1932	A													
	D 1933	A													
	D 1957	A	ABCD	JF											
KAKIOKA KAK (036.23 140.19)	D 1964	A	ABCD	MJ JASOND		ABC	MJ JASOND								
	D 1965		ABCD	JFMAM		ABC	JFMAMJ JASOND								
	D 1913	A													
	D 1914	A													
KAKIOKA KAK (036.23 140.19)	D 1915	A													
	D 1916	A													
	D 1924	A	C	FMAMJ JASOND											
	D 1925	A	C	JFMAMJ JASOND											
	D 1926	A	C	JFMAMJ JASOND											
	D 1927	A	C	JFMAMJ JASOND											
	D 1928	A	C	JFMAMJ JASOND											
	D 1929	A	C	JFMAMJ JASOND											
	D 1930	A	C	JFMAMJ JASOND											
	D 1931	A	C	JFMAMJ JASOND											
	D 1932	A	C	JFMAMJ JASOND											

OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
												WDC	WDC
KAKIOKA	D 1933	A	C	JFMAMJ JASOND									
KAK	D 1934	A	C	JFMAMJ JASOND									
(036.23 140.19)	D 1935	A	C	JFMAMJ JASOND									
	D 1936	A	C	JFMAMJ JASOND									
	D 1937	A	C	JFMAMJ JASOND									
	D 1938	A	C	JFMAMJ JASOND									
	D 1939	A	C	JFMAMJ JASOND									
	D 1940	A	C	JFMAMJ JASOND									
	D 1941	A	C	JFMAMJ JASOND									
	D 1942	KA	C	JFMAMJ JASOND									
	D 1943	KA	C	JFMAMJ JASOND									
	D 1944	KA	C	JFMAMJ JASOND									
	D 1945	KA	C	JFMAMJ JASOND									
	D 1946	KA	C	JFMAMJ JASOND									
	D 1947	KA	C	JFMAMJ JASOND									
	D 1948	KA	C	JFMAMJ JASOND									
	D 1949	KA	C	JFMAMJ JASOND									
	D 1950	KA	C	JFMAMJ JASOND									
	D 1951	KA	C	JFMAMJ JASOND									
	D 1952	KA	C	JFMAMJ JASOND									
	D 1953	KA	C	JFMAMJ JASOND									
	D 1954	KA	C	JFMAMJ JASOND									
	D 1955	KA	C	JFMAMJ JASOND									
	D 1956	KA	C	JFMAMJ JASOND									
	D 1957	KA	ABCD	JFMAMJ JASOND	ABC	JASOND	ABC	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1958	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1959	KA	ABCD	JFMAMJ JASOND									
	D 1960	KA	ABCD	JFMAMJ JASOND									
	D 1961	KA	ABCD	JFMAMJ JASOND									
	D 1962	KA	ABCD	JFMAMJ JASOND									
	D 1963	KA	ABCD	JFMAMJ JASOND									
	D 1964	KA	ABCD	JFMAMJ JASOND									
	D 1965	KA	ABCD	JFMAMJ JASOND									
	D 1966	KA	ABCD	JFMAMJ JASOND									
	D 1967	KA	ABCD	JFMAMJ JASOND									
	D 1968	KA	ABCD	JFMAMJ JASOND									
	D 1969	KA	ABCD	JFMAMJ JASOND									
	D 1970	KA	ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1971	KA	ABCD	JFMAMJ JASOND									
	D 1972	KA	ABCD	JFMAMJ JASOND									
	D 1973	KA	ABCD	JFMAMJ JASOND									
	D 1974	KA	ABCD	JFMAMJ JASOND									
	D 1975	KA	ABCD	JFMAMJ JASOND									
	D 1976	KA	ABCD	JFMAMJ JASOND									
	D 1977	KA	ABCD	JFMAMJ JASOND									
	D 1978	KA	ABCD	JFMAMJ JASOND									
	D 1979	KA	ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1980	KA	ABCD	JFMAMJ JASOND									
	D 1981	KA	ABCD	JFMAMJ JASOND									
	D 1982	KA	ABCD	JFMAMJ JASOND									
	D 1983	KA	ABCD	JFMAMJ JASOND									
	D 1984	K	ABCD	JFMAMJ JASOND									
	D 1985	K	A	JFM									

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN		HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)	
					WDC	MAGNETOGRAMS	ANY	MEDIUM	ON	TAPE			
KALININGRAD KWG (054.70 020.62)	D 1971		AB	JFMAMJ JASOND									
	D 1972		AB	JFMAMJ JASOND									
	D 1973		AB	JFMAMJ JASOND									
	D 1974		AB	JFMAMJ JASOND									
	D 1975		AB	JFMAMJ JASOND									
	D 1976		ABCD	JFMAMJ JASOND									
	D 1977	K	ABCD	JFMAMJ JASOND									
	D 1978	K	ABCD	JFMAMJ JASOND									
	D 1979	K	ABCD	JFMAMJ JASOND									
	D 1980	K	ABCD	JFMAMJ JASOND									
	D 1981		ABCD	JFMAMJ JASOND									
	D 1982	K	ABCD	JFMAMJ JASOND									
	D 1983	K	BCD	JFMAMJ J									
	D 1984	K											
	KANDALAKSHA KND (067.13 032.43)	D 1933											
	KANDYA KNY (031.42 130.88)	D 1957		A	JASOND	A C	JASOND	A	JASOND				
		D 1958	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB
D 1959		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1960		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1961		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1962		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1963		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1964		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1965		KA	ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	
D 1966		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	E
D 1967		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1968		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1969		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1970		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1971		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1972		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1973		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1974		KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	
D 1975		KA	ABCD	JFMAMJ JASOND	BC	JFMAMJ JASOND	BC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	
D 1976		KA	ABCD	JFMAMJ JASOND	BC	JFMAMJ JASOND	BC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	
D 1977		KA	ABCD	JFMAMJ JASOND	BC	JFMAMJ JASOND	BC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	E	
D 1978		KA	ABCD	JFMAMJ JASOND	C	JFMAMJ JASOND	C	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB		
D 1979		KA	ABCD	JFMAMJ JASOND	C	JFMAMJ JASOND	C	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB		
D 1980		KA	ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND	A C	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB		
D 1981		KA	ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND	A C	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB		
D 1982		KA	ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND	A C	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB		
D 1983		KA	ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND	A C	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB		
D 1984		K	ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND	A C	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB		
D 1985	K									A		JFMAMJ JASOND*	
KANOZAN KNZ (035.25 139.96)	D 1962		A	AMJ JASOND									
	D 1963		A	JFMAMJ JASOND									
	D 1964		A	JFMAMJ JASOND									
	D 1965		A	AMJ JASOND									



OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		2.5-MINUTE	
					WDC	ANY MEDIUM	WDC	1.0-MINUTE(*)
KANOZAN KNZ (035.25 139.96)	D 1966	A			AB	JFMAMJ JASOND		
	D 1967	A			ABC	JFMAMJ JASOND		
	D 1968	A			ABC	JFMAMJ JASOND		
	D 1969	A			A C	JFMAMJ JASOND		
	D 1970	A			ABC	JFMAMJ JASOND		
	D 1971	A			A C	JFMAMJ JASOND		
	D 1972	A			A C	JFMAMJ JASOND		
	D 1973	A			A C	JFMAMJ JASOND		
	D 1974	A			A C	JFMAMJ JASOND		
	D 1975	A			A C	JFMAMJ JASOND		
	D 1976	A			A C	JFMAMJ JASOND		
	D 1977	A			A C	JFMAMJ JASOND		
	D 1978	A			A C	JFMAMJ JA D		
	D 1979	A			ABC	JFMAMJ JASOND		
	D 1980	A			ABC	JFMAMJ JASOND		
	D 1981	A			ABC	JFMAMJ JASOND		
D 1982	A			ABC	JFMAMJ JASOND			
D 1983	A			C	JFMAMJ JASOND			
D 1984	A			C	JFMAMJ JASO			
KAP TOBIN KTG (070.42 238.03)	D 1957		ABCD	OND				
	D 1958		ABCD	JFMAMJ JASOND				
	D 1959		ABCD	JFMAMJ JA				
KARAGANDA KGD (049.82 73.08)	D 1981				C	JFMAMJ JASOND		
	D 1982				C	JFMAMJ JASOND		
	D 1965	A	AB	JFMAMJ JASOND				
	D 1966	KA	AB	JFMAMJ JASOND				
	D 1967	KA	AB	JFMAMJ JASOND				
	D 1968	KA	AB	JFMAMJ JASOND				
	D 1969	KA	AB	JFMAMJ JASOND				
	D 1970	KA	AB	JFMAMJ JASOND				
	D 1971	KA	AB	JFMAMJ JASOND				
	D 1972	KA	AB	JFMAMJ JASOND				
	D 1973	KA	AB	JFMAMJ JASOND				
	D 1974	KA	AB	JFMAMJ JASOND				
	D 1975	KA	ABCD	JFMAMJ JASOND				
	D 1976	KA	ABCD	JFMAMJ JASOND				
	D 1977	KA	ABCD	JFMAMJ JASOND				
	D 1978	KA	ABCD	JFMAMJ JASOND				
D 1979	KA	ABCD	JFMAMJ JASOND					
D 1980	KA	ABCD	JFMAMJ JASOND					
D 1981	KA	ABCD	JFMAMJ JASOND					
D 1982	KA	ABCD	JFMAMJ JASOND					
D 1983	KA	ABCD	JFMAMJ JASOND					
D 1984	K	ABCD	JFMAMJ A					
KARAVIA KVA (-11.64 27.42)	D 1953				A	JFMAMJ JASOND		
	D 1954				A	JFMAMJ JASOND		
	D 1955				A	JFMAMJ JASOND		
	D 1956				A	JFMAMJ JASOND		
	D 1957	K	A	JASOND				
D 1958	KA	A	JFMAMJ JASOND					

OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
KARAVIA KVA (-11.64 27.42)	D 1959	KA	A	JFMAMJ JASOND OND								
	D 1960	A	A	JFMAMJ JASOND								
	D 1961	A	A	JFMA								
	D 1962	A	A	JF								
	D 1965			AS ND								
	D 1966			MAMJ JASOND								
	D 1967			JFMAM								
	D 1968			JFMAMJ JASOND								
	D 1969			JFMAMJ JASOND								
	D 1970			JFMAMJ JASOND								
	D 1971			JFMAMJ JASOND								
	D 1972			JFMAMJ JASOND								
	D 1973			JFMAMJ JASOND								
	D 1974			JFMAMJ JASOND								
	D 1975			JFMAMJ JASOND								
	D 1976			J JASOND								
	D 1977			JFMAMJ JA								
	KAZAN KZN (055.83 48.85)	D 1932	A									
		D 1933	A									
D 1941		KA										
D 1942		KA										
D 1943		KA										
D 1944		KA										
D 1945		KA										
D 1946		KA										
D 1956		KA			JASOND							
D 1957		KA	ABCD	JFMAMJ JASOND								
D 1958		KA	ABCD	JFMAMJ JASOND								
D 1959		KA	ABCD	JFMAMJ JASOND								
D 1960		KA	ABCD	JFMAMJ JASOND								
D 1961		KA	ABCD	JFMAMJ JASOND								
D 1962		KA	ABCD	JFMAMJ JASOND								
D 1963		KA	ABCD	JFMAMJ JASOND								
D 1964		KA	ABCD	JFMAMJ JASOND								
D 1965		KA	ABCD	JFMAMJ JASOND								
D 1966		KA	ABCD	JFMAMJ JASOND								
D 1967	KA	ABCD	JFMAMJ JASOND									
D 1968	KA	ABCD	JFMAMJ JASOND									
D 1969	KA	ABCD	JFMAMJ JASOND									
D 1970	KA	ABCD	JFMAMJ JASOND									
D 1971	KA	ABCD	JFMAMJ JASOND									
D 1972	KA	ABCD	JFMAMJ JASOND									
D 1973	KA	ABCD	JFMAMJ JASOND									
D 1974	KA	ABCD	JFMAMJ JASOND									
D 1975	K	ABCD	JFMAMJ JASOND									
D 1976	K	ABCD	JFMAMJ JASOND									
D 1977	K	ABCD	JFMAMJ JASOND									
D 1978	KA	ABCD	JFMAMJ JASOND									

OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
			MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON	TAPE	WDC	1.0-MINUTE
KAZAN KZN (055.83 48.85)	D 1979	KA	JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
	D 1980	KA	JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
	D 1981	KA	JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
	D 1982	KA	JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
	D 1983	KA	JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
	D 1984	K	JFMAMJ JAS	ABCD			JFMAMJ JAS	ABCD				
KHABAROVSK KHB (048.48 135.07)	D 1973		J	B			J	B				
	D 1974		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
	D 1975		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
	D 1976		JFMA	ABCD			JF	ABCD				
KHARASAVEY KHS (071.13 066.83)	D 1973			B	ND							
	D 1974			JF	ND							
	D 1975		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
	D 1976		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
	D 1977		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
	D 1978		MAMJ JASOND	BCD								
	D 1957	K		JASOND	ABCD	A C	J JASOND	ABCD				
	D 1958	KA		JFMAMJ JASOND	ABCD	ABC JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1959	KA		JFMAMJ JASOND	ABCD	ABC JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND		
D 1960	KA		JFMAMJ JASOND	ABCD	ABC JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND		
D 1961	KA		JFMAMJ JASOND	ABCD	ABC JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JA		
D 1962	KA		JFMAMJ JASOND	ABCD	ABC JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND		
D 1963	KA		JFMAMJ JASOND	ABCD	ABC JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND		
D 1964	KA		JFMAMJ JASOND	ABCD	ABC JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND		
D 1965	KA		JFMAMJ JASOND	ABCD	ABC JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	E	JFMAMJ JASOND		
D 1966	KA		JFMAMJ JASOND	ABCD	ABC JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	E	JFMAMJ JASOND		
D 1967	KA		JFMAMJ JASOND	ABCD	ABC JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND				
D 1968	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1969	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1970	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1971	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1972	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1973	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1974	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1975	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1976	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1977	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1978	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1979	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1980	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1981	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1982	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1983	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	ABCD				
D 1984	K		JFMAMJ	ABCD			JFMAMJ	ABCD				
KIRUNA KIR (067.83 20.42)	D 1957	K	JASOND	ABCD	A C	JAS						
	D 1958	K	JFMAMJ JASOND	ABCD								
	D 1959	K	J	ABCD								
	D 1960	K		ABCD								
	D 1961	K		ASOND	ABCD							
D 1962	K		JFMAMJ JASOND	ABCD								
D 1963	K		JFMAMJ JASOND	ABCD	ABC JFMAMJ JASOND							
								A	E	OND	A	OND
								A	E	OND	A	OND
								A	E	OND	A	OND
								A	E	OND	A	OND
								A	E	OND	A	OND

OBSERVATORY	YEAR	KAQ	COMP	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE	
KIRUNA KIR (067.83 20.42)	1964	K	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	E	JFMAMJ JASOND	AB	E
	1965	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	E	JFMAMJ JASOND	AB	E
	1966	K	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	E	JFMAMJ JASOND	AB	E
	1967	K	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	E	JFMAMJ JASOND	AB	E
	1968	K	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	E	JFMAMJ JASOND	AB	E
	1969	K	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	E	JFMAMJ JASOND	AB	E
	1970	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	E	JFMAMJ JASOND	AB	E
	1971	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	E	JFMAMJ JASOND	AB	E
	1972	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	B	E	JAS		
	1973	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	B	E	JFMAMJ		
	1974	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND					
	1975	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND					
	1976	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND					
	1977	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND					
	1978	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND					
	1979	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND					
	1980	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND					
	1981	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND					
	1982	K	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND					
	1983	K	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND					
1984	K	D	JFMAMJ	A CD									
KODAIKANAL KOD (010.23 77.46)	1950	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	I	JFMAMJ JASOND	AB	E
	1951	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	I	JFMAMJ JASOND	AB	E
	1952	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	I	JFMAMJ JASOND	AB	E
	1953	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	C	JFMAMJ JASOND	AB	E
	1954	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	I	JFMAMJ JASOND	AB	E
	1955	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	I	JFMAMJ JASOND	AB	E
	1956	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	I	JFMAMJ JASOND	AB	E
	1957	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	E
	1958	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	D	JFMAMJ JASOND	AB	E
	1959	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	E
	1960	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	E
	1961	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	C	JFMAMJ JASOND	AB	E
	1962	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	C	JFMAMJ JASOND	AB	E
	1963	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	C	JFMAMJ JASOND	AB	E
	1964	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	C	JFMAMJ JASOND	AB	E
	1965	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	C	JFMAMJ JASOND	AB	E
	1966	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	C	JFMAMJ JASOND	AB	E
	1967	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	C	JFMAMJ JASOND	AB	E
	1968	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	C	JFMAMJ JASOND	AB	E
	1969	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	C	JFMAMJ JASOND	AB	E
1970	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A	C	JFMAMJ JASOND	AB	E	
1971	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	E	
1972	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	E	
1973	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	E	
1974	KA	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	E	
1975	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	D	JFMAMJ JASOND	AB	E	
1976	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	E	
1977	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	E	
1978	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	E	
1979	A	D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	I	JFMAMJ JASOND	AB	E	

OBSERVATORY	YEAR	KAQ	WDC	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE	
												1.0-MINUTE	(*)
KODAIKANAL	D 1980	A						ABCD I JFMAMJ JASOND					
KOD	( 10.23 77.46)												
KONTAGORA	D 1964		A CD										
KNT	D 1965		A CD	JFMAMJ JASOND									
	(010.40 05.45)												
KOROR	D 1957	KA	ABCD	JASOND	ABC	JASOND	ABC	JASOND	ABCD	AB	EI	JASOND	
KOR	D 1958	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	EI	JFMAMJ JASOND		
	(007.33 134.50)	A											
	(007.34 134.50)	A	ABCD	MJ JASOND	B	ON		MJ JASOND	A	EI	MJ JASOND	A	MJ JASOND
		A	ABCD	JFMAMJ JASOND				JFMAMJ JASOND	A	EI	JFMAMJ JASOND	A	JFMAMJ JASOND
		A	ABCD	JFM				JFM	A	EI	JFM	A	JFM
KOTZEBUE	D 1957		ABCD	MJ ASOND				M	ABCD				
KOT	D 1958	A	ABCD	JFMAMJ JASOND				JFMAMJ JASOND	ABCD				
	(066.88 197.37)		AB D	J				J	ABC				
KSARA	D 1931	A						JFMAMJ JASOND	C				
KSA	D 1932	A						JFMAMJ JASOND	C				
	(033.82 35.89)	A						JFMAMJ JASOND	C				
		KA											
	D 1949	KA											
	D 1950	KA											
	D 1951	KA											
	D 1952	KA											
	D 1953	KA											
	D 1954	KA											
	D 1955	KA											
	D 1956	KA											
	D 1957	KA											
	D 1958	KA											
	D 1959	KA											
	D 1960	KA											
	D 1961	KA											
	D 1962	KA											
	D 1963	KA											
	D 1964	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND	D				
	D 1965	KA	ABCD	JFMAMJ JASOND				JFMAMJ JASOND	D				
	D 1966	KA							D				
	D 1967	KA							D				
	D 1968	KA							D				
	D 1969	KA							D				
	D 1970	KA							D				
	D 1971	K							D				
	D 1972	K							D				
	D 1973	K							D				
	D 1974	K							D				
	D 1975	K							D				
	D 1976	K							D				

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
											WDC	WDC
KSARA KSA (033.82 35.89)	D 1977	K										
	D 1978	K										
	D 1979	K										
KUMASI KUM (006.70 358.43)	D 1972					C	JFMAMJ JASOND					
KUYPER KUY (-6.03 106.73)	D 1957	KA	ABCD	JASOND			JFMAMJ JASOND					
	D 1958	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1959	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1960	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1961	KA	ABCD	JFMAMJ JA			JFMAMJ JASOND					
	D 1962	K					J					
KZIL-AGACH KZA (045.37 078.73)	D 1974		ABCD	M JASOND								
	D 1975		ABCD	JFMAMJ JASOND								
L AQUILA AQU (042.38 13.32)	D 1958	K	AB D	MJ JASOND								
	D 1959	K	AB D	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1960	KA	AB D	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1961	KA	AB D	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1962	KA	AB D	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1963	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1964	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1965	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1966	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1967	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1968	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1969	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1970	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1971	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1972	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1973	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1974	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1975	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1976	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
	D 1977	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
D 1978	KA	A	JFMAMJ JASOND			JFMAMJ JASOND						
D 1979	KA	A	JFMAMJ JASOND			JFMAMJ JASOND						
D 1980	KA	A										
D 1981	KA	A										
D 1982	KA	A										
D 1983	KA	A										
D 1984	K											
D 1985	K											
LA MADDALENA LMD (041.23 09.40)	D 1958	K										
	D 1959	K										
	D 1960	K										
	D 1961	K										
	D 1962	K										
D 1963	K											

OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)
					ANY	MEDIUM	ON TAPE	WDC		
LA PAZ LPB (-16.54 291.90)	D 1964				A	JFMAMJ JASONDI	A	JFMAMJ JASONDI		
	D 1972		JFMAMJ JASON							
	D 1973		JFMAMJ JASONDI							
	D 1974	A	FMAMJ JASONDI							
	D 1975	A	JFMAMJ JASON							
	D 1957	A								
	D 1958	A				AB	JFMAMJ JASONDI			
	D 1959	A				AB	JFMAMJ JASONDI			
	D 1960	A	A	MAMJ JASONDI		A	JFMAMJ JASONDI			
	D 1961	A	A	JFMAMJ JASONDI		A	JFMAMJ JASONDI			
	D 1962	A	ABC	JFMAMJ JASONDI		A	JFMAMJ JASONDI			
	D 1963	A	ABCD	JFMAMJ JASONDI		AB	JFMAMJ JASONDI			
	D 1964	KA	ABCD	JFMAMJ JASONDI		AB	JFMAMJ JASONDI			
	D 1965	KA	ABCD	JFMAMJ JASONDI		AB	JFMAMJ JASONDI			
	D 1966	KA	ABCD	JFMAMJ JASONDI		AB	JFMAMJ JASONDI			
D 1967	KA	ABCD	JFMAMJ JASONDI		AB	JFMAMJ JASONDI				
D 1968	KA	A	JFMAMJ JASONDI		AB	JFMAMJ JASONDI				
D 1969	A	A	JFMAMJ JASONDI		AB	JFMAMJ JASONDI				
D 1970	A	A	JFMAMJ JASONDI		AB	JFMAMJ JASONDI				
D 1971	A	A	JFMAMJ JASONDI		AB	JFMAMJ JASONDI				
D 1972	A	A	JFMAMJ JASONDI		AB	JFMAMJ JASONDI				
D 1973	A	A	JFMAMJ JASONDI		AB	JFMAMJ JASONDI				
D 1974	A	A	JFMAMJ JASONDI		AB	JFMAMJ JASONDI				
D 1975	A	A	JFMAMJ JASONDI		AB	JFMAMJ JASONDI				
D 1976	A	A			B					
D 1977	A	ABC								
D 1978	A									
D 1979	A									
D 1980	A									
D 1981	A									
D 1982	A									
LANZHOU LZH (036.09 103.85)	D 1959	A			A	JFMAMJ JASONDI		JFMAMJ JASONDI		
	D 1960	A			A	JFMAMJ JASONDI		JFMAMJ JASONDI		
	D 1961	A			A	JFMAMJ JASONDI		JFMAMJ JASONDI		
D 1979										
D 1980	A				A C	JFMAMJ JASONDI		JFMAMJ JASONDI		
D 1981	A				A C	JFMAMJ JASONDI		JFMAMJ JASONDI		
D 1964	KA	ABCD	JFMAMJ JASONDI							
D 1965	K	ABCD	JFMAMJ JASONDI							
D 1966	K	ABCD	MAMJ JASONDI							
D 1967	K	ABCD	JFMAMJ JASONDI							
D 1968	K	ABCD	JFMAMJ JASONDI							
D 1969	K	ABCD	JFMAMJ JASONDI							
D 1970	K	ABCD	JFMAMJ JASONDI							
D 1971	K	ABCD	JFMAMJ JASONDI							
D 1972	K	A	JFMAMJ JASONDI							
D 1973	K	A	JFMAMJ JASONDI							
D 1974		AB	JFMAMJ JASONDI							

OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE(*)
LAS ACACIAS	D 1975 K	AB	JFMAMJ	JASOND								
LAS	D 1976 K	AB	JFMAMJ	JASOND								
(-35.01 302.31)	D 1977 KA	AB	JFMAMJ	JASOND								
	D 1978 KA	ABCD	JFMAMJ	JASOND								
	D 1979 K											
	D 1980 K											
	D 1981 K											
	D 1982 K											
	D 1983 K											
	D 1984 K											
	D 1985 K											
LAUDER	D 1979 KA											
LAU	D 1981 K											
(-45.04 160.68)	D 1982 K											
	D 1983 K											
	D 1984 K											
	D 1985 K											
LAZAREV	D 1960 KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND			
LZV	D 1961 K	ABCD	JF				ABCD	JF				
(-69.97 12.90)												
LEADVILLE	D 1957	A D	JASOND				A DE	J	JASOND			
LDV	D 1958 A	A D	JFMAMJ	JASOND			A DE	MJ	JASOND			
(039.28 253.72)	D 1959	A D	J				A E J					
LEIRVOGUR	D 1957 A	ABCD	JFMAMJ	JASOND	ASOND	ASOND	ABCDEI	JFMAMJ	JASOND	ASOND		
LRV	D 1958 A	ABCD	JFMAMJ	JASOND	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	JASOND		
(064.18 338.30)	D 1959 A	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1960 A	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1961 A	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1962 A	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1963 A	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1964 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1965 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1966 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1967 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1968 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1969 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1970 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1971 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1972 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1973 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1974 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1975 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1976 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1977 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1978 KA	ABCD	JFMAMJ	JASOND	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	JASOND		
	D 1979 KA	ABCD	JFMAMJ	JASOND	C	JFMAMJ	ABCDE	JFMAMJ	JASOND	JASOND		
	D 1980 KA	ABCD	JFMAMJ	JASOND			ABCDE	JFMAMJ	JASOND	JASOND		
	D 1981 KA	ABCD	JFMAMJ	JASOND			ABCDE	JFMAMJ	JASOND	JASOND		
	D 1982 KA	ABCD	JFMAMJ	JASOND			ABCDE	JFMAMJ	JASOND	JASOND		



OBSERVATORY	COMP	YEAR	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	ON TAPE	WDC	1.0-MINUTE(*)	
LEIRVOGUR	D	1983	KA	ABCD	JFMAMJ JASOND			ABCE	JFMAMJ JASOND				
		1984	K	ABCD	JFMAMJ JASOND			ABCE	JFMAMJ JASOND				
		1985	K	A	JF			A	JF				
LENINGRAD	D	1949	A					C	JFMAMJ JASOND				
		1950	A	ABCD	JFMAMJ JASOND			C	JFMAMJ JASOND				
		1951	A	ABCD	JFMAMJ JASOND			A C I	JFMAMJ JASOND				
		1952	A	ABCD	JFMAMJ JASOND			A C I	JFMAMJ JASOND				
		1953	A	ABCD	JFMAMJ JASOND			A C I	JFMAMJ JASOND				
		1954	A	ABCD	JFMAMJ JASOND			A C I	JFMAMJ JASOND				
		1955	KA	ABCD	JFMAMJ JASOND			C	JFMAMJ JASOND				
		1956	KA	ABCD	JFMAMJ JASOND			C	JFMAMJ JASOND				
		1957	KA	ABCD	JFMAMJ JASOND			C	JFMAMJ JASOND				
		1958	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1959	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1960	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1961	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1962	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1963	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1964	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1965	KA	ABCD	JFMAMJ JASOND			ABCE	JFMAMJ JASOND				
		1966	KA	ABCD	JFMAMJ JASOND			ABCE	JFMAMJ JASOND				
		1967	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1968	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1969	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1970	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1971	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1972	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1973	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1974	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1975	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1976	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1977	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1978	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1979	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1980	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
		1981	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
1982	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND						
1983	K	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND						
1984	K	ABCD	JFMAMJ			ABCD	JFMAMJ						
LENINGRADSKAYA	D	1971		AB	AMJ JASOND			AB	AMJ JASOND				
		1972		AB	J	AMJ JASOND		AB	J	AMJ JASOND			
		1973		AB	JFM			B	JFM				
LERWICK	D	1926	A					A	JFMAMJ JASOND				
		1927	A					A	JFMAMJ JASOND				
		1928	A					A	JFMAMJ JASOND				
		1929	A					A	JFMAMJ JASOND				
		1930	A					A	JFMAMJ JASOND				
		1931	A					A	JFMAMJ JASOND				
		1932	A					A C E	JFMAMJ JASOND				
		1933	A					A C E	JFMAMJ JASOND				
		1934	A					A	JFMAMJ JASOND				

OBSERVATORY	COMP	YEAR	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE	1.0-MINUTE(*)
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON	TAPE			
LERWICK LER (060.13 358.82)	D 1935	A						A	E	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1936	A						A	E	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1937	A						A	E	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1938	A						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1939	A						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1940	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1941	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1942	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1943	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1944	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1945	KA						A	E	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1946	KA						A	E	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1947	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1948	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1949	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1950	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1951	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1952	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1953	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1954	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1955	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1956	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1957	KAQ						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1958	KAQ						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1959	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1960	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1961	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1962	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1963	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1964	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1965	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1966	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1967	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1968	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1969	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1970	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1971	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1972	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1973	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1974	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1975	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1976	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1977	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1978	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1979	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1980	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1981	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1982	KA						A	EI	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1983	KA						A	E	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1984	K						A	E	JFMAMJ JASOND	AB	JFMAMJ JASOND		
LITTLE AMERICA LAA (-78.18 197.80)	D 1985							A	E	JFMAMJ JASOND	AB	JFMAMJ JASOND		
	D 1985							A	E	JFMAMJ JASOND	AB	JFMAMJ JASOND		

2.5-MINUTE  
1.0-MINUTE(\*)

HOURLY VALUES  
ON TAPE

HOURLY VALUES  
ANY MEDIUM

RAPID RUN  
MAGNETOGRAMS

NORMAL  
MAGNETOGRAMS

YEAR  
COMP

OBSERVATORY

WDC

WDC

OBSERVATORY	YEAR	COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC
LITTLE AMERICA	D 1958		KA	ABCD	JFMAMJ JASOND	ABCD	ABC JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCE	A E JFMAMJ JASOND	A E
LAA												
LOGRONO	D 1957		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
LGR	D 1958		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1959		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1960		KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1961		KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A CD	JFMAMJ JASOND	A CD	JFMAMJ JASOND	A CD
	D 1962		KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A CD	JFMAMJ JASOND	A CD	JFMAMJ JASOND	A CD
	D 1963		KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCE	JFMAMJ JASOND	ABCE	JFMAMJ JASOND	ABCE
	D 1964		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCE	JFMAMJ JASOND	ABCE	JFMAMJ JASOND	ABCE
	D 1965		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1966		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1967		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1968		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1969		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1970		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A CD	JFMAMJ JASOND	A CD	JFMAMJ JASOND	A CD
	D 1971		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1972		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1973		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1974		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1975		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1976		KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1977		K									
LORING AFB	D 1966			A C	JFMAMJ JASOND	A C	JFMAMJ JASOND	OND	JFMAMJ JASOND	A C	JFMAMJ JASOND	OND
LOB	D 1967			ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND
	D 1968			ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND
	D 1969			ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND
	D 1970			ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND
	D 1971			ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND
	D 1972			ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND
	D 1973			A	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND
	D 1974			A	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND
LOVO	D 1928		A						FMAMJ JASOND	A E	FMAMJ JASOND	A E
LOV	D 1929		A						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1930		A						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1931		A						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1932		A						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1933		A						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1934		A						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1935		A						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1936		A						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1937		A						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1938		A						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1939		A						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1940		KA						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1941		KA						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1942		KA						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1943		KA						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E
	D 1944		KA						JFMAMJ JASOND	A E	JFMAMJ JASOND	A E

OBSERVATORY	YEAR	KAQ	WDC	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		WDC	HOURLY VALUES		WDC	2.5-MINUTE	
				MAGNETOGRAMS	MAGNETOGRAMS	MAGNETOGRAMS	MAGNETOGRAMS	ANY	MEDIUM	WDC	WDC		ON	TAPE		1.0-MINUTE	(*)
LOVO	D	1945	KA														
LOV	D	1946	KA														
(059.35 17.83)	D	1947	KA														
	D	1948	KA														
	D	1949	KA														
	D	1950	KA														
	D	1951	KA														
	D	1952	KA														
	D	1953	KA														
	D	1954	KA														
	D	1955	KA														
	D	1956	KA														
	D	1957	KA	ABCD	JASOND	ABC	JASOND	ABCDEI	JFMAMJ	ASOND	ABCDEI	JFMAMJ	ASOND	ABCDEI	JFMAMJ	ASOND	
	D	1958	KA	ABCD	JFMAMJ	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1959	KA	ABCD	JFMAMJ	ABC	JFMAMJ	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1960	KA	ABCD	JFMAMJ	C	JFMAMJ	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1961	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1962	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1963	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1964	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1965	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1966	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1967	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1968	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1969	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1970	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1971	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1972	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1973	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1974	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1975	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1976	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1977	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1978	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1979	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	D	1980	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	X	1981	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	X	1982	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	X	1983	KA	ABCD	JFMAMJ			ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	ABCDEI	JFMAMJ	JASOND	
	X	1984	K														
	X	1985	K														
LOVOZERO	D	1957	K														
LOZ	D	1958	K	A	MJ	JASOND	ABC	ASOND	ABC	JFMAMJ	JASOND	ABC	JFMAMJ	JASOND	ABC	JFMAMJ	JASOND
(067.97 035.02)	D	1959	K														
	D	1960	K														
	D	1964															
	D	1965															
	D	1966															
	D	1967															
	D	1968															

OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS		WDC	HOURLY VALUES ANY MEDIUM		WDC	HOURLY VALUES ON TAPE		WDC	2.5-MINUTE 1.0-MINUTE (*)	
					ABC	JFMAMJ		JASOND	ABC		AMJ	JASOND		ABC	AMJ
LOYOZERO	D 1969					ABC	JFMAMJ	JASOND							
	D 1970					ABC	JFMAMJ	JASOND							
LOZ (067.97 035.02)	D 1971					A C	JFMAMJ								
	D 1972					ABC		JASOND							
	D 1973					ABC	AMJ	JASOND							
	D 1974					ABC	JFMAMJ								
LUANDA LUA (-08.92 013.17)	D 1957	KA							ABCD	JASOND					
	D 1958	KA							ABCD	JFMAMJ	JASOND				
	D 1959	KA													
	D 1960	KA													
	D 1961	KA													
	D 1962	KA													
	D 1963	KA													
	D 1964	KA													
	D 1965	KA													
	D 1966	KA													
	D 1967	KA													
	D 1968	KA													
	D 1969	KA													
	D 1970	KA													
	D 1971	KA													
	D 1972	KA													
	D 1973	KA													
	D 1974	KA													
	D 1975	KA													
	D 1976	KA													
D 1977	KA														
D 1978	KA														
D 1979	KA														
D 1980	KA														
D 1981	KA														
D 1982	KA														
D 1983	KA														
D 1984	K														
LUKIAPANG	D 1932	A													
	D 1933	A													
LUNPING LNP (025.00 121.17)	D 1965	KA													
	D 1966	KA													
	D 1967	KA													
	D 1968	KA													
	D 1969	KA													
	D 1970	KA													
	D 1971	KA													
	D 1972	KA													
	D 1973	A													
	D 1974	KA													
	D 1975	A													
	D 1976	KA													
	D 1977	KA													
	D 1978	KA													
	D 1979	KA													
	D 1980	KA													
	D 1981	KA													
D 1982	KA														
D 1983	KA														
D 1984	K														

OBSERVATORY	YEAR	COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS		HOURLY VALUES		WDC	HOURLY VALUES ON TAPE		2.5-MINUTE 1.0-MINUTE(*)	
							WDC	B	ANY	MEDIUM		WDC	ON	TAPE	WDC
LUNPING	D	1978	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND						
LNP	D	1979	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND						
(025.00 121.17)	D	1980	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND						
	D	1981	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND						
	D	1982	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND						
	D	1983	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND						
	D	1984	K	A	JFMAMJ JASOND	A			JFMAMJ JASOND						
	D	1985	K		JFMAMJ JASOND	A			JFMAMJ JASOND						
LV0V	D	1955	KA		JASOND	ABCD			JASOND						
LVV	D	1956	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
(049.90 23.75)	D	1957	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1958	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1959	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1960	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1961	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1962	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1963	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1964	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1965	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1966	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1967	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1968	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1969	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1970	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1971	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1972	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1973	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1974	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1975	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1976	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1977	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1978	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1979	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1980	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1981	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1982	KA	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1983	K	ABCD	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASOND		
	D	1984	K	BCD	JFM	BCD			JFM			JFM	JASOND		
LWIRO	D	1958	KA	A	J JASOND	ABCD			JASOND						
LWI	D	1959	KA	A	JFMAMJ JASOND	ABCD			JFMAMJ JASOND						
(-2.25 28.80)	D	1960	KA	A	JFMAMJ JASOND	ABCD			JFMAMJ JASOND						
	D	1961	A	A	J	ABCD			J						
	D	1962			J	ABCD			J						
	D	1963	A	A	MJ JASOND	ABCD			MJ JASOND						
	D	1964	A	ABCD	JFMAMJ JASO	ABCD			JFMAMJ JASOND			JFMAMJ	JASO		
	D	1965	A	ABCD	MAMJ JASOND	ABCD			MAMJ JASOND			MAMJ	JASO		
	D	1966	A	A	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASO		
	D	1967	A	A	JFMAMJ JAS	ABCD			JFMAMJ JASOND			JFMAMJ	JASO		
	D	1968	A	A	J MAMJ JASOND	ABCD			J MAMJ JASOND			J MAMJ	JASO		
	D	1969	A	A	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASO		
	D	1970	A	A	JFMAMJ JASOND	ABCD			JFMAMJ JASOND			JFMAMJ	JASO		

OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES		WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE (*)	
						WDC	ANY MEDIUM				WDC	WDC
LWIRO	D 1971		JFMAMJ JASONDI		A							
LWI	D 1972		JFMAMJ JASONDI		A							
( -2.25 28.80 )	D 1973		JFMAMJ JASONDI		A							
	D 1974		JFMAMJ JASONDI		A							
	D 1975		JFMA		A							
LYCKSELE	D 1970											
LYS	(064.62 18.77)											
LYNN LAKE	D 1977											ASOND*
LYN	D 1978											MAMJ JASOND*
(056.85 258.93)	D 1979											JFMAMJ JASOND*
	D 1980											JFMAMJ JASOND*
	D 1981											JFMAMJ JASOND*
	D 1982											JFMAMJ JASOND*
	D 1983											JFMAMJ JASOND*
M BOUR	D 1952	KA										
MBO	D 1953	KA										
(014.39 343.04)	D 1954	KA										
	D 1955	KA										
	D 1956	KA	JASONDI									
	D 1957	KA	JFMAMJ JASONDI		ABCD							
	D 1958	KA	JFMAMJ JASONDI		ABCD							
	D 1959	KA	JFMAMJ JASONDI		ABCD							
	D 1960	KA	JFMAMJ JASONDI		ABCD							
	D 1961	KA	JFMAMJ JASONDI		ABCD							
	D 1962	KA	JFMAMJ JASONDI		ABCD							
	D 1963	KA	JFMAMJ JASONDI		ABCD							
	D 1964	KA	JFMAMJ JASONDI		ABCD							
	D 1965	KA	JFMAMJ JASONDI		ABCD							
	D 1966	KA	JFMAMJ JASONDI		ABCD							
	D 1967	KA	JFMAMJ JASONDI		ABCD							
	D 1968	KA	JFMAMJ JASONDI		ABCD							
	D 1969	KA	JFMAMJ JASONDI		ABCD							
	D 1970	KA	JFMAMJ JASONDI		ABCD							
	D 1971	KA	JFMAMJ JASONDI		ABCD							
	D 1972	KA	JFMAMJ JASONDI		ABCD							
	D 1973	A	JFMAMJ JASONDI		ABCD							
	D 1974	A	JFMAMJ JASONDI		A CD							
	D 1975	KA	JFMAMJ JASONDI		ABCD							
	D 1976	KA	JFMAMJ JASONDI		ABCD							
	D 1977	A	JFMAMJ JASONDI		ABCD							
	D 1978	A	JFMAMJ JASONDI		ABCD							
	D 1979	A	JFMAMJ JASONDI		A CD							
	D 1980	A	JFMAMJ JASONDI		A CD							
	D 1981	A	JFMAMJ JASONDI		A CD							
	D 1982	KA	JFMAMJ JASONDI		A CD							
	D 1983	KA	JFMAMJ JASONDI		A CD							
	D 1984	KA	JFMAMJ JAS		A CD							
MACQUARIE ISLAND	D 1950	A										
MCQ	D 1951	A										
(-54.50 158.95)												

OBSERVATORY	COMP	YEAR	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE		1.0-MINUTE (*)	
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	2.5-MINUTE	1.0-MINUTE (*)	
MACQUARIE ISLAND MCQ (-54.50 158.95)	D	1952	KA					A	AMJ JASOND						
	D	1953	KA		JASOND			A	JFMAMJ JASOND						
	D	1954	KA		JFMAMJ JASOND			A	JFMAMJ JASOND						
	D	1955	KA		JFMAMJ JASOND										
	D	1956	KA	ABCD	JFMAMJ JASOND										
	D	1957	KA	ABCD	JFMAMJ JASOND										
	D	1958	KA	ABCD	JFMAMJ JASOND										
	D	1959	KA	ABCD	JFMAMJ JASOND										
	D	1960	KA	ABCD	JFMAMJ JASOND										
	D	1961	KA	ABCD	JFMAMJ JASOND										
	D	1962	KA	ABCD	JFMAMJ JASOND										
	D	1963	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A CD	JFMAMJ JASOND						
	D	1964	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A CDE	JFMAMJ JASOND						
	D	1965	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A CDE	JFMAMJ JASOND						
	D	1966	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND						
	D	1967	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A DE	JFMAMJ JASOND						
	D	1968	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND						
	D	1969	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND						
	D	1970	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A E	JFMA						
	D	1971	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND								
	D	1972	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND								
	D	1973	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND								
	D	1974	KA	A	JFMAMJ JASOND	A C	JFMAMJ JASOND								
	D	1975	KA	A	JFMAMJ JASOND	A C	JFMAMJ JASOND								
	D	1976	KA	ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND								
	D	1977	KA	A	JFMAMJ JASOND	A C	JFMAMJ JASOND								
D	1978	KA	A	JFMAMJ JASOND	A C	JFMAMJ JASOND									
D	1979	KA	A	JFMAMJ JASOND	A C	JFMAMJ JASOND									
D	1980	KA	ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND									
D	1981	KA	A	JFMAMJ JASOND											
D	1982	KA	A	JFMAMJ JASOND											
D	1983	KA	A	JFMAMJ JASOND											
D	1984	K	ABCD	JFMAMJ JASOND											
MAGADAN MGD (060.12 151.02)	D	1966	A	AB	OND			AB	OND						
	D	1967	KA	AB	JFMAMJ JASOND			AB	JFMAMJ JASOND						
	D	1968	KA	AB	JFMAMJ JASOND			AB	JFMAMJ JASOND						
	D	1969	KA	AB	JFMAMJ OND			AB	JFMAMJ JASOND						
	D	1970	KA	AB	JFMAMJ OND			AB	JFMAMJ JASOND						
	D	1971	KA	AB	JFMAMJ JASOND			AB	JFMAMJ JASOND						
	D	1972	KA	AB	JFMAMJ JAS			AB	JFMAMJ JASOND						
	D	1973	A	AB	JFMAMJ JASOND			AB	JFMAMJ JASOND						
	D	1974	A	AB	JFMAMJ JASOND			AB	JFMAMJ JASOND						
	D	1975	KA	AB	JFMAMJ JASOND			AB	JFMAMJ JASOND						
	D	1976	KA	AB	JFMAMJ JASOND			AB	JFMAMJ JASOND						
	D	1977	KA	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND						
	D	1978	KA	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND						
	D	1979	KA	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND						
	D	1980	KA	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND						
	D	1981	KA	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND						
	D	1982	KA	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND						
D	1983	KA	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND							



OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN WDC MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
MAGADAN	D 1984	K										
MGD	( 60.12 151.02)											
MAGALLANES	D 1933					A	JFMAMJ JA					
MGS	(-53.20 289.10)											
MAJURO	D 1964	A	ABCD	ASOND								
MJR	D 1965	A	ABCD	JFMAMJ JASOND								
	(007.08 171.38)	D 1966	A	ABCD	JF							
MALIYE KARMAKULY	D 1882						OND					
MKL	D 1883					C	JFMAMJ JA					
	(072.30 052.50)	D 1977	B D	J JASOND								
		D 1978	B D	JFMAMJ JAS ND								
MANHAY	D 1932	A				A	SOND					
MAB	D 1933	A				A	JFMAMJ JA					
	(050.30 5.68)	D 1940	KA									
		D 1941	KA									
		D 1942	KA									
		D 1943	K									
		D 1947	KA									
		D 1948	KA									
		D 1949	KA									
		D 1950	KA									
		D 1951	KA									
		D 1952	KA									
		D 1953	KA									
		D 1954	KA									
		D 1955	KA									
		D 1956	KA									
		D 1957	KA	JASOND								
		D 1958	KA	JFMAMJ JASOND								
		D 1959	KA									
		D 1960	KA									
		D 1961	KA									
		D 1962	KA									
		D 1963	KA									
		D 1964	KA									
		D 1965	KA									
		D 1966	KA									
		D 1967	KA									
		D 1968	KA									
		D 1969	KA									
		D 1970	KA									
		D 1971	KA									
		D 1972	KA									
MANILA	D 1900	A				A	JASOND					
MAN	(014.58 120.98)											

OBSERVATORY	YEAR	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES		WDC	2.5-MINUTE	
							ANY	MEDIUM		ON	TAPE
MANILA MAN (014.58 120.98)	D 1901	A					JFMAMJ	JASOND	A		
	D 1902	A					JFMAMJ	JASOND	A		
	D 1903	A					JFMAMJ	JASOND	A		
	D 1904	A					JFMAMJ	JASOND	A		
D 1983	K										
	D 1984	K									
MAPUTO LMM (-25.92 32.58)	D 1964	KA		JFMAMJ	JASOND	A					
	D 1965	KA	A	JFMAMJ	JASOND	A					
	D 1966	KA	A	JFMAMJ	JASOND	A					
	D 1967	KA	A	JFMAMJ	JASOND	A					
	D 1968	KA	A	JFMAMJ	JASOND	A					
	D 1969	KA	A	JFMAMJ	JASOND	A					
	D 1970	KA	A	JFMAMJ	JASOND	A					
	D 1971	KA	A	JFMAMJ	JASOND	A					
	D 1972	KA	A	JFMAMJ	JASOND	A					
	D 1973	KA	A	JFMAMJ	JASOND	A					
	D 1974	KA	A	JFMAMJ	JASOND	A					
	D 1975	KA	A	JFMAMJ	JASOND	A					
	D 1976	KA	A	JFMAMJ	JASOND	A					
	D 1977	A	A	JFMAMJ	JASOND	A					
	D 1978	A	A	JFMAMJ	JASOND	A					
	D 1979	KA	A	JFMAMJ	JASOND	A					
	D 1980	KA	A	JFMAMJ	JASOND	A					
	D 1981	KA	A	JFMAMJ	JASOND	A					
	D 1982	KA	A	JFMAMJ	JASOND	A					
D 1983	KA	A	JFMAMJ	JASOND	A						
D 1984	K										
MARION ISLAND MRN (-46.88 37.85)	D 1973	A					JFMAMJ	JASOND	ABCD		
	D 1974	A					JFMAMJ	JASOND	ABCD		
	D 1975	A					JFMAMJ	JASOND	ABCD		
	D 1976	A					JFMAMJ	JASOND	A CD		
	D 1977	A					JFMAMJ	JASOND	ABCD		
	D 1978						JFMAMJ	JASOND	A		
	D 1979						JFMAMJ	JASOND	A		
D 1980						JFMAMJ	JASOND	A E			
MARTIN DE VIVIES AMS (-37.83 77.57)	D 1981	A					AMJ	JASOND	B D		
	D 1982	A					JFMAMJ	JASOND	A		JFMAMJ JASOND*
	D 1983	A					JFMAMJ	JASOND	A		JFMAMJ JASOND*
MAURITIUS MRI (-20.09 57.55)	D 1916	A					JFMAMJ	JASOND	A		
	D 1917	A					JFMAMJ	JASOND	A		
	D 1918	A					JFMAMJ	JASO	A		
	D 1919	A					JFMAMJ	JASOND	A		
	D 1920	A					JFMAMJ	JASOND	A		
	D 1921	A					JFMAMJ	JASOND	A		
	D 1922	A					JFMAMJ	JASOND	A		
	D 1923	A					JFMAMJ	JASOND	A		
	D 1924	A					JFMAMJ	JASOND	A		
	D 1925	A					JFMAMJ	JASOND	A		
	D 1926	A					JFMAMJ	JASOND	A		
D 1927	A					JFMAMJ	JASOND	A			

OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL MAGNETOGRAMS		RAPID RUN MAGNETOGRAMS		HOURLY VALUES ANY MEDIUM		HOURLY VALUES ON TAPE		2.5-MINUTE 1.0-MINUTE (*)	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE (*)
MAURITIUS MRI (-20.09 57.55)	D 1928	A					A	JFMAMJ JASOND				
	D 1929	A					A	JFMAMJ JASOND				
	D 1930	A					A	JFMAMJ JASOND				
	D 1931	A					A	JFMAMJ JASOND				
	D 1932	A					A C	JFMAMJ JASOND				
	D 1933	A					A C	JFMAMJ JAS				
	D 1934	A					A	J JASOND				
	D 1935	A					A	JFMAMJ JASOND				
	D 1936	A					A	JFMAMJ JASOND				
	D 1937	A					A	JFMAMJ JASOND				
	D 1938	A					A	JFMAMJ JASOND				
	D 1943	A					A	JFMAMJ JASOND				
	D 1944	A					A	JFMAMJ JASOND				
	D 1945	A					A	JFMAMJ JASOND				
D 1946	A					A	JFMAMJ JASOND					
D 1947	A					A	JFMAMJ JASOND					
D 1948	A					A	JFMAMJ JASOND					
D 1949	A					A	JFMAMJ JASOND					
D 1950	A					A	JFMAMJ JASOND					
D 1956	KA						A	AMJ JASOND				
D 1957	KA						A	JFMAMJ JASOND				
D 1958	KA						A	JFMAMJ JASOND				
D 1959	KA						A	JFMAMJ JASOND				
D 1960	KA						A C	ASOND				
D 1961	KA						A	I JFMAMJ JASOND				
D 1962	KA						A	CD JFMAMJ JASOND				
D 1963	KA						ABCD	JFMAMJ JASOND				
D 1964	KA											
D 1965	KA											
D 1966	KA											
D 1967	KA											
D 1968	KA											
D 1969	KA											
D 1970	KA											
D 1971	KA											
D 1972	KA											
D 1973	KA											
D 1974	KA											
D 1975	KA											
D 1976	KA											
D 1952												
D 1953												
D 1954												
D 1955	A											
D 1956	KA											
D 1957	KAQ											
D 1958	KAQ											
D 1959	KA											
D 1960	KA											
D 1961	KA											
D 1962	KA											
D 1963	KA											
D 1964	KA											
D 1965	KA											
D 1966	KA											
D 1967	KA											
D 1968	KA											
D 1969	KA											
D 1970	KA											
D 1971	KA											
D 1972	KA											
D 1973	KA											
D 1974	KA											
D 1975	KA											
D 1976	KA											
D 1952												
D 1953												
D 1954												
D 1955	A											
D 1956	KA											
D 1957	KAQ											
D 1958	KAQ											
D 1959	KA											
D 1960	KA											
D 1961	KA											
D 1962	KA											
D 1963	KA											
D 1964	KA											
D 1965	KA											
D 1966	KA											
D 1967	KA											
D 1968	KA											
D 1969	KA											
D 1970	KA											
D 1971	KA											
D 1972	KA											
D 1973	KA											
D 1974	KA											
D 1975	KA											
D 1976	KA											

OBSERVATORY	YEAR	COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	WDC	RAPID RUN		HOURLY VALUES		HOURLY VALUES	
							MAGNETOGRAMS	WDC	ANY	MEDIUM	ON	TAPE
MAWSON MAW (-67.61 62.88)	D 1977	KA	ABCD	JFMAMJ JASOND								
	D 1978	KA	ABCD	JFMAMJ JASOND								
	D 1979	KA	ABCD	JFMAMJ JASOND								
	D 1980	KA	ABCD	JFMAMJ JASOND								
	D 1981	KA	AB D	JFMAMJ JASOND								
	D 1982	KA	A	J								
	D 1983	KA	A									
	D 1984	K										
MCMURDO MCM (-77.85 166.70)	D 1981		C	FM								
MEANOOK MEA (054.62 246.67)	D 1916	A	A	JFMAMJ JASOND	D							
	D 1917	A	A	JFMAMJ JASOND								
	D 1918	A	A	JFMAMJ JASOND								
	D 1919	A	A	JFMAMJ JASOND								
	D 1920	A	A	JFMAMJ JASOND								
	D 1921	A	A	JFMAMJ JASOND								
	D 1922	A	A	JFMAMJ JASOND								
	D 1923	A	A	JFMAMJ JASOND								
	D 1924	A	A	JFMAMJ JASOND								
	D 1925	A	A	JFMAMJ JASOND								
	D 1926	A	A	JFMAMJ JASOND								
	D 1927	A	A	JFMAMJ JASOND								
	D 1928	A	A	JFMAMJ JASOND								
	D 1929	A	A	JFMAMJ JASOND								
	D 1930	A	A	JFMAMJ JASOND								
	D 1931	A	A	JFMAMJ JASOND								
	D 1932	A	A	JFMAMJ JASOND								
	D 1933	A										
	D 1934	A										
	D 1935	A										
	D 1936	A										
	D 1937	A										
	D 1938	A										
	D 1939	KA										
	D 1940	KA										
	D 1941	KA	A		JFMAMJ JASOND							
	D 1942	KA	A		JFMAMJ JASOND							
	D 1943	KA	A		JFMAMJ JASOND							
D 1944	KA	A		JFMAMJ JASOND								
D 1945	KA	A		JFMAMJ JASOND								
D 1946	KA	A		JFMAMJ JASOND								
D 1947	KA	A		JFMAMJ JASOND								
D 1948	KA	A		JFMAMJ JASOND								
D 1949	KA	A		JFMAMJ JASOND								
D 1950	KA	A		JFMAMJ JASOND								
D 1951	KA	A		JFMAMJ JASOND								
D 1952	KA	A		JFMAMJ JASOND								
D 1953	KA	A		JFMAMJ JASOND								
D 1954	KA	A		JFMAMJ JASOND								





OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE (*)
								ANY MEDIUM	ON TAPE		
MINSK MMK (054.50 27.88)	D 1978	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB	
	D 1979	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB	
	D 1980	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB	
	D 1981	KA	ABCD	JFMAMJ JASOND	A C JFMAMJ JASOND	A C JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB	
	D 1982	KA	ABCD	JFMAMJ JASOND	A C JFM	JASOND	ABCD	JFMAMJ JASOND	AB	AB	
	D 1983	K	ABCD	JFMAMJ JASOND	A C JFM	JASOND	ABCD	JFMAMJ JAS	AB	AB	
	D 1984	K	ABCD	JFMAMJ JAS			ABCD	JFMAMJ JAS	AB	AB	
	D 1956	KA	B	JASOND			A	JASOND	AB	AB	
	D 1957	KA	ABCD	JFMAMJ JASOND	ABC	JASOND	ABCD	JFMAMJ JASOND	AB	AB	
	D 1958	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB	
D 1959	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1960	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1961	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1962	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1963	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1964	KAQ	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1965	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1966	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1967	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1968	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1969	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1970	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1971	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1972	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1973	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1974	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1975	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1976	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1977	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1978	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1979	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1980	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1981	KA	AB	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1982	KA	AB	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1983	K	AB	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1984	K	AB	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	AB		
D 1957											
D 1958											
D 1959											
D 1960	KA	A	AMJ JASOND			AMJ JASOND					
D 1961	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
D 1962	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
D 1963	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
D 1964	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
D 1965	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
D 1966	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
D 1967	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
D 1968	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
D 1969	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
D 1970	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
D 1971	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
D 1957											
D 1958											
D 1959											
D 1960	KA	A	AMJ JASOND			AMJ JASOND					
D 1961	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
D 1962	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
D 1963	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
D 1964	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
D 1965	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
D 1966	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
D 1967	KA	ABCD	JFMAMJ JASOND			JFMAMJ JASOND					
D 1968	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
D 1969	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
D 1970	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					
D 1971	KA	A	JFMAMJ JASOND			JFMAMJ JASOND					

OBSERVATORY	YEAR	COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		2.5-MINUTE	
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON	TAPE
MISALLAT	D 1972	KA	A	JFMAMJ JASOND				ABCD	JFMAMJ JASOND		
MLT	D 1973	KA	A	JFMAMJ JASOND				ABCD	JFMAMJ JASOND		
(029.52 30.89)	D 1974	KA	AB	JFMAMJ JASOND				A	JFMAMJ JASOND		
	D 1975	K	AB	JFMAMJ JASOND				A	JFMAMJ JASOND		
	D 1976	K	AB	JFMAMJ JASOND				A	JFMAMJ JASOND		
	D 1977		AB	JFMAMJ JASOND							
	D 1978		AB	JFMAMJ JASOND							
	D 1979	A	AB	JFMA				A	JFMAMJ JASOND		
	D 1980	A	AB	JFMA				A	JFMAMJ JASOND		
MIZUSAWA	D 1969	A						A	AMJ JASOND		
MIZ	D 1970	A						A	JFMAMJ JASOND		
(039.01 141.08)	D 1971	A						A	JFMAMJ JASOND		
	D 1972	A						A	JFMAMJ JASOND		
	D 1973	A						ABC	JFMAMJ JASOND		
	D 1974	A						ABC	JFMAMJ JASOND		
	D 1975	A						ABC	JFMAMJ JASOND		
	D 1976	A						ABC	JFMAMJ JASOND		
	D 1977	A						ABC	JFMAMJ JASOND		
	D 1978	A						ABC	JFMAMJ JASOND		
	D 1979	A						ABC	JFMAMJ JASOND		
	D 1980	A						ABC	JFMAMJ JASOND		
	D 1981	A						ABC	JFMAMJ JASOND		
	D 1982	A						ABC	JFMAMJ JASOND		
MOCA	D 1958	KA	ABCD	OND				ABCD	JFMAMJ JASOND		
MFP	D 1959	KA	ABCD	JFMAMJ JASOND				ABCD	JFMAMJ JASOND		
(003.34 8.66)	D 1960	KA						ABCD	JFMAMJ JASOND		
	D 1961	KA						ABCD	JFMAMJ JASOND		
	D 1962	KA						ABCD	JFMAMJ JASOND		
	D 1963	KA						A CD	JFMAMJ JASOND		
	D 1964	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	AB EI	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1965	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	AB EI	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1966	KA	ABCD	JFMAMJ JASOND	A C	JASOND	ABC E	AB EI	JFMAMJ JASOND	A	JFMAMJ JAS
	D 1967	KA	ABCD	JFMAMJ JASOND	A C	JAS	ABCDE	AB EI	JFMAMJ JASOND	A	SO D
	D 1968	KA	ABCD	JFMAMJ JASOND			ABCDE	AB EI	JFMAMJ	A	JF AMJ
	D 1969	KA	ABCD	JFMAMJ JASOND			ABCDE	AB E	JASO	A	JASO
	D 1970	KA	ABCD	JFMAMJ JASOND			ABCDE				
	D 1971	KA	ABCD	JFMAMJ JASOND			ABCDE				
MODIIM	D 1975	A	A D	JFMAMJ JASOND				A D	JFMAMJ JASOND		
MOD											
( 31.93 34.98)											
MOGADISCIO	D 1932							A	JFMAMJ J		ASOND
MOG	D 1933							A	JFMAMJ J		
(002.03 045.35)											
MOLODEZHNYA	D 1966	A	B	JFMAMJ JASOND				B	JFMAMJ JASOND		
MOL	D 1967	A	B	JFMAMJ JASOND				B	JFMAMJ JASOND		
(-67.67 45.85)	D 1968	A	B	JFMAMJ JASOND				B	JFMAMJ JASOND		
	D 1969	A	B	JFMAMJ JASOND				B	JFMAMJ JASOND		
	D 1970	A	B	JFMAMJ JASOND				B	JFMAMJ JASOND		
	D 1971	A	B	JFMAMJ JASOND				B	JFMAMJ JASOND		



OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN WDC MAGNETOGRAMS	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
											JFMAMJ JASOND
MOLODEZHNAJA MOL (-67.67 45.85)	D 1972	A	B	JFMAMJ JASOND		JFMAMJ JASOND	B				
	D 1973	A	B	JFMAMJ JASOND		JFMAMJ JASOND	B				
	D 1974	A	B	JFMAMJ JASOND		JFMAMJ JASOND	B				
	D 1975	A	B	JFMAMJ JASOND		JFMAMJ JASOND	B				
	D 1976	KA	B	JFMAMJ JASOND		JFMAMJ JASOND	B				
	D 1977	KA	B	JFMAMJ JASOND		JFMAMJ JASOND	B				
	D 1978	KA	B	JFMAMJ JASOND		JFMAMJ JASOND	B				
	D 1979	KA	B	JFMAMJ JASOND		JFMAMJ JASOND	B				
	D 1980	A	B	JFMAMJ JASOND		JFMAMJ JASOND	B				
	D 1981	A	B	JFMAMJ JASOND		JFMAMJ JASOND	B				
	D 1982	A	B	JFMAMJ JASOND		JFMAMJ JASOND	B				
	D 1983	K	B	JFMAMJ JASOND		JFMAMJ JASOND	B				
	D 1984	K				JFMAMJ JASOND	B				
	MONTE CAPELLINO MCP (044.55 8.96)	D 1963		AB D	JFMAMJ JASOND						
		D 1964		AB D	JFMAMJ JASOND						
	MOSCOW MOS (055.48 37.31)	D 1945	K								
D 1946		KA									
D 1956		KA	ABCD	JASOND		JASOND	ABCD	JASOND	AB	JASOND	
D 1957		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1958		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1959		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1960		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1961		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1962		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1963		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1964		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1965		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1966		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1967		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1968		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1969		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1970		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1971		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1972		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1973		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1974		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1975		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1976		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1977		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1978		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1979		KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
D 1980	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND		
D 1981	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND		
D 1982	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND		
D 1983	K	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND		
D 1984	K	ABCD	JFMAMJ JASO		JFMAMJ JASO	ABCD	JFMAMJ JASO	AB	JFMAMJ JASO		
MOULD BAY MBC (076.20 240.60)	D 1961		AB D	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	
	D 1962	A	AB	JFMAMJ JASOND		JFMAMJ JASOND	ABCD	JFMAMJ JASOND	E	JFMAMJ JASOND	

OBSERVATORY	YEAR COMP	KAQ	NORMAL MAGNETOGRAMS		RAPID RUIN MAGNETOGRAMS		HOURLY VALUES ANY MEDIUM		HOURLY VALUES ON TAPE		2.5-MINUTE 1.0-MINUTE(*)	
			WDC	JFMAMJ JASOND	WDC	JFMAMJ JASOND	WDC	ABCDEI	WDC	ABCEI	WDC	ABCEI
MOULD BAY MBC (076.20 240.60)	D 1963	A	ABCD	JFMAMJ JASOND			ABCDEI	JFMAMJ JASOND	AB E	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1964	A	ABCD	JFMAMJ JASOND			ABCDEI	JFMAMJ JASOND	AB E	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1965	A	ABCD	JFMAMJ JASOND			ABCDEI	JFMAMJ JASOND	AB E	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1966	A	ABCD	JFMAMJ JASOND			ABCDEI	JFMAMJ JASOND	AB E	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1967	A	ABCD	JFMAMJ JASOND			ABCDEI	JFMAMJ JASOND	AB E	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1968	A	ABCD	JFMAMJ JASOND			ABCDE	JFMAMJ JASOND	AB E	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1969	A	ABCD	JFMAMJ JASOND			ABCDE	JFMAMJ JASOND	AB E	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1970	A	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND	AB E	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1971	A	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	D 1972	A	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND				
	D 1973	A	ABCD	JFMAMJ JASOND			ABCDE	JFMAMJ JASOND	A C E	JFMAMJ JASOND		
	D 1974	A	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	D 1975	A	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	D 1976	A	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	D 1977	A	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	X 1978	A	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND	AB	MAMJ JA	A	MAMJ JA
	X 1979	A	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	X 1980	A	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	X 1981	A	ABCD	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
	X 1982	A	ABCD	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
X 1983	A	ABCD	JFMAMJ JASOND			A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND*	
X 1984	A	ABCD	JFMAMJ JAS			A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND*	

MT WILSON MWC (034.22 241.93)	D 1926	A	ABCD	JFMAMJ JASOND								
	D 1927	A	ABCD	JFMAMJ JASOND								
	D 1928	A	ABCD	JFMAMJ JASOND								
	D 1929	A	ABCD	JFMAMJ JASOND								
	D 1930	A	ABCD	JFMAMJ JASOND								
	D 1931	A	ABCD	JFMAMJ JASOND								
	D 1932	A	ABCD	JFMAMJ JASOND								
	D 1933	A	ABCD	JFMAMJ JASOND								
	D 1934	A	ABCD	JFMAMJ JASOND								
	D 1935	A	ABCD	JFMAMJ JASOND								
	D 1936	A	ABCD	JFMAMJ JASOND								
	D 1937	A	ABCD	JFMAMJ JASOND								
	D 1938	A	ABCD	JFMAMJ JASOND								
	D 1939	A	ABCD	JFMAMJ JASOND								
	D 1940	A	ABCD	JFMAMJ JASOND								
	D 1941	A	ABCD	JFMAMJ JASOND								
	D 1942	A	ABCD	JFMAMJ JASOND								
	D 1943	A	ABCD	JFMAMJ JASOND								
	D 1944	A	ABCD	JFMAMJ JASOND								
	D 1945	A	ABCD	JFMAMJ JASOND								
D 1946	A	ABCD	JFMAMJ JASOND									
D 1947	A	ABCD	JFMAMJ JASOND									
D 1948	A	ABCD	JFMAMJ JASOND									
D 1949	A	ABCD	JFMAMJ JASOND									
D 1950	A	ABCD	JFMAMJ JASOND									
D 1951	A	ABCD	JFMAMJ JASOND									
D 1952	A	ABCD	JFMAMJ JASOND									
D 1953	A	ABCD	JFMAMJ JASOND									
D 1954	A	ABCD	JFMAMJ JASOND									

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN WDC MAGNETOGRAMS	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)
MT WILSON MWC (034.22 241.93)	D 1955		A	JFMAMJ JASOND		JFMAM	A			
	D 1956		A	JFMAMJ JASOND		JFMAMJ JASOND	A			
	D 1957		A	JFMAMJ JASOND		JFMAMJ JASOND	A			
	D 1958		A	JFMAMJ JASOND		JFMAMJ JASOND	A			
MUNTINLUPA MUT (014.38 121.02)	D 1953	A				JFMAM	A			
	D 1954	A				JFMAMJ JASOND	A			
	D 1955	A				JFMAMJ JASOND	A			
	D 1956	A				JFMAMJ JASOND	A			
	D 1957	A	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1958	A	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1959	A	BCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1960	A	BCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1961	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A D			
	D 1962	A	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A D			
	D 1963	A	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A E			
	D 1964	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCDE			
	D 1965	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	AB E			
	D 1966	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A E			
	D 1967	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A E			
	D 1968	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A E			
	D 1969	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A E			
	D 1970	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A E			
	D 1971	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A E			
	D 1972	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A E			
D 1973	A				JFMAMJ JASOND	ABCD				
D 1974	KA				JFMAMJ JASOND	ABCD				
D 1975	KA				JFMAMJ JASOND	ABCD				
D 1976	KA				JFMAMJ JASOND	ABCD				
D 1977	KA				JFMAMJ JASOND	ABCD				
D 1978	KA				JFMAMJ JASOND	ABCD				
D 1979	KA				JFMAMJ JASOND	A D				
D 1980	KA				JFMAMJ JASOND	ABCD				
D 1981	KA				JFMAMJ JASOND	ABCD				
D 1982	KA				JFMAMJ JASOND	ABCD				
D 1983	K				JFMAMJ JASOND	A				
D 1984	K				JFMAMJ JASOND	ABCD				
D 1985	K				JFMAMJ JASOND	ABCD				
MURCHISON BAY MUB (080.50 018.25)	D 1957	Q	ABCD	ASOND	SOND	JFMAMJ JASOND	ABCD			
	D 1958	Q	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	JFMAMJ JASOND	ABCD			
	D 1959	Q	ABCD	JFMAMJ J		JFMAMJ J	ABCD			
MURMANSK MMK (068.95 33.05)  (068.25 33.08)	D 1957	K	ABCD	JASOND		JASOND	A			
	D 1958	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1959	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1960	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1961	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1962	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1963	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1964	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1965	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
	D 1966	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD			
D 1967	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				

OBSERVATORY	YEAR	COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE		
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON	TAPE	WDC	1.0-MINUTE(*)	
MURMANSK MMK (068.25 33.08)	1968	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1969	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1970	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1971	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1972	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1973	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1974	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1975	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1976	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1977	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1978	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1979	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1980	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1981	D	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMA	A	JFMA		
	1982	D	K											
	1983	D	K											
	1984	D	K											
NAGYCENK NCK (047.63 16.72)	1958	D	K											
	1959	D	K											
	1960	D	KA											
	1961	D	KA											
	1962	D	KA											
	1963	D	KA											
	1964	D	KA	A CD	JFMAMJ JASOND									
	1965	D	KA	A CD	JFMAMJ JASOND									
	1966	D	KA											
	1967	D	KA											
	1968	D	KA											
	1969	D	KA											
	1970	D	KA											
	1971	D	KA											
	1972	D	KA											
	1973	D	KA											
	1974	D	KA											
1975	D	KA												
1976	D	KA												
1977	D	KA												
1978	D	KA												
NAIROBI NAI (-1.33 36.82)	1964	D	A	ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1965	D	A	ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1966	D	A	ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1967	D	A	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1968	D	A	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1969	D	A	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1970	D	A	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1971	D	A	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1972	D	A	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1973	D	A	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1974	D	A	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1975	D	A	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1976	D	A	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1977	D	A	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	1978	D	A	AB	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	

OBSERVATORY	YEAR COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	ON TAPE	WDC	1.0-MINUTE(*)	
NAIROBI NAI (-1.33 36.82)	D 1977	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND				
	D 1979		A	J	D		A	JFMAMJ JASOND				
	D 1980		A	J AM			A	JFMAMJ JASOND				
NAMPULA NMP (-15.13 39.27)	D 1982						A	JFMAMJ JASOND				
	D 1983						A	JFMAMJ JASOND				
	D 1984						A	JFMAMJ JASO				
NANTES NTS (047.25 358.44)	D 1932	A					C	JFMAMJ JASOND				
	D 1933	A					C	JFMAMJ JASOND				
NARSSARSSUAQ NAQ (061.10 314.80)	D 1951	KA										
	D 1952	KA										
	D 1953	KA										
	D 1954	KA										
	D 1955	KA										
	D 1956	KA										
	D 1957	KA										
	D 1958	KA										
	D 1959	K										
	D 1968	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND	
	D 1969	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND	
	D 1970	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND	
	D 1971	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND	
	D 1972	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND	
	D 1973	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND	
	D 1974	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND	
	D 1975	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND	
	D 1976	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND	
	D 1977	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND	
D 1978	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND		
D 1979	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND		
D 1980	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND		
D 1981	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND		
D 1982	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND		
D 1983	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND		
D 1984	A	ABCD	JFMAMJ JASOND			AB	JFMAMJ JASOND			JFMAMJ JASOND		
NEW AALESUND NAL (078.92 011.93)	D 1969		D		S							
	D 1974		ABCD	JFMAMJ JASOND								
	D 1975		ABCD	JFMAMJ JASOND								
	D 1976		ABCD	JFMAMJ JASOND								
	D 1977		ABCD	JFMAMJ JASOND								
	D 1978		ABCD	JFMAMJ JASOND								
	D 1979		ABCD	JFMAMJ JASOND								
	D 1980		ABCD	JFMAMJ JASOND								
	D 1981		ABCD	JFMAMJ JASOND								
	D 1982		ABCD	JFMAMJ JASOND								

OBSERVATORY	YEAR	KAQ	NORMAL MAGNETOGRAMS	RAPID RUI MAGNETOGRAMS	HOURLY VALUES ANY MEDIUM	HOURLY VALUES		2.5-MINUTE				
						WDC	WDC	WDC	WDC			
NEWPORT NEW (048.26 242.88)	D 1966	KA	AMJ JASOND		ABCD	MAMJ JASOND	AB	EI	MAMJ JASOND	A	AMJ JASOND	
	D 1967	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1968	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1969	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1970	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1971	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1972	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1973	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1974	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1975	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1976	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1977	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1978	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1979	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1980	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1981	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1982	KA	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1983	KA	JFMAMJ JASOND		ABCD	JFMAMJ JA	JFMAMJ JA	A		SOND*		SOND*
NIEMEKG NGK (052.07 12.68)	D 1917				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1918				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1919				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1920				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1921				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1922				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1923				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1924				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1925				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1926				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1927				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1928				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1929				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1930				ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			
	D 1931		A			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1932		A			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1933		A			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1934		A			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1935		A			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1936		A			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1937		KA			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1938		KA			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1939		KA			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1940		KA			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1941		KA			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1942		KA			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1943		KA			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1944		KA			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1945		KA			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1946		KA			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1947		KA			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
	D 1948		KA			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND		
D 1949		KA			ABCD	JFMAMJ JASOND	A	C	JFMAMJ JASOND			

OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE (*)	
											2.5-MINUTE	1.0-MINUTE (*)
NIEMEGK NGK (052.07 12.68)	D 1950	KA	A			I	JFMAMJ JASOND					
	D 1951	KA	A			I	JFMAMJ JASOND					
	D 1952	KA	A C			I	JFMAMJ JASOND					
	D 1953	KA	A			I	JFMAMJ JASOND					
	D 1954	KA	A C			I	JFMAMJ JASOND					
	D 1955	KA	A C			I	JFMAMJ JASOND					
	D 1956	KA	A C			I	JFMAMJ JASOND					
	D 1957	KA	ABCD		JASOND		I	JFMAMJ JASOND				
	D 1958	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1959	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1960	KA	B		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1961	KA	B		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1962	KA	B		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1963	KA	B		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1964	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1965	KA	ABCD		JFMAMJ JASOND		DEI	JFMAMJ JASOND				
	D 1966	KA	ABCD		JFMAMJ JASOND		DEI	JFMAMJ JASOND				
	D 1967	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1968	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1969	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1970	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1971	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1972	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1973	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1974	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1975	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1976	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1977	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1978	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	D 1979	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	X 1980	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
	X 1981	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND				
X 1982	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND					
X 1983	KA	ABCD		JFMAMJ JASOND		I	JFMAMJ JASOND					
X 1984	K	ABCD		JFMAMJ JAS		I	JFMAMJ JASOND					
-----												
NITSANIM NSM (031.73 34.60)	D 1963	A	ABCD				JFMAMJ JASOND					
	D 1967	KA	A D				JFMAMJ JASOND					
	D 1968		A D				JFMAMJ JASOND					
-----												
NORD NRD (081.60 343.24)	D 1969		AB D				ASOND					
	D 1970		AB D				JFMAMJ JASOND					
	D 1971		AB D				JFMAMJ JASOND					
	D 1972		AB D				JFM					
-----												
NORILSK NOK (069.40 088.10)	D 1973		AB				JFMAMJ JASOND					
	D 1974		ABCD				JFMAMJ J					
	D 1975		ABCD				JFMAMJ J					
-----												
NORMAN WELLS NOW (064.90 234.50)	D 1977											JASOND*
	D 1978											JFMAMJ JASOND*
	D 1979											JFMAMJ JASOND*
	D 1980											JFMAMJ JASON *

OBSERVATORY	YEAR COMP	KAO	WDC	NORMAL MAGNETOGRAMS	RAPID RUN WDC MAGNETOGRAMS	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE	
										1.0-MINUTE(*)	2.5-MINUTE
NORMAN WELLS NOW (064.90 234.50)	D 1981									A	JFMAMJ JASOND*
	D 1982									A	JFMAMJ JASOND*
	D 1983									A	JFMAMJ JASOND*
NORTH POLE 6 NPF (084.00 094.00)	D 1957		ABCD	JASOND		JASOND	ABCD				
	D 1958 K		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				
	D 1959 K		ABCD	JFMAMJ JAS		JFMAMJ JAS	ABCD				
NORTH POLE 7 NPG (085.00 268.12)	D 1957		ABCD	JASOND		JASOND	ABCD				
	D 1958		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				
	D 1959		ABCD	JFM		JFM	ABCD				
NORTH POLE 8 NPH (077.00 189.00)	D 1959 K		ABCD	MJ JASOND		MJ JASOND	ABCD				
	D 1960 K		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				
	D 1961 K		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				
	D 1962		ABCD	JF		JF	ABCD				
NORTH POLE 10 NPJ (077.00 166.38)	D 1961		A CD	ND		ND	A CD				
	D 1962		A CD	JFMAM		JFMAM	A CD				
NORTH POLE 12 NPL (079.00 187.00)	D 1963 K		A CD	MJ JASOND		MJ JASOND	A CD				
	D 1964 K		A CD	JFMA		JFMA	A CD				
NORTH POLE 13 NPM (081.00 165.00)	D 1964		A CD	MJ JASOND		MJ JASOND	A CD				
	D 1965		A CD	JFMAMJ JASOND		JFMAMJ JASOND	CD				
NORTHWAY NRW (063.02 218.20)	D 1957		ABCD	AMJ JASOND		AMJ JASOND	ABCD				
	D 1958 A		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				
	D 1959		B	J		J					
NORUSUND NOR (077.00 015.55)	D 1978						BC				
	D 1979						BC				
NORWAY HOUSE NHO (053.98 262.17)	D 1973		A	MJ JASOND		MJ JASOND					
	D 1974		ABC	JFMAMJ JASOND		JFMAMJ JASOND					
	D 1975		A	J		J					
	D 1976		ABC	F N		F N					
NORWAY STATION NWS (-70.50 357.47)	D 1960 A						ABCD				
	D 1961 A						ABCD				
	D 1962 A						A D				
NOVOKAZALINSK NKK (045.80 62.10)	D 1965										
	D 1966 K										
	D 1967 K										
	D 1968 K										
	D 1969 K		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				
	D 1970 K		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				
	D 1971 K		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD				
D 1972 K		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD					
D 1973 K		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD					
D 1974 KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	ABCD					





OBSERVATORY	YEAR	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)
						ANY	MEDIUM	ON	TAPE		
NUMTO NMT (063.50 071.40)	D 1974	KA	ABCD	FJFAMJ JASOND							
	D 1975	KA	B	JFAMMJ JASOND							
	D 1976	KA	ABCD	JFAMMJ JASOND							
	D 1977	KA	B	JFAMMJ JASOND							
D 1978	KA	ABCD	JFAMMJ JASOND								
NURMIJARVI NUR (060.51 24.66)	D 1953	KA									
	D 1954	KA	ABCD	JASOND							
	D 1955	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1956	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1957	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1958	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1959	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1960	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1961	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1962	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1963	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1964	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1965	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1966	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1967	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1968	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1969	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1970	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1971	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1972	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1973	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1974	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1975	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1976	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1977	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1978	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1979	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
	D 1980	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND
D 1981	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND	
X 1982	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND	
X 1983	KA	ABCD	JFAMMJ JASOND	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND	
X 1984	K	ABCD	JFAMMJ JASON	ABC	JFAMMJ JASOND	ABC	JFAMMJ JASOND	AB	E	JFAMMJ JASOND	
X 1985	K	A	JF								
NYDA NDA (066.60 073.00)	D 1974	KA	ABCD	JFAMMJ JASOND							
	D 1975	KA	B	JFAMMJ JASOND							
	D 1976	KA	ABCD	JFAMMJ JASOND							
	D 1977	KA	B	JFAMMJ JASOND							
D 1978	KA	ABCD	JFAMMJ JASOND								
D 1979	KA	ABCD	JFAMMJ JASOND								
O GYALLA OGY (047.88 18.19)	D 1905	A									
	D 1906	A									
	D 1907	A									
	D 1908	A									
	D 1909	A									
	D 1910	A									
	D 1911	A									
	D 1912	A									
	D 1905	A									
	D 1906	A									
	D 1907	A									

OBSERVATORY	YEAR	KAQ	WDC	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES		WDC	HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)
								ANY	MEDIUM		ON	TAPE		
O GYALLA OGY (047.88 18.19)	D 1913	A	A					JFMAMJ	JASOND					
	D 1916	A	A					JFMAMJ	JASOND					
	D 1917	A	A					JFMAMJ	JASOND					
	D 1932							C	JFMAMJ	JASOND				
	D 1933							C	JFMAMJ	JASOND				
	D 1939							A	JFMAMJ	JASOND				
	D 1940							A	JFMAMJ	JASOND				
	D 1941							A	JFMAMJ	JASOND				
	D 1942							A	JFMAMJ	JASOND				
	D 1943							A	JFMAMJ	JASOND				
OASIS OAS (-66.30 100.72)	D 1957	KA	ABCD	J	JASOND			ABCD	J	JASOND				
	D 1958	KA	ABCD	JFMAMJ	JASON			ABCD	JFMAMJ	JASON				
ODESSA ODE (046.78 30.88)	D 1955	KA												
	D 1956	KA	ABCD	JASOND				AB D	JASOND					
	D 1957	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1958	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1959	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1960	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1961	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1962	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1963	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1964	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1965	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1966	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1967	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1968	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1969	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1970	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1971	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1972	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1973	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
	D 1974	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND				
D 1975	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND					
D 1976	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND					
D 1977	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND					
D 1978	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND					
D 1979	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND					
D 1980	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND					
D 1981	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND					
D 1982	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND					
D 1983	KA	ABCD	JFMAMJ	JASOND			ABCD	JFMAMJ	JASOND					
D 1984	K	ABCD	JFMAMJ	JAS			ABCD	JFMAMJ	JAS					
ONAGAWA ONW (038.43 141.47)	D 1957	K						ABC	JASOND					
	D 1958	K						ABC	JFMAMJ	JASOND				
	D 1959	K						ABC	JFMAMJ	JASOND				

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN WDC MAGNETOGRAMS	WDC	HOURLY VALUES		WDC	HOURLY VALUES		WDC	HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)		
							ANY	MEDIUM		ON TAPE	ON TAPE		ANY	MEDIUM		ON TAPE	ON TAPE	
ORCADAS DEL SUR ORC (-60.73 315.22)	D 1969	K	ABCD	JFMAMJ JASOND														
	D 1970	K																
	D 1971		AB D	JFMAMJ JASOND														
	D 1972		ABCD	JFMAMJ JASOND														
	D 1973		ABCD	JFMAMJ JASOND														
	D 1974		A	JFMAMJ JASOND														
OTTAWA OTT (045.40 284.45)	D 1968	A	ABCD	J JASOND														
	D 1969	KA	ABCD	JFMAMJ JASOND														
	D 1970	KA	ABCD	JFMAMJ JASOND														
	D 1971	KA	ABCD	JFMAMJ JASOND														
	D 1972	KA	ABCD	JFMAMJ JASOND														
	D 1973	KA	ABCD	JFMAMJ JASOND														
	D 1974	KA	ABCD	JFMAMJ JASOND														
	D 1975	KA	ABCD	JFMAMJ JASOND														
	D 1976	KA	ABCD	JFMAMJ JASOND														
	D 1977	KA	ABCD	JFMAMJ JASOND														
	X 1978	KA	ABCD	JFMAMJ JASOND														
	X 1979	KA	ABCD	JFMAMJ JASOND														
	X 1980	KA	ABCD	JFMAMJ JASOND														
	X 1981	KA	ABCD	JFMAMJ JASOND														
	X 1982	KA	ABCD	JFMAMJ JASOND														
	X 1983	KA	ABCD	JFMAMJ JASOND														
	X 1984	K	ABCD	JFMAMJ JAS														
	X 1985	K	ABCD	JFMAMJ JAS														
	P. TUNGUSKA POD (061.60 90.00)	D 1969	A	AB	JFMAMJ JASOND													
		D 1970	A	AB	JFMAMJ JASOND													
D 1971		A	AB	JFMAMJ JASOND														
D 1972		A	AB	JFMAMJ JASOND														
D 1973		A	AB	JFMA JASOND														
D 1974		A	AB	JFMAMJ JAS														
D 1975		KA	ABCD	AMJ JASOND														
D 1976		KA	ABCD	JFMAMJ JASOND														
D 1977		KA	ABCD	JFMAMJ JASOND														
D 1978		KA	ABCD	JFMAMJ JASOND														
D 1979		KA	ABCD	JFMAMJ JASOND														
D 1980		KA	ABCD	JFMAMJ JASOND														
D 1981		KA	ABCD	JFMAMJ JASOND														
D 1982		KA	ABCD	JFMAMJ JASOND														
D 1983	KA	ABCD	JFMAMJ JASOND															
D 1984	K	ABCD	JFMAMJ AS															
PALMYRA ISLAND PAI (005.88 197.92)	D 1957		ABCD	OND														
	D 1958		BCD	JFMAMJ JA														
PAMATAI PPT (-17.57 210.43)	D 1966	A	ABCD	JFMAMJ JASOND														
	D 1968	KA	ABCD	JFMAMJ JASOND														
	D 1969	KA	ABCD	JFMAMJ JASOND														
	D 1970	KA	ABCD	JFMAMJ JASOND														
	D 1971	KA	ABCD	JFMAMJ JASOND														

OBSERVATORY	YEAR COMP	KAQ	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE (*)		
												WDC	WDC	
PAMATAI PPT (-17.57 210.43)	D 1972	KA	JFMAMJ JASOND	ABCD		ABCD	ABDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	D 1973	KA	JFMAMJ JASOND	ABCD		ABCD	ABDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	D 1974	KA	JFMAMJ JASOND	ABCD		ABCD	ABDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	D 1975	KA	JFMAMJ JASOND	ABCD		ABCD	ABDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	D 1976	KA	JFMAMJ JASOND	ABCD		ABCD	A CDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	D 1977	KA	JFMAMJ JASOND	ABCD		ABCD	A C E	JFMAMJ JASOND	A	JFMAMJ JASOND	A	MAMJ JASOND*	A	
	D 1978	KA	JFMAMJ JASOND	ABCD		ABCD	A CDE	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	
	D 1979	KA	A CD	JFMAMJ JASOND	A CD		A CDE	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	
	D 1980	KA	A CD	JFMAMJ JASOND	A CD		A CDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	D 1981	KA	ABCD	JFMAMJ JASOND	ABCD		ABDE	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	
	D 1982	A	ABCD	JFMAMJ JASOND	ABCD		ABDE	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	
	D 1983	KA	ABCD	JFMAMJ JASOND	ABCD		ABDE	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	
	D 1984		A CD	JFMAMJ JAS	A CD		A CDE	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	
	PANAGYURISHTE PAG (042.52 24.18)	D 1956	A	JFMAMJ JASOND	C		ABC	I	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC
		D 1957	KA	JASOND	ABCD		ABCD	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
		D 1958	KA	JFMAMJ JASOND	ABCD		ABCD	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
		D 1959	KA	JFMAMJ JASOND	ABCD		ABCD	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
D 1960		KA	JFMAMJ JASOND	ABCD		ABCD	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
D 1961		KA					I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
D 1962		KA					I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
D 1963		KA					I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
D 1964		KA					I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
D 1965		KA	B	JFMAMJ JASOND	B		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB
D 1966		KA	AB	JFMAMJ JASOND	AB		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB
D 1967		KA	B	JFMAMJ JASOND	B		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB
D 1968		KA	B	JFMAMJ JASOND	B		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB
D 1969		KA	AB	JFMAMJ JASOND	AB		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB
D 1970		KA	AB	JFMAMJ JASOND	AB		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB
D 1971		KA					AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB
D 1972		KA					AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB
D 1973	A	AB	JFMAMJ JASOND	AB		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	
D 1974	KA	AB	JFMAMJ JASOND	AB		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	
D 1975	KA	AB	JFMAMJ JASOND	AB		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	
D 1976	KA	AB	JFMAMJ JASOND	AB		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	
D 1977	KA	AB	JFMAMJ JASOND	AB		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	
D 1978	A	AB	JFMAMJ JASOND	AB		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	
D 1979	A	AB	JFMAMJ JASOND	AB		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	
D 1980	A	AB	JFMAMJ JASOND	AB		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	
D 1981	A	C	JFMAMJ JASOND	C		AB	I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	
PARAMARIBO PAB (005.81 304.78)	D 1957	KA	JASOND	ABCD		ABC	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
	D 1958	KA	JASOND	ABCD		ABC	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
	D 1959	KA	JASOND	ABCD		ABC	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
	D 1960	KA	JASOND	ABCD		ABC	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
	D 1961	A	ABCD	JFMAMJ JASOND	ABCD		A C	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1962	A	ABCD	JFMAMJ JASOND	ABCD		A C	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1963	A	ABCD	JFMAMJ JASOND	ABCD		A C	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1964	A	ABCD	JFMAMJ JASOND	ABCD		A C	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1965	A	ABCD	JFMAMJ JASOND	ABCD		A C	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
	D 1966	A	ABCD	JFMAMJ JASOND	ABCD		A C	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD
D 1967	A	ABCD	JFMAMJ JASOND	ABCD		A C	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
D 1968	A	ABCD	JFMAMJ JASOND	ABCD		A C	I	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
												AB	E
PARAMARIBO PAB (005.81 304.78)	D 1969	A	ABCD	JFMAMJ JASOND				JFMAMJ JASOND	ABCE	JASO	A	JASO	
	D 1970	A	ABCD	JFMAMJ JASOND				JFMAMJ JASOND	ABCD				
	D 1971	A	ABCD	JFMAMJ JASOND				JFMAMJ JASOND	ABCD				
	D 1972	A	ABCD	JFMAMJ JASOND				JFMAMJ JASOND	ABCD				
	D 1973	A	AB D	JFMAMJ JASOND				JFMAMJ JASOND	ABCD				
	D 1974	A	ABCD	JFMAMJ JASOND				JFMAMJ JASOND	ABCD				
D 1975			ABCD	JFMAMJ				JFMAMJ	ABCD				
PELLY BAY PEB (068.53 270.48)	D 1977												JASOND*
	D 1978												JF AMJ JASOND*
	D 1979												JFM
PENANG PNN (004.47 100.15)	D 1976	A						MJ JASOND	ABCD				
	D 1977							JFMAMJ JASOND	A CD				
	D 1979							SOND	A C				
D 1980							JF	A C					
PENDELI PEG (038.05 23.86)	D 1959	KA							A				
	D 1960	KA							A				
	D 1961	K	A						A				
	D 1962	K	A						A				
	D 1963	K	A						A				
	D 1964	K	A						A				
	D 1965	K	A						A				
	D 1966	K	A						A				
	D 1967	K	A						A				
	D 1968	K	A						A				
	D 1969	K	A						A				
	D 1970	K	A						A				
	D 1971	K	A	CD						A			
	D 1972	K	A	C						A			
	D 1973	K	A							A			
	D 1974	K	A							A			
	D 1975	K	A							A			
	D 1976	K	A							A			
	D 1977	K	A							A			
	D 1978	K	A							A			
D 1979	K	A							A				
D 1980	K	A							A				
D 1981	K	A							A				
D 1982	K	A							A				
D 1983	K	A							A				
D 1984	K	A							A				
PETROPVLOVSK PET (052.90 158.43)	D 1957	K							A				
	D 1958	K							A				
	D 1959	K							A				
	D 1960	K							A				
	D 1961	K							A				
	D 1962	K							A				
	D 1963	K							A				
	D 1964	K							A				
	D 1965	K							A				
	D 1966	K							A				

OBSERVATORY	YEAR	KAQ	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		2.5-MINUTE		
					WDC	ANY	ON	1.0-MINUTE(*)	
PETROPVLOVSK PET (052.90 158.43)	D 1967	K	JASOND		AB	JASOND			
	D 1968	K	JFMAMJ JASOND		AB	JFMAMJ JASOND			
	D 1969	KA	JFMAMJ JASOND	A C	AB	JFMAMJ JASOND			
	D 1970	KA	JFMAMJ JASOND		AB	JFMAMJ JASOND			
	D 1971	KA	JFMAMJ JASOND		AB	JFMAMJ JASOND			
	D 1972	KA	JFMAMJ JASOND		AB	JFMAMJ JASOND			
	D 1973	KA	JFMAMJ JASOND		AB	JFMAMJ JASOND			
	D 1974	KA	JFMAMJ JASOND		AB	JFMAMJ JASOND			
	D 1975	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND			
	D 1976	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND			
	D 1977	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND			
	D 1978	KA	ABCD	JFMAMJ JAS	AB D	JFMAMJ JA			
	D 1979	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND			
	D 1980	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND			
	D 1981	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND			
	D 1982	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND			
	D 1983	K		JFMAMJ JASOND					
	D 1984	K							
	PETSAMO PTS (069.53 031.25)	D 1932				A	ASOND		
		D 1933				A	JFMAMJ JA		
	PILAR PLL (-31.67 296.12)	D 1940	KA			A	JFMAMJ JASOND		
		D 1941	KA			A	JFMAMJ JASOND		
		D 1942	KA			A	JFMAMJ JASOND		
		D 1943	KA			A	JFMAMJ JASOND		
		D 1944	KA			A	JFMAMJ JASOND		
D 1945		KA			A	JFMAMJ JASOND			
D 1946		KA			A	JFMAMJ JASOND			
D 1947		KA			A	JFMAMJ JASOND			
D 1948		KA			A	JFMAMJ JASOND			
D 1949		KA			A	JFMAMJ JASOND			
D 1950		KA			A	JFMAMJ JASOND			
D 1951		KA			A	JFMAMJ JASOND			
D 1952		A			A	JFMAMJ JASON			
D 1953		A			A				
D 1954		A			A				
D 1955		A			A				
D 1956		KA		JASOND		AB DE	JFMAMJ JASOND		
D 1957		KA	A	JFMAMJ JASOND		AB DE	JFMAMJ JASOND		
D 1958		KA	A	JFMAMJ JASOND		A	JFMAMJ JASOND		
D 1959		KA	A	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		
D 1960		KA	ABCD	JFMAMJ JASOND		ABCE	JFMAMJ JASOND		
D 1961		KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		
D 1962		KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		
D 1963		KA	ABCD	JFMAMJ JASOND		ABCEI	JFMAMJ JASOND		
D 1964		KA	ABCD	JFMAMJ JASOND		ABC E	JFMAMJ JASOND		
D 1965		KA	ABCD	JFMAMJ JASOND		ABCEI	JFMAMJ JASOND		
D 1966		KA	ABCD	JFMAMJ JASOND		ABCEI	JFMAMJ JASOND		
D 1967		KA	ABCD	JFMAMJ JASOND		ABCEI	JFMAMJ JASOND		
D 1968		KA	ABCD	JFMAMJ JASOND		ABCEI	JFMAMJ JASOND		
						AB E	JFMAMJ JASOND		OND
						AB E	JFMAMJ JASOND		J JASOND
						AB E	JFMAMJ JASOND		JFMAMJ JASOND
					AB E	JFMAMJ JASOND		JFMAMJ JASOND	
					AB E	JFMAMJ JASOND		JFMAMJ JASOND	

OBSERVATORY	COMP	YEAR	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES			
							WDC	ON TAPE	ANY MEDIUM	WDC	ON TAPE	WDC
PILAR PIL (-31.67 296.12)	D 1969	KA	A	JFMAMJ JASOND			AB	I	JFMAMJ JASOND			
	D 1970	KA	A	JFMAMJ JASOND			AB	I	JFMAMJ JASOND			
	D 1971	KA	A	JFMAMJ JASOND					JFMAMJ JASOND			
	D 1972	KA	A	JFMAMJ JASOND					JFMAMJ JASOND			
	D 1973	KA	A	JFMAMJ JASOND					JFMAMJ JASOND			
	D 1974	KA	A	JFMAMJ JASOND					JFMAMJ JASOND			
	D 1975	KA	A	JFMAMJ JASOND					JFMAMJ JASOND			
	D 1976	KA	A	JFMAMJ JASOND					JFMAMJ JASOND			
	D 1977	KA	ABC	J				BC	J			
PIONERSKAYA PIO (-69.73 95.50)	D 1957	KA	ABCD	JASOND			ABCD		JASOND			
	D 1958	KA	ABCD	JFMAMJ JASOND			ABCD		JFMAMJ JASOND			
	D 1971		ABC	JFMAMJ JASOND			ABC		JFMAMJ JASOND			
D 1972		ABC	JF			ABC		JF				
PLAISANCE PLS (-20.43 57.67)	D 1966	A	AB	JFMAMJ JASOND								
	D 1966	A	ABCD	JFMAMJ JASOND			ABCD		JFMAMJ JASOND			
D 1967	A	ABCD	JFMAMJ JASOND			ABCD		JFMAMJ JASOND				
D 1968	A	ABCD	JFMAMJ JASOND			ABCD		JFMAMJ JASOND				
PLATEAU PTU (-79.25 40.50)	D 1892	A										
	D 1896	A					A		JFMAMJ JASOND			
	D 1897	A					A		JFMAMJ JASOND			
	D 1898	A					A		JFMAMJ JASOND			
	D 1899	A					A		JFMAMJ JASOND			
	D 1900	A					A		JFMAMJ JASOND			
	D 1901	A					A		JFMAMJ JASOND			
	D 1902	A					A		JFMAMJ JASOND			
	D 1903	A					A		JFMAMJ JASOND			
	D 1904	A					A		JFMAMJ JASOND			
	D 1905	A					A		JFMAMJ JASOND			
	D 1906	A					A		JFMAMJ JASOND			
	D 1907	A					A		JFMAMJ JASOND			
	D 1908	A					A		JFMAMJ JASOND			
	D 1909	A					A		JFMAMJ JASOND			
	D 1910	A					A		JFMAMJ JASOND			
	D 1911	A					A		JFMAMJ JASOND			
	D 1912	A					A		JFMAMJ JASOND			
	D 1913	A					A		JFMAMJ JASOND			
	D 1914	A					A		JFMAMJ JASOND			
D 1915	A					A		JFMAMJ JASOND				
D 1916	A					A		JFMAMJ JASOND				
D 1917	A					A		JFMAMJ JASOND				
D 1918	A					A		JFMAMJ JASOND				
D 1919	A					A		JFMAMJ JASOND				
D 1920	A					A		JFMAMJ JASOND				
D 1921	A					A		JFMAMJ JASOND				
D 1922	A					A		JFMAMJ JASOND				



OBSERVATORY	COMP	YEAR	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
							WDC	ANY MEDIUM				WDC	WDC
PORT ALFRED CZT (-46.43 51.87)		D 1972	K					ABCD I	JFMAMJ JASOND	A	JFMAMJ JASOND*	A	JFMAMJ JASOND*
		D 1973	K					ABCD	JFMAMJ JASOND	A	JFMAMJ JASOND*	A	JFMAMJ JASOND*
		D 1974	KA					A CD I	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND*
		D 1975	KA					ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
		D 1976	KA					ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
		D 1977	KA					ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
		D 1978	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
		D 1979	KA					A D	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
		D 1980	KA					A	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
		D 1981	KA					A	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
		D 1982	A					A	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
		D 1983											
		D 1984											
		D 1985											
		PORT MORESBY PMG (-9.41 147.15)		D 1958	KA	ABCD	FAMJ JASOND	ABC	OND	ABCD	AMJ JASOND	ABCD	JASOND
D 1959	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A CD	JFMAMJ JASOND	A CD	JASOND	AB	JASOND
D 1960	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A CDE	JFMAMJ JASOND	A CDE	JASOND	AB	JASOND
D 1961	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	A CD	JFMAMJ JASOND	A CD	JASOND	AB	JASOND
D 1962	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND
D 1963	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND
D 1964	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND
D 1965	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND
D 1966	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND
D 1967	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND
D 1968	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND
D 1969	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND
D 1970	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND
D 1971	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND
D 1972	KA			ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND
D 1973	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND		
D 1974	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND		
D 1975	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND		
D 1976	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND		
D 1977	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND		
D 1978	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND		
D 1979	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND		
D 1980	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JASOND	AB	JASOND		
D 1981	KA	A											
D 1982	KA	ABCD											
D 1983	KA												
D 1984	K												
D 1985	K												
PORT-AUX-FRANCAI KGL (-49.35 70.20)		D 1957	A	ABCD	OND			ABCD	OND	ABCD	JASOND	AB	JASOND
		D 1958	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND
		D 1959	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND
		D 1960	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND
		D 1961	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND
		D 1962	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND
		D 1963	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND
		D 1964	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND
		D 1965	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND
		D 1966	KA	ABCD	JFMAMJ JASOND			ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND

OBSERVATORY	YEAR	KAQ	RAPID RUN	NORM		HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE	1.0-MINUTE(*)
				COMP	MAGNETOGRAMS	WDC	MAGNETOGRAMS	ANY MEDIUM	ON TAPE			
PORT-AUX-FRANCAI KGL (-49.35 70.20)	D 1968	KA	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1969	KA	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1970	KA	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1971	KA	ABCD	JFMAMJ JASOND	A CD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1972	A	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1973	A	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1974	KA	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1975	KA	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1976	KA	ABCD	JFMAMJ JASOND	A CD	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1977	KA	A CD	JFMAMJ JASOND	A CD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1978	KA	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1979	KA	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1980	KA	ABCD	JFMAMJ JASOND	AB D	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1981	KA	ABCD	JFMAMJ JASOND	A	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1982	A	ABCD	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND*		
	D 1983		C	F								
	POTSDAM	D 1890	A									
POT	D 1891	A										
(052.38 13.06)	D 1892	A										
	D 1893	A										
	D 1894	A										
	D 1895	A										
	D 1896	A										
	D 1897	A										
	D 1898	A										
	D 1899	A										
	D 1900	A										
	D 1901	A										
	D 1902	A										
	D 1903	A										
	D 1904	A										
	D 1905	A										
	D 1906	A										
	D 1907	A										
PRICE	D 1957		ABCD	J JASOND	ABCDE	J JASOND						
PCU	D 1958	A	ABCD	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND						
(039.60 249.17)	D 1959		AB D	J	AB DE	J						
PRUHONICE	D 1952	KA										
PRU	D 1953	KA										
(049.99 14.55)	D 1954	KA										
	D 1955	KA										
	D 1956	KA										
	D 1957	KA	ABCD	JASOND								
	D 1958	KA	ABCD	JFMAMJ JASOND								
	D 1959	KA	ABCD	JFMAMJ JASOND								
	D 1960	KA	AB D	JFMAMJ JASOND								
	D 1961	KA										
	D 1962	KA										
	D 1963	KA										
	D 1964	KA	ABCD	JFMAMJ JASOND								
	D 1965	KA										

OBSERVATORY	YEAR COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	ANY	MEDIUM	ON	TAPE		WDC	1.0-MINUTE (*)
PRUHONICE PRU (049.99 14.55)	D 1966	KA					AB D I	JFMAMJ JASONJ					
	D 1967	KA					AB D I	JFMAMJ JASONJ					
	D 1968	KA					AB D I	JFMAMJ JASONJ					
	D 1969	KA					ABCD I	JFMAMJ JASONJ					
	D 1970	KA					AB D I	JFMAMJ JASONJ					
	D 1971	KA					AB D	JFMAMJ JASONJ					
	D 1972	KA					AB D I	JFMAMJ JASONJ					
	D 1973						I	JFMAMJ JASONJ					
	D 1953	A					A	OND					
	D 1954	A					A	JFMAMJ JASONJ					
	D 1955	KA					A	JFMAMJ JASONJ					
	D 1956	KA					A	JFMAMJ JASONJ					
D 1957	KA												
D 1958	KA					ABCD	JFMAMJ JASONJ						
D 1959	KA					ABCD	JFMAMJ JASONJ						
D 1960	KA					ABCD	JFMAMJ JASONJ						
D 1961	KA					ABCD	JFMAMJ JASONJ						
D 1962	KA					A CD	JFMAMJ JASONJ						
D 1963	KA					A CD	JFMAMJ JASONJ						
D 1964	KA					ABCD	JFMAMJ JASONJ						
D 1965	KA					ABCD	JFMAMJ JASONJ						
D 1966	KA					ABCD	JFMAMJ JASONJ						
D 1967	KA												
D 1968	KA												
D 1969	KA												
D 1970	KA												
D 1971	KA												
D 1972	KA												
D 1973	KA												
D 1974	KA												
D 1975	KA												
D 1976	K												
D 1977	K												
D 1978	KA												
D 1979	KA												
D 1980	KA												
D 1981													
D 1982													
RANKIN INLET RIT (062.80 267.67)	D 1973		A										
	D 1974		ABC	MJ J									
	D 1975		ABC	J J	JASONJ								
	D 1976		ABC	JFMAMJ	JASONJ								
	D 1977		ABC	JFMAMJ	JASONJ								
D 1978												AS ND*	
D 1979												MAMJ JASONJ*	
D 1980												JFMAMJ JASONJ*	
D 1981												JFMA	
D 1982												JF AM	
D 1984	K												
D 1985	K												
RESOLUTE BAY RES (074.70 265.10)	D 1952	KA											
	D 1953	KA	A										

OBSERVATORY	YEAR	KAQ	WDC	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE(*)	
RESOLUTE BAY RES (074.70 265.10)	D 1954	KA	AB D	JFMAMJ JASOND				ABCD I JFMAMJ JASOND					
	D 1955	KA	AB D	JFMAMJ JASOND			ABCD I JFMAMJ JASOND						
	D 1956	A	AB D	JFMAMJ JASOND			ABC I JFMAMJ JASOND						
	D 1957	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1958	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1959	A	AB D	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1960	A	AB	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1961	A	AB	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1962	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1963	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1964	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1965	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1966	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1967	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1968	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1969	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1970	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1971	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	D 1972	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
	X 1973	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND						
X 1974	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND							
X 1975	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND							
X 1976	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND							
X 1977	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND							
X 1978	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND							
X 1979	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND							
X 1980	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND							
X 1981	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND							
X 1982	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND							
X 1983	A	ABCD	JFMAMJ JASOND			ABCDEI JFMAMJ JASOND							
X 1984	A	ABCD	JFMAMJ JAS			ABCDEI JFMAMJ JASOND							
RIO DE JANEIRO R0J (-22.91 316.83)	D 1924			JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1925			JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
ROBURENT ROB (044.30 7.89)	D 1964	KA	A	JASOND				ABCDEI JFMAMJ JASOND					
	D 1965	KA	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1966	KA	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1967	KA	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1968	KA	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1969	KA	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1970	KA	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1971	KA	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1972	KA	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1973	KA	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1974	A	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1975	A	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1976	A	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1977	A	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
	D 1978	A	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND					
D 1979	A	A	JFMAMJ JASOND				ABCDEI JFMAMJ JASOND						



OBSERVATORY	YEAR	COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE		
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON TAPE	WDC	1.0-MINUTE	(*)	
RUDE SKOV RSV (055.84 12.46)	D 1968	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMA
	D 1969	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	M
	D 1970	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1971	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1972	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1973	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1974	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1975	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1976	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1977	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1978	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1979	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1980	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1981	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1982	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1983	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	D 1984	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	I	JFMAMJ JASOND	A	
	SABHAWALA SAB (030.36 77.80)	D 1964	A				A	JFMAMJ JASOND	A	JFMAMJ JASOND	E			
D 1965		KA				AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	E				
D 1966		A				AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	E				
D 1967		A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1968		A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1969		A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1970		A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1971		KA				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1972		KA				ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
D 1973		KA				ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
D 1974		KA				ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
D 1975		A				ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
D 1976		A				ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
D 1977		KA				ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
D 1978		KA				ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
D 1979		KA				B D	JFMAMJ JASOND	B D	JFMAMJ JASOND					
D 1980		A				ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND					
SACHS HARBOUR SAH (072.00 235.00)		D 1977												
	D 1978													MAMJ JASOND*
	D 1979													JFMAMJ JASOND*
	D 1980													JFMAMJ JASOND*
	D 1981													JFMAMJ JASOND*
	D 1982													JFMAMJ JASOND*
	D 1983													JFMAMJ JASOND*
	D 1984													JFMAMJ JASOND*
	D 1985													JFMAMJ JASOND*
	D 1986													JFMAMJ JASOND*
SAN FERNANDO SFS (036.46 353.80)	D 1904	A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1905	A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1906	A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1907	A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1908	A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1909	A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1910	A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1911	A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1912	A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1913	A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1914	A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1920	A				A	JFMAMJ JASOND	A	JFMAMJ JASOND					

OBSERVATORY	COMP	YEAR	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE (*)
SAN FERNANDO SFS (036.46 353.80)	D	1921	A		JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1922	A		JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1923	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1924	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1925	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1926	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1927	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1928	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1929	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1930	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1931	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1932	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1933	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1934	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1935	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1936	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1937	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1938	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1939	A	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1940	KA	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1941	KA	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1942	KA	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1943	KA	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1944	KA	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1945	KA	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1946	KA	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1947	KA	D	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1948	KA	CD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1949	KA	CD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1950	KA	CD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1951	KA	CD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1952	KA	CD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1953	KA	CD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1954	KA	CD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1955	KA	CD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1956	KA	CD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1957	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1958	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1959	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1960	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D	1961	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
D	1962	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D	1963	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D	1964	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D	1965	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D	1966	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D	1967	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D	1968	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D	1969	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D	1970	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D	1971	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					

AB E JFMAMJ JASOND  
 AB E JFMAMJ JASOND  
 AB M

OBSERVATORY	COMP	YEAR	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE	1.0-MINUTE(*)	
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON	TAPE				
SAN FERNANDO SFS (036.46 353.80)	D	1972	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND						
	D	1973	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND						
	D	1974	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND						
	D	1975	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND						
	D	1976	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND						
	D	1977	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND						
	D	1978	KA												
	D	1979	K												
	D	1980	K												
	D	1981	K												
	SAN JUAN SjG (018.38 293.88)	D	1926	A	A	FM	SO		A	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND		
		D	1927	A	A		0		A	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND		
		D	1928	A	A	M	JA	N	A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND		
		D	1929	A	A	FM	JA	O	A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND		
		D	1930	A	A	M	MJ	S	A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND		
		D	1931	A	A			D	A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND		
		D	1932	A	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND		
D		1933	A	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND			
D		1934	A	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND			
D		1935	A	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND			
D		1936	A	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND			
D		1937	A	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND			
D		1938	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND			
D		1939	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND			
D		1940	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND			
D		1941	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND			
D		1942	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND			
D	1943	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1944	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1945	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1946	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1947	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1948	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1949	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1950	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1951	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1952	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1953	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1954	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1955	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1956	KA	A	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND				
D	1957	KA	ABCD	ABCD	JFMAMJ	JASOND		ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND			
D	1958	KA	ABCD	ABCD	JFMAMJ	JASOND		ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
D	1959	KA	ABCD	ABCD	JFMAMJ	JASOND		ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
D	1960	KA	ABCD	ABCD	JFMAMJ	JASOND		ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
D	1961	KA	ABCD	ABCD	JFMAMJ	JASOND		ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
D	1962	KA	ABCD	ABCD	JFMAMJ	JASOND		ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
D	1963	KA	ABCD	ABCD	JFMAMJ	JASOND		A	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
D	1964	KA	ABCD	ABCD	JFMAMJ	JASOND		ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
D	1965	KA	ABCD	ABCD	JFMAMJ	JASOND		ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
D	1966	KA	ABCD	ABCD	JFMAMJ	JASOND		ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			

(018.11 293.85)



OBSERVATORY	YEAR	COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)
							ANY	MEDIUM	ON	TAPE		
SAN JUAN SUG (018.11 293.85)	D 1967	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1968	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1969	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1970	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	A	JFMA	
	D 1971	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
	D 1972	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
	D 1973	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
	D 1974	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
	D 1975	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
	D 1976	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
	D 1977	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
	D 1978	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
	D 1979	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND			
D 1980	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND				
D 1981	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND				
D 1982	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND				
D 1983	KA	ABCD	JFMAMJ JASOND	ABC JFMAMJ JASOND	ABCDEI JFMAMJ JASOND	AB	EI	JFMAMJ JASOND				
D 1961												
D 1962	A											
D 1963	A											
D 1964	KA											
D 1965	A											
D 1966	A											
D 1967	A											
D 1968	A											
D 1969	A											
D 1970	KA											
D 1971	A											
D 1972	A											
D 1973	A											
D 1974	A											
D 1975	A											
D 1976	A											
D 1977	A											
D 1978	A											
D 1979	A											
D 1980	A											
D 1981	A											
D 1982	A											
D 1983	A											
D 1932	A											
D 1933	A											
D 1951	KA											
D 1952	KA											
D 1953	KA											
D 1954	KA											
D 1955	KA											
D 1956	KA											
D 1957	KA											
D 1958	KA											
D 1961												
D 1962												
D 1963												
D 1964												
D 1965												
D 1966												
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D 1955												
D 1956												
D 1957												
D 1958												

OBSERVATORY	YEAR	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
			COMP	WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	ON TAPE	WDC	1.0-MINUTE
SAO MIGUEL SMG (037.77 334.35)	D 1959	KA	A	JFMAMJ J			A	JFMAMJ JA D				
	D 1960	KA	A	JFMAMJ JASOND			A	JFMAMJ JA D				
	D 1961	KA	A	JFMAMJ JASOND			A	JF				
	D 1962	KA	A	JFMAMJ JASOND								
	D 1963	KA	A	JFMAMJ JASOND								
	D 1964	KA	ABCD	JFMAMJ JASOND								
	D 1965	KA	ABCD	JFMAMJ JASOND								
	D 1966	KA	A	JFMAMJ								
	D 1967	KA	A	JFMAMJ JASOND								
	D 1968	KA	A	JFMAMJ JASOND								
	D 1969	KA	A	JFMAMJ JASOND								
	D 1970	KA	A	JFMAMJ JASOND								
	D 1971	KA	A	JFMAMJ JASOND								
	D 1972	KA	A	JFMAMJ JASOND								
	D 1973	KA	A	JFMAMJ JASOND								
	D 1974	KA	A	JFMAMJ JASOND								
	D 1975	KA	A	JFMAMJ JASOND								
	D 1976	KA	A	JFMAMJ JASOND								
	D 1977	KA	A	JFMAMJ JASOND								
	D 1978	K										
D 1979	K											
D 1980	K											
SCORESBYSUND SCO (070.48 338.03)	D 1932		A				A	JFMAMJ JA D				
	D 1933		A				A	JFMAMJ JA				
SCOTT BASE SBA (-77.85 166.78)	D 1957	KA	ABCD	JASOND	ABC	JASOND	ABCD	JASOND				
	D 1958	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND				
	D 1959	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND				
	D 1960	KA										
	D 1961	K										
	D 1962	K										
	D 1963	K										
	D 1964	KA	ABCD	JFMAMJ JASOND								
	D 1965	KA	ABCD	JFMAMJ JASOND								
	D 1966	KA	ABCD	JFMAMJ JASOND								
	D 1967	KA	ABCD	JFMAMJ JASOND								
	D 1968	KA	ABCD	JFMAMJ JASOND								
	D 1969	KA	ABCD	JFMAMJ JASOND								
	D 1970	KA										
	D 1971	KA										
	D 1972	KA										
	D 1973	KA										
	D 1974	KA										
D 1975	KA											
D 1976	KA	ABCD	JFMAMJ JASOND									
D 1977	KA											
D 1978	KA											
D 1979	KA											
D 1980	K											
D 1981	K											

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE		2.5-MINUTE 1.0-MINUTE (*)	
									WDC	WDC	WDC	WDC
SCOTT BASE SBA (-77.85 166.78)	D 1983	K										
	D 1984	K										
	D 1985	K										
SEDDIN SED (052.28 13.01)	D 1908	A					JFMAMJ JASOND					
	D 1909	A					JFMAMJ JASOND					
	D 1910	A					JFMAMJ JASOND					
	D 1911	A					JFMAMJ JASOND					
	D 1912	A					JFMAMJ JASOND					
	D 1913	A					JFMAMJ JASOND					
	D 1914	A					JFMAMJ JASOND					
	D 1915	A					JFMAMJ JASOND					
D 1916	A					JFMAMJ JASOND						
SEOUL SEO (038.58 127.05)	D 1965						MAMJ JASOND	D				
SEYKHA SEY (070.10 072.50)	D 1973		ABCD	JFMAMJ JASOND	ND							
	D 1974		ABCD	JFMAMJ JASOND								
	D 1975		ABCD	JFMAMJ JASOND								
	D 1976		ABCD	JFMAMJ JASOND								
	D 1977		ABCD	JFMAMJ JASOND								
	D 1978		ABCD	JFMAMJ JASOND								
SHESHAN SSH (031.10 121.19)	D 1933						JFMAMJ JASOND	C				
	D 1936	A					JFMAMJ JASOND	C				
	D 1937	A					JFMAMJ JASOND	C				
	D 1947	A					JFMAMJ JASOND	A C				
	D 1948	A					JFMAMJ JASOND	A C				
	D 1949	A					JFMAMJ JASOND	A C				
	D 1950	A					JFMAMJ JASOND	ABCD				
	D 1951	A					JFMAMJ JASOND	ABCD				
	D 1952	A					JFMAMJ JASOND	ABCD				
	D 1953	A					JFMAMJ JASOND	ABCD				
	D 1954	A					JFMAMJ JASOND	ABCD				
	D 1955	A					JFMAMJ JASOND	ABCD				
	D 1956	A					JFMAMJ JASOND	ABCD				
	D 1957	A					JFMAMJ JASOND	ABCD				
	D 1958	A					JFMAMJ JASOND	ABCD				
	D 1959	A					JFMAMJ JASOND	ABCD				
	D 1960	A					JFMAMJ JASOND	ABCD				
	D 1961	A					JFMAMJ JASOND	ABCD				
	D 1962	A					JFMAMJ JASOND	ABCD				
D 1963	A					JFMAMJ JASOND	ABCD					
D 1964	A					JFMAMJ JASOND	ABCD					
D 1965	A					JFMAMJ JASOND	ABCD					
D 1966	A					JFMAMJ JASOND	ABCD					
D 1967	A					JFMAMJ JASOND	ABCD					
D 1968	A					JFMAMJ JASOND	ABCD					
D 1969	A					JFMAMJ JASOND	ABCD					

OBSERVATORY	YEAR COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)	
			MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON TAPE	WDC			
SHESHAN SSH (031.10 121.19)	D 1970	A					ABCD	JFMAMJ	JASOND				
	D 1971	A					ABCD	JFMAMJ	JASOND				
	D 1972	A					ABCD	JFMAMJ	JASOND				
	D 1973	A					ABCD	JFMAMJ	JASOND				
	D 1974	A					A D	JFMAMJ	JASOND				
	D 1975	A					A D	JFMAMJ	JASOND				
	D 1976	A					A D	JFMAMJ	JASOND				
	D 1977	A					A	JFMAMJ	JASOND				
	D 1978	A					ABC	JFMAMJ	JASOND				
	D 1979	A					ABC	JFMAMJ	JASOND				
	D 1980	A					ABC	JFMAMJ	JASOND				
	D 1981	A					ABC	JFMAMJ	JASOND				
SIMFEROPOL SIM (044.83 34.07)	D 1957	A			ABC	JASOND	ABC	JFMAMJ	JASOND				
	D 1958	A			ABC	JFMAMJ	ABC	JFMAMJ	JASOND				
	D 1959	A			ABC	JFMAMJ	ABC	JFMAMJ	JASOND				
	SIMOSATO SSO (033.58 135.94)	D 1954	KA					A CD	I	JFMAMJ	JASOND		
		D 1955	KA					A CD	I	JFMAMJ	JASOND		
		D 1956	KA					ABCD	I	JFMAMJ	JASOND		
		D 1957	KA			ABC	JASOND	ABC	JFMAMJ	JASOND			
		D 1958	KA			ABC	JFMAMJ	ABC	JFMAMJ	JASOND			
		D 1959	KA			B		ABCD	I	JFMAMJ	JASOND		
		D 1960	KA					ABC	JFMAMJ	JASOND			
		D 1961	KA					ABC	JFMAMJ	JASOND			
		D 1962	KA					ABC	JFMAMJ	JASOND			
D 1963		KA			ABCD	JASOND	ABC	JFMAMJ	JASOND				
D 1964		KA			ABCD	JFMAMJ	ABC	JFMAMJ	JASOND				
D 1965		KA			ABCD	JFMAMJ	ABC	JFMAMJ	JASOND				
D 1966		KA			ABCD	JFMAMJ	ABC	JFMAMJ	JASOND				
D 1967	KA			ABCD	JASOND	ABC	JFMAMJ	JASOND					
D 1968	KA			ABCD	JFMAMJ	ABC	JFMAMJ	JASOND					
D 1969	KA			ABCD	JFMAMJ	ABC	JFMAMJ	JASOND					
D 1970	KA			ABCD	JFMAMJ	ABC	JFMAMJ	JASOND					
D 1971	KA			ABCD	JFMAMJ	ABC	JFMAMJ	JASOND					
D 1972	KA			ABCD	JFMAMJ	ABC	JFMAMJ	JASOND					
D 1973	KA			ABCD	JFMAMJ	ABC	JFMAMJ	JASOND					
D 1974	KA			ABCD	JFMAMJ	ABC	JFMAMJ	JASOND					
D 1975	KA			ABCD	JFMAMJ	ABC	JFMAMJ	JASOND					
D 1976	KA			ABCD	JFMAMJ	ABC	JFMAMJ	JASOND					
D 1977	KA			ABCD	JFMAMJ	ABC	JFMAMJ	JASOND					
D 1978	KA												
D 1979	KA			B									
SITKA SIT (057.05 224.67)	D 1902	A		AM	J		A C E	JFMAMJ	JASOND				
	D 1903	A		A J	JASO D		A C E	JFMAMJ	JASOND				
	D 1904	A		MAMJ	JASON		A C E	JFMAMJ	JASOND				
	D 1905	A		FMA J	JAS N		A	JFMAMJ	JASOND				
	D 1906	A		F M J	JAS D		A	JFMAMJ	JASOND				
	D 1907	A		JFM M	JA ON		A C E	JFMAMJ	JASOND				
	D 1908	A		M	JAS		A C E	JFMAMJ	JASOND				
	D 1909	A		M M	ASO		A C E	JFMAMJ	JASOND				
	D 1910	A		J MA	ASO		A C E	JFMAMJ	JASOND				
	D 1911	A		JFMA	ASO D		A C E	JFMAMJ	JASOND				

2.5-MINUTE  
1.0-MINUTE(\*)

HOURLY VALUES  
ON TAPE

HOURLY VALUES  
ANY MEDIUM

RAPID RUN  
MAGNETOGRAMS

NORMAL  
MAGNETOGRAMS

YEAR KAQ  
COMP

OBSERVATORY

WDC

WDC

WDC

WDC

WDC

WDC

OBSERVATORY	YEAR KAQ COMP	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES ANY MEDIUM	HOURLY VALUES ON TAPE	2.5-MINUTE 1.0-MINUTE(*)
SITKA	D 1912	MA AS D		JFMAMJ JASOND	JFMAMJ JASOND	
SIT	D 1913	J MA SO		JFMAMJ JASOND	JFMAMJ JASOND	
(057.05 224.67)	D 1914	A J J SON		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1915	MA J ASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1916	J MAM JA ON		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1917	JF A J JASO D		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1918	MAMJ ASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1919	JF M ASO D		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1920	MAM S D		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1921	AM S N		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1922	J SO		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1923	M J SO		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1924	J MJ O		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1925	JFMA J ASO		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1926	J MAM JA O		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1927	M JASO		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1928	FM JA N		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1929	MJ S D		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1930	J J SO		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1931	M M ASO		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1932	AM JAS		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1933	M M J S D		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1934	MAMJ J S		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1935	A J J OND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1936	A A		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1937	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1938	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1939	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1940	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1941	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1942	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1943	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1944	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1945	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1946	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1947	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1948	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1949	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1950	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1951	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1952	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1953	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1954	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1955	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1956	JFMAMJ JASOND		JFMAMJ JASOND	JFMAMJ JASOND	
	D 1957	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND	
	D 1958	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND	
	D 1959	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND	
	D 1960	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND	
	D 1961	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND	
	D 1962	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JFMAMJ JASOND	

(057.06 224.68)

OBSERVATORY	YEAR	KAQ	COMP	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE		1.0-MINUTE(*)	
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	SOND	WDC	SOND
SITKA SIT (057.06 224.68)	D 1963	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	SOND
	D 1964	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1965	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1966	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1967	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1968	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1969	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1970	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1971	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1972	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1973	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1974	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1975	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1976	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1977	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1978	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1979	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
	D 1980	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND
D 1981	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND	
D 1982	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND	
D 1983	KA		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	A	JFMAMJ	JASOND	
SLUTZK SLU (059.69 39.49)	D 1882	A						C	ASOND						
	D 1883	A						C	JFMAMJ JA						
	D 1932	A						C	JFMAMJ JASOND						
D 1933	A						C	JFMAMJ JASOND							
SODANKYLA SOD (067.37 26.65)	D 1914	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1915	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1916	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1917	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1918	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1919	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1920	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1921	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1922	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1923	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1924	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1925	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1926	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1927	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1928	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1929	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1930	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
	D 1931	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND
D 1932	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
D 1933	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
D 1934	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
D 1935	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
D 1936	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
D 1937	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
D 1938	A						A	JFMAMJ JASOND	E	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES		WDC	HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE (*)	
								ANY	MEDIUM		ON	TAPE		ANY	MEDIUM
SODANKYLA SOD (067.37 26.65)	D 1939	A						A	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1940	KA						A	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1941	KA						A	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1942	KA						A	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1943	A						A	C	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1944	A						A	C	JFMAMJ JASOND	AB	E	JFMAMJ JAS	AB	E
	D 1945	A						A	C	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1946	A						A	C	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1947	KA						A	C	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1948	KA						A	C	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1949	KA						A	C	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1950	KA						A	C	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1951	KA						A	C	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1952	KA						A	C	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1953	KA						A	C	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1954	KA						A	C	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1955	KA						A	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
	D 1956	KA						A	E	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E
D 1957	KAQ		ABCD	J JASOND	ABC	JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1958	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1959	KAQ		B D	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1960	KAQ							AB DE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1961	KAQ							AB DE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1962	KAQ							ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1963	KAQ							ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1964	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1965	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1966	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1967	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1968	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1969	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1970	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1971	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1972	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1973	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1974	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1975	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1976	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1977	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1978	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1979	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1980	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1981	KAQ		ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1982	KAQ		ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND	A C	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1983	KA		ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND	A C	ABCDE	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1984	K Q		ABCD	JFMAMJ JASOND				ABC	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1985	K Q		A	JF				ABC	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1975	A		ABCD	JFMAMJ JASOND				A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1976	A		A CD	JFMAMJ JASOND				A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1977	A		A CD	JFMAMJ JASOND				A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	
D 1978	A		ABCD	JFMAMJ JASOND				A C	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	AB	E	

SOUTH GEORGIA  
SGE  
(-54.28 323.52)

OBSERVATORY	YEAR	COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON	TAPE	WDC	1.0-MINUTE
SOUTH GEORGIA SGE (-54.28 323.52)	D 1979	A	ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	WDC	2.5-MINUTE	
	D 1980	A	ABCD	JFMAMJ JASOND	A	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	WDC	1.0-MINUTE	
	D 1981	A	ABCD	JFMAMJ JASOND									
	D 1982	A	A	JFM									
SOUTH POLE SPA (-90.00 00.00)	D 1957		BCD	J JASOND									
	D 1958		BCD	JFMAMJ JASOND									
	D 1959	KA	ABCD	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	JFMAMJ JASON	E	JFMAMJ JASON	A		
	D 1960	KA	ABCD	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	F MAMJ JASOND	E	F MAMJ JASOND	A		
	D 1961	KA	ABCD	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	A		
	D 1962	KA	ABCD	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	A		
	D 1963	KA	ABCD	JFMAMJ JASOND	A E	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	A	JFM MJ JA	
	D 1964	KA	ABCD	JFMAMJ JASOND	ABCDE	MAMJ JASOND	AB	MAMJ JASOND	E	MAMJ JASOND	A	JFMAMJ JASOND	
	D 1965	KA	ABCD	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	A	MAMJ	
	D 1966	KA	ABCD	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1967	KA	ABCD	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1968	KA	ABCD	JFMAMJ JASOND	ABCDE	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	A	JFMAMJ JASOND	
	D 1969	KA	A	A	JFMAMJ JASOND	A E	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1970	KA	AB D	AB D	JFMAMJ JASOND	A E	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1971	KA	A	A	JFMAMJ JASOND	A E	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	A	JFMAMJ JASOND
	D 1972	K	A D	A D	JFMAMJ JASOND	A E	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	A	JFMAMJ JASOND
D 1973	K	A D	A D	JFMAMJ JASOND	A E	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	A	JFMAMJ JASOND	
D 1974	K	A	A	JFMAMJ JASO	A E	JFMAMJ JASOND	AB	JFMAMJ JASOND	E	JFMAMJ JASOND	A	JFMAMJ JASOND	
D 1977			B	MAMJ JASOND									
D 1978			B	JFMAMJ JASON									
SPITZBERGEN SPB (078.50 015.10)	D 1932				A	SOND							
	D 1933				A	JFMAMJ JA							
SREDNIKAN SRE (062.44 152.31)	D 1940	KA											
	D 1941	KA											
	D 1943	KA											
	D 1944	KA											
	D 1945	KA											
	D 1946	KA											
	D 1955	KA											
	D 1956	KA											
	D 1957	KA	ABCD	JASOND	ABCD	JASOND							
	D 1958	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND						
	D 1959	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND						
	D 1960	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND						
	D 1961	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND						
	D 1962	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND						
D 1963	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND							
D 1964	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND							
D 1965	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND							
D 1966	KA	ABCD	JFMAMJ JASO	ABCD	JFMAMJ JASO	JFMAMJ JASO							
D 1967	KA												
D 1968	K												



OBSERVATORY	YEAR COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE		WDC	
SREDNIKAN SRE (062.44 152.31)	D 1969 K		ABCD	JASOND			ABCDE	ASOND	ASOND	AB E	AB	A	JFMAMJ JASOND*
	D 1970 K		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	D 1971 K		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
ST JOHNS STJ (047.59 307.32)	D 1968 KA		ABCD	JASOND			ABCDE	ASOND	ASOND	E	AB	A	JFMAMJ JASOND*
	D 1969 KA		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	D 1970 KA		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	D 1971 KA		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	D 1972 KA		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	D 1973 KA		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	D 1974 KA		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	D 1975 KA		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	D 1976 KA		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	D 1977 KA		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	X 1978 KA		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	X 1979 A		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	X 1980 A		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	X 1981 A		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	X 1982 A		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
	X 1983 A		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*
X 1984		ABCD	JASOND			ABCDE	JASOND	JASOND	E	AB	A	JFMAMJ JASOND*	
STONYHURST STO (053.85 357.53)	D 1958		ABCD	MAMJ JASOND									
	D 1960 K		ABCD	JASOND			ABCD	JASOND	JASOND		A		JFMAMJ JASOND
D 1961 KA		ABCD	JASOND			ABCD	JASOND	JASOND		A		JFMAMJ JASOND	
D 1962 KA		ABCD	JASOND			ABCD	JASOND	JASOND		A		JFMAMJ JASOND	
D 1963 KA		ABCD	JASOND			ABCD	JASOND	JASOND		A		JFMAMJ JASOND	
D 1964 KA		ABCD	JASOND			ABCD	JASOND	JASOND		A		JFMAMJ JASOND	
D 1965 KA		ABCD	JASOND			ABCD	JASOND	JASOND		A		JFMAMJ JASOND	
D 1966 KA		ABCD	JASOND			ABCD	JASOND	JASOND		A		JFMAMJ JASOND	
D 1967 A		ABCD	JASOND			ABCD	JASOND	JASOND		A		JFMAMJ JASOND	
SUKKERTOPPEN SKT (065.42 307.10)	D 1964		ABCD	JASOND	A C	JFMAMJ JASOND	A E	SON	SON	AB E	AB	A	ON
	D 1965		A CD	JASOND	A C	JFMAMJ JASOND	A	SON	SON	AB	AB	A	M
	D 1966		A	M									
SURLARI SUA (044.68 26.25)	D 1957 KA		AB D	JASOND			ABCD	JASOND	JASOND				
	D 1958 KA		AB D	JASOND			ABCD	JASOND	JASOND				
	D 1959 KA		AB D	JASOND			ABCD	JASOND	JASOND				
	D 1960 KA		AB D	JASOND			AB D	JASOND	JASOND				
	D 1961 KA		AB D	JASOND			AB DE	JASOND	JASOND				
	D 1962 KA		AB D	JASOND			AB D	JASOND	JASOND				
	D 1963 KA		AB D	JASOND			AB D	JASOND	JASOND				
	D 1964 KA		AB D	JASOND			AB DE	JASOND	JASOND				
	D 1965 KA		AB D	JASOND			AB DE	JASOND	JASOND				
	D 1966 KA		AB D	JASOND			AB DE	JASOND	JASOND				
	D 1967 KA		AB D	JASOND			AB D	JASOND	JASOND				
	D 1968 KA		AB D	JASOND			ABCD	JASOND	JASOND				
	D 1969 KA		AB D	JASOND			ABCD	JASOND	JASOND				
	D 1970 KA		AB D	JASOND			ABCD	JASOND	JASOND				
	D 1971 KA		AB D	JASOND			AB D	JASOND	JASOND				
	D 1972 KA		AB D	JASOND			AB D	JASOND	JASOND				
D 1973 KA		AB D	JASOND			AB D	JASOND	JASOND					

OBSERVATORY	YEAR COMP	KAQ	NORMAL MAGNETOGRAMS		RAPID RUN MAGNETOGRAMS		HOURLY VALUES		HOURLY VALUES ON TAPE		WDC	2.5-MINUTE 1.0-MINUTE(*)	
			WDC	JFMAMJ	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	WDC			JFMAMJ JASONJ
SURLARI SUA (044.68 26.25)	D 1974	KA	A	JFMAMJ			AB D	JFMAMJ JASONJ					
	D 1975	KA					AB D	JFMAMJ JASONJ					
	D 1976	KA					AB D	JFMAMJ JASONJ					
	D 1977	KA					AB D	JFMAMJ JASONJ					
	D 1978	KA					AB D	JFMAMJ JASONJ					
	D 1979	KA					ABCD	JFMAMJ JASONJ					
	D 1980	KA					ABCD	JFMAMJ JASONJ					
	D 1981	K					ABCD	JFMAMJ JASONJ					
	D 1982	K					ABCD	JFMAMJ JASONJ					
	D 1983	K					ABCD	JFMAMJ JASONJ					
	SVERDLOVSK SVD (056.73 61.07)	D 1932	A	C	JFMAMJ JASONJ								
		D 1939	KA										
		D 1940	KA										
	D 1941	KA											
	D 1942	KA											
	D 1943	KA											
	D 1944	KA											
	D 1945	KA											
	D 1946	KA											
	D 1947	KA											
	D 1955	KA											
	D 1956	KA											
	D 1957	KA											
	D 1958	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JASONJ	JFMAMJ JASONJ	AB			
	D 1959	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1960	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1961	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1962	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1963	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1964	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1965	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1966	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1967	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1968	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1969	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1970	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1971	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1972	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1973	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1974	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1975	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1976	KA	ABCD	JFMAMJ JASONJ		ABCD	ABCD	JFMAMJ JASONJ	JFMAMJ JASONJ	AB			
	D 1977	K	ABC	JFMAMJ JASONJ		ABC	ABC	JFMAMJ JASONJ	JFMAMJ JASONJ	ABC			
	D 1978	K	ABC	JFMAMJ JASONJ		ABC	ABC	JFMAMJ JASONJ	JFMAMJ JASONJ	ABC			
	D 1979	K	ABC	JFMAMJ JASONJ		ABC	ABC	JFMAMJ JASONJ	JFMAMJ JASONJ	ABC			
	D 1980	K	ABC	JFMAMJ JASONJ		ABC	ABC	JFMAMJ JASONJ	JFMAMJ JASONJ	ABC			
	D 1981	K	ABC	JFMAMJ JASONJ		ABC	ABC	JFMAMJ JASONJ	JFMAMJ JASONJ	ABC			
	D 1982	K	ABC	JFMAMJ JASONJ		ABC	ABC	JFMAMJ JASONJ	JFMAMJ JASONJ	ABC			

OBSERVATORY	YEAR	KAQ	COMP	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE		
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON TAPE	WDC	1.0-MINUTE(*)		
SVERDLOVSK SVD (056.73 61.07)	D 1983	K		JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	JASOND	ABC				
	D 1984	K		JFMAMJ JASO	ABC	JFMAMJ JASO	ABC	JFMAMJ JASO	JASO	ABC				
SWIDER SWI (052.12 21.25)	D 1921	A						JFMAMJ JASOND	JASOND	A				
	D 1922	A						JFMAMJ JASOND	JASOND	A				
	D 1923	A						JFMAMJ JASOND	JASOND	A				
	D 1924	A						JFMAMJ JASOND	JASOND	A				
	D 1925	A						JFMAMJ JASOND	JASOND	A				
	D 1926	A						JFMAMJ JASOND	JASOND	A				
	D 1927	A						JFMAMJ JASOND	JASOND	A				
	D 1928	A						JFMAMJ JASOND	JASOND	A				
	D 1929	A						JFMAMJ JASOND	JASOND	A				
	D 1930	A						JFMAMJ JASOND	JASOND	A				
	D 1931	A						JFMAMJ JASOND	JASOND	A C				
	D 1932	A						JFMAMJ JASOND	JASOND	A C				
	D 1933	A						JFMAMJ JASOND	JASOND	A C				
	D 1934	A						JFMAMJ JASOND	JASOND	A C				
	D 1935	A						JFMAMJ JASOND	JASOND	A C				
	D 1936	A						JFMAMJ JASOND	JASOND	A C				
	D 1937	KA							JFMAMJ JASOND	JASOND	A C			
	D 1938	KA							JFMAMJ JASOND	JASOND	A C			
	D 1939	KA							JFMAMJ JASOND	JASOND	A C			
	D 1940	KA							JFMAMJ JASOND	JASOND	A C			
	D 1941	KA							JFMAMJ JASOND	JASOND	A C			
	D 1942	KA							JFMAMJ JASOND	JASOND	A C			
	D 1943	KA							JFMAMJ JASOND	JASOND	A C			
	D 1944	KA							JFMAMJ JASOND	JASOND	A C			
	D 1945	KA							JFMAMJ JASOND	JASOND	A C			
	D 1946	KA							JFMAMJ JASOND	JASOND	A C			
	D 1947	KA							JFMAMJ JASOND	JASOND	A C			
	D 1948	KA							JFMAMJ JASOND	JASOND	A C			
	D 1949	KA							JFMAMJ JASOND	JASOND	A C			
	D 1950	KA							JFMAMJ JASOND	JASOND	A C			
	D 1951	KA							JFMAMJ JASOND	JASOND	ABC			
	D 1952	KA							JFMAMJ JASOND	JASOND	ABC			
	D 1953	KA							JFMAMJ JASOND	JASOND	A C			
	D 1954	KA							JFMAMJ JASOND	JASOND	A C			
	D 1955	KA							JFMAMJ JASOND	JASOND	A C			
	D 1956	KA							JFMAMJ JASOND	JASOND	A C			
	D 1957	KA			JASOND	AB D	JASOND		JFMAMJ JASOND	JASOND	ABCD			
	D 1958	KA			JFMAMJ JASOND	AB D	JFMAMJ JASOND		JFMAMJ JASOND	JASOND	ABCD			
	D 1959	KA			JFMAMJ JASOND	AB D	JFMAMJ JASOND		JFMAMJ JASOND	JASOND	ABCD			
	D 1960	KA			JFMAMJ JASOND	AB D	JFMAMJ JASOND		JFMAMJ JASOND	JASOND	ABCD			
	D 1961	KA							JFMAMJ JASOND	JASOND	ABCD			
	D 1962	KA							JFMAMJ JASOND	JASOND	ABCD			
	D 1963	KA							JFMAMJ JASOND	JASOND	ABC			
	D 1964	KA							JFMAMJ JASOND	JASOND	ABC E			
	D 1965	KA							JFMAMJ JASOND	JASOND	ABC E			
	D 1966	KA							JFMAMJ JASOND	JASOND	ABC E			
	D 1967	KA							JFMAMJ JASOND	JASOND	ABC			

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES		WDC	HOURLY VALUES		WDC	
								ANY	MEDIUM		ON	TAPE		2.5-MINUTE
SWIDER SWI (052.12 21.25)	D 1968	KA												
	D 1969	KA												
	D 1970	KA												
	D 1971	KA												
	D 1972	KA												
	D 1973	KA												
	D 1974	KA												
	D 1975	K												
	D 1959			ABCD	FMAMJ JASOND									
	D 1960			AB	J									
	D 1966			ABCD	MAMJ JASOND									
	D 1967	K		ABCD	J									
	D 1968	K		ABCD	FMAMJ JASOND		ABC	FMAMJ JASOND						
D 1969	K		A CD	JFMAMJ JASOND		ABC	JFMAMJ JASOND							
D 1970	K		A CD	JFMAMJ JASOND		ABC	JFMAMJ JASOND							
D 1971	K		A CD	JFMAMJ JASOND		ABC	JFMAMJ JASOND							
D 1972	K		A CD	JFMAMJ JASOND		ABC	JFMAMJ JASOND							
D 1973			A CD	JFMAMJ JASOND		ABC	JFMAMJ JASOND							
D 1974			ABCD	JFMAMJ JASOND		ABC	JFMAMJ JASOND							
D 1975	K		ABCD	JFMAMJ JASOND		ABC	J							
D 1976	K		ABCD	JFMAMJ JASOND										
D 1977	K		ABCD	JFMAMJ JASOND										
D 1978	K		ABCD	JFMAMJ JASOND										
D 1979	K		ABCD	JFMAMJ JASOND										
D 1980	K		ABCD	JFMAMJ JASOND										
D 1981	K		ABCD	JFMAMJ JASOND										
D 1982	K		ABCD	JFMAMJ JASOND										
D 1983	K		A CD	JFMAMJ JASOND										
D 1984	K		A	J										
TAHITI TAH (-17.56 210.39)	D 1958	A	ABCD	AMJ JASOND				ABCD	JFMAMJ JASOND					
	D 1959	A	ABCD	JF				ABCD	JFMAMJ JASOND					
	D 1960							B	JF					
TALARA TAL (-04.63 278.70)	D 1957		ABCD	J JASOND				ABCD	J JASOND					
	D 1958		ABCD	FMAMJ JASOND				ABC	F MJ JASOND					
	D 1959		ABCD	JFMAMJ JASOND				ABCD	JFMAMJ JASOND					
	D 1960		ABCD	JF				ABCD	JF					
TALKEETNA TLK (062.30 209.90)	D 1977												A	
	D 1978												A	
	D 1979												A	
	D 1980												A	
	D 1981												A	
	D 1982												A	
D 1983			A									A		
TAMARASSET TAM (022.79 5.53)	D 1952	KA												
	D 1953	KA												
	D 1954	KA												
	D 1955	KA												
	D 1956	KA												
	D 1957	KA		ABCD	JASOND									
D 1958	KA		ABCD	JFMAMJ JASOND										

OBSERVATORY	YEAR COMP	KAQ	NORMAL MAGNETOGRAMS	RAPID RUN		HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)
				WDC	MAGNETOGRAMS	WDC	ANY	WDC	ON TAPE		
TAMANRASSET TAM (022.79 5.53)	D 1959	KA	JFMAMJ JASONDI	ABCD		B D	JFMAMJ JASONDI				
	D 1960	KA	JFMAMJ JASONDI	A		B D	JFMAMJ JASONDI				
	D 1961	KA	JFMAMJ JASONDI	A		B D	JFMAMJ JASONDI				
	D 1962	KA	JFMAMJ JASONDI	A		B D	JFMAMJ JASONDI				
	D 1963	KA	JFMAMJ JASONDI	A		B D	JFMAMJ JASONDI				
	D 1964	KA	JFMAMJ JASONDI	A		B D	JFMAMJ JASONDI				
	D 1965	KA	JFMAMJ JASONDI	A		B D	JFMAMJ JASONDI				
	D 1966	KA	JFMAMJ JASONDI	A							
	D 1967	KA	JFMAMJ JASONDI	A							
	D 1968	KA	JFMAMJ JASONDI	A							
	D 1969	KA	JFMAMJ JASONDI	A							
	D 1970	KA	JFMAMJ JASONDI	A							
	D 1971	KA	JFMAMJ JASONDI	A							
	D 1972	KA	JFMAMJ JASONDI	A							
	D 1973	KA	JFMAMJ JASONDI	A							
	D 1974	KA	JFMAMJ JASONDI	A							
	D 1975	KA	JFMAMJ JASONDI	A							
	D 1976	KA	JFMAMJ JASONDI	A							
D 1977	KA	JFMAMJ JASONDI	A								
D 1978	KA	JFMAMJ JASONDI	A								
D 1979	KA	JFMAMJ JASONDI	A								
D 1980	KA	JFMAMJ JASONDI	A								
TAMBEY TMB (071.50 071.80)	D 1973	KA	JFMAMJ JASONDI	ABCD							
	D 1974	KA	JFMAMJ JASONDI	ABCD							
	D 1975	KA	JFMAMJ JASONDI	ABCD							
	D 1976	KA	JFMAMJ JASONDI	ABCD							
	D 1977	KA	JFMAMJ JASONDI	ABCD							
	D 1978	KA	JFMAMJ JASONDI	ABCD							
	D 1979	KA	JFMAMJ JASONDI	ABCD							
	D 1980	KA	JFMAMJ JASONDI	ABCD							
	D 1981	KA	JFMAMJ JASONDI	ABCD							
	D 1982	KA	JFMAMJ JASONDI	ABCD							
TANAMARIVE TAN (-18.92 47.55)	D 1950	KA	JFMAMJ JASONDI	ABCD							
	D 1951	KA	JFMAMJ JASONDI	ABCD							
	D 1952	KA	JFMAMJ JASONDI	ABCD							
	D 1953	KA	JFMAMJ JASONDI	AB							
	D 1954	KA	JFMAMJ JASONDI	ABCD							
	D 1955	KA	JFMAMJ JASONDI	ABCD							
	D 1956	KA	JFMAMJ JASONDI	ABCD							
	D 1957	KA	JFMAMJ JASONDI	ABCD							
	D 1958	KA	JFMAMJ JASONDI	ABCD							
	D 1959	KA	JFMAMJ JASONDI	AB							
	D 1960	KA	JFMAMJ JASONDI	ABCD							
	D 1961	KA	JFMAMJ JASONDI	ABCD							
	D 1962	KA	JFMAMJ JASONDI	ABCD							
	D 1963	KA	JFMAMJ JASONDI	ABCD							
	D 1964	KA	JFMAMJ JASONDI	ABCD							
	D 1965	KA	JFMAMJ JASONDI	ABCD							
	D 1966	KA	JFMAMJ JASONDI	ABCD							
	D 1967	KA	JFMAMJ JASONDI	ABCD							
D 1968	KA	JFMAMJ JASONDI	ABCD								
D 1969	KA	JFMAMJ JASONDI	ABCD								
D 1970	KA	JFMAMJ JASONDI	ABCD								
D 1971	KA	JFMAMJ JASONDI	ABCD								
D 1972	KA	JFMAMJ JASONDI	ABCD								

OBSERVATORY	YEAR COMP	KAO	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE (*)	
							ANY MEDIUM	ON TAPE		WDC	WDC
TANAWARIVE TAN (-18.92 47.55)	D 1973	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND				
	D 1974	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND				
	D 1975	KA	A	JFMAMJ JASOND		ABCD	JFMAMJ JASOND				
	D 1976	KA	AB	JFMAMJ JASOND		ABCD	JFMAMJ JASOND				
TANGERANG TMG (-6.17 106.63)	D 1980					D	FMAMJ JAS D				
	D 1981	KA	AB			AB	FMAMJ JAS D				
	D 1982	K									
	D 1964	KA	ABCD	AMJ JASOND		A DE	JFMAMJ JASOND		AB E	JFMAMJ JASOND	
	D 1965	KA	ABCD	JFMAMJ JASOND		A DE	JFMAMJ JASOND		AB EI	JFMAMJ JASOND	
	D 1966	KA	ABCD	OND		A DE	JFMAMJ JASOND		AB EI	SOND	OND
	D 1967	KA	ABCD	JFMAMJ JASOND		A DE	JFMAMJ JASOND		AB EI	SOND	SOND
	D 1968	KA	ABCD	JFMAMJ JASOND		A DE	JFMAMJ JASOND		AB EI	MAM	AM
	D 1969	KA	ABCD	JFMAMJ JASOND		AB D	JFMAMJ JASOND		AB EI	SOND	SOND
	D 1970	KA	ABCD	JFMAMJ JASOND		A E	JFMAMJ JASOND		AB E	MJ JASO	J JAS
	D 1971	KA	ABCD	JFMAMJ JASOND		A	JFMAMJ JASOND		AB E	MJ JASO	J JAS
	D 1972	KA	ABCD	JFMAMJ JASOND		A	JFMAMJ JASOND		AB E	MJ JASO	J JAS
	D 1973	KA	ABCD	JFMAMJ JASOND		A	JFMAMJ JASOND		AB E	MJ JASO	J JAS
	D 1974	KA	ABCD	JFMAMJ JASOND		A	JFMAMJ JASOND		AB E	MJ JASO	J JAS
	D 1975	KA	A	JFMAMJ JA		A	JFMAMJ JASOND		AB E	MJ JASO	J JAS
	D 1976	KA	ABCD	MJ JASOND		A	JFMAMJ JASOND		AB E	MJ JASO	J JAS
D 1977	KA	A	JFMAMJ JASON		A	JFMAMJ JASOND		AB E	MJ JASO	J JAS	
D 1978	KA	A	MJ JASOND		A	JFMAMJ JASOND		AB E	MJ JASO	J JAS	
D 1979	KA	ABCD	JFMAMJ JASOND		A	JFMAMJ JASOND		AB E	MJ JASO	J JAS	
D 1980	KA	A	JFM J JAS		A	JFMAMJ JASOND		AB E	MJ JASO	J JAS	
D 1981	A	A	FMAMJ JASOND		A	JFMAMJ JASOND		AB E	MJ JASO	J JAS	
D 1982	A	A	JFMAM		A	JFMAMJ JASOND		AB E	MJ JASO	J JAS	
TASHKENT TKT (041.33 69.62)	D 1941	K									
	D 1942	K									
	D 1943	K									
	D 1944	K									
	D 1945	K									
	D 1946	K									
	D 1955	K									
	D 1956	K									
	D 1957	K	ABCD	JASOND		ABCD	JASOND		AB	JFMAMJ JASOND	
	D 1958	K	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND	
	D 1959	K	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND	
	D 1960	K	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND	
	D 1961	K	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND	
	D 1962	K	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND	
	D 1963	K	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND	
	D 1964	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND	
	D 1965	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND	
D 1966	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND		
D 1967	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND		
D 1968	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND		
D 1969	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND		
D 1970	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND		
D 1971	KA	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND		AB	JFMAMJ JASOND		

OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)
					ANY	MEDIUM	ON	TAPE		
TASHKENT TKT (041.33 69.62)	D 1972	KA	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
	D 1973	KA	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
	D 1974	KA	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
	D 1975	KA	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
	D 1976	KA	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
	D 1977	KA	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
	D 1978	KA	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
	D 1979	KA	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
	D 1980	KA	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
	D 1981	KA	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
	D 1982	KA	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
	D 1983	K	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
	D 1984	K	JFMAMJ JA	JFMAMJ JA	ABCD	JFMAMJ JA	JFMAMJ JA	ABCD		
	D 1933	A			A C	SOND				
	D 1934	A			A C	SOND				
	TATUOCA TTB ( -1.21 311.49)	D 1957	KA	JFMAMJ JASOND	JFMAMJ JASOND	AB D	JFMAMJ JASOND	JFMAMJ JASOND	ABCD I	
D 1958	KA	AB D	JFMAMJ JASOND	JFMAMJ JASOND	AB D	JFMAMJ JASOND	JFMAMJ JASOND	ABCD I		
D 1959	KA	A	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND	ABC I		
D 1960	KA	A	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND	ABC I		
D 1961	KA	A	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND	ABC I		
D 1962	KA	A	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND	ABC I		
D 1963	KA	A	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND	ABC I		
D 1964	A	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A E		SOND
D 1965	A	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A E		SOND
D 1966	A	A	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND	A E		SOND
D 1967	A	A	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND	A E		SOND
D 1968	A	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A E		SOND
D 1969	A	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A E		SOND
D 1970	A	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A E		SOND
D 1971	A	A	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND	A E		SOND
D 1972	A	A	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND	A E		SOND
D 1973	A	AB D	JFMAMJ JASOND	JFMAMJ JASOND	AB D	JFMAMJ JASOND	JFMAMJ JASOND	A E		SOND
D 1974	A	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	A E		SOND
D 1975	A	A	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND	A E		SOND
D 1976	A	A	JFMAMJ JASOND	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND	A E		SOND
D 1940	K									
D 1941	K									
D 1942	K									
D 1943	K									
D 1944	K									
D 1945	K									
D 1946	K									
D 1955	K									
D 1956	K									
D 1957	KA	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
D 1958	KA	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
D 1959	KA	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
D 1960	KA	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
D 1961	KA	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
D 1940	K									
D 1941	K									
D 1942	K									
D 1943	K									
D 1944	K									
D 1945	K									
D 1946	K									
D 1955	K									
D 1956	K									
D 1957	KA	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
D 1958	KA	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
D 1959	KA	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
D 1960	KA	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		
D 1961	KA	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	JFMAMJ JASOND	ABCD		

OBSERVATORY	YEAR	KAQ	COMP	NORMAL MAGNETOGRAMS	WDC	RAPID RUN		HOURLY VALUES		WDC	HOURLY VALUES		WDC	2.5-MINUTE		
						WDC	MAGNETOGRAMS	ANY	MEDIUM		ON	TAPE		1.0-MINUTE(*)		
TBILISI TFS (042.09 44.71)	D 1962	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
	D 1963	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
	D 1964	KA		JFMAMJ JASOND	ABCD	ABC JFMAMJ JASOND		JFMAMJ JASOND	AB	E						
	D 1965	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB	E						
	D 1966	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB	E						
	D 1967	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB	E						
	D 1968	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB	E						
	D 1969	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB	E						
	D 1970	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
	D 1971	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
	D 1972	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
	D 1973	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
	D 1974	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
	D 1975	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
	D 1976	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
	D 1977	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
	D 1978	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
	D 1979	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
	D 1980	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
	D 1981	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB							
D 1982	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB								
D 1983	K		JFMAMJ JASOND	ABCD			JFMAMJ JASOND	AB								
D 1984	K		JFMAMJ JASO	ABCD			JFMAMJ JASO	AB								
TEHRAN TEH (035.74 51.38)	D 1957	K		FMAMJ JASON	A C			FMAMJ JASON								
	D 1958	K		MAM ASON	ABCD			MAM ASON								
	D 1959	K		FM	ABCD			FM								
	D 1960	KA			B D											
	D 1961	KA														
	D 1962	KA														
	D 1963	KA														
	D 1964	KA														
	D 1965	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND								
	D 1966	KA		JFMAM	A			JFMAM								
	D 1967	KA		A				A								
	D 1968	KA														
	D 1969	KA														
D 1970	A															
D 1971	A															
D 1972	A															
D 1973	A															
TEOLOYUCAN TEO (019.75 260.82)	D 1951	KA														
	D 1952	KA														
	D 1953	KA														
	D 1954	KA														
	D 1955	KA														
	D 1956	KA														
	D 1957	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND								
	D 1958	KA		JFMAMJ JASOND	ABCD			JFMAMJ JASOND								
	D 1959	KA		JFMAMJ JASOND	A			JFMAMJ JASOND								
D 1960	KA		JFMAMJ JASOND	A			JFMAMJ JASOND									
D 1961	KA		JFMAMJ JASOND	A			JFMAMJ JASOND									



OBSERVATORY	YEAR	KAQ	COMP	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)
TEOLOUYUCAN TEO (019.75 260.82)	D 1962	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	CD	JFMAMJ JASOND	CD	JFMAMJ JASOND	CD	
	D 1963	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	CD	JFMAMJ JASOND	CD	JFMAMJ JASOND	CD	
	D 1964	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	CD I	JFMAMJ JASOND	CD I	JFMAMJ JASOND	CD I	
	D 1965	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	A DEI	JFMAMJ JASOND	A	EI	JFMAMJ JASOND	AB
	D 1966	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1967	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	A D I	JFMAMJ JASOND	A D I	JFMAMJ JASOND	A D I	
	D 1968	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1969	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1970	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1971	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1972	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
	D 1973	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1974	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABC	
D 1975	KA	A	JFMAMJ JASO	A	JFMAMJ JASO	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD		
D 1976	KA	A	J	A	J							
D 1982	KA	A										
TEVRIZ TEV (057.50 072.40)	D 1974	KA	ABCD	JFMA J JAS OND	ABCD	JFMA J JAS OND	ABCD	JFMA J JAS OND	ABCD	JFMA J JAS OND	ABCD	
	D 1975	KA	BCD	JFMAMJ JASOND	BCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	BCD	JFMAMJ JASOND	ABCD	
	D 1976	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
	D 1977	KA	B	JFMAMJ JASOND	B	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	B	JFMAMJ JASOND	ABCD	
	D 1978	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	
D 1979	KA	ABCD	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND		
THOMPSON TMP (055.72 262.12)	D 1973	KA	A	JAS ND	A	JAS ND	ABCD	JAS ND	A	JAS ND	ABCD	
	D 1974	KA	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	
	D 1975	KA	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	
	D 1976	KA	ABC	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCD	
D 1978	KA	A										
THULE THL (076.54 290.94)	D 1932	KA	A		A			ASOND	A			
	D 1933	KA	A		A			JFMAMJ J	A			
	D 1947	KA	A	JFMAMJ JASOND	D	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1948	KA	A	JFMAMJ JASOND	D	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1949	KA	A	JFMAMJ JASOND	D	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1950	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1951	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1952	KA	A	JFMAMJ JA	A	JFMAMJ JA	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1955	KA	A	SOND	A	SOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1956	KA	A	JFMAMJ JASOND	A	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1957	KAQ	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1958	KAQ	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
	D 1959	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	
D 1960	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I		
D 1961	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I		
D 1962	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I		
D 1963	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I		
D 1964	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I		
D 1965	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I		
D 1966	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I		
D 1967	KA	ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I	JFMAMJ JASOND	ABCD I		

OBSERVATORY	YEAR	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
						ANY	MEDIUM				AB	JFMA
THULE THL (077.48 290.83)	D 1968	KA	ABCD	JFMAMJ JASOND		ABCD I	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMA	D
	D 1969	KA	ABCD	JFMAMJ JASOND		ABCD I	JFMAMJ JASOND	B	JFMAMJ JASOND			
	D 1970	KA	ABCD	JFMAMJ JASOND		ABCD I	JFMAMJ JASOND	B	JFMAMJ JASOND			
	D 1971	A	ABCD	JFMAMJ JASOND	B	A CD I	JFMAMJ JASOND					
	D 1972	A	ABCD	JFMAMJ JASOND	ND	A CD I	JFMAMJ JASOND					
	D 1973	A	ABCD	JFMAMJ JASOND		A CD I	JFMAMJ JASOND					
	D 1974	A	ABCD	JFMAMJ JASOND		A CD I	JFMAMJ JASOND					
	D 1975	A	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D 1976	A	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D 1977	A	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D 1978	A	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D 1979	A	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D 1980	A	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D 1981	A	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D 1982	A	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D 1983	A	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
D 1984	A	A CD	JFMAMJ JASON		ABCD	JFMAMJ JASOND						
THULE AFB THU (076.55 291.17)	D 1957	K										
	D 1958	K										
	D 1959	K										
	D 1960	K										
	D 1961	K										
	D 1962	K										
	D 1963	K										
	D 1964	K										
	D 1965	K										
	D 1966	K		ABC	JFMAMJ JASOND							
	D 1967	K		ABC	JFMAMJ JASOND							
	D 1968	K		ABC	JFMAMJ JASOND							
	D 1969	K		ABC	JFMAMJ JASOND							
	D 1970	K		ABC	JFMAMJ JASOND							
	D 1971	K		ABC	JFMAMJ JASOND							
	D 1972	K		ABC	JFMAMJ JASOND							
D 1973	K		A	JFM								
D 1983	K											
TIHANY THY (046.90 17.89)	D 1951	K					JFMAMJ JASOND	D	JFMAMJ JASOND			
	D 1952	K					JFMAMJ JASOND	D	JFMAMJ JASOND			
	D 1953	K					JFMAMJ JASOND	D	JFMAMJ JASOND			
	D 1954	K					JFMAMJ JASOND	D	JFMAMJ JASOND			
	D 1955	KA					JFMAMJ JASOND	AB D I	JFMAMJ JASOND			
	D 1956	KA					JFMAMJ JASOND	AB D I	JFMAMJ JASOND			
	D 1957	KA		JASOND			JFMAMJ JASOND	AB D I	JFMAMJ JASOND			
	D 1958	KA		JFMAMJ JASOND			JFMAMJ JASOND	ABCD I	JFMAMJ JASOND			
	D 1959	KA		JFMAMJ JASOND			JFMAMJ JASOND	ABCD I	JFMAMJ JASOND			
	D 1960	KA		JFMAMJ JASOND			JFMAMJ JASOND	ABCD I	JFMAMJ JASOND			
	D 1961	KA					JFMAMJ JASOND	ABCD I	JFMAMJ JASOND			
	D 1962	KA					JFMAMJ JASOND	ABCD I	JFMAMJ JASOND			
	D 1963	KA					JFMAMJ JASOND	ABCD I	JFMAMJ JASOND			
	D 1964	KA		B	JFMAMJ JASOND		ABCD I	JFMAMJ JASOND	ABCD E I	JFMAMJ JASOND		
	D 1965	KA		B	JFMAMJ JASOND		ABCD I	JFMAMJ JASOND	ABCD E I	JFMAMJ JASOND		

OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL MAGNETOGRAMS		RAPID RUN MAGNETOGRAMS		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE 1.0-MINUTE(*)	
			WDC		WDC		WDC	ANY MEDIUM	WDC	ON TAPE	WDC	
TIHANY THY (046.90 17.89)	D 1966	KA					ABCD I	JFMAMJ JASOND				
	D 1967	KA					ABCD I	JFMAMJ JASOND				
	D 1968	KA					ABCD I	JFMAMJ JASOND				
	D 1969	KA					ABCD I	JFMAMJ JASOND				
	D 1970	KA					ABCD I	JFMAMJ JASOND				
	D 1971	KA					ABCD I	JFMAMJ JASOND				
	D 1972	KA					ABCD I	JFMAMJ JASOND				
	D 1973	KA					ABCD I	JFMAMJ JASOND				
	D 1974	KA					ABCD I	JFMAMJ JASOND				
	D 1975	KA					ABCD I	JFMAMJ JASOND				
	D 1976	KA		ABC			ABCD	JFMAMJ JASOND				
	D 1977	KA		ABC			ABCD	JFMAMJ JASOND				
	D 1978	KA		ABC			ABCD	JFMAMJ JASOND				
	D 1979	KA		ABC			ABCD	JFMAMJ JASOND				
	D 1980	KA		ABC			ABCD	JFMAMJ JASOND				
	D 1981	KA		ABC			ABCD	JFMAMJ JASOND				
D 1982	KA		ABC			ABCD	JFMAMJ JASOND					
D 1983	A		B			A						
TIKHAYA BAY	D 1955	KA					A D	JFMAMJ JASOND				
	D 1956	KA					A D	JFMAMJ JA				
	D 1957	KA										
	D 1958	KA										
	D 1979						C	JFMAMJ JASOND				
TIXIE BAY TIK (071.58 129.00)	D 1955	KA										
	D 1956	KA										
	D 1957	KA										
	D 1958	KAQ										
	D 1959	KA										
	D 1960	KA										
	D 1961	KA										
	D 1962	KA										
	D 1963	KA										
	D 1964	KAQ										
	D 1965	KAQ										
	D 1966	KA										
	D 1967	KA										
	D 1968	K										
	D 1969	K										
	D 1970	KA										
	D 1971	KA										
	D 1972	KA										
	D 1973	KA										
	D 1974	KA										
D 1975	KA											
D 1976	KA											
D 1977	KA											
D 1978	KA											
D 1979	KA											
D 1980	KA											
D 1981	KA											

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN WDC	MAGNETOGRAMS	WDC	HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)
								ANY	MEDIUM	ON TAPE	ON TAPE		
TIXIE BAY TIK (071.58 129.00)	D 1982	KA	ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1983	K	AB	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1984	K											
TOKYO TOK (035.69 139.75)	D 1897	A				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1898	A				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1899	A				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1900	A				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1901	A				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1902	A				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1903	A				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1904	A				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1905	A				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1906	A				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1907	A				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1908	A				JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1909	A				JFMAMJ JASOND	A	JFMAMJ JASOND						
D 1910	A				JFMAMJ JASOND	A	JFMAMJ JASOND						
D 1911	A				JFMAMJ JASOND	A	JFMAMJ JASOND						
D 1912	A				JFMAMJ JASOND	A	JFMAMJ JASOND						
TOLEDO TOL (039.88 355.95)	D 1948	KA				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1949	KA				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1950	KA				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1951	KA				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1952	KA				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1953	KA				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1954	KA				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1955	KA				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1956	KA				JFMAMJ JASOND	A	JFMAMJ JASOND					
	D 1957	KA			JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D 1958	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D 1959	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D 1960	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D 1961	KA					JFMAMJ JASOND	A	JFMAMJ JASOND				
	D 1962	KA					JFMAMJ JASOND	A	JFMAMJ JASOND				
	D 1963	KA					JFMAMJ JASOND	A	JFMAMJ JASOND				
	D 1964	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D 1965	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D 1966	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
	D 1967	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND				
D 1968	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1969	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1970	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1971	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1972	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1973	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1974	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1975	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1976	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1977	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1978	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					
D 1979	KA		ABCD	JFMAMJ JASOND		JFMAMJ JASOND	A	JFMAMJ JASOND					

OBSERVATORY	YEAR COMP	KAQ	NORMAL MAGNETOGRAMS		RAPID RUN MAGNETOGRAMS		HOURLY VALUES ANY MEDIUM		HOURLY VALUES ON TAPE		2.5-MINUTE 1.0-MINUTE(*)	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS
TOLEDO TOL (039.88 355.95)	D 1980	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND	A	JFMA		
	D 1981	KA	ABCD	JFMAMJ JASOND			ABCD	JFMAMJ JASOND				
	D 1982	KA	ABCD	JFMAMJ JASOND			A D	JFMAMJ JASOND				
	D 1983	K	ABCD	JFMAMJ JASOND								
	D 1984	K	ABCD	JFMAMJ JAS								
D 1985	K											
TOMSK TMK (056.47 84.93)	D 1958	KA	AB	JASOND								
	D 1959	KA	AB	JFMAMJ JASOND								
	D 1960	KA	AB	JFMAMJ JASOND								
	D 1961	KA	AB	JFMAMJ JASOND								
	D 1962	KA	AB	JFMAMJ JASOND								
	D 1963	KA	AB	JFMAMJ JASOND			AB	JASOND				
	D 1964	KA	AB	JFMAMJ JASOND			AB	JFMAMJ JASOND				
	D 1965	KA	AB	JFMAMJ JASOND			AB	JFMAMJ JASOND				
	D 1966	KA	B	JFMAMJ JASOND			AB	JFMAMJ JASOND				
	D 1967	KA	B	JFMAMJ JASOND			B	JFMAMJ JASOND				
	D 1968	KA	AB	JFMAMJ JASOND			AB	JFMAMJ JASOND				
	D 1969	KA	AB	JFMAMJ JASOND			AB	JFMAMJ JASOND				
D 1970	K											
TOOLANGI TOO (-37.53 145.47)	D 1924	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1925	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1926	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1927	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1928	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1929	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1930	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1931	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1932	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1933	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1934	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1935	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1936	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1937	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1938	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1939	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1940	A	A	JFMAMJ JASOND			A	JFMAMJ JASOND	AB	E	JFMAMJ JASOND	
	D 1941	KA										
	D 1942	KA										
	D 1943	KA										
	D 1944	KA										
D 1945	KA											
D 1946	KA											
D 1947	KA											
D 1948	KA											
D 1949	KA											
D 1950	KA											
D 1951	KA											
D 1952	KA											
D 1953	KA											
D 1954	KA											
D 1955	KA											

OBSERVATORY	YEAR COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE		
			MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	MEDIUM	ON	TAPE	WDC	1.0-MINUTE(*)	
TOOLANGI TOO (-37.53 145.47)	D 1956	KA											
	D 1957	KA	ABCD	JASOND			A CDEI	JFMAMJ	JASOND	AB E	JFMAMJ	JASOND	
	D 1958	KA	ABCD	JFMAMJ	JASOND		ABCDEI	JFMAMJ	JASOND	AB E	JFMAMJ	JASOND	
	D 1959	KA	ABCD	JFMAMJ	JASOND		ABCDEI	JFMAMJ	JASOND	AB E	JFMAMJ	JASOND	
	D 1960	KA	ABCD	JFMAMJ	JASOND		A	JFMAMJ	JASOND				
	D 1961	KA	ABCD	JFMAMJ	JASOND		A	JFMAMJ	JASOND			ASOND	
	D 1962	KA	ABCD	JFMAMJ	JASOND		A CDE	JFMAMJ	JASOND	AB E			
	D 1963	KA	ABCD	JFMAMJ	JASOND		A CD	JFMAMJ	JASOND				
	D 1964	KA	ABCD	JFMAMJ	JASOND		A CD	JFMAMJ	JASOND				
	D 1965	KA	ABCD	JFMAMJ	JASOND		ABCDE	JFMAMJ	JASOND	AB EI	JFMAMJ	JASOND	
	D 1966	KA	ABCD	JFMAMJ	JASOND		A CDE	JFMAMJ	JASOND	AB EI	JFMAMJ	JASOND	
	D 1967	KA	ABCD	JFMAMJ	JASOND		A DE	JFMAMJ	JASOND	AB EI	JFMAMJ	JASOND	
	D 1968	KA	ABCD	JFMAMJ	JASOND		ABCDE	JFMAMJ	JASOND	AB EI	JFMAMJ	JASOND	
	D 1969	KA	ABCD	JFMAMJ	JASOND		A CDE	JFMAMJ	JASOND	AB EI	JFMAMJ	JASOND	
	D 1970	KA	ABCD	JFMAMJ	JASOND		A DE	JFMAMJ	JASOND	AB EI	JFMAMJ	JASOND	
	D 1971	KA	ABCD	JFMAMJ	JASOND		A DE	JFMAMJ	JASOND	AB EI	JFMAMJ	JASOND	
	D 1972	KA	ABCD	JFMAMJ	JASOND		A	JFMAMJ	JASOND	AB E	JFM		
	D 1973	KA	ABCD	JFMAMJ	JASOND		A	JFMAMJ	JASOND				
	D 1974	KA	ABCD	JFMAMJ	JASOND		A	JFMAMJ	JASOND				
	D 1975	KA	ABCD	JFMAMJ	JASOND		A	JFMAMJ	JASOND				
D 1976	KA	AB	JFMAMJ	JASOND									
D 1977	KA	ABCD	JFMAMJ	JASOND			JFMAMJ	JASOND	AB	JFMAMJ	JASOND		
D 1978	KA	ABCD	JFMAMJ	JASOND			JFMAMJ	JASOND	AB	JFMAMJ	JASOND		
D 1979	KA	ABCD	JFMAMJ	JASOND			JFMAMJ	JASOND	AB	JFMAMJ	JASOND		
D 1980	K	ABCD	JFMAMJ	JASOND			JFMAMJ	JASOND	AB	JFMAMJ	JASOND		
D 1981	K	A	JFMA										
D 1983	K												
D 1984	K												
TRELEW TRW (-43.25 294.69)	D 1957	KA	ABCD		SOND			ABCD I	JASOND				
	D 1958	KA	ABCD	JFMAMJ	JASOND			ABCD I	JFMAMJ	JASOND			
	D 1959	KA	ABCD	JFMAMJ	JASOND			ABCD I	JFMAMJ	JASOND			
	D 1960	KA	ABCD	JFMAMJ	JASOND			ABCD I	JFMAMJ	JASOND			
	D 1961	KA	ABCD	JFMAMJ	JASOND			ABCD I	JFMAMJ	JASOND			
	D 1962	KA	ABCD	JFMAMJ	JASOND			ABCD I	JFMAMJ	JASOND			
	D 1963	KA	ABCD	JFMAMJ	JASOND			A	JFMAMJ	JASOND			
	D 1964	KA	ABCD	JFMAMJ	JASOND								
	D 1965	KA	ABCD	JFMAMJ	JASOND			A E J	SOND	A	J	SOND	
	D 1966	KA	ABCD	JFMAMJ	JASOND			A E	JFMAMJ	JASOND	A	JFMAMJ	JASOND
	D 1967	KA	ABCD	JFMAMJ	JASOND			A E	JFMAMJ	JASOND	A	JFMAMJ	JASOND
	D 1968	KA	ABCD	JFMAMJ	JASOND			A E	JFMAMJ	JASOND	A	JFMAMJ	JASOND
	D 1969	KA	ABCD	JFMAMJ	JASOND			A E	JFMAMJ	JASOND	A	JFMAMJ	JASOND
	D 1970	KA	ABCD	JFMAMJ	JASOND			A	JFMAMJ	JASOND	A	JFM	
	D 1971	K	A										
	D 1972	K	A										
	D 1973	K	A										
	D 1974		A										
	D 1975		A										
	D 1976	K	ABCD	JFMAMJ	JASOND								
D 1977	KA	AB	JFMAMJ	JASOND									
D 1978	KA	ABCD	JFMAMJ	JASOND			C	JFMAMJ	JASOND				

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)
						ANY MEDIUM	ON TAPE	ON TAPE	WDC		
TRELEW TRW (-43.25 294.69)	D 1979	K	ABCD	JFMAMJ JASOND							
	D 1980	K	ABCD	JFMAMJ JASOND							
	D 1981	K	A	J							
	D 1982	K									
D 1983	K										
D 1984	K										
TRIVANDRUM TRD (008.48 76.95)	D 1957	KA	ABCD	JASOND							
	D 1958	KA	ABCD	JFMAMJ JASOND							
	D 1959	KA	ABCD	JFMAMJ JASOND							
	D 1960	KA		JFMAMJ JASOND							
	D 1961	KA		JFMAMJ JASOND							
	D 1962	KA		JFMAMJ JASOND							
	D 1963	KA	ABCD	JFMAMJ JASOND							
	D 1964	KA	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND					
	D 1965	KA	ABCD	JFMAMJ JASOND							
	D 1966	KA	ABCD	JFMAMJ JASOND							
	D 1967	KA	ABCD	JFMAMJ JASOND							
	D 1968	KA	ABCD	JFMAMJ JASOND							
	D 1969	KA	ABCD	JFMAMJ JASOND							
	D 1970	KA	A CD	JFMAMJ JASOND							
	D 1971	KA	ABCD	JFMAMJ JASOND							
	D 1972	KA	ABCD	JFMAMJ JASOND							
	D 1973	KA	ABCD	JFMAMJ JASOND							
	D 1974	KA	ABCD	JFMAMJ JASOND							
	D 1975	A	ABCD	JFMAMJ JASOND							
	D 1976	A	ABCD	JFMAMJ JASOND							
D 1977	A	ABCD	JFMAMJ JASOND								
D 1978	A	ABCD	JFMAMJ JASOND								
D 1979	A	ABCD	JFMAMJ JASOND								
D 1980	A		JFMAMJ JASOND								
D 1981	A		JFMAMJ JASOND								
D 1982	A		JFMAMJ JASOND								
TROMSO TRO (069.66 18.95)	D 1930	A									
	D 1931	A									
	D 1932	A									
	D 1933	A									
	D 1934	A									
	D 1935	A									
	D 1936	A									
	D 1937	A									
	D 1938	A									
	D 1939	A									
	D 1940	A									
	D 1941	A									
	D 1942	A									
	D 1943	A									
	D 1944	A									
	D 1945	A									
	D 1946	A									
	D 1947	KA									
D 1948	KA										

OBSERVATORY	YEAR	KAQ	COMP	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE(*)
TROMSO TRO (069.66 18.95)	D 1949	KA						A	I	JFMAMJ JASOND			
	D 1950	KA						A	I	JFMAMJ JASOND			
	D 1951	KA						A	I	JFMAMJ JASOND			
	D 1952	KA						A	I	JFMAMJ JASOND			
	D 1953	KA						A		JFMAMJ JASOND			
	D 1954	KA						A		JFMAMJ JASOND			
	D 1955	KA						A		JFMAMJ JASOND			
	D 1956	KA						A		JFMAMJ JASOND			
	D 1957	KA						A		JFMAMJ JASOND			
	D 1958	KA						A		JFMAMJ JASOND			
	D 1959	KA						A		JFMAMJ JASOND			
	D 1960	KA						A		JFMAMJ JASOND			
	D 1961	KA						A		JFMAMJ JASOND			
	D 1962	KA						A		JFMAMJ JASOND			
	D 1963	KA						A		JFMAMJ JASOND			
	D 1964	KA						A		JFMAMJ JASOND			
	D 1965	KA						A		JFMAMJ JASOND			
	D 1966	KA						A		JFMAMJ JASOND			
	D 1967	KA						A		JFMAMJ JASOND			
	D 1968	KA						A		JFMAMJ JASOND			
	D 1969	KA						A		JFMAMJ JASOND			
	D 1970	KA						A		JFMAMJ JASOND			
	D 1971	KA						A		JFMAMJ JASOND			
	D 1972	KA						A		JFMAMJ JASOND			
	D 1973	KA						A		JFMAMJ JASOND			
	D 1974	KA						A		JFMAMJ JASOND			
	D 1975	KA						A		JFMAMJ JASOND			
	D 1976	KA						A		JFMAMJ JASOND			
	D 1977	KA						A		JFMAMJ JASOND			
	D 1978	KA						A		JFMAMJ JASOND			
	D 1979	A						A		JFMAMJ JASOND			
	D 1980	A						A		JFMAMJ JASOND			
	D 1981	KA						A		JFMAMJ JASOND			
	D 1982	A						A		JFMAMJ JASOND			
D 1983	A						A		JFMAMJ JASOND				
D 1984	A						A		JFMAMJ JASOND				
D 1964	A						A		JFMAMJ JASOND				
D 1965	A						A		JFMAMJ JASOND				
D 1966	A						A		JFMAMJ JASOND				
D 1967	A						A		JFMAMJ JASOND				
D 1968	A						A		JFMAMJ JASOND				
D 1969	A						A		JFMAMJ JASOND				
D 1970	A						A		JFMAMJ JASOND				
D 1971	A						A		JFMAMJ JASOND				
D 1972	A						A		JFMAMJ JASOND				
D 1973	A						A		JFMAMJ JASOND				
D 1974	A						A		JFMAMJ JASOND				
D 1975	A						A		JFMAMJ JASOND				
D 1976	A						A		JFMAMJ JASOND				
D 1977	A						A		JFMAMJ JASOND				
D 1978	A						A		JFMAMJ JASOND				
D 1964	A						A		JFMAMJ JASOND				
D 1965	A						A		JFMAMJ JASOND				
D 1966	A						A		JFMAMJ JASOND				
D 1967	A						A		JFMAMJ JASOND				
D 1968	A						A		JFMAMJ JASOND				
D 1969	A						A		JFMAMJ JASOND				
D 1970	A						A		JFMAMJ JASOND				
D 1971	A						A		JFMAMJ JASOND				
D 1972	A						A		JFMAMJ JASOND				
D 1973	A						A		JFMAMJ JASOND				
D 1974	A						A		JFMAMJ JASOND				
D 1975	A						A		JFMAMJ JASOND				
D 1976	A						A		JFMAMJ JASOND				
D 1977	A						A		JFMAMJ JASOND				
D 1978	A						A		JFMAMJ JASOND				



OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL MAGNETOGRAMS		RAPID RUN MAGNETOGRAMS		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE 1.0-MINUTE(*)	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	
TUMEB TSU (-19.22 17.70)	D 1979	A	A	MA	ND	ABCD I	JFMAMJ JASOND	AB	EI	JFMAMJ	OND	
	D 1980	A	A	ASO	ASO D	ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND	
	D 1981	A	A	ASO	ASO D	ABCD I	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND	
	D 1982	A	A	J MA	SO	ABCD	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND	
	D 1983	A	A	A J	SON	A CD	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND	
	D 1909	A	A	MA J	ASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND	
	D 1910	A	A	MA J	ASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND	
	D 1911	A	A	JF A J	ASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND	
	D 1912	A	A	JF A J	ASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND	
	D 1913	A	A	MAMJ	ASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND	
D 1914	A	A	MAM	ASO D	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1915	A	A	MAM	S D	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1916	A	A	AM	S N	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1917	A	A	J M	SO	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1918	A	A	J M	SO	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1919	A	A	J MJ	O	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1920	A	A	JFMA J	ASO	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1921	A	A	J MAM	JA O	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1922	A	A	FM	JA N	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1923	A	A	M MJ	S D	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1924	A	A	F MJ	SO	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1925	A	A	M M	A O	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1926	A	A	AM	JAS	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1927	A	A	M M	J S D	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1928	A	A	M MJ	J S	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1929	A	A	A J	ON	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1930	A	A	FMAM	ASO	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1931	A	A	J A	J SO	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1932	A	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1933	A	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1934	A	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1935	A	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1936	A	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1937	A	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1938	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1939	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1940	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1941	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1942	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1943	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1944	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1945	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1946	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1947	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1948	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1949	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1950	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1951	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1952	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1953	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		
D 1954	KA	A	JFMAMJ	JASOND	A	JFMAMJ JASOND	AB	EI	JFMAMJ	JASOND		



OBSERVATORY	YEAR COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN WDC MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES	
						ANY	MEDIUM	ON	TAPE
						WDC	WDC	WDC	WDC
						2.5-MINUTE		1.0-MINUTE(*)	
TULSA	D 1983	A	A	JFMAMJ JASOND					
TUL	D 1984	A	A	JFMAMJ JASOND					
(035.91 264.21)									
UGUT	D 1974		AB D	MAMJ JASOND					
UGT	D 1975		B	JFMAMJ JASOND					
(061.00 074.00)	D 1976		ABCD	JFMAMJ JASOND					
	D 1977		B	JFMAMJ JASOND					
	D 1978		ABCD	JFMAMJ JASOND					
	D 1979		ABCD	JFMAMJ JASOND					
UJJAIN	D 1975		B	JASOND					
UJJ	D 1976		AB	JFMAMJ JASOND					
(023.18 75.78)	D 1977		B	JFM					
	D 1978		B	JFMAMJ JASOND					
	D 1979	A	B	JFMA OND					
UKHTA	D 1974		C	MA					
UKH				OND					
(060.50 074.00)									
ULAN BATOR	D 1966	KA	ABCD	JFMAMJ JASOND					
UBA	D 1967	KA	ABCD	JFMAMJ JASOND					
(047.85 107.05)	D 1968	KA	ABCD	JFMAMJ JASOND					
	D 1969	KA	ABCD	JFMAMJ JASOND					
	D 1970	KA	ABCD	JFMAMJ JASOND					
	D 1971	KA							
	D 1972	KA							
	D 1973	KA							
	D 1974	KA							
	D 1975	KA							
	D 1976	A							
	D 1977	A							
	D 1978	K							
	D 1979	K							
	D 1980	K							
	D 1981	K							
	D 1982	K							
	D 1983	K							
	D 1984	K							
URUMQI	D 1980								
WMQ	D 1981								
(043.82 087.70)									
VAL JOYEUX	D 1923	A							
VLJ	D 1924	A							
(048.82 2.02)	D 1925	A							
	D 1926	A							
	D 1927	A							
	D 1928	A							
	D 1929	A							
	D 1930	A							
	D 1931	A							

OBSERVATORY	YEAR	COMP	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
													HOURLY VALUES ANY MEDIUM
VAL JOYEUX VLJ (048.82 2.02)	D 1932	A	A				A C	JFMAMJ JASONJ	A C				
	D 1933	A	A				A C	JFMAMJ JASONJ	A C				
	D 1934	A	A				A	JFMAMJ JASONJ	A				
	D 1935	A	A				A	JFMAMJ JASONJ	A				
VALENTIA VAL (051.93 349.75)	D 1954	KA	KA				A	I JFMAMJ JASONJ	A				
	D 1955	KA	KA				A	I JFMAMJ JASONJ	A				
	D 1956	KA	KA				A	I JFMAMJ JASONJ	A				
	D 1957	KA	KA		JASONJ		ABCD	JFMAMJ JASONJ	ABCD				
	D 1958	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABCD				
	D 1959	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABCD				
	D 1960	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABCD				
	D 1961	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	A				
	D 1962	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	A				
	D 1963	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	A				
	D 1964	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	A C				
	D 1965	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	A C EI				
	D 1966	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABC EI	AB EI	JFMAMJ JASONJ		
	D 1967	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABCD I	AB EI	JFMAMJ JASONJ		
	D 1968	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABCD I				
	D 1969	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABCD I				
	D 1970	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABCD I				
	D 1971	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABCD I				
	D 1972	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABCD I				
	D 1973	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABCD I				
	D 1974	KA	KA		JFMAMJ JASONJ		A CD	JFMAMJ JASONJ	ABCD I				
	D 1975	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABCD I				
	D 1976	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABCD I				
	D 1977	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABC I				
	D 1978	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	ABCD				
	D 1979	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	BCD				
	D 1980	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	BCD				
	D 1981	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	BCD				
	D 1982	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	BCD				
	D 1983	KA	KA		JFMAMJ JASONJ		ABCD	JFMAMJ JASONJ	BCD				
	D 1984	K	A		JFMAMJ								
	D 1985	K											
VASSOURAS VSS (-22.40 316.35)	D 1915	A	A				C	JFMAMJ JASONJ	C				
	D 1916	A	A				C	JFMAMJ JASONJ	C				
	D 1917	A	A				C	JFMAMJ JASONJ	C				
	D 1918	A	A				C	JFMAMJ JASONJ	C				
	D 1919	A	A				C	JFMAMJ JASONJ	C				
	D 1920	A	A				C	JFMAMJ JASONJ	C				
	D 1921	A	A				C	JFMAMJ JASONJ	C				
	D 1922	A	A				C	JFMAMJ JASONJ	C				
	D 1923	A	A				C	JFMAMJ JASONJ	C				
	D 1924	A	A				A	JFMAMJ JASONJ	A				
D 1925	A	A				A	JFMAMJ JASONJ	A					
D 1926	A	A				A	JFMAMJ JASONJ	A					
D 1927	A	A				A	JFMAMJ JASONJ	A					
D 1928	A	A				A	JFMAMJ JASONJ	A					

OBSERVATORY	YEAR	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	ON TAPE	WDC	1.0-MINUTE(*)	
VASSOURAS VSS (-22.40 316.35)	D 1929	A					A	I JFMAMJ JASOND				
	D 1930	A					A	I JFMAMJ JASOND				
	D 1931	A					A	I JFMAMJ JASOND				
	D 1932	A					A	I JFMAMJ JASOND				
	D 1933	A					A	I JFMAMJ JASOND				
	D 1934	A					A	I JFMAMJ JASOND				
	D 1935	A					A	I JFMAMJ JASOND				
	D 1936	A					A	I JFMAMJ JASOND				
	D 1937	A					A	I JFMAMJ JASOND				
	D 1938	A					A	I JFMAMJ JASOND				
	D 1939	A					A	I JFMAMJ JASOND				
	D 1940	A					A	I JFMAMJ JASOND				
	D 1941	A					A	I JFMAMJ JASOND				
	D 1942	A					A	I JFMAMJ JASOND				
	D 1943	A					A	I JFMAMJ JASOND				
	D 1944	A					A	I JFMAMJ JASOND				
	D 1945	A					A	I JFMAMJ JASOND				
	D 1946	A					A	I JFMAMJ JASOND				
	D 1947	A					A	I JFMAMJ JASOND				
	D 1948	A					A	I JFMAMJ JASOND				
	D 1949	A					A	I JFMAMJ JASOND				
	D 1950	A					A	I JFMAMJ JASOND				
	D 1951	A					A	I JFMAMJ JASOND				
	D 1952	KA					A	I JFMAMJ JASOND				
	D 1953	KA					A	I JFMAMJ JASOND				
	D 1954	KA					A	I JFMAMJ JASOND				
	D 1955	KA					A	I JFMAMJ JASOND				
	D 1956	KA					A	I JFMAMJ JASOND				
	D 1957	KA					A	I JFMAMJ JASOND				
	D 1958	KA					A	I JFMAMJ JASOND				
	D 1959	KA					A	I JFMAMJ JASOND				
	D 1960	KA					A	I JFMAMJ JASOND				
	D 1961	KA					A	I JFMAMJ JASOND				
D 1962	KA					A	I JFMAMJ JASOND					
D 1963	KA					A	I JFMAMJ JASOND					
D 1964	KA					A	I JFMAMJ JASOND					
D 1965	A					A	I JFMAMJ JASOND					
D 1966	A					A	I JFMAMJ JASOND					
D 1967	A					A	I JFMAMJ JASOND					
D 1968	A					A	I JFMAMJ JASOND					
D 1969	A					A	I JFMAMJ JASOND					
D 1970	A					A	I JFMAMJ JASOND					
D 1971	A					A	I JFMAMJ JASOND					
D 1972	A					A	I JFMAMJ JASOND					
D 1973	A					A	I JFMAMJ JASOND					
D 1974	A					A	I JFMAMJ JASOND					
D 1975	A					A	I JFMAMJ JASOND					
D 1976	A					A	I JFMAMJ JASOND					
D 1977	A					A	I JFMAMJ JASOND					
D 1978	A					A	I JFMAMJ JASOND					
D 1979	A					A	I JFMAMJ JASOND					

OBSERVATORY	YEAR	COMP	YEAR KAO		NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
			WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY	ON TAPE	WDC	1.0-MINUTE			
VASSOURAS	D	1980	A	ABCD	JFMAMJ JASOND									
VSS	D	1981	A											
(-22.40 316.35)														
VICTORIA	D	1956	KA	ABCD	JASOND									
VIC	D	1957	KA	ABCD	JFMAMJ JASOND									
(048.52 236.58)	D	1958	KA	ABCD										
	D	1959	KA											
	D	1960	KA											
	D	1961	KA											
	D	1962	KA											
	D	1963	KA	ABCD	SOND									
	D	1964	KA	ABCD	JFMAMJ JASOND									
	D	1965	KA	ABCD	JFMAMJ JASOND									
	D	1966	KA	ABCD	JFMAMJ JASOND									
	D	1967	KA	ABCD	JFMAMJ JASOND									
	D	1968	KA	ABCD	JFMAMJ JASOND									
	D	1969	KA	ABCD	JFMAMJ JASOND									
	D	1970	KA	ABCD	JFMAMJ JASOND									
	D	1971	KA	ABCD	JFMAMJ JASOND									
	D	1972	KA	ABCD	JFMAMJ JASOND									
	D	1973	KA	ABCD	JFMAMJ JASOND									
	D	1974	KA	ABCD	JFMAMJ JASOND									
	D	1975	KA	ABCD	JFMAMJ JASOND									
	D	1976	KA	ABCD	JFMAMJ JASOND									
	X	1977	KA	ABCD	JFMAMJ JASOND									
	X	1978	KA	ABCD	JFMAMJ JASOND									
	X	1979	KA	ABCD	JFMAMJ JASOND									
	X	1980	KA	ABCD	JFMAMJ JASOND									
	X	1981	KA	ABCD	JFMAMJ JASOND									
	X	1982	KA	ABCD	JFMAMJ JASOND									
	X	1983	KA	ABCD	JFMAMJ JASOND									
	X	1984	K	ABCD	JFMAMJ JAS									
	X	1985	K											
VIEQUES	D	1903	A	AMJ JASOND										
VQS	D	1904	A	JFMAMJ JASOND										
(018.15 294.55)	D	1905	A	FMA JAS N										
	D	1906	A	F M AS D										
	D	1907	A	FM M JA ON										
	D	1908	A	M M JAS										
	D	1909	A	J M M ASO										
	D	1910	A	MA ASO										
	D	1911	A	FMAM ASO D										
	D	1912	A	A A O D										
	D	1913	A	MA SO										
	D	1914	A	A J J SON										
	D	1915	A	A J ASOND										
	D	1916	A	J MAM JA ON										
	D	1917	A	JF A J JASO D										
	D	1918	A	MAMJ ASOND										
	D	1919	A	JF M ASO D										

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS		RAPID RUN MAGNETOGRAMS		HOURLY VALUES ANY MEDIUM		WDC	HOURLY VALUES ON TAPE		WDC	2.5-MINUTE 1.0-MINUTE(*)
				MAM	S D	WDC	WDC	ANY	MEDIUM		A	E		
VIEQUES VQS (018.15 294.55)	D	1920	A	A				A C E	JFMAMJ JASOND	A	JFMAMJ JASOND	E		
	D	1921	A	A	AM	S N		A C E	JFMAMJ JASOND	A	JFMAMJ JASOND	E		
	D	1922	A	A	J M	SO		A C E	JFMAMJ JASOND	A	JFMAMJ JASOND	E		
	D	1923	A	A	M J	SO		A C E	JFMAMJ JASOND	A	JFMAMJ JASOND	E		
	D	1924	A	A	J	O		A C E	JFMAMJ JASOND	A	JFMAMJ JASO	E		
VLADIVOSTOK VLA (043.78 132.03)  (043.68 132.17)	D	1952	K						JASOND					
	D	1953	K					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1954	K					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1955	K					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1956	K					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1957	K					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1958	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1959	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1960	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1961	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1962	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1963	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1964	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1965	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1966	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1967	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1968	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1969	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1970	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1971	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
D	1972	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1973	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1974	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1975	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1976	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1977	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1978	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1979	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1980	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1981	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1982	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1983	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1984	K					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
VOSTOK VOS (-78.45 106.87)	D	1958	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1959	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1960	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1961	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1962	K					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1963	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1964	KAQ					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1965	KAQ					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1966	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D	1967	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
D	1968	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1969	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			
D	1970	KA					ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB			

OBSERVATORY	YEAR	COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)
				MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	ON TAPE				
VOSTOK VOS (-78.45 106.87)	D 1971	KA		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	MAMJ JASOND*
	D 1972	KA		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
	D 1973	KA		ABCD	JFMAMJ JASOND	A CD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
	D 1974	KA		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
	D 1975	KA		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
	D 1976	KA		ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
	D 1977	KA		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
	D 1978	KA		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
	D 1979	KA		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
	D 1980	KA		AB D	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
	D 1981	KA		ABCD	JFMAMJ JASOND	ABCD	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
	D 1982	K		AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	JFMAMJ JASOND	A	JFMAMJ JASOND*
	D 1983	K											
	D 1984	K											
	WAKE ISLAND WKE (019.20 166.70)	D 1978											A
D 1979												A	JFMAMJ JASOND*
D 1980												A	JFMAMJ JASOND*
WATHEROO WAT (-30.32 115.88)	D 1919	A											
	D 1920	A											
	D 1921	A											
	D 1922	A											
	D 1923	A											
	D 1924	A											
	D 1925	A											
	D 1926	A											
	D 1927	A											
	D 1928	A											
	D 1929	A											
	D 1930	A											
	D 1931	A											
	D 1932	A											
	D 1933	A											
	D 1934	A											
	D 1935	A											
	D 1936	A											
	D 1937	KA											
	D 1938	KA											
	D 1939	KA											
	D 1940	KA											
	D 1941	KA											
	D 1942	KA											
	D 1943	KA											
	D 1944	KA											
	D 1945	KA											
	D 1946	KA											
	D 1947	KA											
	D 1948	KA											
	D 1949	KA											
	D 1950	KA											



OBSERVATORY	YEAR COMP	KAQ	NORMAL MAGNETOGRAMS	WDC	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES		WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
							ANY	MEDIUM				ON	TAPE
WATHEROO WAT (-30.32 115.88)	D 1951	KA					A	DEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1952	KA					A	DEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1953	KA					A	DEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1954	KA					A	DEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1955	KA					A	DEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1956	KA					A	DEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND	
	D 1957	KA		JASOND	ABC	JASOND	ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND		
	D 1958	KA		JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND		
	D 1959	KA											
	D 1960			FAMWJ JASOND				A		JAS			
D 1961			JFMAMJ JASOND				A		JFMAMJ JASOND				
D 1962			JFMAMJ JASOND				A		JFMAMJ JASOND				
D 1963			JFMAMJ JA D				A		JFMAMJ JASOND				
D 1964			JFMAMJ JASOND				A		JFMAMJ JASOND				
D 1965			JFMAMJ JASOND		B	MAMJ JASOND	A		JFMAMJ JASOND				
D 1966			JFMAMJ JASOND		B	JFMAMJ JASOND	A		JFMAMJ JASOND				
D 1967			JFMAMJ JASOND		B	JFMAMJ J	A		JFMAMJ JASOND				
D 1968			JFMAMJ JASOND		B		A		JFMAMJ JASOND				
D 1969			JFMAMJ JASOND				A		JFMAMJ JASOND				
D 1970			JFMAMJ JASOND				A		JFMAMJ JASOND				
D 1971			JFMAMJ JASOND				A		JFMAMJ JASOND				
D 1972			JFMAMJ JASOND				A		JFMAMJ JASOND				
D 1973			JFMAMJ JASOND				A		JFMAMJ JASOND				
D 1974			JFMAMJ JASOND				A		JFMAMJ JASOND				
D 1975			JFMAMJ JASOND				A		JFMAMJ JASOND				
D 1976			JFMAM				A		JFMAMJ				
D 1978					S		A						
X 1972			JFMAMJ JASOND				A	C	JFMAMJ JASOND				
X 1973			JFMAMJ JASOND				A	C	JFMAMJ JASOND				
X 1974			JFMAMJ JASOND				A	C	JFMAMJ JASOND				
X 1975			JFMAMJ JASOND				A	C	JFMAMJ JASOND				
X 1976			JFMAMJ JASOND				A	C	JFMAMJ JASOND				
X 1977		A	JFMAMJ JASOND				ABCD	ABCD	JFMAMJ JASOND	A	A	JFMAMJ JASOND*	
X 1978		A	JFMAMJ JASOND				ABCD	ABCD	JFMAMJ JASOND	A	A	JFMAMJ JASOND*	
X 1979		A	JFMAMJ JASOND				ABCD	ABCD	JFMAMJ JASOND	A	A	JFMAMJ JASOND*	
X 1980		A	JFMAMJ JASOND				ABCD	AB D	JFMAMJ JASOND	AB	AB	JFMAMJ JASOND*	
X 1981			JFMAMJ JAS				A	JFMA					
D 1941							AB	JFMAMJ JASOND					
D 1942							AB	JFMAMJ JASOND					
D 1943							I	JFMAMJ JASOND					
D 1944							I	JFMAMJ JASOND					
D 1945							I	JFMAMJ JASOND					
D 1946							I	JFMAMJ JASOND					
D 1947							I	JFMAMJ JASOND					
D 1948							I	JFMAMJ JASOND					
D 1949							I	JFMAMJ JASOND					
D 1950							I	JFMAMJ JASOND					
D 1951							I	JFMAMJ JASOND					
D 1952							I	JFMAMJ JASOND					
D 1953							I	JFMAMJ JASOND					
WIEN-KOBENZL													
WIK													
(048.20 16.24)													

OBSERVATORY	YEAR	KAQ	COMP	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE		
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	WDC	ON TAPE	WDC	1.0-MINUTE(*)	
WIEN-KOBENZL WIK (048.27 16.32)	D 1954	A						I	JFMAMJ JASOND					
	D 1955	A						I	JFMAMJ JASOND					
	D 1956	A						A	JFMAMJ JASOND					
	D 1957	KA	JASOND					ABCD	JFMAMJ JASOND					
	D 1958	KA	JASOND					ABCD	JFMAMJ JASOND					
	D 1959	A						ABCD	JFMAMJ JASOND					
	D 1960	A						ABCD	JFMAMJ JASOND					
	D 1961	A						ABCD	JFMAMJ JASOND					
	D 1962	A						ABCD	JFMAMJ JASOND					
	D 1963	A						ABCD	JFMAMJ JASOND					
	D 1964	A	JFMAMJ JASOND					ABCD	JFMAMJ JASOND					
	D 1965	A	JFMAMJ JASOND					ABCD	JFMAMJ JASOND					
	D 1966	A						ABCD	JFMAMJ JASOND					
	D 1967	A						ABCD	JFMAMJ JASOND					
	D 1968	A						ABCD	JFMAMJ JASOND					
	D 1969	A						ABCD	JFMAMJ JASOND					
	D 1970	A						ABCD	JFMAMJ JASOND					
	D 1971	A						ABCD	JFMAMJ JASOND					
	D 1972	A						ABCD	JFMAMJ JASOND					
	D 1973	A						ABCD	JFMAMJ JASOND					
D 1974	A						ABCD	JFMAMJ JASOND						
D 1975	A						ABCD	JFMAMJ JASOND						
D 1976	A						ABCD	JFMAMJ JASOND						
D 1977	A						ABCD	JFMAMJ JASOND						
D 1978	A						ABCD	JFMAMJ JASOND						
D 1979	A						ABCD	JFMAMJ JASOND						
D 1980	A						ABCD	JFMAMJ JASOND						
D 1981	A						ABCD	JFMAMJ JASOND						
WILHELMSHAVEN WLH (053.53 8.15)	D 1882							C	JFMAMJ JASOND					
	D 1883							C	JFMAMJ JASOND					
WILKES WIL (-66.25 110.58)	D 1957	KA	ABCD	JFMAMJ JASOND	ABC	JASOND	ABCDEI	ABCDEI	JASOND	AB	EI	JASOND	J	
	D 1958	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	ABCDEI	JASOND	AB	EI	JASOND	J	
	D 1959	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	ABCDEI	JASOND	AB	EI	JASOND	J	
	D 1960	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	ABCDEI	ABCDEI	JASOND	AB	EI	JASOND	J	
	D 1961	KA	ABCD	JFMAMJ JASOND	A C	JFMAMJ JASOND	A	E	ASOND	AB	EI	ASOND	J	
	D 1962	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	DE	SOND	AB	EI	SOND		
	D 1963	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	DE	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND		
	D 1964	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	DE	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND		
	D 1965	KA	ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB	DE	JFMAMJ JASOND	AB	EI	JFMAMJ JASOND		
	D 1966	KA	ABCD	JFMAMJ JASOND	ABA	JFMAMJ JASOND	A	DE	J	AB	EI	J		
	D 1967	K	ABCD	J										
	WINGST WNG (053.74 9.07)	D 1940	KA											
		D 1941	KA											
D 1942		KA												
D 1943		KA												
D 1944		KA												
D 1946		KA												

OBSERVATORY	YEAR COMP	YEAR KAQ	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)
					ANY	MEDIUM	ON TAPE	WDC		
WINGST WNG (053.74 9.07)	D 1948	KA				JFMAMJ	JASOND			
	D 1949	KA				JFMAMJ	JASOND			
	D 1950	KA				JFMAMJ	JASOND			
	D 1951	KA				JFMAMJ	JASOND			
	D 1952	KA				JFMAMJ	JASOND			
	D 1953	KA				JFMAMJ	JASOND			
	D 1954	KA				JFMAMJ	JASOND			
	D 1955	KA				JFMAMJ	JASOND			
	D 1956	KA				JFMAMJ	JASOND			
	D 1957	KA		ABC		JFMAMJ	JASOND	ABCD		
	D 1958	KA		ABC		JFMAMJ	JASOND	ABCD		
	D 1959	KA		ABC		JFMAMJ	JASOND	ABC		
	D 1960	KA		ABC		JFMAMJ	JASOND	ABC		
	D 1961	KA		ABC		JFMAMJ	JASOND	ABC		
	D 1962	KA		ABC		JFMAMJ	JASOND	ABC		
	D 1963	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1964	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1965	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1966	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1967	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1968	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1969	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1970	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1971	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1972	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1973	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1974	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1975	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1976	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1977	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1978	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1979	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1980	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1981	KA		ABCD		JFMAMJ	JASOND	ABCD		
	D 1982	KA		ABCD		JFMAMJ	JASOND	ABCD		
D 1983	KA		ABCD		JFMAMJ	JASOND	ABCD			
D 1984	K		A D		JFMAMJ	JASOND	ABCD			
D 1985	K				JFMAMJ	JASOND	ABCD			
-----										
WITNWIPEG	D 1973		MJ	JASOND						
WNP	D 1974		JFMAMJ	JASOND						
(049.63 262.87)	D 1975		JFMAMJ	JAS						
-----										
WITTEVEEN	D 1938	A								
WIT	D 1939	A								
(052.81 6.67)	D 1940	KA								
	D 1941	KA								
	D 1942	KA								
	D 1943	KA								
	D 1944	KA								
	D 1945	KA								
	D 1946	KA								
	D 1947	KA								

OBSERVATORY	YEAR	COMP	KAQ	NORMAL		RAPID RUN		HOURLY VALUES		HOURLY VALUES		2.5-MINUTE	
				WDC	MAGNETOGRAMS	WDC	MAGNETOGRAMS	WDC	ANY MEDIUM	ON TAPE	WDC	1.0-MINUTE(*)	
WITTEVEEN WIT (052.81 6.67)	D 1948	KA						I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB	
	D 1949	KA					I	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D 1950	KA					A C	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D 1951	KA					A	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D 1952	KA					A	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D 1953	KA					A	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D 1954	KA					A C	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D 1955	KA					A C	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D 1956	KA					A	JFMAMJ JASOND	AB	JFMAMJ JASOND	AB		
	D 1957	KA					ABCD	JASOND	AB	JFMAMJ JASOND	AB		
	D 1958	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1959	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1960	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1961	KA					ABCD	JFMAMJ JASOND			AB		
	D 1962	KA					ABCD	JFMAMJ JASOND			AB		
	D 1963	KA					ABCD	JFMAMJ JASOND			AB		
	D 1964	KA					ABCD	JFMAMJ JASOND			AB		
	D 1965	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1966	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1967	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1968	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1969	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1970	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1971	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1972	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1973	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1974	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1975	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1976	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1977	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1978	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1979	KA					AB D	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
	D 1980	KA					ABCD	JFMAMJ JASOND	ABC	JFMAMJ JASOND	AB		
D 1981	KA					ABCD	JFMAMJ JASOND	A	JFMAMJ JASOND	AB			
D 1982	KA					ABCD	JFMAMJ JASOND	A	JFMAMJ JASOND	A			
D 1983	K												
D 1984	K												
D 1985	K												
D 1980													
D 1981													
D 1939	KA												
D 1940	KA												
D 1941	KA												
D 1942	KA												
D 1943	KA												
D 1944	KA												
D 1945	KA												
D 1946	KA												
D 1952	A												
D 1980													
D 1981													
D 1939	KA												
D 1940	KA												
D 1941	KA												
D 1942	KA												
D 1943	KA												
D 1944	KA												
D 1945	KA												
D 1946	KA												
D 1952	A												

WUHAN  
WHIN  
(030.53 114.56)

YAKUTSK  
YAK  
(062.02 129.72)

OBSERVATORY	YEAR	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE 1.0-MINUTE(*)	
											COMP	WDC
YAKUTSK YAK (062.02 129.72)	D 1953	A	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1954	A	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1955	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1956	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1957	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1958	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1959	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1960	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1961	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1962	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1963	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1964	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1965	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1966	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1967	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1968	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1969	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1970	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1971	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1972	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1973	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1974	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1975	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1976	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1977	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1978	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1979	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1980	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
D 1981	KA	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND		
D 1982	KA	AB D	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
D 1983	K	A	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
D 1984	K		ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
YAUCA YAU (-15.53 285.33)	D 1957		ABCD	SOND	ABCD	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	SOND	
	D 1958		ABCD	JASOND	ABCD	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1959		ABCD	JASOND	ABCD	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1960		ABCD	JASOND	ABCD	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
YELLOWKNIFE YKC (062.40 245.50)	D 1957		ABCD	JASOND	ABCD	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1958		ABCD	JASOND	ABCD	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1972		A	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1973		A	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1974		ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1975	A	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1976	A	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	D 1977	A	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	X 1978	A	A CD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	X 1979	A	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
	X 1980	A	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND	
X 1981	A	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND		
X 1982	A	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND		
X 1983	A	ABCD	JASOND	ABC	ABCD	JFMAMJ	ABCD	JFMAMJ	ABCD	JASOND		

OBSERVATORY	YEAR	KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES		HOURLY VALUES		WDC	2.5-MINUTE 1.0-MINUTE(*)
							ANY	MEDIUM	ON TAPE	JASOND*		
YELLOWKNIFE YKC ( 62.40 245.50)	X	1984	ABCD	JFMAMJ JAS		A	JFMAMJ JASOND	A	JFMAMJ JASOND	A	JFMAMJ JASOND	JFMAMJ JASOND
YUZHNO SAKHALINS YSS (046.95 142.72)	D	1954	ABCD	JFMAMJ JASOND		ABCD	JASOND					
	D	1955	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1956	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1957	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1958	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1959	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1960	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1961	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1962	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1963	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1964	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1965	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1966	ABCD	JFMAMJ JAS		ABCD	JFMAMJ JAS					
	D	1967	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1968	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1969	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1970	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1971	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1972	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1973	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1974	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1975	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
ZARIA ZAR (011.15 007.65)	D	1960	B	J AMJ JAS		B	J AMJ JAS					
	D	1961	B	JFMAMJ JASOND		B	JFMAMJ JASOND					
	D	1962	AB	JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D	1963	AB	JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D	1964	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1965	ABCD	JFMAMJ JASOND		ABCD	JFMAMJ JASOND					
	D	1966	AB	JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D	1967	AB	JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D	1968	AB	JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D	1969	AB	JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D	1970	AB	JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D	1971	AB	JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D	1972	AB	JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D	1973	AB	JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D	1974	AB	JFMAMJ JASOND		AB	JFMAMJ JASOND					
	D	1975	AB	JFMAMJ JASOND		AB	JFMAMJ JASOND					

OBSERVATORY	YEAR COMP	YEAR KAQ	WDC	NORMAL MAGNETOGRAMS	RAPID RUN MAGNETOGRAMS	WDC	HOURLY VALUES ANY MEDIUM	WDC	HOURLY VALUES ON TAPE	WDC	2.5-MINUTE	
											1.0-MINUTE(*)	
ZARIA	D 1976		AB	JFMAMJ JASOND								
ZAR	D 1977		AB	JFMAMJ JASOND								
(011.15 007.65)												
ZIKAWEI	D 1889	A					JFMAMJ JASOND	A				
ZKW	D 1890	A					JFMAMJ JASOND	A				
(031.21 121.44)	D 1891	A					JFMAMJ JASOND	A				
	D 1892	A					JFMAMJ JASOND	A				
	D 1893	A					JFMAMJ JASOND	A				
	D 1894	A					JFMAMJ JASOND	A				
	D 1895	A					JFMAMJ JASOND	A				
	D 1896	A					JFMAMJ JASOND	A				
	D 1897	A					JFMAMJ JASOND	A				
	D 1898	A					JFMAMJ JASOND	A				
	D 1899	A					JFMAMJ JASOND	A				
	D 1900	A					JFMAMJ JASOND	A				
	D 1901	A					JFMAMJ JASOND	A				
	D 1902	A					JFMAMJ JASOND	A				
	D 1903	A					JFMAMJ JASOND	A				
	D 1904	A					JFMAMJ JASOND	A				
	D 1905	A					JFMAMJ JASOND	A				
	D 1906	A					JFMAMJ JASOND	A				
	D 1907	A					JFMAMJ JASOND	A				
	D 1908	A					JFMAMJ JASOND	A				
	D 1909	A					JFMAMJ JASOND	A				
	D 1910	A					JFMAMJ JASOND	A				
	D 1911	A					JFMAMJ JASOND	A				
	D 1912	A					JFMAMJ JASOND	A				
	D 1913	A					JFMAMJ JASOND	A				
	D 1914	A					JFMAMJ JASOND	A				
	D 1915	A					JFMAMJ JASOND	A				
	D 1916	A					JFMAMJ JASOND	A				
	D 1921	A					JFMAMJ JASOND	A				
	D 1922	A					JFMAMJ JASOND	A				

## SECTION V

### CATALOG OF HIGH-RESOLUTION GEOMAGNETIC DIGITAL DATA (TABLE 9)

High-resolution (10-second) geomagnetic digital data were acquired from a network of sites in North and South America, the Caribbean, and Pacific Islands during years of the International Magnetospheric Study (IMS, 1976-1979). After some smoothing and noise removal, 1-minute average values were prepared and are listed in the main catalog given in Section IV. The sometimes noisy 10-sec data from these temporary sites were transmitted via GOES satellite communication platforms to the NOAA/ERL Space Environment Laboratory where it was partially smoothed by removal of noise spikes and then used in their forecasting activity. Copies of the full resolution tapes were deposited with WDC-A for STP at the end of each month. After the end of the observational phase of the IMS, many of the network stations continue operating through the MAGSAT satellite interval and a reduced number have continue transmitting 10 second data though 1982. Some continue in the RGON system but only at 1-minute intervals.

Station names and their international 3-letter codes are given for each high-resolution station. Also given are the years and months of data acquisition at each site and the symbol of the WDC where the data are available. Coordinate listings for these sites may be found in Tables 3 and 4 of Section II.

Owing to the quantity of data involved and the complex encoding algorithm that combined into each record data from all sites, only copies on the original binary magnetic tapes can be provided by WDC-A for STP.



HIGH-RESOLUTION GEOMAGNETIC DIGITAL DATA

TABLE 9

OBSERVATORY	CODE	YEAR	WDC	10-SECOND DATA	OBSERVATORY	CODE	YEAR	WDC	10-SECOND DATA
ARCTIC VILLAGE	AVI	1978	A	MAMJ JASOND	FORT SIMPSON	FSP	1977	A	JASOND
		1979	A	JFMAMJ JASOND			1978	A	J MAMJ JASOND
		1980	A	JFMAM A OND			1979	A	JFM JASOND
		1981	A	JFMAMJ JASOND			1980	A	JFMAMJ JASOND
		1982	A	JFMAMJ JASOND			1981	A	JFMAMJ JASOND
1983	A	JFMAMJ JASOND	1982	A	JFMAMJ JASOND				
1983	A	JFMAMJ JASOND	1983	A	JFMAMJ JASOND				
BACK	BKC	1977	A	N	FORT SMITH	FSM	1977	A	D
		1978	A	AMJ JASO			1978	A	A J JASOND
		1979	A	FMAMJ JASOND			1979	A	JFMAMJ JASOND
		1980	A	FMAMJ J			1980	A	J SOND
		1979	A	JFMAMJ JASOND			1981	A	FMAMJ JASOND
1980	A	JFMAMJ JASOND	1982	A	JFMAMJ JASOND				
1981	A	JFMAMJ JASOND	1983	A	JFMAMJ JASOND				
1982	A	JFMAMJ JASOND							
1983	A	JFMAMJ JASOND							
CAPE PARRY	CPY	1977	A	ND	FORT YUKON	FYU	1977	A	S ND
		1978	A	JFMAMJ JASOND			1978	A	MA ASOND
		1979	A	JFMAMJ JASOND			1979	A	JFMAMJ JASOND
		1980	A	JFMAMJ JASOND			1980	A	JFMAMJ JASOND
		1981	A	JFMAMJ JA OND			1981	A	JFMAMJ JASOND
1982	A	JFMAMJ JASOND	1982	A	JFMAMJ JASOND				
1983	A	JFMAMJ JASOND	1983	A	JFMAMJ JASOND				
COLLEGE	CMO	1981	A	JFMAMJ JASOND	GILLAM	GIM	1977	A	OND
		1983	A	JFMAMJ JASOND			1978	A	MA J JASOND
		1977	A	JFMAMJ JASOND			1979	A	JFMAMJ JASOND
		1978	A	JFMAMJ JASOND			1980	A	JFMAMJ J
		1979	A	JFMAMJ JASOND					
ESKIMO POINT	EKP	1977	A	SOND	HONOLULU	HON	1981	A	JASOND
		1978	A	JASOND			1982	A	JASOND
		1979	A	MAMJ JAS D			1983	A	JASOND
		1980	A	JFMAMJ JAS D					
		1981	A	JFMA J					
EUSEBIO	EUS	1977	A	JASOND	INUVIK	INK	1977	A	OND
		1978	A	JASOND			1978	A	JFMAMJ JASOND
		1979	A	MAMJ JASOND			1979	A	JFMAMJ JASOND
		1980	A	JFMAMJ JASOND			1980	A	JFMAMJ JASOND
		1981	A	JFMAMJ JASOND			1981	A	JFMAMJ JASOND
1982	A	JFMAMJ JASOND	1982	A	JFMAMJ JASOND				
1982	A	JFMA	1983	A	JFMAMJ JASOND				
ISLAND LAKE	ISL	1977	A	JFMAMJ JASOND	ISLAND LAKE	ISL	1977	A	JFMAMJ OND
		1978	A	FMAMJ JAS			1978	A	FMAMJ JAS
		1979	A	JFMAMJ JAS D			1979	A	JFMAMJ JAS D
		1980	A	JFMAMJ J			1980	A	JFMAMJ J
		1981	A	JFMAMJ JASOND			1981	A	JFMAMJ JASOND
1982	A	JFMAMJ JASOND	1982	A	JFMAM JASOND				

OBSERVATORY	CODE	YEAR	WDC	10-SECOND DATA	OBSERVATORY	CODE	YEAR	WDC	10-SECOND DATA
JOHNSON POINT	JOP	1977	A	J ND	SAN JUAN	SJG	1981	A	JFMAMJ JASOND
		1978	A	MAMJ JASOND			1982	A	JFMAMJ JASOND
		1979	A	JFMAMJ JASOND			1983	A	JFMAMJ JASOND
		1980	A	M					
LYNN LAKE	LYN	1981	A	JASOND	TALKEETNA	TLK	1977	A	A N
		1982	A	JFMA			1978	A	AMJ JASOND
		1977	A	ASOND			1979	A	JFMAMJ JASOND
		1978	A	MAMJ JASOND			1980	A	JFMAMJ JASOND
MIDWAY	MDY	1979	A	JFMAMJ JASOND	TUCSON	TUC	1981	A	JFMAMJ JASOND
		1980	A	JFMAMJ JASOND			1982	A	JFMAMJ JASOND
		1981	A	JFMAMJ JASOND			1983	A	JFMAMJ JASOND
		1982	A	JFMAMJ JASOND					
NORMAN WELLS	NOW	1983	A	JFMAMJ JASOND	WAKE ISLAND	WKE	1978	A	MAMJ JASOND
		1977	A	JASOND			1979	A	JFMAMJ JASOND
		1978	A	JASOND			1980	A	JFMAMJ JASOND
		1979	A	JFMAMJ JASOND			1981	A	JFMAMJ JASOND
PELLE BAY	PEB	1981	A	FMA			1982	A	JFMAMJ JASOND
		1982	A	JFMAMJ JASOND			1983	A	JFMAMJ JASOND
		1983	A	JFMAMJ JASOND					
		1977	A	JASOND					
RANKIN INLET	RIT	1978	A	JFMAMJ JASOND			1978	A	MAMJ JASOND
		1979	A	JFMAMJ JASOND			1979	A	JFMAMJ JASOND
		1980	A	JFMAMJ JASOND			1980	A	JFMAMJ JASOND
		1981	A	JFMAMJ JASOND			1981	A	JFMAMJ JASOND
SACHS HARBOUR	SAH	1982	A	JFMAMJ JASOND			1982	A	JFMAMJ JASOND
		1983	A	JFMAMJ JASOND					
		1977	A	AS ND					
		1978	A	JASOND					

## SECTION VI

### Geomagnetic Indices

This section lists the various kinds of geomagnetic indices and the forms in which they are held. These indices include: AE, DST, Q,K, Kn, Ks, Km, Kp, Ap, Cp, Ci, C9, and aa.

#### 1. Auroral Electrojet (AE) indices (including Supplementary AU, AL and AO indices)

##### Magnetic Tape

###### Hourly Values

AE.....July 1957 - December 1981  
AL, AO and AU.....September 1964 - December 1981

###### 2.5-Minute Values

AE, AL, AO and AU.....September 1964 - December 1974

###### 1.0-Minute Values

AE, AL, AO and AU.....January 1975 - December 1975 \*  
January 1978 - December 1981

##### Microfilm

###### Hourly Values (Tabular)

AE, AU, AL and AO.....July 1957 - December 1964  
January 1966 - December 1975  
January 1978 - December 1981

AE Plots.....July 1957 - December 1964  
January 1966 - December 1975  
January 1978 - December 1981

###### 2.5-Minute Values

AE, AU and AL Plots.....September 1964 - December 1974  
AO Plots.....January 1966 - December 1974

###### 1.0-Minute Values

AE, AU, AL and AO Plots.....January 1975 - December 1975  
January 1978 - December 1981

\*Beginning with January 1975, WDC-A for STP has computed AE indices with 1-minute resolution but stopped routine index derivation after completing 1975. WDC-C2 (Geomagnetism) in Kyoto, Japan, produced 1-minute AE indices for the IMS years 1978 - 1979 and has continued production through 1981. Cooperation between WDC-A (Boulder) and WDC-C2 (Kyoto) has produced provisional AE indices for NASA for part of 1982 and all of 1983.

##### Publications

Hourly Values of the Auroral Electrojet Activity Index AE, UAG-R Series, Geophysical Institute, University of Alaska, July 1957 - December 1964.

The hourly values of AE, AU, AL and AO and the plots derived from the 2.5-minute or 1.0-minute values of the same indices have been published by WDC-A for Solar-Terrestrial Physics in the following issues of its UAG Report series:

<u>Data for</u>	<u>Published in</u>	<u>Data for</u>	<u>Published in</u>
1966	UAG-37 AE(10)	1971	UAG-39 AE(11)
1967	UAG-33 AE(10)	1972	UAG-45 AE(11)
1968	UAG-29 AE(11)	1973	UAG-47 AE(11)
1969	UAG-31 AE(11)	1974	UAG-59 AE(11)
1970	UAG-22 AE(11)	1975(Jan-Jun)	UAG-73 AE(12)
		1975(Jul-Dec)	UAG-76 AE(12)
-----			
1978(Jan-Jun)	WDC-C2 Data Book No. 3	1980(Jan-Jun)	WDC-C2 Data Book No 7
1978(Jul-Dec)	WDC-C2 Data Book No. 4	1980(Jul-Dec)	WDC-C2 Data Book No 8
1979(Jan-Jun)	WDC-C2 Data Book No. 5	1981(Jan-Jun)	WDC-C2 Data Book No 9
1979(Jul-Dec)	WDC-C2 Data Book No. 6	1981(Jul-Dec)	WDC-C2 Data Book No 10

Beginning with January 1966, the AE,AU,AL,AO data published in the UAG Report series have been systematically derived from the original data taken by the number of observatories enclosed in parentheses. For example, AE(10) indicates 10 observatories. The data listed here on magnetic tape were also produced by this systematic analysis program for the period beginning in January 1966.

Provisional AE indices from a reduced 7 or 8-station network were published by WDC-A for STP in Reports UAG-60,62,63 and 64 for the first months of the IMS, January - April 1976.

## 2. Equatorial Dst Indices

Hourly Values 1957-1982

### Publications

Hourly values of equatorial Dst for the interval January 1957 - February 1973 (several publications) by M. Sugiura and D.J. Poros, Goddard Space Flight Center, NASA.

Monthly tables beginning with the data for April 1973 are compiled by M. Sugiura and D. J. Poros and distributed by World Data Center A for Rockets and Satellites National Spaces Science Data Center.

Beginning with the data for May 1973, the Dst indices are published each month in Solar Geophysical Data.

Beginning with the data for 1970, the Dst indices are published in the IAGA Bulletins, Series No. 32.

## SECTION VII

This section contains the following: (1) the digital formats used for the catalog inventories; (2) the software used to create the catalog tables (Tables 3-9); (3) the software used to manage the main catalog data base; and (4) two programs used for managing the geomagnetic hourly value and 2.5-minute data archives (Tables 12 and 13).

The catalog update and listing software were designed to run on a variety of computers with minimal changes. The programs require a computer with a minimum of 256 kilobytes of memory, 5 megabytes of disk and a standard Fortran-77 compiler.

The catalog and mapout systems are operational at WDC-A in Boulder. The published programs are preliminary versions intended to give a user a general idea of the type of coding used, data bases used, formats, and general capabilities. The code may contain errors and should not be key punched from these listings. The most current version of this software, data bases, and user manual are available upon request from WDC-A in Boulder at the cost of copying the data on 9-track magnetic tape (800, 1600, or 6250 bpi) or IBM compatible 5 1/4 " floppy disks. The Gamma system is operational at WDC-B in Moscow and available in a similar manner. This software presentation is included to encourage all data centers to seriously consider the advantages of jointly used and jointly developed software.

The catalog system includes three data bases, (1) the geomagnetic model and 1980 annual means data base (GEOFILE1), (2) main catalog data base (GEOBASE) and (3) the annual mean data base (GEOANNUAL).

### Data Base Formats

#### 1) Geomagnetic model and 1980 annual mean format

```
1682 *****
1683 *   R E C O R D   F O R M A T   (GEOFILE1) *
1684 *****
1685 *   CC 1-16   OBSERVATORY NAME           *
1686 *       17   BLANK                       *
1687 *       18-20 CODE                       *
1688 *       21-26 GEOGRAPHIC LATITUDE       *
1689 *       27-32 GEOGRAPHIC LONGITUDE     *
1690 *       33-38 GEOGRAPHIC CO-LATITUDE  *
1691 *       39   BLANK                       *
1692 *       40-45 DIPOLE CO-LATITUDE      *
1693 *       46-51 DIPOLE LONGITUDE       *
1694 *       52   BLANK                       *
1695 *       53-58 GUSTAFFSSON CO-LATITUDE *
1696 *       59-64 GUSTAFFSSON LONGITUDE  *
1697 *       65   BLANK                       *
1698 *       66-71 TSYGANENKO CO-LATITUDE *
1699 *       72-77 TSYGANENKO LONGITUDE  *
1700 *       78   BLANK                       *
1701 *       79-84 OBSERVED YEAR (1966.5) *
1702 *       85-90 D OBSERVED                *
1703 *       91-96 H OBSERVED                *
1704 *       97-102 Z OBSERVED              *
1705 *      103-108 X OBSERVED               *
1706 *      109-114 Y OBSERVED              *
1707 *      115-117 OBSERVED ELEMENTS      *
1708 *      118   BLANK                       *
1709 *      119-124 CALCULATED YEAR (1980.5) *
1710 *      125-130 D CALCULATED             *
1711 *      131-136 H CALCULATED           *
1712 *      137-142 Z CALCULATED           *
1713 *      143-148 X CALCULATED           *
1714 *      149-154 Y CALCULATED           *
1715 *      155-160 BLANK                   *
1716 *****
```

2) Main Catalog data base format

```

35 *****
36 *
37 *   R E C O R D   F O R M A T   (GEOBASE)
38 *****
39 *
40 *   KOUT CC 1 - 16 = OBSERVATORY NAME
41 *           17 - 19 = OBSERVATORY CODE
42 *           21 - 25 = LATITUDE (+90.00 TO -90.00)
43 *           26 - 30 = LONGITUDE (0.00 TO 360.00 EAST)*
44 *           31 - 34 = YEAR (1983)
45 *           35     = K INDICES
46 *           36- 38 = ELEMENTS (DHZ OR XYZ)
47 *           39     = ANNUAL MEANS (A OR SPACE)
48 *           40     = Q INDICES
49 *           41 - 46 = NORMAL CENTERS (ABCDEI)
50 *           47 - 58 = NORMAL MONTHS (JFMAMJJASOND)
51 *           59 - 64 = RAPID RUN CENTERS
52 *           65 - 76 = RAPID RUN MONTHS
53 *           77 - 82 = HOURLY ANY CENTERS
54 *           83 - 94 = HOURLY ANY MONTHS
55 *           95 - 100 = HOURLY DIGITAL CENTERS
56 *          101 - 112 = HOURLY DIGITAL MONTHS
57 *          113 - 118 = 2.5-MINUTE CENTERS
58 *          119 - 130 = 2.5-MINUTE MONTHS
59 *          131 - 136 = 1.0-MINUTE CENTERS
60 *          137 - 148 = 1.0-MINUTE MONTHS
61 *          149 - 154 = 10-SECOND CENTERS
62 *          155 - 166 = 10-SECOND MONTHS
63 *          167 - 171 = NORMAL MAGNETOGRAM FILM NUMBER 1*
64 *          172 - 176 = NORMAL MAGNETOGRAM FILM NUMBER 2*
65 *          177 - 181 = RAPID RUN           FILM NUMBER
66 *          182 - 186 = STORM               FILM NUMBER
67 *          187 - 191 = K INDICES           FILM NUMBER
68 *          192 - 196 = HOURLY VALUE        FILM NUMBER
69 *          197 - 200 = NOT USED
70 *****

```

3) Annual Mean Data Base Format

```

*****
*   CC 1 - 19 = OBSERVATORY NAME
*           20     = not used
*           21 - 23 = OBSERVATORY CODE
*           24     = not used
*           25 - 32 = DATE
*           33 - 40 = LATITUDE
*           41 - 48 = LONGITUDE (East)
*           49 - 54 = ELEVATION (Meters)
*           55 - 62 = DECLINATION           (D)
*           63 - 70 = INCLINATION           (I)
*           71 - 76 = HORIZONTAL INTENSITY (H)
*           77 - 82 = NORTH COMPONENT       (X)
*           83 - 88 = EAST COMPONENT        (Y)
*           89 - 95 = VERTICAL INTENSITY    (Z)
*           96 - 101 = TOTAL INTENSITY      (F)
*           102 -   = not used
*           103     = RECORD TYPE FLAG
*           104 - 106 = FOOT NOTE
*           107 - 111 = DATA SOURCE
*           112 - 116 = SOURCE CODE
*           117 - 119 = ELEMENT CODE
*           120 -   = not used
*           121 - 123 = COUNTRY CODE
*           124 -   = not used
*           125 - 130 = RECORD NUMBER
*****

```

## DATA BASE DESIGN

### 1) Geomagnetic model and 1980 annual mean (GEOFILE1)

The GEOFILE1 data base consists of one record for each listed observatory, approx. 500 records. Each record contains the graphic coordinates for the the observatory, its geomagnetic coordinates calculated using the Dipole, Gustaffsson, and Tsyganenko models, the latest or the 1980 observatory annual mean values, and the RIF calculated annual mean values for 1980 if no observed mean values are known. The software only lists the data, and makes no attempt to update or manage the data base.

### 2) Main Catalog Data Base (GEOBASE)

The GEOBASE data base consists of one record for each observatory year for which any one or more of the WDC's hold some type of geomagnetic data. Each record contains the observatory name and code, year, K indices, Q indices, availability of annual means, normal magnetograms, rapid run magnetograms, hourly values from any source, digital hourly values, digital 2.5-minute data, and digital 1.0-minute data.

Although not listed in this publication, each record also contains the film numbers of 35MM film and 105mm fiche containing the normal magnetograms, rapid run magnetograms, storm magnetograms, K indices and hourly values.

A custom data base design was used to minimise the conversion problems associated with moving the data bases and software system to a variety of computers.

The design consists of the data base plus three sets of indexes at the beginning. The first index indicates the beginning record number for each observatory. The second index contains the observatory code for each observatory. The third index gives the beginning year for each observatory. When GEOBASE is loaded, a vacant position is inserted for all missing years between the beginning and end years of each observatory. Therefore, it is possible to calculate from the indices the record position of any observatory/year and to retrieve it with a single random access read. It is also possible to quickly list every record for a given year from all observatories or all records for a given observatory.

During the GEOBASE load, five vacant slots are inserted between each observatory. This space is used for adding new records. A limitation of the design is that only 5 new years for a given observatory at either the beginning or end of an observatory may be added. If more years are required, then the first 5 records are added, the data base is dumped to a sequential file and then reloaded, permitting 5 additional records to be added. The sequential file is 1.45 million characters and the GEOBASE file is 2.2 million characters.

### 3) Annual mean data base (GEOANNUAL)

The GEOANNUAL data base consists of one record for each observatory year for which an annual mean value exists. The data base presented here is a standard sequential file. The indexed version and the associated update and management software is available but not presented here.

Table 10 is the software necessary to dump, load and update the GEOBASE data base. Table 11 is the software necessary to create the listings from all three data bases as presented in Tables 3-9.

G E O M A G N E T I C   C A T A L O G   U P D A T E   P R O G R A M

Table 10

```

*****
1 * PROGRAM:  GEUPDATE
2 * WRITTEN BY:  CARL ABSTON
3 * DATE:  APRIL 1985
4 * LANGUAGE:  FORTRAN-77
5 * COMPUTER:  CHARLES RIVER MC6800 MICRO SYSTEM
6 *
7 *
8 * ADDRESS:  WORLD DATA CENTER-A
9 *  325 BROADWAY
10 *  BOULDER, COLORADO
11 *  80303-USA
12 *  PHONE:  303-497-6276
13 *
14 *
15 * THE PURPOSE OF THIS PROGRAM IS THE FOLLOWING
16 *
17 *
18 * 1) TO UPDATE THE INTERNATIONAL GEOMAGNETIC
19 *  INVENTORY
20 * 2) TO ALLOW THE USER TO RUN THIS SYSTEM ON ANY
21 *  COMPUTER WITH VERY FEW CHANGES
22 * 3) TO BE REASONABLY FAST AND USER FRIENDLY
23 * 4) TO BE UNDERSTANDABLE AND EASY TO CHANGE
24 *
25 *
26 * TO ACCOMPLISH THESE GOALS
27 * THE FOLLOWING COMPROMISES WERE MADE:
28 *
29 *
30 * 1) FORTRAN-77 WAS USED
31 * 2) A CUSTOM DATA BASE STRUCTURE WAS USED
32 * 3) ONLY THE SIMPLEST PROGRAMMING STYLE WAS USED
33 *
34 *
35 *
36 *
37 * DATA RECORD FORMAT
38 * -----
39 *
40 * KOUT CC 1 - 16 = OBSERVATORY NAME
41 *  17 - 19 = OBSERVATORY CODE
42 *  21 - 25 = LATITUDE (+90.00 TO -90.00)
43 *  26 - 30 = LONGITUDE (0.00 TO 360.00 EAST)
44 *  31 - 34 = YEAR (1983)
45 *  35 = K INDICES
46 *  36-38 = ELEMENTS (DHZ OR XYZ)
47 *  39 = ANNUAL MEANS (A OR SPACE)
48 *  40 = Q INDICES
49 *  41 - 46 = NORMAL CENTERS (ABCDEI)
50 *  47 - 58 = NORMAL MONTHS (JFMAMJJASOND)
*****
51 *
52 *
53 *
54 *
55 *
56 *
57 *
58 *
59 * 64 = RAPID RUN CENTERS
60 * 65 = RAPID RUN MONTHS
61 * 66 = HOURLY ANY CENTERS
62 * 67 = HOURLY ANY MONTHS
63 * 68 = HOURLY DIGITAL CENTERS
64 * 69 = HOURLY DIGITAL MONTHS
65 * 70 = 2.5-MINUTE CENTERS
66 * 71 = 2.5-MINUTE MONTHS
67 * 72 = 1.0-MINUTE CENTERS
68 * 73 = 1.0-MINUTE MONTHS
69 * 74 = 10-SECOND CENTERS
70 * 75 = 10-SECOND MONTHS
71 * 76 = NORMAL MAGNETOGRAM
72 * 77 = NORMAL MAGNETOGRAM
73 * 78 = RAPID RUN
74 * 79 = STORM
75 * 80 = K INDICES
76 * 81 = HOURLY VALUE
77 * 82 = NOT USED
78 *
79 *
80 *
81 *
82 *
83 *
84 *
85 *
86 *
87 *
88 *
89 *
90 *
91 *
92 *
93 *
94 *
95 *
96 *
97 *
98 *
99 *
100 *
*****
DATA BASE DESIGN
-----
THE FIRST 34 RECORD POSITIONS ARE RESERVED FOR
INDEXES
ALL DATA RECORDS MUST BE IN SEQUENCE BY OBSERVATORY
NAME AND YEAR
EACH OBSERVATORY IS SEPARATED BY 5 BLANK RECORDS
THERE ARE 3 SETS OF INDEX RECORDS
1) INDEX RECORDS 1-10 = OBSERVATORY POINTERS
2) INDEX RECORDS 11-20 = OBSERVATORY CODES
3) INDEX RECORDS 21-30 = OBSERVATORY BEGIN YEARS
-----
RECORD POSITIONS 31-33 ARE NOT USED
RECORD POSITION 34 = NUMBER OF RECORDS IN FILE
WITH THIS DESIGN
-----
IT IS POSSIBLE TO ADD UP TO FIVE NEW
YEARS FOR EACH OBSERVATORY WITHOUT PROBLEMS
IT IS POSSIBLE TO ADD MISSING YEARS WITHOUT PROBLEMS*
IT IS POSSIBLE TO LOCATE ANY OBS-YEAR WITH ONE READ *
IT IS NOT POSSIBLE TO ADD MORE THAN 5 YEARS (RECORDS*
TO THE END OF ANY OBSERVATORY WITHOUT DUMPING AND *
RELOADING THE DATA BASE
*****

```



```

101 * NEW OBSERVATORIES
102 * -----
103 * NEW OBSERVATORIES CAN BE ADDED, HOWEVER THEY WILL BE
104 * ADDED AT THE END OF THE DATA BASE
105 * WHEN YOU PRINTOUT THE DATA ALL NEWLY ENTERED OBS
106 * WILL BE OUT OF SEQUENCE
107 * TO SOLVE THIS PROBLEM, IT IS NECESSARY TO:
108 * 1) DUMP THE DATA BASE (GEOBASE) USING THE DUMP
109 * ROUTINE USING A FILE CALLED SEQ
110 * 2) SORT THE SEQ DATA BASE USING THE SYSTEM SORT
111 * 3) LOAD THE SEQ DATA BASE USING THE LOAD ROUTINE
112 * *****
113 * 1) KCODE=AN ARRAY CONTAINING UP TO 500 (3 DIGIT)
114 * CODES
115 * 2) KNUM= AN ARRAY CONTAINING UP TO 500 POINTS
116 * EACH POINTER CORRESPONDS TO THE BEGINNING
117 * LOCATION OF EACH OBSERVATORY CODE
118 * 3) K19YR=AN ARRAY CONTAINING THE BEGINNING YEAR
119 * OF EACH DIFFERENT OBSERVATORY
120 * *****
121 *
122 * INTEGER*4 KNUM,K19YR
123 * DIMENSION KNUM(500),KOUT1(50),K19YR(500)
124 * CHARACTER*3 ICODE
125 * CHARACTER*3 JCODE
126 * CHARACTER*6 KCENT
127 * CHARACTER*3 KCODE (500)
128 * CHARACTER*4 KEYR
129 * CHARACTER*16 KNAME
130 * CHARACTER*5 KLAT
131 * CHARACTER*5 KLONG
132 * CHARACTER*12 KMON
133 * CHARACTER*2 KMODE
134 * CHARACTER*2 KMODEX
135 * CHARACTER*2 KOP
136 * CHARACTER*200 KOUT
137 * CHARACTER*200 KOUT2
138 * CHARACTER*200 KSPACE
139 * CHARACTER*4 KYR
140 * CHARACTER*71 KZ
141 * CHARACTER*50 PASS
142 *
143 * KPAD = 0
144 * KREIN = 0
145 *
146 * DO 99 I=1,200
147 * KSPACE (I:1)=
148 * CONTINUE
149 * KSCAN = 0
150 *
151 *
152 *
153 * 1000
154 * -| WELCOME TO THE GEOMAGNETIC CATALOG UPDATE SYSTEM |
155 * PRINT *,
156 * -| VERSION 2.1 APRIL 1, 1985 |
157 *
158 * -| 'ENTER PASSWORD' |
159 * PRINT *, 'ENTER PASSWORD'
160 * READ (*,10)PASS
161 * FORMAT (A)
162 * IF (PASS (1:6) .EQ. 'GEOMAG') GO TO 1001
163 * PRINT *, 'INVALID PASSWORD'
164 * GO TO 9999
165 *
166 * 1001
167 * PRINT *,
168 * PRINT *,
169 * PRINT *,
170 * PRINT *,
171 * PRINT *,
172 * READ (*,10)KMODE
173 * IF (KMODE (1:1) .EQ. 'U') GO TO 2000
174 * IF (KMODE (1:1) .EQ. 'L') GO TO 1010
175 * IF (KMODE (1:1) .EQ. 'D') GO TO 1050
176 * IF (KMODE (1:1) .EQ. 'I') GO TO 2000
177 * GO TO 1001
178 * *****
179 *
180 *
181 *
182 *
183 * *****
184 * CREATE A RANDOM ACCESS DATA BASE FROM A SEQUENTIAL FILE
185 * 1) THE SEQUENTIAL FILE RECORDS ARE 200 CHARACTERS EACH
186 *
187 *
188 *
189 *
190 * *****
191 * 1010 PRINT *, 'ENTER SYSTEM PASSWORD'
192 * READ (*,10)PASS
193 * IF (PASS (1:7) .EQ. 'GEOLOAD') GO TO 1011
194 * GO TO 9999
195 *
196 * 1011 PRINT *, '***** THE BASE BASE ---GEOBASE---WILL BE DEL
197 * PRINT *, 'ARE YOU SURE YOU WANT TO CONTINUE ENTER Y/N'
198 * READ (*,10)PASS
199 * IF (PASS(1:1) .NE. 'Y')GO TO 9999
200 *
201 * PRINT *, 'OPEN INPUT (SEQ) AND OUTPUT (GEOBASE) FILES'

```

```

201 OPEN (21, FILE='SEQ', ACCESS='DIRECT',
202 -RECL=200, FORM='UNFORMATTED')
203 OPEN (20, FILE='GEOBASE', ACCESS='DIRECT',
204 -RECL=200, FORM='UNFORMATTED', STATUS='NEW')
205 PRINT *, 'FILES ARE OPENED.'
206 *****
207 * 1) READ THE SEQUENTIAL FILE AND WRITE DIRECT ACCESS
208 * RECORDS BEGINNING AT RECORD POSITION 35
209 * 2) CREATE AN INDEX ARRAY CONTAINING ALL OBSERVATORY
210 * CODES IN THE DATA BASE
211 * 3) CREATE AN ARRAY OF POINTERS TO THE FIRST RECORD
212 * FOR EACH CODE
213 * 4) CREATE AN ARRAY CONTAINING THE BEGINNING YEAR
214 * OF EACH OBSERVATORY
215 * 5) THE DATA FROM EACH DIFFERENT OBSERVATORY
216 * IS SEPARATED WITH 5 BLANK RECORDS
217 * 6) MISSING YEARS ARE PADDED WITH BLANK RECORDS
218 * 7) THE BLANK RECORDS WILL BE USED TO HOLD NEW DATA
219 *****
220 I1=1
221 I3=1
222 INUM=35
223 J=1
224 *****
225 * READ FIRST RECORD
226 *****
227 READ (21, REC=J, ERR=1020) KOUT
228 KCODE (I1)=KOUT(17:19)
229 KNUM (I1) = INUM
230 *****
231 * CONVERT CC 31-34 IN KOUT (YEAR) INTO BINARY
232 * IN FIRST RECORD ONLY
233 *****
234 READ (KOUT, FMT='(30X, I4)') L
235 PRINT *, KCODE(I1), ' ', L
236 K19YR(I1) = L
237 LYR = L
238 GO TO 1016
239 *****
240 * READ REST OF RECORDS
241 *****
242 *****
243 1012 READ (21, REC=J, ERR=1020) KOUT
244 1013 IF (KOUT(17:19) .EQ. KCODE (I1)) GO TO 1015
245 I1=I1+1
246 KCODE (I1) = KOUT (17:19)
247 *****
248 * CONVERT CC 31-34 IN KOUT (YEAR) INTO BINARY
249 *****
250 READ (KOUT, FMT='(30X, I4)') L
251
252 LYR=L
253 K19YR (I1) = L
254 PRINT *, KCODE (I1), I1, LYR
255 *****
256 * WRITE 5 BLANK RECORDS BETWEEN DIFFERENT
257 * OBSERVATORIES
258 *****
259 KSPACE (31:34) = ' '
260 DO 1014 I =1, 5
261 WRITE (20, REC=INUM) KSPACE
262 INUM=INUM+1
263 CONTINUE
264 1014
265 KNUM (I1) = INUM
266 K19YR (I1) = L
267 GO TO 1016
268 *****
269 * CONVERT CC 31-34 IN KOUT (YEAR) INTO BINARY
270 *****
271 1015 READ (KOUT, FMT='(30X, I4)') L
272 PRINT *, KCODE(I1), ' ', L
273 LYR=LYR +1
274 IF (L .EQ. LYR) GO TO 1016
275 WRITE (KSPACE(31:34), FMT='(I4)') LYR
276 WRITE (20, REC=INUM) KSPACE
277 INUM = INUM + 1
278 GO TO 1015
279 WRITE (20, REC=INUM) KOUT
280 INUM = INUM +1
281 J=J+1
282 GO TO 1012
283 *****
284 * END OF CREATING THE DATA BASE
285 * 1) NOW WRITE THE CODES AND POINTERS
286 * 2) RECORD POSITIONS 1-35 ARE AVAILABLE FOR THIS
287 * 3) PURPOSE
288 * 3) POINTERS ARE 32 BIT BINARY
289 * 4) CODES ARE 3-DIGITS EACH (LIKE; GMR)
290 * 5) RECORD 24 CONTAINS THE POSITION OF THE LAST
291 * RECORD
292 *****
293 *****
294 * WRITE 5 BLANK RECORDS AT END OF DATA BASE
295 * ADD 999 AS THE LAST POSITION OF THE KCODE ARRAY
296 *****
297 KSPACE (31:34) = ' '
298 DO 1020 I =1, 5
299 WRITE (20, REC=INUM) KSPACE
300 INUM=INUM+1
301 I1=I1+1

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```

301          KCODE(I1) = '999'
302 CONTINUE
303 PRINT *, 'ALL DATA HAVE BEEN WRITTEN TO FILE GEOBASE'
304 PRINT *, 'NUMBER OF RECORDS = ', INUM
305 KOUT1(1) = INUM
306 WRITE (20,REC=34)KOUT1
307
308 10203 J=1
309 INUM=1
310 DO 10201 I=1,50
311 KOUT1(I) = KNUM (J)
312 J=J+1
313 CONTINUE
314 WRITE (20,REC=INUM)KOUT1
315 INUM=INUM +1
316 IF (INUM .GT. 10) GO TO 1022
317 GO TO 10201
318 *****
319 * WRITE OUT CODE RECORDS *
320 * *****
321 *****
322
323 1022 INUM =11
324 I1=1
325 I2=3
326 I3=1
327 1023 DO 1024 I=1,50
328 KOUT (I1:I2) = KCODE (I3)
329 I1=I1+3
330 I2=I2+3
331 I3=I3+1
332 CONTINUE
333 WRITE (20,REC=INUM)KOUT
334 PRINT *,KOUT
335 INUM = INUM +1
336 IF (INUM .GT. 20) GO TO 1025
337 I1=1
338 I2=3
339 GO TO 1023
340 *****
341 * LOAD BEGIN YEARS *****
342 *****
343 1025 INUM=21
344 J=1
345 DO 1027 I=1,50
346 KOUT1(I) = K19YR (J)
347 J=J+1
348 CONTINUE
349 WRITE (20,REC=INUM)KOUT1
350 INUM = INUM + 1

```

```

351 IF (INUM .GT. 30) GO TO 1030
352 GO TO 1026
353 *****
354 * END OF LOADING INDEXES *
355 *****
356
357 1030 PRINT *,
358 -'DATA BASE AND INDEX POINTERS HAVE BEEN LOADED'
359 GO TO 99999
360 *****
361 *
362 * UPDATE ROUTINE *
363 *
364 *
365 * 1) OPEN THE RANDOM ACCESS FILE
366 * 2) LOAD INTO MEMORY THE CODE, POINTER INDEX,
367 * AND BEGINNING YEAR
368 *****
369 PRINT *, 'WELCOME TO UPDATE ROUTINE'
370 OPEN (20,FILE='GEOBASE',ACCESS='DIRECT',RECL=200,
371 -FORM='UNFORMATTED')
372 PRINT *, 'FILE GEOBASE OPENED'
373 PRINT *,
374 PASS(1:6) = ' '
375 KCENT(1:6) = ' '
376
377 20000 PRINT *, 'ENTER YOUR CENTER CODE OR END'
378 PRINT *
379 -'A'=BOULDER B=MOSCOW C=KYOTO D=DENMARK E=EDINBURGH
380 READ (*,10)PASS
381 IF (PASS(1:3) .EQ. 'END')GO TO 20011
382 IF (PASS(1:1) .EQ. 'A') KCENT(1:1) = 'A'
383 IF (PASS(1:1) .EQ. 'B') KCENT(2:2) = 'B'
384 IF (PASS(1:1) .EQ. 'C') KCENT(3:3) = 'C'
385 IF (PASS(1:1) .EQ. 'D') KCENT(4:4) = 'D'
386 IF (PASS(1:1) .EQ. 'E') KCENT(5:5) = 'E'
387 IF (PASS(1:1) .EQ. 'I') KCENT(6:6) = 'I'
388 GO TO 20000
389 *****
390 * LOAD POINTER INDICES (FIRST 10 RECORDS) *
391 *****
392 20011 INUM=1
393 J=1
394 2001 READ (20,REC=INUM)KOUT1
395 PRINT *, 'RECORD NUMBER = ',INUM, 'POINTER NUMBER = ',
396 DO 2002 I=1,50
397 KNUM(J) = KOUT1 (I)
398 J=J+1
399 CONTINUE
400 INUM = INUM + 1

```

```

401 IF (INUM .GT. 10) GO TO 2003
402 GO TO 2001
403 *****
404 * LOAD CODE INDICES INTO ARRAY *****
405 * *****
406 2003 PRINT *, 'POINTER INDEX LOADED'
407 INUM=11
408 I1=1
409 I2=3
410 I3=1
411 2004 READ (20,REC=INUM)KOUT
412 DO 2005 I=1,50
413 KCODE(I3) = KOUT (I1:I2)
414 I1=I1+3
415 I2=I2+3
416 I3=I3+1
417 2005 CONTINUE
418 INUM = INUM + 1
419 IF (INUM .GT. 20) GO TO 2006
420 I1=1
421 I2=3
422 GO TO 2004
423 *****
424 * LOAD BEGIN YEARS *****
425 *****
426 2006 INUM =21
427 J=1
428
429 2007 READ (20,REC=INUM)KOUT1
430 DO 2008 I=1,50
431 K19YR (J) = KOUT1 (I)
432 J=J+1
433 2008 CONTINUE
434 INUM =INUM + 1
435 IF (INUM .GT. 30) GO TO 2009
436 GO TO 2007
437 2009 PRINT *, 'ALL INDICES ARE LOADED'
438 IF (KMODE .EQ. 'I') GO TO 8000
439 PRINT *,
440 *****
441 * *****
442 * BEGIN UPDATING DATA BASE *****
443 * *****
444 * *****
445 *****
446 2010 PRINT *,
447
448 PRINT *,
449 -|
450 PRINT *, ENTER

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```

451 PRINT *,
452 -| A = ADD ONE RECORD | D = DELETE ONE RECO
453 PRINT *,
454 -| C = CORRECT ONE RECORD | L = LIST ONE RECO
455 PRINT *,
456 -|
457
458 PRINT *,
459 -| CG= CORRECT GROUP OF RECORDS | S = SCAN AN OBSERVA
460 PRINT *,
461 -| AG= ADD CENTERS TO GROUP | AN= ALTERNATE NAME
462 PRINT *,
463 E = END OF ROUTINE
464 PRINT *,
465 -|
466 PRINT *,
467 20101 READ (*,10)KMODE
468 IF (KMODE .EQ. 'E') GO TO 9999
469 IF (KMODE (1:2) .EQ. 'AN') GO TO 7050
470
471 2011 PRINT *, 'ENTER INTERNATIONAL CODE (3-DIGITS) OR END'
472 READ (*,10)ICODE
473 IF (ICODE (1:3) .EQ. 'END') GO TO 2010
474
475 IF (KMODE .EQ. 'S')GO TO 2013
476 2012 PRINT *, 'ENTER YEAR (LIKE 1982)'
477 READ (*,10)KYR
478 IF (KYR (1:1) .NE. '1') GO TO 2012
479 READ (KYR,FMT='(I4)')L
480 PRINT *,L
481
482 20121 IF (KMODE(1:2) .EQ. 'CG')GO TO 20122
483 IF (KMODE(1:2) .EQ. 'AG')GO TO 20122
484 GO TO 2013
485 20122 PRINT *, 'ENTER END YEAR (LIKE 1984)'
486 READ (*,10)KEYR
487 IF (KEYR (1:1) .NE. '1') GO TO 20121
488 READ (KEYR,FMT='(I4)')LE
489 PRINT *, 'END YEAR = ',LE
490 *****
491 * 1) FIND OUT FROM THE INDEX--LOCATION OF ICODE DATA *
492 *****
493 2013 J=1
494 DO 2014 I=1,500
495 IF (ICODE(1:3) .EQ. KCODE (I)) GO TO 2015
496 J=J+1
497 2014 CONTINUE
498 IF (KMODE(1:2) .EQ. 'A ') GO TO 2017
499 PRINT*, 'NO SUCH OBSERVATORY CODE-TRY AGAIN'
500 PRINT*, 'POSSIBLE CODES ARE AS FOLLOWS:'

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```

551 * PRINT *
552 * *****
553 * 1) IF NO SUCH CODE EXIST THEN PRINTOUT ALL CODES
554 * WITH THEIR NAMES USING THE FIRST LETTER
555 * IN OTHER WORDS, IF CODE GGG WAS REQUESTED
556 * PRINTOUT ALL CODES BEGINNING WITH G
557 * *****
558 * *****
559 * *****
560 2017 J=1
561 JB=0
562 PRINT *
563 PRINT * , 'THIS OBSERVATORY DOES NOT NOW EXIST IN THE DA
564 PRINT * , '1--ADD ONE RECORD ONLY'
565 PRINT * , '2--DUMP DATA BASE'
566 PRINT * , '3--RELOAD DATA BASE'
567 PRINT *
568 PRINT * , 'ENTER NAME OF OBSERVATORY'
569 READ (*,10)KNAME
570
571 DO 2018 I=1,500
572 INUM = KNUM (J)
573 J=J+1
574 READ (20,REC=INUM)KOUT
575 IF (KNAME(1:16) .GT. KOUT(1:16))GO TO 2018
576 GO TO 2019
577 2018 CONTINUE
578 *****
579 * YOU HAVE FOUND THE FIRST RECORD SMALLER
580 * THAN THE NEW OBSERVATORY NAME
581 * STEP BACK ONE POSITION AND HOPE FOR A BLANK SLOT
582 * IF BLANK SLOT IS AVAILABLE--GO TO ADD ROUTINE
583 * IF NO BLANK SLOT IS AVAILABLE STEP BACK ONE MORE
584 * AFTER 5 UNSUCCESSFUL TRIES--NO BLANKS EXISTS
585 * THEREFORE--YOU MUST EXIT PROGRAM,DUMP, AND RELOAD
586 *****
587 2019 INUM = INUM -1
588 READ (20,REC=INUM)KOUT
589 IF (KOUT(1:16) .EQ.
590 JB = JB + 1
591 IF (JB .GT. 5)GO TO 20191
592 GO TO 2019
593 20191 PRINT * , '**THE CORRECT LOCATION FOR THIS NEW RECORD IS
594 PRINT * , 'THEREFORE: YOU MUST DUMP AND RELOAD DATA BASE
595 PRINT * , 'BEFORE YOU CAN ADD THIS RECORD
596 GO TO 99999
597 20192 PRINT * , 'NEW RECORD WILL BE SERTED BY POSITION ', INUM
598 PRINT * , 'ENTER NEW LATITUDE'
599 READ (*,10)KLAT
600 PRINT * , 'ENTER NEW LONGITUDE'

```

```

501 PRINT *
502 *****
503 * 1) IF NO SUCH CODE EXIST THEN PRINTOUT ALL CODES
504 * WITH THEIR NAMES USING THE FIRST LETTER
505 * IN OTHER WORDS, IF CODE GGG WAS REQUESTED
506 * PRINTOUT ALL CODES BEGINNING WITH G
507 * *****
508 * *****
509 *****
510 DO 20141 I=1,500
511 JCODE(1:3) = KCODE(I)
512 IF (JCODE(1:1) .NE. ICODE(1:1)) GO TO 20141
513 INUM = KNUM (I)
514 READ (20,REC=INUM)KOUT
515 PRINT * , JCODE(1:3), = , KOUT(1:16)
516 20141 CONTINUE
517 20142 PRINT *
518 GO TO 2010
519 *****
520 * FOUND THE OBSERVATORY CODE
521 * NOW CALCULATE LOCATION FOR OBS-YEAR POSITION
522 * KNUM (J) = BEGINNING LOCATION OF OBSERVATORY
523 * K19YR (J) = BEGINNING YEAR OF REQUESTED OBSERVATORY*
524 * INUM = RECORD POSITION TO BE READ
525 * IC = POSITION OF THE NEXT OBSERVATORY
526 *****
527 *****
528 2015 INUM = KNUM (J)
529
530 ITHOLD=INUM
531
532 IC =KNUM (J+1)
533 IF (IC .LT. INUM ) IC = INUM + 1
534 IA = INUM
535 PRINT * , 'LOCATION OF FIRST OBS RECORD = ', INUM
536 IF (KMODE (1:1) .EQ. 'S') GO TO 2080
537 INUM = INUM+ (L - K19YR (J))
538 KBEGIN=INUM
539
540 PRINT * , 'LOCATION OF REQUESTED OBS-YEAR = ', INUM
541 IF (INUM .LE. IC) GO TO 2020
542 PRINT * , 'NO POSITION AVAILABLE FOR THIS RECORD'
543 PRINT * , 'AFTER COMPLETION OF THIS OPERATION'
544 PRINT * , 'PLEASE DUMP AND RELOAD THE DATA BASE'
545 INUM = IC - 1
546 GO TO 2020
547 *****
548 *
549 *
550 *
551 *
552 *
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598 *
599 *
600 *

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601 READ (*,10)KLONG
602 JB=999
603 GO TO 2050
604 *****
605 * 1) YOU HAVE FOUND THE FIRST RECORD FOR A GIVEN
606 * OBSERVATORY
607 * 2) FIND THE LAST YEAR FOR DATA
608 * 3) IF IA (BEGINNING LOCATION OF OBSERVATORY)
609 * AND GREATER THAN IB THEN YOU ARE FOR DATA
610 * BEFORE THE BEGINNING
611 *****
612 2020 IB = INUM - 1
613 IF (IB.LT. IA) IB = IA
614 READ (20,REC=IB,ERR=2025)KOUT
615 IF (KOUT(3:34) .NE. ')GO TO 2021
616 INUM = INUM - 1
617 GO TO 2020
618 *****
619 * STORE OBS NAME LATITUDE AND LONGITUDE OF LATEST YEAR*
620 *****
621 2021 KNAME = KOUT(1:16)
622 KLAT = KOUT(21:25)
623 KLONG= KOUT(26:30)
624 PRINT *, IA = ',IA
625 PRINT *, IB = ',IB
626 PRINT *, IC = ',IC
627 INUM=KBEGIN
628 PRINT *, INUM=' ,INUM
629 * READ THE SELECTED RECORD
630 *****
631 *****
632 READ (20,REC=INUM,ERR=2025)KOUT
633
634 2022 IF (KMODE(1:2) .EQ. 'A ') GO TO 2050
635 GO TO 2028
636 2025 PRINT *, 'YOU ARE BEYOND THE LIMITS OF THE DATA BASE'
637 GO TO 2010
638 *****
639 * NO RECORD IS PRESENT FOR THIS OBSERVATORY-YEAR
640 *****
641
642 2027 IF (KMODE(1:2) .EQ. 'A ') GO TO 2050
643 IF (KMODE(1:1) .EQ. 'S') GO TO 2010
644 PRINT *, 'NO SUCH RECORD EXISTS-TRY AGAIN'
645 GO TO 2010
646 2028 IF (KMODE(1:1) .EQ. 'C') GO TO 3000
647 IF (KMODE(1:1) .EQ. 'D') GO TO 4000
648 IF (KMODE(1:1) .EQ. 'L') GO TO 4000
649 IF (KMODE(1:2) .EQ. 'AG')GO TO 7000
650
651 IF (KMODE(1:1) .EQ. 'E') GO TO 9999
652 PRINT *, 'THIS RECORD ALREADY EXISTS-TRY AGAIN'
653 GO TO 2010
654 *****
655 * ADD ROUTINE
656 * -----
657 *
658 * 1) NO RECORD FOR THIS OBSERVATORY-YEAR IS PRESENT
659 * 2) WE ARE LOCATED AT THE FIRST BLANK RECORD
660 *****
661 *****
662 PRINT *, 'WELCOME TO THE ADD ROUTINE'
663 2050 IF (KOUT(1:5) .NE. ')GO TO 2066
664 KOUT = KSPACE
665 PRINT *, 'IS THERE A K-INDICES ENTER Y/N'
666 2051 READ (*,10)PASS
667 IF (PASS(1:1) .EQ. 'Y') KOUT(35:35) = 'K'
668 PRINT *, 'ENTER ELEMENTS (DHZ OR XYZ)'
669 2052 READ (*,10)PASS
670 KOUT(36:38) = PASS(1:3)
671 PRINT *, 'ENTER TYPE OF DATA OR END'
672 2054 PRINT *, 'ENTER E = END OF DATA'
673 PRINT *, 'ENTER 1 = NORMAL MAGNETOGRAMS'
674 PRINT *, 'ENTER 2 = RAPID RUN MAGNETOGRAMS'
675 PRINT *, 'ENTER 3 = ANY HOURLY VALUES'
676 PRINT *, 'ENTER 4 = DIGITAL HOURLY VALUES'
677 PRINT *, 'ENTER 5 = 2.5-MINUTE VALUES'
678 PRINT *, 'ENTER 6 = 1.0-MINUTE VALUES'
679 PRINT *, 'ENTER 7 = 10-SECOND VALUES'
680 READ (*,10)KMODE
681 IF (KMODE(1:1) .EQ. 'E') GO TO 2060
682 2055 PRINT *, 'ENTER MONTHS (01,02,03, OR ALL) OR SAME=SAME'
683 READ (*,10)PASS
684 PRINT *,PASS
685 IF (PASS(1:3) .EQ. 'ALL') GO TO 2059
686 I1=1
687 2056 I2=2
688 KMON(1:12) = '
689 DO 2057 I=1,12
690 IF (PASS(11:12) .EQ. '01')KMON(1:1)='J'
691 IF (PASS(11:12) .EQ. '02')KMON(2:2)='F'
692 IF (PASS(11:12) .EQ. '03')KMON(3:3)='M'
693 IF (PASS(11:12) .EQ. '04')KMON(4:4)='A'
694 IF (PASS(11:12) .EQ. '05')KMON(5:5)='M'
695 IF (PASS(11:12) .EQ. '06')KMON(6:6)='J'
696 IF (PASS(11:12) .EQ. '07')KMON(7:7)='J'
697 IF (PASS(11:12) .EQ. '08')KMON(8:8)='A'
698 IF (PASS(11:12) .EQ. '09')KMON(9:9)='S'
699 IF (PASS(11:12) .EQ. '10')KMON(10:10)='0'
700

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701 IF (PASS(11:12) .EQ. '11')KMON (11:11)='N'
702 IF (PASS(11:12) .EQ. '12')KMON (12:12)='D'
703 I1=I1+3
704 I2=I2+3
705 2057 CONTINUE
706
707 2058 IF (KMODE (1:1) .EQ. '1') KOUT (47:58) = KMON(1:12)
708 IF (KMODE (1:1) .EQ. '2') KOUT (65:76) = KMON(1:12)
709 IF (KMODE (1:1) .EQ. '3') KOUT (83:94) = KMON(1:12)
710 IF (KMODE (1:1) .EQ. '4') KOUT (101:112) = KMON(1:12)
711 IF (KMODE (1:1) .EQ. '5') KOUT (119:130) = KMON(1:12)
712 IF (KMODE (1:1) .EQ. '6') KOUT (137:148) = KMON(1:12)
713 IF (KMODE (1:1) .EQ. '7') KOUT (155:166) = KMON(1:12)
714
715 IF (KMODE (1:1) .EQ. '1') KOUT (41:46) = KCENT(1:6)
716 IF (KMODE (1:1) .EQ. '2') KOUT (59:64) = KCENT(1:6)
717 IF (KMODE (1:1) .EQ. '3') KOUT (77:82) = KCENT(1:6)
718 IF (KMODE (1:1) .EQ. '4') KOUT (95:100) = KCENT(1:6)
719 IF (KMODE (1:1) .EQ. '5') KOUT (113:118) = KCENT(1:6)
720 IF (KMODE (1:1) .EQ. '6') KOUT (131:136) = KCENT(1:6)
721 IF (KMODE (1:1) .EQ. '7') KOUT (149:154) = KCENT(1:6)
722 GO TO 2054
723 2059 KMON (1:12) = 'JFMAMJJASOND'
724 GO TO 2058
725
726 2060 PRINT *, 'DO YOU HAVE FILM NUMBERS ENTER Y/N'
727 READ (*,10)PASS
728 IF (PASS(1:1) .NE. 'Y') GO TO 2061
729 PRINT *, 'ENTER NORMAL (1) FILM NUMBER'
730 READ (*,10) PASS
731 KOUT(167:171) = PASS(1:5)
732 PRINT *, 'ENTER NORMAL (2) FILM NUMBER'
733 READ (*,10)PASS
734 KOUT (172:176) = PASS(1:5)
735 PRINT *, 'ENTER RAPID RUN FILM NUMBER'
736 READ (*,10) PASS
737 KOUT (177:181) = PASS(1:5)
738 PRINT *, 'ENTER STORM FILM NUMBER'
739 READ (*,10) PASS
740 KOUT (182:186) = PASS(1:5)
741 PRINT *, 'ENTER K FILM NUMBER'
742 READ (*,10)PASS
743 KOUT(187:191) = PASS (1:5)
744 PRINT *, 'ENTER HV FILM NUMBER'
745 READ (*,10)PASS
746 KOUT(192:196) = PASS(1:5)
747 2061 KOUT(1:16) = KNAME (1:16)
748 KOUT (17:19) = ICODE (1:3)
749 KOUT (31:34) = KYR (1:4)
750 KOUT(21:25) = KLAT (1:5)

KOUT(26:30) = KLONG (1:5)
IF (KOUT(1:5) .NE. ' ') GO TO 2062
PRINT *, 'ENTER OBSERVATORY NAME'
READ (*,10)KOUT(1:16)
PRINT *, 'ENTER LATITUDE (LIKE -1825 FOR -18.25)'
READ (*,10)KOUT(21:25)
PRINT *, 'ENTER LONGITUDE (LIKE 34000 FOR 340.00)'
READ (*,10)KOUT(26:30)
CALL GEOLST (KOUT)
PRINT *, 'IS THIS RECORD CORRECT ENTER Y/N'
READ (*,10)PASS
IF (PASS(1:1) .EQ. 'Y') GO TO 2064
GO TO 30001
2064 WRITE (20,REC=INUM)KOUT
IF (JOB .EQ. 999) GO TO 99999
IF (KPAD .EQ. 0) GO TO 2010
KPAD = 0
*****
THE NEW OBSERVATORY HAS BEEN WRITTEN
1) WRITE 5 BLANK RECORDS
2) WRITE A NEW NEW POSITION IN RECORD 34
*****
KSPACE (31:34) = ' '
INUM=INUM +1
DO 2065 I =1,5
WRITE (20,REC=INUM)KSPACE
INUM=INUM+1
2065 CONTINUE
KOUT(11) = INUM
PRINT *, 'NEW LAST POSITION = ',KOUT(11)
WRITE (20,REC=34) KOUT1
GO TO 2010
2066 PRINT *, '**** OBSERVATORY YEAR ALREADY EXISTS---USE C
GO TO 2010
*****
SCAN OBSERVATORY
-----
AND PRINTOUT ALL YEARS FOR GIVEN OBSERVATORY
KSCAN IS 0 AT BEGINNING OF PROGRAM
THE FIRST TIME A SCAN IS USED KSCAN IS SET TO 1
AND THE UNIT=19 IS OPENED
ALL RESULTS FROM THE SCAN ROUTINE IS PRINTED
AT THE USER TERMINAL AND WRITTEN TO FILE=GEOPRINTB
*****
796 *****
797
798 2080 IF (KSCAN .EQ. 1) GO TO 20801
799 2080 KSCAN = 1
800

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801 OPEN (19,FILE='GEOPRINTB',STATUS='NEW',FORM='FORMATTE
802 20801 READ (20,REC=INUM,ERR=2083)KOUT
803 KZ(1:54) =
804 PRINT *,KZ
805 WRITE (19,101)KZ
806 101 FORMAT (A71)
807 KZ(1:16) = 'OBSERVATORY = '
808 KZ(17:32) = KOUT(1:16)
809 KZ(33:40) = 'CODE = '
810 KZ(41:43) = KOUT(17:19)
811 KZ(44:54) =
812 PRINT *,KZ
813 WRITE (19,101)KZ
814
815 KZ(1:54) = 'LATITUDE = '
816 PRINT *,KZ
817 WRITE (19,101)KZ
818
819 KZ(1:54) = 'LONGITUDE = '
820 KZ(13:15) = KOUT(21:23)
821 KZ(16:16) = 'NORTH'
822 KZ(17:18) = KOUT(24:25)
823 KZ(19:24) = 'SOUTH'
824 IF (KOUT(21:21).EQ.'-') KZ(19:24) = 'SOUTH'
825 IF (KOUT(22:22).EQ.'-') KZ(19:24) = 'SOUTH'
826 KZ(30:41) = 'EAST'
827 KZ(42:44) = KOUT(26:28)
828 KZ(45:45) = 'EAST'
829 KZ(46:47) = KOUT(29:39)
830 KZ(48:55) = 'EAST'
831 PRINT *,KZ
832 WRITE (19,101)KZ
833
834 KZ(1:54) = 'YEAR KAQ MAGNETOGRAMS HV-ANY HV
835 PRINT *,KZ
836 WRITE (19,101)KZ
837
838 KZ(1:54) = '2.5-MINUTE'
839
840 PRINT *,KZ
841 WRITE (19,101)KZ
842
843 KZ(1:40) = '1.0-MINUTE(*)'
844
845 KZ(41:54) =
846 KZ(55:68) = 'WELCOME TO THE CORRECT ROUTINE'
847 PRINT *,KZ
848 WRITE (19,101)KZ
849
850 KZ(1:30) =

```

```

851 KZ(31:39) =
852 KZ(41:68) =
853 PRINT *,KZ
854 WRITE (19,101)KZ
855 INUM=INUM+1
856 GO TO 2082
857
858 2081 READ (20,REC=INUM,ERR=2083)KOUT
859 INUM= INUM + 1
860 IF (KOUT(1:3).EQ.' ') GO TO 2081
861 IF (KOUT(17:19).NE.ICODE(1:3)) GO TO 2083
862 2082 KZ(55:66) = KOUT(119:130)
863 KZ(67:67) =
864 IF (KOUT(137:148).NE.' ')
865 -KZ(55:66) = KOUT(137:148)
866 IF (KOUT(137:148).NE.' ')
867 -KZ(67:67) =
868 KZ(1:4) = KOUT(31:34)
869 KZ(5:6) =
870 KZ(7:7) = KOUT(35:35)
871 KZ(8:8) = KOUT(39:40)
872 KZ(9:12) =
873 KZ(13:24) = KOUT(47:58)
874 KZ(25:26) =
875 KZ(27:38) = KOUT(83:94)
876 KZ(39:40) =
877 KZ(41:52) = KOUT(101:112)
878 KZ(53:54) =
879 PRINT *,KZ
880 WRITE (19,101)KZ
881
882 20822 GO TO 2081
883
884 2083 GO TO 2010
885
886 *****
887 *
888 * CORRECT A RECORD
889 * -----
890 *****
891
892 3000 IF (KOUT(17:19).NE.' ')GO TO 30002
893 PRINT *, 'RECORD DOES NOT EXIST--TRY AGAIN'
894 GO TO 2010
895
896 30002 IF (KMODE.EQ.'CG') GO TO 6000
897 PRINT *, 'WELCOME TO THE CORRECT ROUTINE'
898 30004 PRINT *,
899 KLC=2
900 GO TO 4000

```



```

901 30001 KLC=0
902 KBEGIN=INUM
903 PRINT *, 'DO YOU WANT A DESCRIPTION OF THE POSSIBLE
904 - CHANGES ENTER Y/N'
905 READ (*,10)PASS
906 IF (PASS(1:1).EQ. 'N') GO TO 3002
907 PRINT *
908 3001 'YOU MAY NOT CHANGE OBSERVATORY CODE OR YEAR'
909 PRINT *
910 PRINT *
911 PRINT *
912 PRINT *
913 PRINT *
914 PRINT *
915 PRINT *
916 PRINT *
917 PRINT *
918 PRINT *
919 PRINT *
920 PRINT *
921 PRINT *
922 PRINT *
923 PRINT *
924 PRINT *
925 PRINT *
926 PRINT *
927 PRINT *
928 PRINT *
929 PRINT *
930 PRINT *
931 PRINT *
932 PRINT *
933 PRINT *
934 PRINT *
935 PRINT *
936 PRINT *
937 PRINT *
938 PRINT *
939 PRINT *
940 PRINT *
941 READ(*,10)KOP
942 IF (KOP(1:1).EQ. 'E') GO TO 3050
943 IF (KOP(1:2).EQ. '03') GO TO 3003
944 IF (KOP(1:2).EQ. '04') GO TO 3004
945 IF (KOP(1:2).EQ. '05') GO TO 3005
946 IF (KOP(1:2).EQ. '07') GO TO 3007
947 IF (KOP(1:2).EQ. '08') GO TO 3008
948 IF (KOP(1:2).EQ. '09') GO TO 3009
949 IF (KOP(1:2).EQ. '23') GO TO 3023
950 IF (KOP(1:2).EQ. '24') GO TO 3024

951 IF (KOP(1:2).EQ. '25') GO TO 3025
952 IF (KOP(1:2).EQ. '26') GO TO 3026
953 IF (KOP(1:2).EQ. '27') GO TO 3027
954 IF (KOP(1:2).EQ. '28') GO TO 3028
955 IF (KOP(1:2).EQ. '29') GO TO 3029
956 IF (KOP(1:2).EQ. '30') GO TO 3030
957 IF (KOP(1:2).EQ. '10') GO TO 3010
958 IF (KOP(1:2).EQ. '12') GO TO 3010
959 IF (KOP(1:2).EQ. '14') GO TO 3010
960 IF (KOP(1:2).EQ. '16') GO TO 3010
961 IF (KOP(1:2).EQ. '18') GO TO 3010
962 IF (KOP(1:2).EQ. '20') GO TO 3010
963 IF (KOP(1:2).EQ. '22') GO TO 3010
964 IF (KOP(1:2).EQ. '11') GO TO 3015
965 IF (KOP(1:2).EQ. '13') GO TO 3016
966 IF (KOP(1:2).EQ. '15') GO TO 3017
967 IF (KOP(1:2).EQ. '17') GO TO 3018
968 IF (KOP(1:2).EQ. '19') GO TO 3019
969 IF (KOP(1:2).EQ. '21') GO TO 3020
970 IF (KOP(1:2).EQ. '3') GO TO 3003
971 IF (KOP(1:1).EQ. '4') GO TO 3004
972 IF (KOP(1:1).EQ. '5') GO TO 3005
973 IF (KOP(1:1).EQ. '7') GO TO 3007
974 IF (KOP(1:1).EQ. '8') GO TO 3008
975 IF (KOP(1:1).EQ. '9') GO TO 3009
976 IF (KOP(1:1).EQ. '1') GO TO 3031
977 IF (KOP(1:2).EQ. '01') GO TO 3031
978 3002 PRINT *,'INVALID--TRY AGAIN'
979 GO TO 3002
980
981 3003 PRINT *,'ENTER NEW IAGA CODE'
982 READ (*,10)PASS
983 KOUT(20:20)=PASS(1:1)
984 GO TO 3062
985 3004 PRINT *,'ENTER NEW LATITUDE'
986 READ (*,10)PASS
987 KOUT(21:25) = PASS(1:5)
988 GO TO 3062
989 3005 PRINT *,'ENTER NEW LONGITUDE'
990 READ (*,10)PASS
991 KOUT(26:30) = PASS(1:5)
992 GO TO 3062
993 3007 PRINT *,'ENTER NEW K INDEX'
994 READ (*,10)PASS
995 KOUT(35:35) = PASS(1:1)
996 GO TO 3062
997 3008 PRINT *,'ENTER NEW ELEMENTS DHZ OR XYZ'
998 READ (*,10)PASS
999 KOUT(36:38) = PASS(1:3)
1000 GO TO 3062

```

```

1001 3009 PRINT *, 'ENTER NEW NORMAL CENTERS'
1002 READ (*,10)PASS
1003 KOUT(41:46) = PASS(1:12)
1004 GO TO 3062
1005 3010 PRINT *, 'ENTER MONTHS (01,02,03, OR ALL)'
1006 READ (*,10)PASS
1007 PRINT *,PASS
1008 IF (PASS (1:3) .EQ. 'ALL') GO TO 3014
1009 3011 I1=1
1010 I2=2
1011 KMON(1:12) = '
1012 DO 3012 I=1,12
1013 IF (PASS(I:12) .EQ. '01')KMON (1:1)='J'
1014 IF (PASS(I:12) .EQ. '02')KMON (2:2)='F'
1015 IF (PASS(I:12) .EQ. '03')KMON (3:3)='M'
1016 IF (PASS(I:12) .EQ. '04')KMON (4:4)='A'
1017 IF (PASS(I:12) .EQ. '05')KMON (5:5)='M'
1018 IF (PASS(I:12) .EQ. '06')KMON (6:6)='J'
1019 IF (PASS(I:12) .EQ. '07')KMON (7:7)='J'
1020 IF (PASS(I:12) .EQ. '08')KMON (8:8)='A'
1021 IF (PASS(I:12) .EQ. '09')KMON (9:9)='S'
1022 IF (PASS(I:12) .EQ. '10')KMON (10:10)='O'
1023 IF (PASS(I:12) .EQ. '11')KMON (11:11)='N'
1024 IF (PASS(I:12) .EQ. '12')KMON (12:12)='D'
1025 I1=I1+3
1026 I2=I2+3
1027 3012 CONTINUE
1028
1029 3013 IF (KOP (1:2) .EQ. '10') KOUT (47:58) = KMON(1:12)
1030 IF (KOP (1:2) .EQ. '12') KOUT (65:76) = KMON(1:12)
1031 IF (KOP (1:2) .EQ. '14') KOUT (83:94) = KMON(1:12)
1032 IF (KOP (1:2) .EQ. '16') KOUT (101:112) = KMON(1:12)
1033 IF (KOP (1:2) .EQ. '18') KOUT (119:130) = KMON(1:12)
1034 IF (KOP (1:2) .EQ. '20') KOUT (137:148) = KMON(1:12)
1035 IF (KOP (1:2) .EQ. '22') KOUT (155:166) = KMON(1:12)
1036 GO TO 3062
1037 3014 KMON (1:12) = 'JFMAMJJASOND'
1038 GO TO 3013
1039
1040 3015 PRINT *, 'ENTER NEW RAPID RUN CENTERS'
1041 READ (*,10)PASS
1042 KOUT(59:64) = PASS(1:12)
1043 GO TO 3062
1044 3016 PRINT *, 'ENTER NEW HV ANY CENTERS'
1045 READ (*,10)PASS
1046 KOUT(77:82) = PASS(1:12)
1047 GO TO 3062
1048 3017 PRINT *, 'ENTER NEW HV DIGITAL CENTERS'
1049 READ (*,10)PASS
1050 KOUT(95:100) = PASS(1:12)

```

```

1051 GO TO 3062
1052 3018 PRINT *, 'ENTER NEW 2.5-MINUTE CENTERS'
1053 READ (*,10)PASS
1054 KOUT(113:118) = PASS(1:12)
1055 GO TO 3062
1056 3019 PRINT *, 'ENTER NEW 1.0-MINUTE CENTERS'
1057 READ (*,10)PASS
1058 KOUT(131:136) = PASS(1:12)
1059 GO TO 3062
1060 3020 PRINT *, 'ENTER NEW 10-SECOND CENTERS'
1061 READ (*,10)PASS
1062 KOUT(149:154) = PASS(1:12)
1063 GO TO 3062
1064
1065
1066 3023 PRINT *, 'ENTER NEW ANNUAL NOTATION'
1067 READ (*,10)PASS
1068 KOUT (39:39) = PASS(1:1)
1069 GO TO 3062
1070 3024 PRINT *, 'ENTER NEW Q-INDEX'
1071 READ (*,10)PASS
1072 KOUT (40:40) = PASS(1:1)
1073 GO TO 3062
1074 3025 PRINT *, 'ENTER NEW FILM NUMBER FOR 1ST NORMAL'
1075 READ (*,10)PASS
1076 KOUT (167:171) = PASS(1:5)
1077 GO TO 3062
1078 3026 PRINT *, 'ENTER NEW FILM NUMBER FOR 2ND NORMAL'
1079 READ (*,10)PASS
1080 KOUT (172:176) = PASS(1:5)
1081 GO TO 3062
1082 3027 PRINT *, 'ENTER NEW FILM NUMBER FOR RAPID RUN'
1083 READ (*,10)PASS
1084 KOUT (177:181) = PASS(1:5)
1085 GO TO 3062
1086 3028 PRINT *, 'ENTER NEW FILM NUMBER FOR STORM'
1087 READ (*,10)PASS
1088 KOUT (182:186) = PASS(1:5)
1089 GO TO 3062
1090 3029 PRINT *, 'ENTER NEW FILM NUMBER FOR K INDICES'
1091 READ (*,10)PASS
1092 KOUT (187:191) = PASS (1:5)
1093 GO TO 3062
1094 3030 PRINT *, 'ENTER NEW FILM NUMBER FOR HOURLY VALUES'
1095 READ (*,10)PASS
1096 KOUT (192:196) = PASS(1:5)
1097 GO TO 3062
1098
1099 3031 IF (KOUT(1:5) .NE. ' ') GO TO 30021
1100 PRINT *, 'ENTER NAME OF OBSERVATORY'

```

```

1151 * *****
1152 * *****
1153 * *****
1154 * *****
1155 * *****
1156 * *****
1157 * *****
1158 * *****
1159 * *****
1160 * *****
1161 * *****
1162 * *****
1163 * *****
1164 * *****
1165 * *****
1166 * *****
1167 * *****
1168 * *****
1169 * *****
1170 * *****
1171 * *****
1172 * *****
1173 * *****
1174 * *****
1175 * *****
1176 * *****
1177 * *****
1178 * *****
1179 * *****
1180 * *****
1181 * *****
1182 * *****
1183 * *****
1184 * *****
1185 * *****
1186 * *****
1187 * *****
1188 * *****
1189 * *****
1190 * *****
1191 * *****
1192 * *****
1193 * *****
1194 * *****
1195 * *****
1196 * *****
1197 * *****
1198 * *****
1199 * *****
1200 * *****

READ (*,10)KOUT(1:16)
GO TO 3062

IF (KMODE (1:2) .EQ. 'CG')GO TO 2010
KLC=1
GO TO 4000
KLC=0
PRINT *, 'IS THIS RECORD CORRECT ENTER Y/N'
READ (*,10)PASS
IF (PASS(1:1) .EQ. 'Y' ) GO TO 3052
GO TO 3062
WRITE (20,REC=INUM)KOUT
GO TO 2010

*****
GROUP CORRECT
*****
FOR CG (GROUP CORRECT SECTION)
CORRECT EACH RECORD FOR ONE ITEM AT A TIME
*****
IF (KMODE(1:2) .EQ. 'C ')GO TO 3002
PRINT *, '
PRINT *, '
PRINT *, '
PRINT *, '
THE FOLLOWING RECORDS WERE CORRECTED
*****
WRITE (20,REC=INUM)KOUT
PRINT *,KOUT(1:34)
INUM=INUM+1
IF (INUM .GT. INUME)GO TO 3064
READ(20,REC=INUM)KOUT
GO TO 6020

INUM=KBEGIN
PRINT *, INUM= , INUM
READ(20,REC=INUM)KOUT
GO TO 3002
CALL GEOLST (KOUT)
IF (KMODE .EQ. 'D') GO TO 4001
IF (KLC .EQ. 1) GO TO 3051
IF (KLC .EQ. 2) GO TO 30001
IF (KLC .EQ. 4) GO TO 2063
PRINT *, 'ENTER A=ADD C=CORRECT D=DELETE L=LIST
-E=END CG=CORRECT GROUP'
GO TO 20101

*****
DELETE A RECORD
*****

```

```

1151 * *****
1152 * *****
1153 * *****
1154 * *****
1155 * *****
1156 * *****
1157 * *****
1158 * *****
1159 * *****
1160 * *****
1161 * *****
1162 * *****
1163 * *****
1164 * *****
1165 * *****
1166 * *****
1167 * *****
1168 * *****
1169 * *****
1170 * *****
1171 * *****
1172 * *****
1173 * *****
1174 * *****
1175 * *****
1176 * *****
1177 * *****
1178 * *****
1179 * *****
1180 * *****
1181 * *****
1182 * *****
1183 * *****
1184 * *****
1185 * *****
1186 * *****
1187 * *****
1188 * *****
1189 * *****
1190 * *****
1191 * *****
1192 * *****
1193 * *****
1194 * *****
1195 * *****
1196 * *****
1197 * *****
1198 * *****
1199 * *****
1200 * *****

PRINT *, 'DO YOU REALLY WANT TO DELETE THIS RECORD'
PRINT *, 'ENTER Y/N'
READ (*,10)PASS
IF (PASS(1:1) .EQ. 'Y') GO TO 4002
GO TO 2010
WRITE (20,REC=INUM)KSPACE
GO TO 2010
GO TO 9999

*****
CORRECT A GROUP OF YEARS FOR THE SAME OBSERVATORY
*****

PRINT *, 'WELCOME TO THE GROUP CORRECT'
PRINT *, '
INUM = IHOLD + (LE - K19YR (J))
PRINT *, 'LOCATION OF LAST REQUESTED OBS/YEAR = ', INUME
READ (20,REC=INUM,ERR=2025)KOUT2
IF (KOUT2(1:16) .NE. KOUT2(1:16))GO TO 6010
GO TO 30004

PRINT *, '*** ERROR *** NO SUCH LAST RECORD--TRY AGAIN'
PRINT *,KOUT2(1:50)
GO TO 2010
IF (KOP(1:2) .EQ. '03')GO TO 6023
IF (KOP(1:2) .EQ. '04')GO TO 6024
IF (KOP(1:2) .EQ. '05')GO TO 6025
IF (KOP(1:2) .EQ. '07')GO TO 6027
IF (KOP(1:2) .EQ. '08')GO TO 6028
IF (KOP(1:2) .EQ. '09')GO TO 6029
IF (KOP(1:2) .EQ. '23')GO TO 6043
IF (KOP(1:2) .EQ. '24')GO TO 6044
IF (KOP(1:2) .EQ. '25')GO TO 6045
IF (KOP(1:2) .EQ. '26')GO TO 6046
IF (KOP(1:2) .EQ. '27')GO TO 6047
IF (KOP(1:2) .EQ. '28')GO TO 6048
IF (KOP(1:2) .EQ. '29')GO TO 6049
IF (KOP(1:2) .EQ. '30')GO TO 6050
IF (KOP(1:2) .EQ. '10')GO TO 6030
IF (KOP(1:2) .EQ. '12')GO TO 6030
IF (KOP(1:2) .EQ. '14')GO TO 6030
IF (KOP(1:2) .EQ. '16')GO TO 6030
IF (KOP(1:2) .EQ. '18')GO TO 6030
IF (KOP(1:2) .EQ. '20')GO TO 6030
IF (KOP(1:2) .EQ. '22')GO TO 6030

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1201 IF (KOP(1:2).EQ.'24') GO TO 6030
1202 IF (KOP(1:2).EQ.'11') GO TO 6035
1203 IF (KOP(1:2).EQ.'13') GO TO 6036
1204 IF (KOP(1:2).EQ.'15') GO TO 6037
1205 IF (KOP(1:2).EQ.'17') GO TO 6038
1206 IF (KOP(1:2).EQ.'19') GO TO 6039
1207 IF (KOP(1:2).EQ.'21') GO TO 6040
1208 IF (KOP(1:1).EQ.'3') GO TO 6023
1209 IF (KOP(1:1).EQ.'4') GO TO 6024
1210 IF (KOP(1:1).EQ.'5') GO TO 6025
1211 IF (KOP(1:1).EQ.'7') GO TO 6027
1212 IF (KOP(1:1).EQ.'8') GO TO 6028
1213 IF (KOP(1:1).EQ.'9') GO TO 6029
1214 IF (KOP(1:1).EQ.'1') GO TO 6051
1215 IF (KOP(1:2).EQ.'01') GO TO 6051
1216
1217 6023 KOUT(20:20)=PASS(1:1)
1218 GO TO 30622
1219 6024 KOUT(21:25) = PASS(1:5)
1220 GO TO 30622
1221 6025 KOUT (26:30) = PASS (1:5)
1222 GO TO 30622
1223 6027 KOUT (35:35) = PASS (1:1)
1224 GO TO 30622
1225 6028 KOUT(36:38) = PASS(1:3)
1226 GO TO 30622
1227 6029 KOUT(41:46) = PASS(1:6)
1228 GO TO 30622
1229 6030 IF (KOP (1:2) .EQ. '10') KOUT (47:58) = KMON(1:12)
1230 IF (KOP (1:2) .EQ. '12') KOUT (65:76) = KMON(1:12)
1231 IF (KOP (1:2) .EQ. '14') KOUT (83:94) = KMON(1:12)
1232 IF (KOP (1:2) .EQ. '16') KOUT (101:112) = KMON(1:12)
1233 IF (KOP (1:2) .EQ. '18') KOUT (119:130) = KMON(1:12)
1234 IF (KOP (1:2) .EQ. '20') KOUT (137:148) = KMON(1:12)
1235 IF (KOP (1:2) .EQ. '22') KOUT (155:166) = KMON(1:12)
1236 GO TO 30622
1237 6035 KOUT(59:64) = PASS(1:6)
1238 GO TO 30622
1239 6036 KOUT(77:82) = PASS(1:6)
1240 GO TO 30622
1241 6037 KOUT(95:100) = PASS(1:6)
1242 GO TO 30622
1243 6038 KOUT(113:118) = PASS(1:6)
1244 GO TO 30622
1245 6039 KOUT(131:136) = PASS(1:6)
1246 GO TO 30622
1247 6040 KOUT(149:154) = PASS(1:6)
1248 GO TO 30622
1249
1250 6043 KOUT (39:39) = PASS(1:1)
1251 GO TO 30622
1252 6044 KOUT (40:40) = PASS(1:1)
1253 GO TO 30622
1254 6045 KOUT (167:171) = PASS(1:5)
1255 GO TO 30622
1256 6046 KOUT (172:176) = PASS(1:5)
1257 GO TO 30622
1258 6047 KOUT (177:181) = PASS(1:5)
1259 GO TO 30622
1260 6048 KOUT (182:186) = PASS(1:5)
1261 GO TO 30622
1262 6049 KOUT (187:191) = PASS(1:5)
1263 GO TO 30622
1264 6050 KOUT (192:196) = PASS(1:5)
1265 GO TO 30622
1266 6051 GO TO 30622
1267 6052 GO TO 30622
1268 *****
1269 *
1270 * ADD CORRECTIONS TO GROUP OF RECORDS *
1271 *
1272 *
1273 *****
1274 7000 CALL SUBAG (KOUT,INUM,L,LE)
1275 GO TO 2010
1276 *****
1277 *
1278 * LIST OUT ALTERNATE OBSERVATORY NAMES *
1279 *
1280 *****
1281 7050 CALL SUBAN
1282 GO TO 2010
1283 *****
1284 * LIST OUT THE INDEX AND POINTERS *
1285 *****
1286 *****
1287 8000 DO 8001 I=1,500,5
1288 PRINT *,KCODE (I),KNUM(I), ' ',KCODE (I+1),
1289 -KNUM (I+1),
1290 -KCODE(I+2),KNUM(I+2), ' ',KCODE (I+3),KNUM(I+3), ' ',
1291 -KCODE(I+4),KNUM(I+4)
1292 8001 CONTINUE
1293 GO TO 2010
1294 *****
1295 *
1296 * D U M P D A T A B A S E *
1297 *
1298 *
1299 * 1) DUMP RANDOM ACCESS FILE INTO SEQUENTIAL FILE *
1300 * 2) DELETE ALL BLANK RECORDS *

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1301 *****
1302 PRINT *, 'ENTER SYSTEM PASSWORD'
1303 READ (*,10)PASS
1304 IF (PASS (1:7) .EQ. 'GEODUMP') GO TO 1051
1305 GO TO 9999
1306 PRINT *, 'OPEN INPUT (GEOBASE) AND OUTPUT (SEQ) FILES'
1307 OPEN (20, FILE='GEOBASE', ACCESS='DIRECT',
1308 -RECL=200, FORM='UNFORMATTED')
1309 OPEN (21, FILE='SEQ', ACCESS='DIRECT',
1310 -RECL=200, FORM='UNFORMATTED', STATUS='NEW')
1311 PRINT *, 'FILES ARE OPENED'
1312 INUM = 35
1313 J=1
1314 KLOOP=0
1315 READ (20, REC=INUM, ERR=1054) KOUT
1316 INUM = INUM + 1
1317 IF (KOUT(17:19) .EQ. ' ') GO TO 1053
1318 WRITE (21, REC=J)KOUT
1319 J = J+1
1320 KLOOP=KLOOP+1
1321 IF (KLOOP .NE. 1000) GO TO 1053
1322 KLOOP=0
1323 PRINT *, 'RECORD JUST WRITTEN = ', KOUT(17:19), ' ',
1324 - KOUT(31:34), ' ', J
1325 GO TO 1053
1326
1327
1328 PRINT *, 'ALL RECORDS HAVE BEEN WRITTEN TO FILE: SEQ'
1329 PRINT *, 'NUMBER RECORDS = ', J
1330 CLOSE (21)
1331 ***** *
1332 * * *
1333 * * *
1334 * * *
1335 *****
1336 PRINT *, 'END OF GEOMAGNETIC UPDATE PROGRAM'
1337 IF (KSCAN .EQ. 1)
1338 -PRINT *, 'RESULTS FROM SCAN ARE ON FILE GEOPRINTB'
1339 IF (KREIN .EQ. 0) GO TO 9999
1340 ***** *
1341 * * *
1342 * * *
1343 *****
1344 GO TO 10203
1345
1346 99999 END
1347
1348
1349

```

```

1350 4000 SUBROUTINE GEOLST (KOUT)
1351 *****
1352 *
1353 * LIST ONE RECORD
1354 *
1355 *****
1356 CHARACTER*200 KOUT
1357 CHARACTER*71 KZ
1358
1359 PRINT *,'LIST ONE RECORD'
1360 KZ(1:30) = ' '
1361 KZ(31:71) = ' '
1362 PRINT *,KZ
1363
1364 KZ(1:38) = 'OBSERVATORY NAME'
1365 KZ(39:54) = 'KOUT(1:16)'
1366 KZ(55:64) = ' '
1367 PRINT *,KZ
1368
1369 KZ(1:38) = 'OBSERVATORY CODE'
1370 KZ(39:41) = 'KOUT(17:19)'
1371 KZ(42:64) = ' '
1372 PRINT *,KZ
1373
1374 KZ(1:38) = 'YEAR'
1375 KZ(39:42) = 'KOUT(31:34)'
1376 KZ(43:64) = ' '
1377 PRINT *,KZ
1378
1379 IF (KOUT(20:20) .NE. ' ')
1380 -PRINT *, '(03) IAGA CODE'
1381 -KOUT(20:20)
1382
1383 KZ(1:38) = 'LATITUDE (NORTH)'
1384 KZ(39:43) = 'KOUT(21:25)'
1385 KZ(44:45) = ' '
1386 KZ(46:48) = 'KOUT(21:23)'
1387 KZ(49:49) = ' '
1388 KZ(50:51) = 'KOUT (24:25)'
1389 KZ(53:53) = ' '
1390 KZ(54:64) = ' '
1391 PRINT *,KZ
1392
1393 KZ(1:38) = 'LONGITUDE (EAST)'
1394 KZ(39:43) = 'KOUT(26:30)'
1395 KZ(44:45) = ' '
1396 KZ(46:48) = 'KOUT(26:28)'
1397 KZ(49:49) = ' '
1398 KZ(50:51) = 'KOUT (29:30)'
1399 KZ(53:53) = ' '

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1400 KZ(54:64) = ' '
1401 PRINT *,KZ
1402 KZ(1:30) = ' '
1403 KZ(31:71) = ' '
1404
1405 PRINT *,KZ
1406
1407 KZ(1:22) = ' '
1408 KZ(23:48) = ' '
1409 KZ(49:71) = 'MONTHS'
1410 PRINT *,KZ
1411 KZ(1:30) = ' '
1412 KZ(31:71) = ' '
1413 PRINT *,KZ
1414
1415 KZ(1:34) = 'NORMAL MAGNETOGRAMS'
1416 KZ(35:40) = 'KOUT(41:46)'
1417 KZ(41:43) = ' '
1418 KZ(44:55) = 'KOUT(47:58)'
1419 KZ(56:64) = '(10)'
1420 PRINT *,KZ
1421
1422 KZ(1:34) = 'RAPID RUN MAGNETOGRAMS'
1423 KZ(35:40) = 'KOUT(59:64)'
1424 KZ(41:43) = ' '
1425 KZ(44:55) = 'KOUT(65:76)'
1426 KZ(56:64) = '(12)'
1427 PRINT *,KZ
1428
1429 KZ(1:34) = 'HOURLY VALUES-ANY SOURCE'
1430 KZ(35:40) = 'KOUT(77:82)'
1431 KZ(41:43) = ' '
1432 KZ(44:55) = 'KOUT(83:94)'
1433 KZ(56:64) = '(14)'
1434 PRINT *,KZ
1435
1436 KZ(1:34) = 'HOURLY VALUES-DIGITAL'
1437 KZ(35:40) = 'KOUT(95:100)'
1438 KZ(41:43) = ' '
1439 KZ(44:55) = 'KOUT(101:112)'
1440 KZ(56:64) = '(16)'
1441 PRINT *,KZ
1442
1443 KZ(1:34) = '2.5-MINUTE'
1444 KZ(35:40) = 'KOUT(113:118)'
1445 KZ(41:43) = ' '
1446 KZ(44:55) = 'KOUT(119:130)'
1447 KZ(56:64) = '(18)'
1448 PRINT *,KZ
1449

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1500 KZ(1:27) = 'FILM---K INDICES (29) | '  
 1501 KZ(28:32) = KOUT(187:191)  
 1502 KZ(33:36) = ' | '  
 1503 KZ(37:62) = 'FILM---HV (30) | '  
 1504 KZ(63:67) = KOUT(192:196)  
 1505 KZ(68:71) = ' | '  
 1506 PRINT \*,KZ  
 1507 RETURN  
 1508 END  
 1509  
 1510

(19) | '  
 KZ(1:34) = '1.0-MINUTE  
 KZ(35:40) = KOUT(131:136)  
 KZ(41:43) = ' | '  
 KZ(44:55) = KOUT(137:148)  
 KZ(56:64) = ' | (20) | '  
 PRINT \*,KZ  
 (21) | '  
 KZ(1:34) = '1.0-SECOND  
 KZ(35:40) = KOUT(149:154)  
 KZ(41:43) = ' | '  
 KZ(44:55) = KOUT(155:166)  
 KZ(56:64) = ' | (22) | '  
 PRINT \*,KZ  
 KZ(1:30) = '  
 KZ(31:71) = '  
 \_\_\_\_\_  
 \_\_\_\_\_

PRINT \*,KZ  
 (07) | '  
 KZ(1:27) = 'K INDEX  
 KZ(28:28) = KOUT(35:35)  
 KZ(29:36) = ' | '  
 KZ(37:62) = 'OBSERVED ELEMENTS (08) | '  
 KZ(63:65) = KOUT(36:38)  
 KZ(66:71) = ' | '  
 PRINT \*,KZ

(23) | '  
 KZ(1:27) = 'ANNUAL NOTATION  
 KZ(28:28) = KOUT(39:39)  
 KZ(29:36) = ' | '  
 KZ(37:62) = 'Q INDEX (24) | '  
 KZ(63:63) = KOUT(40:40)  
 KZ(64:71) = ' | '  
 PRINT \*,KZ

(25) | '  
 KZ(1:27) = 'FILM---NORMAL 1  
 KZ(28:32) = KOUT(167:171)  
 KZ(33:36) = ' | '  
 KZ(37:62) = 'FILM---NORMAL 2 (26) | '  
 KZ(63:67) = KOUT(172:176)  
 KZ(68:71) = ' | '  
 PRINT \*,KZ

(27) | '  
 KZ(1:27) = 'FILM---RAPID RUN  
 KZ(28:32) = KOUT(177:181)  
 KZ(33:36) = ' | '  
 KZ(37:62) = 'FILM---STORM (28) | '  
 KZ(63:67) = KOUT(182:186)  
 KZ(68:71) = ' | '  
 PRINT \*,KZ

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1511 SUBROUTINE SUBAG (KOUT, INUM, L, LE)
1512 *****
1513 *
1514 * ADD CORRECTIONS TO GROUP OF RECORDS
1515 *
1516 *
1517 *****
1518 CHARACTER*2 KOP
1519 CHARACTER*200 KOUT
1520 CHARACTER*200 KOUT2
1521 CHARACTER*12 PASS
1522 10 FORMAT (A)
1523 PRINT *, 'SUBROUTINE K19YRX = ', K19YRX
1524 PRINT *, 'WELCOME TO ADD OR DELETE CENTERS'
1525 PRINT *, ' TO A GROUP OF RECORDS'
1526 PRINT *
1527 PRINT *
1528 PRINT *
1529 PRINT *
1530 PRINT *
1531 PRINT *
1532 PRINT *
1533 PRINT *
1534 PRINT *
1535 PRINT *
1536 70001 INUM = INUM + (LE - L)
1537 PRINT *, 'LOCATION OF LAST REQUESTED OBS/YEAR = ', INUM
1538 READ (20, REC=INUM, ERR=9999) KOUT2
1539 IF (KOUT(1:16) .NE. KOUT2(1:16)) GO TO 9999
1540
1541 CALL GEOLST (KOUT)
1542 KK=0
1543 7001 PRINT *
1544 PRINT *
1545 PRINT *
1546 PRINT *
1547 PRINT *
1548 PRINT *
1549 PRINT *
1550 PRINT *
1551 PRINT *
1552 PRINT *
1553 PRINT *
1554
1555 7002 READ (*, 10) KOP
1556 7003 IF (KOP(1:1) .EQ. 'E') GO TO 9999
1557
1558 7008 IF (KOP(1:1) .EQ. '9') GO TO 7009
1559 IF (KOP(1:2) .EQ. '09') GO TO 7009
1560 IF (KOP(1:2) .EQ. '11') GO TO 7011
1561 *****
1562 *****
1563 *****
1564 *****
1565 *****
1566 *****
1567 *****
1568 7009 PRINT *, 'ENTER NEW NORMAL CENTERS'
1569 READ (*, 10) PASS
1570 K=40
1571 DO 70092 I=1, 6
1572 K=K+1
1573 IF (PASS(I:1) .EQ. 'X') KOUT(K:K) = ' '
1574 IF (PASS(I:1) .EQ. 'X') GO TO 70092
1575 IF (PASS(I:1) .EQ. ' ') GO TO 70092
1576 KOUT(K:K) = PASS(I:1)
1577 CONTINUE
1578 GO TO 7062
1579 7011 PRINT *, 'ENTER NEW RAPID-RUN CENTERS'
1580 READ (*, 10) PASS
1581
1582 70111 K=58
1583 DO 70112 I=1, 6
1584 K=K+1
1585 IF (PASS(I:1) .EQ. 'X') KOUT(K:K) = ' '
1586 IF (PASS(I:1) .EQ. 'X') GO TO 70112
1587 IF (PASS(I:1) .EQ. ' ') GO TO 70112
1588 KOUT(K:K) = PASS(I:1)
1589 CONTINUE
1590 GO TO 7062
1591 7013 PRINT *, 'ENTER NEW HV-ANY MEDIUM CENTERS'
1592 READ (*, 10) PASS
1593 K=76
1594 DO 70132 I=1, 6
1595 K=K+1
1596 IF (PASS(I:1) .EQ. 'X') KOUT(K:K) = ' '
1597 IF (PASS(I:1) .EQ. 'X') GO TO 70132
1598 IF (PASS(I:1) .EQ. ' ') GO TO 70132
1599 KOUT(K:K) = PASS(I:1)
1600 CONTINUE
1601 GO TO 7062
1602 7015 PRINT *, 'ENTER NEW HV-DIGITAL CENTERS'
1603 READ (*, 10) PASS
1604 K=94
1605 DO 70152 I=1, 6
1606 K=K+1
1607 IF (PASS(I:1) .EQ. 'X') KOUT(K:K) = ' '
1608 IF (PASS(I:1) .EQ. 'X') GO TO 70152
1609 IF (PASS(I:1) .EQ. ' ') GO TO 70152
1610 KOUT(K:K) = PASS(I:1)

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1661 PRINT *,'|
1662
1663 WRITE (20,REC=INUM)KOUT
1664 PRINT *,KOUT(1:34)
1665 INUM=INUM+1
1666 IF (INUM .GT. INUME)GO TO 7065
1667 READ(20,REC=INUM)KOUT
1668 GO TO 7018
1669
1670 INUM=KBEGIN
1671 PRINT *,INUM= ,INUM
1672 READ(20,REC=INUM)KOUT
1673 GO TO 9999
1674 RETURN
1675 END
1676

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1611 70152 CONTINUE
1612 GO TO 7062
1613 PRINT *,'ENTER NEW 2.5-MINUTE CENTERS'
1614 READ (*,10)PASS
1615 70171 K=112
1616 DO 70172 I=1,6
1617 K=K+1
1618 IF (PASS(I:1) .EQ. 'X') KOUT(K:K) = ' '
1619 IF (PASS(I:1) .EQ. 'X') GO TO 70172
1620 IF (PASS(I:1) .EQ. ' ') GO TO 70172
1621 KOUT(K:K) = PASS(I:I)
1622 CONTINUE
1623 GO TO 7062
1624 PRINT *,'ENTER NEW 1.0-MINUTE CENTERS'
1625 READ (*,10)PASS
1626 70191 K=130
1627 DO 70192 I=1,6
1628 K=K+1
1629 IF (PASS(I:1) .EQ. 'X') KOUT(K:K) = ' '
1630 IF (PASS(I:1) .EQ. 'X') GO TO 70192
1631 IF (PASS(I:1) .EQ. ' ') GO TO 70192
1632 KOUT(K:K) = PASS(I:I)
1633 CONTINUE
1634 GO TO 7062
1635 PRINT *,'ENTER NEW 10-SECOND CENTERS'
1636 READ (*,10)PASS
1637 70211 K=148
1638 DO 70212 I=1,6
1639 K=K+1
1640 IF (PASS(I:1) .EQ. 'X') KOUT(K:K) = ' '
1641 IF (PASS(I:1) .EQ. 'X') GO TO 70212
1642 IF (PASS(I:1) .EQ. ' ') GO TO 70212
1643 KOUT(K:K) = PASS(I:I)
1644 CONTINUE
1645 GO TO 7062
1646
1647 7018 IF (KOP(1:1) .EQ. '9') GO TO 70091
1648 IF (KOP(1:2) .EQ. '09') GO TO 70091
1649 IF (KOP(1:2) .EQ. '11') GO TO 70111
1650 IF (KOP(1:2) .EQ. '13') GO TO 70131
1651 IF (KOP(1:2) .EQ. '15') GO TO 70151
1652 IF (KOP(1:2) .EQ. '17') GO TO 70171
1653 IF (KOP(1:2) .EQ. '19') GO TO 70191
1654 IF (KOP(1:2) .EQ. '21') GO TO 70211
1655
1656 7062 KK=KK+1
1657 IF (KK .GT. 1)GO TO 7063
1658 PRINT *,'|
1659 PRINT *,'|
1660 PRINT *,'|

```

THE FOLLOWING RECORDS WERE CORRECTED

LINE	TEXT	LINE	TEXT	LINE	TEXT	LINE	TEXT
1677	SUBROUTINE SUBAN	1727	KNAM (43) = 'LOURENZO MARQUEZ	1775	PRINT *, 'OLD NAME		C
1678	*****	1728	KNAM (44) = 'LAUNDA BELAS	1776	PRINT *		
1679	ALTERNATIVE NAME SUBROUTINE	1729	KNAM (45) = 'LOPARSKOYE	1778	DO 1001 I=1,89		
1680	*****	1730	KNAM (46) = 'N STEKOLINIY	1779	PRINT *,KNAM (I)		
1681	*****	1731	KNAM (47) = 'NIDA	1780	CONTINUE		
1682	CHARACTER*46 KNAM (94)	1732	KNAM (48) = 'NY-ALESUND	1781	RETURN		
1683	KNAM (1) = 'AMSTERDAM ISLAND	1733	KNAM (49) = 'PARATUNKA	1782	END		
1684	KNAM (2) = 'AMUNDSEN SCOTT	1734	KNAM (50) = 'PATRONY				
1685	KNAM (3) = 'ARCTICA I (NP-6)	1735	KNAM (51) = 'PEKING				
1686	KNAM (4) = 'ARCTICA II (NP-7)	1736	KNAM (52) = 'PLESHITZI				
1688	KNAM (5) = 'ARCTICA (NP-8)	1737	KNAM (53) = 'PODKAMENNAYA TUNGUSKA				
1689	KNAM (6) = 'ARCTICA (NP-10)	1738	KNAM (54) = 'POINT BARROW				
1690	KNAM (7) = 'AREQUIPA	1739	KNAM (55) = 'PUERTO RICO				
1691	KNAM (8) = 'ATHENS	1740	KNAM (56) = 'PRUHNICE				
1692	KNAM (9) = 'AZORES	1741	KNAM (57) = 'RED LAKE				
1693	KNAM (10) = 'BAUDOIN	1742	KNAM (58) = 'REYKJAVIK				
1694	KNAM (11) = 'BERZNYAKI	1743	KNAM (59) = 'SAMAE STATION				
1695	KNAM (12) = 'BJORNAYA	1744	KNAM (60) = 'SHE-SHAN				
1696	KNAM (13) = 'CENTRO GEOFICISO	1745	KNAM (61) = 'SHANGHAI				
1697	KNAM (14) = 'CHELYUSKIN	1746	KNAM (62) = 'SYOWA BASE				
1698	KNAM (15) = 'CHRISTCHURCH	1747	KNAM (63) = 'STEPANOVKA				
1700	KNAM (16) = 'COLABA	1748	KNAM (64) = 'ST. PETERBURG				
1701	KNAM (17) = 'CROZET	1750	KNAM (66) = 'TAHITI				
1702	KNAM (18) = 'DEHRA DUN	1751	KNAM (67) = 'TENERIFE				
1703	KNAM (19) = 'DIXON ISLAND	1752	KNAM (68) = 'TEVRIS				
1704	KNAM (20) = 'DRUZHNYAYA	1753	KNAM (69) = 'THULE/CAMP TUTO				
1705	KNAM (21) = 'DUSHETI	1754	KNAM (70) = 'THULE/QANAQ				
1706	KNAM (22) = 'DYMER	1755	KNAM (71) = 'THULE I				
1707	KNAM (23) = 'FANNING ISLAND	1756	KNAM (72) = 'THULE II				
1708	KNAM (24) = 'FARADAY	1757	KNAM (73) = 'TIKSI BAY				
1709	KNAM (25) = 'GENOVA	1758	KNAM (74) = 'TORTOSA				
1710	KNAM (26) = 'GOOSE BAY	1759	KNAM (75) = 'TUNGUSKA				
1711	KNAM (27) = 'GORNOTAYEZHNYAYA	1760	KNAM (76) = 'UELEN				
1712	KNAM (28) = 'HAWAII	1761	KNAM (77) = 'USSURISK				
1713	KNAM (29) = 'HATIJO (HACHIYOJIMA)	1762	KNAM (78) = 'VANNOVSKAYA				
1714	KNAM (30) = 'HALLETT	1763	KNAM (79) = 'V. DUBROVO				
1715	KNAM (31) = 'ISLA DE PASCUA	1764	KNAM (80) = 'VOYEKVOVO				
1716	KNAM (32) = 'KAMCHATKA	1765	KNAM (81) = 'VOROSHILOV				
1717	KNAM (33) = 'KARAVIA	1766	KNAM (82) = 'WARSAWA				
1718	KNAM (34) = 'KAZALINSKAYA	1767	KNAM (83) = 'WHITE SHELL				
1719	KNAM (35) = 'KERGUELIN	1768	KNAM (84) = 'WIEN-AUHOF				
1720	KNAM (36) = 'KINSHASA-BINZA	1770	KNAM (86) = 'YANGI-BAZAR				
1721	KNAM (37) = 'KLEINE KARMAKUL	1771	KNAM (87) = 'ZAYMISHCHE				
1722	KNAM (38) = 'KLYUCHI	1772	KNAM (88) = 'ZO-SE				
1723	KNAM (39) = 'KRASNAYA PAKHRA	1773	KNAM (89) = 'ZUY				
1724	KNAM (40) = 'LAS MESAS	1774					
1725	KNAM (41) = 'LAZAREV	1775					
1726	KNAM (42) = 'LEOPOLDVILLE	1776					



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101 * ROUTINE USING A FILE CALLED SEQ
102 * 2) SORT THE SEQ DATA BASE USING THE SYSTEM SORT
103 * 3) LOAD THE SEQ DATA BASE USING THE LOAD ROUTINE
104 * *****
105 * 1) KCODE=AN ARRAY CONTAINING UP TO 500 (3 DIGIT)
106 * CODES
107 * 2) KNUM= AN ARRAY CONTAINING UP TO 500 POINTS
108 * EACH POINTER CORRESPONDS TO THE BEGINNING
109 * LOCATION OF EACH OBSERVATORY CODE
110 * 3) K19YR=AN ARRAY CONTAINING THE BEGINNING YEAR
111 * OF EACH DIFFERENT OBSERVATORY
112 * *****
113 *
114 * INTEGER*4 KNUM, K19YR
115 * DIMENSION KNUM (500), KOUT1(50), K19YR(500)
116 *
117 * CHARACTER*3 KCOD (500)
118 * CHARACTER*132 KX1
119 * CHARACTER*132 KH1
120 * CHARACTER*132 KH2
121 * CHARACTER*132 KH3
122 * CHARACTER*132 KH4
123 * CHARACTER*132 KH5
124 * CHARACTER*132 KH6
125 * CHARACTER*132 KH7
126 *
127 * CHARACTER*132 KF1
128 * CHARACTER*132 KF2
129 * CHARACTER*132 KF3
130 * CHARACTER*132 KF4
131 * CHARACTER*132 KF5
132 * CHARACTER*72 KZ
133 * CHARACTER*132 KSPACE
134 * CHARACTER*200 KOUT
135 * CHARACTER*16 KOB5
136 * CHARACTER*3 KCODE
137 * CHARACTER*5 KLAT
138 * CHARACTER*5 KLONG
139 * CHARACTER*30 PASS
140 * CHARACTER*1 KPAGE
141 * CHARACTER*10 KLL
142 * CHARACTER*4 KYEAR
143 *
144 * KPAGE (1:1) = ''
145 *
146 * KX1(1:27) = ' '
147 * KX1(28:28) = '|'
148 * KX1(29:48) = ' '
149 * KX1(49:49) = '|'
150 *
151 * KX1(50:66) = ' '
152 * KX1(67:67) = '|'
153 * KX1(68:88) = ' '
154 * KX1(89:89) = '|'
155 * KX1(90:110) = ' '
156 * KX1(111:111) = '|'
157 * KX1(112:131) = ' '
158 * KX1(132:132) = '|'
159 *
160 * KH1(1:7) = 'TABLE V'
161 * KH1(8:35) = ' '
162 * KH1(36:61) = 'CATALOG LISTING OF ANALOG'
163 * KH1(62:86) = 'DIGITAL GEOMAGNETIC DATA'
164 *
165 * KH2(1:28) = ' '
166 * KH2(29:46) = 'WORLD DATA CENTER'
167 * KH2(47:73) = 'A=BOULDER B=MOSCOW C=KYOTO'
168 * KH2(74:106) = 'D=COPENHAGEN E=EDINBURGH I=BOMBAY'
169 *
170 * KH3(1:11) = 'OBSERVATORY'
171 * KH3(12:19) = ' '
172 * KH3(20:26) = 'YEAR KA'
173 * KH3(27:36) = 'Q'
174 * KH3(37:45) = 'NORMAL'
175 * KH3(46:54) = ' '
176 * KH3(55:65) = 'RAPID RUN'
177 * KH3(66:74) = ' '
178 * KH3(75:88) = 'HOURLY VALUES'
179 * KH3(89:97) = ' '
180 * KH3(98:110) = 'HOURLY VALUES'
181 * KH3(111:118) = ' '
182 * KH3(119:129) = '2.5-MINUTE'
183 *
184 * KH4(1:16) = ' '
185 * KH4(17:21) = 'COMP'
186 * KH4(22:29) = ' '
187 * KH4(29:32) = 'WDC'
188 * KH4(33:47) = 'MAGNETOGRAMS'
189 * KH4(48:53) = 'WDC'
190 * KH4(54:65) = 'MAGNETOGRAMS'
191 * KH4(66:74) = 'WDC'
192 * KH4(75:87) = 'ANY MEDIUM'
193 * KH4(88:99) = 'WDC'
194 * KH4(100:112) = 'ON TAPE'
195 * KH4(113:118) = 'WDC'
196 * KH4(119:132) = '1.0-MINUTE(*)'
197 *
198 * KH5(1:16) = ' '
199 * KH5(17:34) = ' '
200 * KH5(35:48) = ' '

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201 KH5(49:53) =
202 KH5(54:66) =
203 KH5(67:74) =
204 KH5(75:88) =
205 KH5(90:98) =
206 KH5(99:111) =
207 KH5(112:117) =
208 KH5(118:131) =
209
210 = 'TABLE V'
211 KFI(8:35) =
212 KFI(36:61) =
213 KFI(62:86) =
214 KFI(87:109) =
215
216 KF3(1:11) =
217 KF3(12:19) =
218 KF3(20:26) =
219 KF3(27:36) =
220 KF3(37:43) =
221 KF3(44:54) =
222 KF3(55:65) =
223 KF3(66:74) =
224 KF3(75:87) =
225 KF3(88:90) =
226 KF3(91:132) =
227
228
229
230 KF4(1:16) =
231 KF4(17:21) =
232 KF4(22:29) =
233 KF4(29:31) =
234 KF4(33:46) =
235 KF4(47:53) =
236 KF4(54:65) =
237 KF4(66:74) =
238 KF4(75:87) =
239 KF4(88:119) =
240 KF4(120:127) =
241 KF5(1:16) =
242 KF5(17:32) =
243 KF5(33:46) =
244 KF5(48:53) =
245 KF5(54:65) =
246 KF5(66:74) =
247 KF5(75:88) =
248 KF5(89:126) =
249
250

KH5(49:53) =
KH5(54:66) =
KH5(67:74) =
KH5(75:88) =
KH5(90:98) =
KH5(99:111) =
KH5(112:117) =
KH5(118:131) =

'CATALOG LISTING OF ANALOG'
'DIGITAL GEOMAGNETIC DATA'
'BY MICROFILM NUMBERS'

'OBSERVATORY'
'YEAR KA'
Q
'NORMAL'
'RAPID RUN'
'HOURLY VALUES'
'***** F I L M N U M B E R S *****'

'COMP'
'WDC'
'MAGNETOGRAMS'
'WDC'
'MAGNETOGRAMS'
'WDC'
'ANY MEDIUM'
'NORM1 NORM2 RAPID STORM HOUR'
'K-INDC'

KF5(1:16) =
KF5(17:32) =
KF5(33:46) =
KF5(48:53) =
KF5(54:65) =
KF5(66:74) =
KF5(75:88) =
KF5(89:126) =

```

```

251
252
253
254 1000 PRINT *,
255
256 PRINT *,
257 - ' WELCOME TO THE GEOMAGNETIC CATALOG LIST SYSTEM |
258 PRINT *,
259 - ' VERSION 2.1 - APRIL 1. 1985
260 PRINT *,
261
262 KLOOP=0
263 K3LOOP=0
264 *****
265 * OPEN DATA BASE *****
266 *****
267 1001 OPEN (20,FILE='GEOBASE',ACCESS='DIRECT',RECL=200,
268 -FORM='UNFORMATTED')
269 PRINT*, 'ENTER 1= CATALOG LISTING'
270 PRINT*, 'ENTER 2= FILM LISTING'
271 PRINT*, 'ENTER 3= 10-SECOND LISTING'
272 PRINT*, 'ENTER 4= LIST ALL OBS. FOR A GIVEN YEAR'
273 PRINT*, 'ENTER 5= LIST ALL YEARS FOR A GIVEN OBS'
274 PRINT*, 'ENTER 6= LIST FILE1--'
275 - GEOMAG MODEL COORDINATES (OBS. SORT)
276 PRINT*, 'ENTER 7= LIST FILE1--'
277 - GEOMAG MODEL COORDINATES (CO-LAT SORT)
278 PRINT*, 'ENTER 8= ALL LISTINGS FOR ANNUAL DATA BASE'
279 PRINT*, 'ENTER 9= CATALOG LISTING FOR ONE OBS'
280 PRINT*, 'ENTER E= END OF LIST ROUTINE'
281 READ (*,10)PASS
282 10
283 FORMAT(A)
284 IF (PASS(1:1)) .EQ. '1') GO TO 2000
285 IF (PASS(1:1)) .EQ. '2') GO TO 3000
286 IF (PASS(1:1)) .EQ. '3') GO TO 4000
287 IF (PASS(1:1)) .EQ. '4') GO TO 5000
288 IF (PASS(1:1)) .EQ. '5') GO TO 5000
289 IF (PASS(1:1)) .EQ. '6') GO TO 6000
290 IF (PASS(1:1)) .EQ. '7') GO TO 6000
291 IF (PASS(1:1)) .EQ. '8') GO TO 7000
292 IF (PASS(1:1)) .EQ. '9') GO TO 8000
293 IF (PASS(1:1)) .EQ. 'E') GO TO 9999
294 IF (PASS(1:1)) .EQ. 'e') GO TO 9999
295 GO TO 1010
296 *****
297 * CATALOG LISTING *****
298 * 1) FIRST PRINT LET BEGINNING HEADERS *
299 * 2) NEXT PRINT PAGE HEADERS *
300 * 3) HANDLE RECORDS 1,2, AND 3 DIFFERENTLY *
301 * 4) ALL OTHER RECORDS ARE THE SAME *

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```

301 *****
302 2000 OPEN (19,FILE='GEOPRINT',STATUS='NEW',FORM='FORMATTED',
303 PRINT *, 'YOU OUTPUT LISTING IS NAMED GEOPRINT',
304 2001 INUM=35
305 WRITE (19,99) KPAGE
306 WRITE (19,100)KH1
307 WRITE (19,100)KH2
308 WRITE (19,100)KSPACE
309 KCOUNT = 3
310 100 FORMAT (A132)
311 *****
312 * PRINT PAGE HEADERS *
313 *****
314 2002 WRITE (19,100)KH3
315 WRITE (19,100)KH4
316 WRITE (19,100)KH5
317 KCOUNT = KCOUNT + 3
318 KPCNT = 0
319 *****
320 * FIRST RECORD
321 *
322 * EACH OBSERVATORY IS SEPARATED BY BLANK RECORDS
323 *****
324 * KOUT CC 1-16 = OBSERVATORY NAME
325 * CC 17-19 = OBSERVATORY CODE
326 * CC 21-25 = LATITUDE
327 * CC 26-30 = LONGITUDE
328 * CC 31-34 = YEAR
329 * CC 35 = K INDICES
330 * CC 36-38 = ELEMENTS
331 * CC 39 = ANNUAL MEANS
332 * CC 40 = Q INDICES
333 * CC 41-46 = NORMAL CENTERS
334 * CC 47-58 = NORMAL MAGNETOGRAM MONTHS
335 * CC 59-64 = RAPID RUN CENTERS
336 * CC 65-76 = RAPID RUN MONTHS
337 * CC 77-82 = HOURLY ANY CENTERS
338 * CC 83-94 = HOURLY ANY MONTHS
339 * CC 95-100 = HOURLY DIGITAL CENTERS
340 * CC 101-112 = HOURLY DIGITAL MONTHS
341 * CC 113-118 = 2.5-MIN CENTERS
342 * CC 119-130 = 2.5-MIN MONTHS
343 * CC 131-136 = 1.0-MIN CENTERS
344 * CC 137-148 = 1.0-MIN MONTHS
345 * CC 149-154 = 1.0-SECOND CENTERS
346 * CC 155-166 = 1.0-SECOND MONTHS
347 * CC 167-171 = NORMAL MAGNETOGRAM FILM 1
348 * CC 172-176 = NORMAL MAGNETOGRAM FILM 2
349 * CC 177-181 = RAPID RUN FILM
350 * CC 182-186 = STORM FILM
*****
351 * CC 187-191= K INDICES
352 * CC 192-196= HOURLY VALUE
353 * CC 197-200= NOT USED
354 *****
355 2004 READ (20,REC=INUM,ERR=9998)KOUT
356 INUM = INUM + 1
357 IF (KOUT(17:19) EQ ' ') GO TO 2004
358 *****
359 * CONVERT YEAR TO BINARY *
360 *****
361 *****
362 2005 READ (KOUT,FMT='(30X,14)')LYR
363 LYR = LYR + 1
364 KOB(1:16) = KOUT(1:16)
365 KLAB(1:5) = KOUT(21:25)
366 KLONG(1:5) = KOUT(26:30)
367 KCODE(1:3) = KOUT(17:19)
368 2006 KH7(1:16) = KOUT(1:16)
369 KH7(17:17) = ' '
370 KH7(18:18) = KOUT(36:36)
371 KH7(19:19) = ' '
372 KH7(20:23) = KOUT(31:34)
373 KH7(24:24) = ' '
374 KH7(25:25) = KOUT(35:35)
375 KH7(26:27) = KOUT(39:40)
376 KH7(28:28) = ' '
377 KH7(29:34) = KOUT(41:46)
378 KH7(35:35) = ' '
379 KH7(36:41) = KOUT(47:52)
380 KH7(42:42) = KOUT(53:58)
381 KH7(43:48) = KOUT(59:61)
382 KH7(49:49) = ' '
383 KH7(50:52) = KOUT(65:70)
384 KH7(53:53) = ' '
385 KH7(54:59) = KOUT(65:70)
386 KH7(60:60) = ' '
387 KH7(61:66) = KOUT(71:76)
388 KH7(67:68) = ' '
389 KH7(69:74) = KOUT(77:82)
390 KH7(75:75) = ' '
391 KH7(76:81) = KOUT(83:88)
392 KH7(82:82) = ' '
393 KH7(83:88) = KOUT(89:94)
394 KH7(89:90) = ' '
395 KH7(91:96) = KOUT(95:100)
396 KH7(97:97) = ' '
397 KH7(98:103) = KOUT(101:106)
398 KH7(104:104) = ' '
399 KH7(105:110) = KOUT(107:112)
400 KH7(111:112) = ' '
*****

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401 KH7 (113:116) = KOUT (113:118)
402 KH7 (117:117) = KOUT (113:118)
403 KH7 (118:123) = KOUT (119:124)
404 KH7 (124:124) = KOUT (119:124)
405 KH7 (125:130) = KOUT (125:130)
406 KH7 (131:131) = KOUT (125:130)
407 KH7 (132:132) = KOUT (125:130)
408 IF (KOUT(131:136) .EQ. ' ') GO TO 2007
409 KH7(113:116) = KOUT (131:136)
410 KH7(117:117) = KOUT (137:142)
411 KH7(118:123) = KOUT (137:142)
412 KH7(124:124) = KOUT (137:142)
413 KH7(125:130) = KOUT (143:148)
414 KH7(131:131) = '*'
415 WRITE (19,100)KH7
416 KCOUNT = KCOUNT + 1
417 IF (KCOUNT .GT. 54) GO TO 2022
418
419 *****
420 * SECOND RECORD
421 *****
422 *****
423 2008 READ (20,REC=INUM,ERR=9998)KOUT
424 INUM = INUM + 1
425 IF (KOUT(17:19) .EQ. ' ') GO TO 2008
426 IF (KOUT(1:16) .EQ. KOB5 (1:16)) GO TO 2009
427 GO TO 2020
428 2009 READ(KOUT,FMT='(30X,I4)')L
429 IF (L .NE. LYM) GO TO 2009I
430 LYM=L+1
431 GO TO 20092
432 2009I WRITE (19,100)KX1
433 KCOUNT = KCOUNT + 1
434 LYM=L
435 20092 KH7 (1:3) = KOUT (17:19)
436 KH7 (4:16) = KOUT (36:36)
437 KH7 (18:18) = KOUT (36:36)
438 KH7 (19:19) = KOUT (31:34)
439 KH7 (20:23) = KOUT (31:34)
440 KH7 (24:24) = KOUT (35:35)
441 KH7 (25:25) = KOUT (35:35)
442 KH7 (26:27) = KOUT (39:40)
443 KH7 (28:28) = KOUT (41:46)
444 KH7 (29:34) = KOUT (41:46)
445 KH7 (35:35) = KOUT (47:52)
446 KH7 (36:41) = KOUT (47:52)
447 KH7 (42:42) = KOUT (53:58)
448 KH7 (43:48) = KOUT (53:58)
449 KH7 (49:49) = KOUT (59:61)
450 KH7 (50:52) = KOUT (59:61)
451
452 KH7 (53:53) = KOUT (65:70)
453 KH7 (54:59) = KOUT (65:70)
454 KH7 (60:60) = KOUT (71:76)
455 KH7 (61:66) = KOUT (71:76)
456 KH7 (67:68) = KOUT (77:82)
457 KH7 (69:74) = KOUT (77:82)
458 KH7 (75:75) = KOUT (83:88)
459 KH7 (76:81) = KOUT (83:88)
460 KH7 (82:82) = KOUT (89:94)
461 KH7 (83:88) = KOUT (89:94)
462 KH7 (89:90) = KOUT (95:100)
463 KH7 (91:96) = KOUT (95:100)
464 KH7 (97:97) = KOUT (101:106)
465 KH7 (98:103) = KOUT (101:106)
466 KH7 (104:104) = KOUT (107:112)
467 KH7 (105:110) = KOUT (107:112)
468 KH7 (111:112) = KOUT (113:118)
469 KH7 (113:116) = KOUT (113:118)
470 KH7 (117:117) = KOUT (119:124)
471 KH7 (118:123) = KOUT (119:124)
472 KH7 (124:124) = KOUT (125:130)
473 KH7 (125:130) = KOUT (125:130)
474 KH7 (131:131) = KOUT (125:130)
475 KH7 (132:132) = KOUT (125:130)
476 IF (KOUT(131:136) .EQ. ' ') GO TO 20099
477 KH7(113:116) = KOUT (131:136)
478 KH7(117:117) = KOUT (137:142)
479 KH7(118:123) = KOUT (137:142)
480 KH7(124:124) = KOUT (143:148)
481 KH7(125:130) = KOUT (143:148)
482
483 20099 WRITE (19,100)KH7
484 KCOUNT = KCOUNT + 1
485 IF (KCOUNT .GT. 54) GO TO 2023
486 *****
487 * THIRD RECORD
488 *****
489 2010 READ (20, REC=INUM,ERR=9998)KOUT
490 KLL(1:10) = KOUT(21:30)
491 INUM = INUM + 1
492 IF (KOUT(17:19) .EQ. ' ') GO TO 2010
493 IF (KOUT (1:16) .NE. KOB5 (1:16)) GO TO 2021
494 READ (KOUT,FMT='(30X,I4)')L
495 IF (L .NE. LYM)GO TO 20102
496 LYM=L+1
497 GO TO 20101
498 20102 WRITE (19,100)KX1
499 KCOUNT = KCOUNT + 1
500 LYM=L+1

```

```

501 20101 KH7(1:1) = ' '
502 KH7(2:4) = KOUT(21:23)
503 IF (KH7(2:2) .EQ. ' ') KH7(2:2) = '0'
504 IF (KH7(3:3) .EQ. ' ') KH7(3:3) = '0'
505 IF (KH7(3:3) .EQ. '-') KH7(2:2) = ' '
506 KH7(5:5) = KOUT(24:25)
507 KH7(6:7) = KOUT(24:25)
508 KH7(8:8) = ' '
509 KH7(9:11) = KOUT(26:28)
510 KH7(12:12) = ' '
511 KH7(13:14) = KOUT(29:30)
512 KH7(15:16) = ' '
513 KH7(17:17) = ' '
514 KH7(18:18) = KOUT(36:36)
515 KH7(19:19) = ' '
516 KH7(20:23) = KOUT(31:34)
517 KH7(24:24) = ' '
518 KH7(25:25) = KOUT(35:35)
519 KH7(26:27) = KOUT(39:40)
520 KH7(28:28) = ' '
521 KH7(29:34) = KOUT(41:46)
522 KH7(35:35) = ' '
523 KH7(36:41) = KOUT(47:52)
524 KH7(42:42) = ' '
525 KH7(43:48) = KOUT(53:58)
526 KH7(49:49) = ' '
527 KH7(50:52) = KOUT(59:61)
528 KH7(53:53) = ' '
529 KH7(54:59) = KOUT(65:70)
530 KH7(60:60) = ' '
531 KH7(61:66) = KOUT(71:76)
532 KH7(67:68) = ' '
533 KH7(69:74) = KOUT(77:82)
534 KH7(75:75) = ' '
535 KH7(76:81) = KOUT(83:88)
536 KH7(82:82) = ' '
537 KH7(83:88) = KOUT(89:94)
538 KH7(91:96) = KOUT(95:100)
539 KH7(97:97) = ' '
540 KH7(98:103) = KOUT(101:106)
541 KH7(104:104) = ' '
542 KH7(105:110) = KOUT(107:112)
543 KH7(111:112) = ' '
544 KH7(113:116) = KOUT(113:118)
545 KH7(117:117) = ' '
546 KH7(118:123) = KOUT(119:124)
547 KH7(124:124) = ' '
548 KH7(125:130) = KOUT(125:130)
549 KH7(131:131) = ' '
550

551 KH7(132:132) = ' '
552 IF (KOUT(131:136) .EQ. ' ') GO TO 2011
553 KH7(113:116) = KOUT(131:136)
554 KH7(117:117) = ' '
555 KH7(118:123) = KOUT(137:142)
556 KH7(124:124) = ' '
557 KH7(125:130) = KOUT(143:148)
558 KH7(131:131) = ' '
559 2011 WRITE (19,100)KH7
560 KCOUNT = KCOUNT + 1
561 IF (KCOUNT .GT. 54) GO TO 2050
562 KH7(1:16) = ' '
563 *****
564 * REST OF RECORDS *
565 *****
566 2012 READ (20,REC=INUM,ERR=9998)KOUT
567 INUM=INUM + 1
568 IF (KOUT(17:19) .EQ. ' ') GO TO 2012
569 IF (KOUT(1:16) .EQ. KOB(1:16)) GO TO 2013
570 WRITE (19,100)KH5
571 GO TO 2005
572 2013 READ (KOUT,FMT='(30X,I4)')L
573 IF (L .NE. LYR) GO TO 20132
574 LYR=L+1
575 GO TO 20133
576 20132 WRITE (19,100)KX1
577 KCOUNT = KCOUNT + 1
578 LYR = L+1
579 20133 KH7(17:17) = ' '
580 IF (KOUT(21:30) .EQ. KLL(1:10)) GO TO 20131
581 KLL(1:10) = KOUT(21:30)
582 GO TO 20101
583 20131 KH7(18:18) = KOUT(36:36)
584 KH7(19:19) = ' '
585 KH7(20:23) = KOUT(31:34)
586 KH7(24:24) = ' '
587 KH7(25:25) = KOUT(35:35)
588 KH7(26:27) = KOUT(39:40)
589 KH7(28:28) = ' '
590 KH7(29:34) = KOUT(41:46)
591 KH7(35:35) = ' '
592 KH7(36:41) = KOUT(47:52)
593 KH7(42:42) = ' '
594 KH7(43:48) = KOUT(53:58)
595 KH7(49:49) = ' '
596 KH7(50:52) = KOUT(59:61)
597 KH7(53:53) = ' '
598 KH7(54:59) = KOUT(65:70)
599 KH7(60:60) = ' '
600 KH7(61:66) = KOUT(71:76)

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601 KH7 (67:68) = ' | '
602 KH7 (69:74) = KOUT (77:82)
603 KH7 (75:75) = ' | '
604 KH7 (76:81) = KOUT (83:88)
605 KH7 (82:82) = ' | '
606 KH7 (83:88) = KOUT (89:94)
607 KH7 (89:90) = ' | '
608 KH7 (91:96) = KOUT (95:100)
609 KH7 (97:97) = ' | '
610 KH7 (98:103) = KOUT (101:106)
611 KH7 (104:104) = ' | '
612 KH7 (105:110) = KOUT (107:112)
613 KH7 (111:112) = ' | '
614 KH7 (113:116) = KOUT (113:118)
615 KH7 (117:117) = ' | '
616 KH7 (118:123) = KOUT (119:124)
617 KH7 (124:124) = ' | '
618 KH7 (125:130) = KOUT (125:130)
619 KH7 (131:131) = ' | '
620 KH7 (132:132) = ' | '
621 IF (KOUT(131:136) .EQ. ' ') GO TO 2014
622 KH7(113:116) = KOUT (131:136)
623 KH7(117:117) = KOUT (137:142)
624 KH7(118:123) = KOUT (137:142)
625 KH7(124:124) = ' | '
626 KH7(125:130) = KOUT (143:148)
627 KH7(131:131) = ' | '
628 2014 WRITE (19,100)KH7
629 KCOUNT = KCOUNT + 1
630 IF (KCOUNT .GT. 54) GO TO 2050
631 GO TO 2012
632 *****
633 * FIRST RECORD WAS PRINTED *
634 * BUT NEW OBSERVATORY READ *
635 * PADD OUT RECORDS 2 AND 3 *
636 * AND GO TO BEGIN SEQUENCE AGAIN *
637 *****
638 2020 KSPACE (1:3) = KCODE (1:3)
639 WRITE (19,100)KSPACE
640 KSPACE(1:1) = ' | '
641 IF (KH7(2:2) .EQ. ' ') KH7(2:2) = '0'
642 IF (KH7(3:3) .EQ. ' ') KH7(3:3) = '0'
643 IF (KH7(3*3) .EQ. ' ') KH7(2:2) = ' | '
644 KSPACE (2:4) = KLAT (1:3)
645 KSPACE (5:5) = ' | '
646 KSPACE (6:7) = KLAT(4:5)
647 KSPACE (8:8) = ' | '
648 KSPACE (9:11) = KLONG (1:3)
649 KSPACE (12:12) = ' | '
650 KSPACE (13:14) = KLONG (4:5)
651 KSPACE (15:16) = ' | '
652 KSPACE (17:17) = ' | '
653 KSPACE (18:18) = ' | '
654 KSPACE (19,100)KSPACE
655 WRITE (19,100)KSPACE
656 KSPACE (1:16) = ' | '
657 WRITE (19,100)KH5
658 KCOUNT = KCOUNT + 3
659 IF (KCOUNT .GT. 54) GO TO 2050
660 GO TO 2005
661 2021 KSPACE(1:1) = ' | '
662 KSPACE (2:4) = KLAT (1:3)
663 KSPACE (5:5) = ' | '
664 KSPACE (6:7) = KLAT (4:5)
665 KSPACE (8:8) = ' | '
666 IF (KSPACE(2:2) .EQ. ' ') KSPACE(2:2) = '0'
667 IF (KSPACE(3:3) .EQ. ' ') KSPACE(3:3) = '0'
668 IF (KSPACE(3*3) .EQ. ' ') KSPACE(2:2) = ' | '
669 KLL(1:10) = KOUT (21:30)
670 KSPACE (9:11) = KLONG (1:3)
671 KSPACE (12:12) = ' | '
672 KSPACE (13:14) = KLONG (4:5)
673 KSPACE (15:16) = ' | '
674 KSPACE(17:17) = ' | '
675 WRITE (19,100) KSPACE
676 KSPACE (1:16) = ' | '
677 WRITE (19,100) KH5
678 KCOUNT = KCOUNT + 2
679 IF (KCOUNT .GT. 54) GO TO 2050
680 GO TO 2005
681 2022 KSPACE (1:3) = KCODE (1:3)
682 WRITE (19,100)KSPACE
683 KSPACE(1:1) = ' | '
684 KSPACE (2:4) = KLAT (1:3)
685 KSPACE (5:5) = ' | '
686 KSPACE (6:7) = KLAT(4:5)
687 IF (KSPACE(2:2) .EQ. ' ') KSPACE(2:2) = '0'
688 IF (KSPACE(3:3) .EQ. ' ') KSPACE(3:3) = '0'
689 IF (KSPACE(3*3) .EQ. ' ') KSPACE(2:2) = ' | '
690 KLL(1:10) = KOUT (21:30)
691 KSPACE (8:8) = ' | '
692 KSPACE (9:11) = KLONG (1:3)
693 KSPACE (12:12) = ' | '
694 KSPACE (13:14) = KLONG (4:5)
695 KSPACE (15:16) = ' | '
696 KSPACE (17:17) = ' | '
697 KSPACE (19,100)KSPACE
698 WRITE (19,100)KH5
699 KSPACE (1:16) = ' | '
700 WRITE (19,100)KH5

```

```

701 KCOUNT = KCOUNT + 3
702 IF (KCOUNT.GT. 54) GO TO 2050
703 GO TO 2050
704 2023 KSPACE(1:1) = '( '
705 KSPACE(2:4) = KLAT (1:3)
706 KSPACE(5:5) = ' '
707 KSPACE(6:7) = KLAT (4:5)
708 IF (KSPACE(2:2).EQ.' ') KSPACE(2:2) = '0'
709 IF (KSPACE(3:3).EQ.' ') KSPACE(3:3) = '0'
710 IF (KSPACE(3:3).EQ.' ') KSPACE(2:2) = ' '
711 KLL(1:10) = KOUT (21:30)
712 KSPACE(8:8) = ' '
713 KSPACE(9:11) = KLONG (1:3)
714 KSPACE(12:12) = ' '
715 KSPACE(13:14) = KLONG (4:5)
716 KSPACE(15:16) = ' '
717 KSPACE(17:17) = ' '
718 WRITE (19,100) KSPACE
719 KSPACE (1:16) = ' '
720 WRITE (19,100) KH5
721 KCOUNT = KCOUNT + 2
722 GO TO 2050
723
724 *****
725 * NEW PAGE *****
726 *****
727 2050 WRITE (19,99)KPAGE
728 99 FORMAT (A1)
729 WRITE (19,100)KH3
730 WRITE (19,100)KH4
731 WRITE (19,100)KH5
732 KCOUNT = 4
733 KPCNT = KPCNT + 1
734 IF ( KPCNT.NE. 10) GO TO 2004
735 KPCNT = 0
736 PRINT *, 'CATALOG LISTING IS AT ',KOUT(1:16), ' ',
737 - KOUT(31:34)
738 GO TO 2004
739
740
741 *****
742 * *****
743 * FILM C A T A L O G *****
744 * *
745 * *
746 *****
747
748 3000 OPEN (19,FILE='GEOPRINTX',STATUS='NEW',FORM='FORMATTED
749 PRINT *, 'OUTPUT FILE IS NAMED GEOPRINTX'
750

```

```

751 3001 INUM=35
752 WRITE (19,99) KPAGE
753 WRITE (19,100)KF1
754 WRITE (19,100)KF2
755 WRITE (19,100)KSPACE
756 KCOUNT = KCOUNT + 3
757 *****
758 * PRINT PAGE HEADERS *
759 *****
760 3002 WRITE (19,100)KF3
761 WRITE (19,100)KF4
762 WRITE (19,100)KF5
763 KCOUNT = KCOUNT + 3
764 IF (KCOUNT.GT. 54) KCOUNT = 3
765 *****
766 * FIRST RECORD *****
767 * *
768 * EACH OBSERVATORY IS SEPARATED BY BLANK RECORDS *
769 *****
770 3004 READ (20,REC=INUM,ERR=9998)KOUT
771 INUM = INUM + 1
772 IF (KOUT(17:19).EQ.' ') GO TO 3004
773 3005 KOB5(1:16) = KOUT(1:16)
774 KLAT(1:5) = KOUT (21:25)
775 KLONG(1:5) = KOUT(26:30)
776 KCODE(1:3) = KOUT(17:19)
777 3006 KH7(1:16) = KOUT (1:16)
778 KH7(17:17) = ' '
779 KH7(18:18) = KOUT (36:36)
780 KH7 (19:19) = ' '
781 KH7 (20:23) = KOUT (31:34)
782 KH7(24:24) = ' '
783 KH7 (25:25) = KOUT (35:35)
784 KH7 (26:27) = KOUT (39:40)
785 KH7 (28:28) = ' '
786 KH7 (29:34) = KOUT (41:46)
787 KH7 (35:35) = ' '
788 KH7 (36:41) = KOUT (47:52)
789 KH7 (42:42) = ' '
790 KH7 (43:48) = KOUT (53:58)
791 KH7 (49:49) = ' '
792 KH7 (50:52) = KOUT (59:61)
793 KH7 (53:53) = ' '
794 KH7 (54:59) = KOUT (65:70)
795 KH7 (60:60) = ' '
796 KH7 (61:66) = KOUT (71:76)
797 KH7 (67:68) = ' '
798 KH7 (69:74) = KOUT (77:82)
799 KH7 (75:75) = ' '
800 KH7 (76:81) = KOUT (83:88)

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801 KH7 (82:82) = KOUT (89:94)
802 KH7 (83:88) = KOUT (89:94)
803 KH7 (89:91) = KOUT (167:171)
804 KH7 (92:96) = KOUT (167:171)
805 KH7 (97:97) = KOUT (172:176)
806 KH7 (98:102) = KOUT (172:176)
807 KH7 (103:103) = KOUT (177:181)
808 KH7 (104:108) = KOUT (177:181)
809 KH7 (109:109) = KOUT (182:186)
810 KH7 (110:114) = KOUT (182:186)
811 KH7 (115:115) = KOUT (187:191)
812 KH7 (116:120) = KOUT (187:191)
813 KH7 (121:121) = KOUT (192:196)
814 KH7 (122:126) = KOUT (192:196)
815 KH7 (131:131) = KOUT (192:196)
816 KH7 (132:132) = KOUT (192:196)
817 WRITE (19,100)KH7
818 KCOUNT = KCOUNT + 1
819 IF (KCOUNT.GT. 54) GO TO 3022
820 *****
821 * SECOND RECORD *
822 *****
823 3008 READ (20,REC=INUM,ERR=9998)KOUT
824 INUM = INUM + 1
825 IF (KOUT(17:19).EQ. ' ') GO TO 3008
826 IF (KOUT(1:16).EQ. KOB5 (1:16)) GO TO 3009
827 GO TO 3020
828 3009 KH7 (1:3) = KOUT (17:19)
829 KH7 (4:16) = KOUT (17:19)
830 KH7 (17:17) = KOUT (36:36)
831 KH7 (18:18) = KOUT (36:36)
832 KH7 (19:19) = KOUT (31:34)
833 KH7 (20:23) = KOUT (31:34)
834 KH7 (24:24) = KOUT (35:35)
835 KH7 (25:25) = KOUT (39:40)
836 KH7 (26:27) = KOUT (39:40)
837 KH7 (28:28) = KOUT (41:46)
838 KH7 (29:34) = KOUT (47:52)
839 KH7 (35:35) = KOUT (53:58)
840 KH7 (36:41) = KOUT (53:58)
841 KH7 (42:42) = KOUT (59:61)
842 KH7 (43:48) = KOUT (59:61)
843 KH7 (49:49) = KOUT (65:70)
844 KH7 (50:52) = KOUT (65:70)
845 KH7 (53:53) = KOUT (71:76)
846 KH7 (54:59) = KOUT (71:76)
847 KH7 (60:60) = KOUT (77:82)
848 KH7 (61:66) = KOUT (77:82)
849 KH7 (67:68) = KOUT (77:82)
850 KH7 (69:74) = KOUT (77:82)

851 KH7 (75:75) = KOUT (83:88)
852 KH7 (76:81) = KOUT (83:88)
853 KH7 (82:82) = KOUT (89:94)
854 KH7 (83:88) = KOUT (89:94)
855 KH7 (89:91) = KOUT (167:171)
856 KH7 (92:96) = KOUT (167:171)
857 KH7 (97:97) = KOUT (172:176)
858 KH7 (98:102) = KOUT (172:176)
859 KH7 (103:103) = KOUT (177:181)
860 KH7 (104:108) = KOUT (177:181)
861 KH7 (109:109) = KOUT (182:186)
862 KH7 (110:114) = KOUT (182:186)
863 KH7 (115:115) = KOUT (187:191)
864 KH7 (116:120) = KOUT (187:191)
865 KH7 (121:121) = KOUT (192:196)
866 KH7 (122:126) = KOUT (192:196)
867 KH7 (131:131) = KOUT (192:196)
868 KH7 (132:132) = KOUT (192:196)
869 30099 WRITE (19,100)KH7
870 KCOUNT = KCOUNT + 1
871 IF (KCOUNT.GT. 54) GO TO 3023
872 *****
873 * THIRD RECORD *
874 *****
875 3010 READ (20,REC=INUM,ERR=9998)KOUT
876 INUM = INUM + 1
877 IF (KOUT(17:19).EQ. ' ') GO TO 3010
878 IF (KOUT(1:16).EQ. KOB5 (1:16)) GO TO 3021
879 KH7 (1:1) = KOUT (21:23)
880 KH7 (2:4) = KOUT (21:23)
881 IF (KH7(2:2).EQ. ' ')KH7(2:2) = '0'
882 KH7 (5:5) = KOUT (24:25)
883 KH7 (6:7) = KOUT (24:25)
884 KH7 (8:8) = KOUT (26:28)
885 KH7 (9:11) = KOUT (26:28)
886 KH7 (12:12) = KOUT (29:30)
887 KH7 (13:14) = KOUT (29:30)
888 KH7 (15:16) = KOUT (31:34)
889 KH7 (17:17) = KOUT (36:36)
890 KH7 (18:18) = KOUT (36:36)
891 KH7 (19:19) = KOUT (31:34)
892 KH7 (20:23) = KOUT (31:34)
893 KH7 (24:24) = KOUT (35:35)
894 KH7 (25:25) = KOUT (35:35)
895 KH7 (26:27) = KOUT (39:40)
896 KH7 (28:28) = KOUT (41:46)
897 KH7 (29:34) = KOUT (41:46)
898 KH7 (35:35) = KOUT (47:52)
899 KH7 (36:41) = KOUT (47:52)
900 KH7 (42:42) = KOUT (47:52)

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901 KH7 (43:48) = KOUT (53:58)
902 KH7 (49:49) =
903 KH7 (50:52) = KOUT (59:61)
904 KH7 (53:53) =
905 KH7 (54:59) = KOUT (65:70)
906 KH7 (60:60) =
907 KH7 (61:66) = KOUT (71:76)
908 KH7 (67:68) =
909 KH7 (69:74) = KOUT (77:82)
910 KH7 (75:75) =
911 KH7 (76:81) = KOUT (83:88)
912 KH7 (82:82) =
913 KH7 (83:88) = KOUT (89:94)
914 KH7 (89:91) =
915 KH7 (92:96) = KOUT (167:171)
916 KH7 (97:97) =
917 KH7 (98:102) = KOUT (172:176)
918 KH7 (103:103) =
919 KH7 (104:108) = KOUT (177:181)
920 KH7 (109:109) =
921 KH7 (110:114) = KOUT (182:186)
922 KH7 (115:115) =
923 KH7 (116:120) = KOUT (187:191)
924 KH7 (121:121) =
925 KH7 (122:126) = KOUT (192:196)
926 KH7 (131:131) =
927 KH7 (132:132) =
928 3011 WRITE (19,100)KH7
929 KCOUNT = KCOUNT + 1
930 IF (KCOUNT .GT. 54) GO TO 3050
931 KH7(1:16) =
932 *****
933 * REST OF RECORDS
934 *****
935 3012 READ (20,REC=INUM,ERR=9998)KOUT
936 INUM = INUM + 1
937 IF (KOUT(17:19) .EQ. ' ') GO TO 3012
938 IF (KOUT (1:16) .EQ. KOB5 (1:16)) GO TO 3013
939 WRITE (19,100)KF5
940 GO TO 3005
941 3013 KH7(17:17) =
942 KH7(18:18) = KOUT (36:36)
943 KH7 (19:19) =
944 KH7 (20:23) = KOUT (31:34)
945 KH7(24:24) =
946 KH7 (25:25) = KOUT (35:35)
947 KH7(26:27) = KOUT (39:40)
948 KH7 (28:28) =
949 KH7 (29:34) = KOUT (41:46)
950 KH7 (35:35) =

951 KH7 (36:41) = KOUT (47:52)
952 KH7 (42:42) =
953 KH7 (43:48) = KOUT (53:58)
954 KH7 (49:49) =
955 KH7 (50:52) = KOUT (59:61)
956 KH7 (53:53) =
957 KH7 (54:59) = KOUT (65:70)
958 KH7 (60:60) =
959 KH7 (61:66) = KOUT (71:76)
960 KH7 (67:68) =
961 KH7 (69:74) = KOUT (77:82)
962 KH7 (75:75) =
963 KH7 (76:81) = KOUT (83:88)
964 KH7 (82:82) =
965 KH7 (83:88) = KOUT (89:94)
966 KH7 (89:91) =
967 KH7 (92:96) = KOUT (167:171)
968 KH7 (97:97) =
969 KH7 (98:102) = KOUT (172:176)
970 KH7 (103:103) =
971 KH7 (104:108) = KOUT (177:181)
972 KH7 (109:109) =
973 KH7 (110:114) = KOUT (182:186)
974 KH7 (115:115) =
975 KH7 (116:120) = KOUT (187:191)
976 KH7 (121:121) =
977 KH7 (122:126) = KOUT (192:196)
978 KH7 (131:131) =
979 KH7 (132:132) =
980 3014 WRITE (19,100)KH7
981 KCOUNT = KCOUNT + 1
982 IF (KCOUNT .GT. 54) GO TO 3050
983 GO TO 3012
984 *****
985 * *****
986 * *****
987 *****
988 3020 KSPACE (1:3) = KCODE (1:3)
989 WRITE (19,100)KSPACE
990 KSPACE(1:1) =
991 KSPACE (2:4) = KLAT (1:3)
992 KSPACE (5:5) =
993 KSPACE (6:7) = KLAT(4:5)
994 KSPACE (8:8) =
995 KSPACE (9:11) = KLONG (1:3)
996 KSPACE (12:12) =
997 KSPACE (13:14) = KLONG (4:5)
998 KSPACE (15:16) =
999 KSPACE(17:17) =
1000 WRITE (19,100)KSPACE

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```

1051 WRITE (19,100) KF5
1052 KCOUNT = KCOUNT + 2
1053 GO TO 3050
1054 *****
1055 *****
1056 *****
1057 *****
1058 *****
1059 *****
1060 *****
1061 *****
1062 *****
1063 *****
1064 *****
1065 *****
1066 *****
1067 *****
1068 *****
1069 *****
1070 *****
1071 *****
1072 *****
1073 *****
1074 *****
1075 *****
1076 *****
1077 *****
1078 *****
1079 *****
1080 *****
1081 *****
1082 *****
1083 *****
1084 *****
1085 *****
1086 *****
1087 *****
1088 *****
1089 *****
1090 *****
1091 *****
1092 *****
1093 *****
1094 *****
1095 *****
1096 *****
1097 *****
1098 *****
1099 *****
1100 *****
1101 *****

```

```

1051 WRITE (19,100) KF5
1052 KCOUNT = KCOUNT + 2
1053 GO TO 3050
1054 *****
1055 *****
1056 *****
1057 *****
1058 *****
1059 *****
1060 *****
1061 *****
1062 *****
1063 *****
1064 *****
1065 *****
1066 *****
1067 *****
1068 *****
1069 *****
1070 *****
1071 *****
1072 *****
1073 *****
1074 *****
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1076 *****
1077 *****
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1079 *****
1080 *****
1081 *****
1082 *****
1083 *****
1084 *****
1085 *****
1086 *****
1087 *****
1088 *****
1089 *****
1090 *****
1091 *****
1092 *****
1093 *****
1094 *****
1095 *****
1096 *****
1097 *****
1098 *****
1099 *****
1100 *****
1101 *****

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1001 KSPACE (1:16) = '
1002 WRITE (19,100)KF5
1003 KCOUNT = KCOUNT + 3
1004 IF (KCOUNT .GT. 55) GO TO 3050
1005 GO TO 3005
1006 KSPACE(1:1) = '(
1007 KSPACE (2:4) = KLAT (1:3)
1008 KSPACE (5:5) = '
1009 KSPACE (6:7) = KLAT (4:5)
1010 KSPACE (8:8) = '
1011 KSPACE (9:11) = KLONG (1:3)
1012 KSPACE (12:12) = '
1013 KSPACE (13:14) = KLONG (4:5)
1014 KSPACE (15:16) = '
1015 KSPACE(17:17) = '
1016 WRITE (19,100) KSPACE
1017 KSPACE (1:16) = '
1018 WRITE (19,100) KF5
1019 KCOUNT = KCOUNT + 2
1020 GO TO 3005
1021 *****
1022 KSPACE (1:3) = KCODE (1:3)
1023 WRITE (19,100)KSPACE
1024 KSPACE(1:1) = '(
1025 KSPACE (2:4) = KLAT (1:3)
1026 KSPACE (5:5) = '
1027 KSPACE (6:7) = KLAT(4:5)
1028 KSPACE (8:8) = '
1029 KSPACE (9:11) = KLONG (1:3)
1030 KSPACE (12:12) = '
1031 KSPACE (13:14) = KLONG (4:5)
1032 KSPACE (15:16) = '
1033 KSPACE(17:17) = '
1034 WRITE (19,100)KSPACE
1035 KSPACE (1:16) = '
1036 WRITE (19,100)KF5
1037 KCOUNT = KCOUNT + 3
1038 GO TO 3050
1039 KSPACE(1:1) = '(
1040 KSPACE (2:4) = KLAT (1:3)
1041 KSPACE (5:5) = '
1042 KSPACE (6:7) = KLAT (4:5)
1043 KSPACE (8:8) = '
1044 KSPACE (9:11) = KLONG (1:3)
1045 KSPACE (12:12) = '
1046 KSPACE (13:14) = KLONG (4:5)
1047 KSPACE (15:16) = '
1048 KSPACE(17:17) = '
1049 WRITE (19,100) KSPACE
1050 KSPACE (1:16) = '

```

```

1104 SUBROUTINE GEOSUB (PASS)
1105 *****
1106 * SUBROUTINE
1107 *****
1108
1109 INTEGER*4 KNUM,K19YR
1110 DIMENSION KNUM(500), KOUTI(50),K19YR(500)
1111 CHARACTER*3 KCOD(500)
1112 CHARACTER*71 KS1
1113 CHARACTER*71 KS2
1114 CHARACTER*71 KS3
1115 CHARACTER*71 KS4
1116 CHARACTER*71 KS5
1117 CHARACTER*71 KS6
1118 CHARACTER*71 KZ
1119 CHARACTER*30 PASS
1120 CHARACTER*200 KOUT
1121 CHARACTER*3 ICOD
1122 CHARACTER*10 KYEAR
1123 PRINT *,PASS(1:2)
1124 IF (PASS(2:2) .NE. '0') GO TO 5004
1125
1126 KS1 (1:17) = 'OBSERVATORY'
1127 KS1 (18:20) = 'COD'
1128 KS1 (21:25) = 'KAQ'
1129 KS1 (26:40) = 'NORMAL MONTHS'
1130 KS1 (41:55) = 'RAPID RUN'
1131 KS1 (56:71) = 'HOURLY ANY'
1132
1133 KS2 (1:17) = 'OBSERVATORY'
1134 KS2 (18:25) = 'COD'
1135 KS2 (26:54) = 'KAQ'
1136 KS2 (55:71) = 'HOURLY ANY'
1137
1138 KS4 (1:17) = 'OBSERVATORY'
1139 KS4 (18:20) = 'COD'
1140 KS4 (21:25) = 'KAQ'
1141 KS4 (26:40) = 'HOURLY DIGITAL'
1142 KS4 (41:55) = '2.5-MINUTE'
1143 KS4 (56:71) = '1.0-MINUTE'
1144
1145 KS5 (1:17) = 'OBSERVATORY'
1146 KS5 (18:20) = 'COD'
1147 KS5 (21:25) = 'KAQ'
1148 KS5 (26:28) = 'NORM1'
1149 KS5 (29:34) = 'NORM2'
1150 KS5 (35:40) = 'RAPID'
1151 KS5 (41:46) = 'STORM'
1152 KS5 (47:52) = 'STORM'
1153
1154 KS5 (53:58) = 'HOURLY'
1155 KS5 (59:68) = 'Q-INDICES'

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1156 KS6 (1:17) = 'OBSERVATORY'
1157 KS6 (18:26) = 'COD'
1158 KS6 (27:57) = 'KAQ'
1159 KS6 (58:71) = 'HOURLY ANY'
1160 *****
1161 * LIST OUT ALL OBSERVATORIES FOR A GIVEN YEAR
1162 * *****
1163 * *****
1164 * *****
1165 *****
1166 *****
1167 * LOAD INDEXES
1168 *****
1169 5080 INUM = 1
1170 J= 1
1171 5081 READ (20,REC=INUM)KOUT1
1172 DO 5082 I=1,50
1173 KNUM (J) = KOUTI (I)
1174 J=J+1
1175 5082 CONTINUE
1176 INUM = INUM + 1
1177 IF (INUM .GT. 10) GO TO 5083
1178 GO TO 5081
1179
1180 5083 INUM = 11
1181 I1 = 1
1182 I2 = 3
1183 I3 = 1
1184 5084 READ (20,REC=INUM)KOUT
1185 DO 5085 I=1,50
1186 KCOD (I3) = KOUT (I1:I2)
1187 I1 = I1 + 3
1188 I2 = I2 + 3
1189 I3 = I3 + 1
1190 5085 CONTINUE
1191 INUM = INUM + 1
1192 IF (INUM .GT. 20) GO TO 5086
1193 I1 = 1
1194 I2 = 3
1195 GO TO 5084
1196
1197 5086 INUM=21
1198 J=1
1199 5087 READ (20,REC=INUM)KOUT1
1200 DO 5088 I = 1,50
1201 K19YR (J) = KOUTI (I)
1202 J= J+1
1203 5088 CONTINUE
1204 INUM = INUM + 1
1205 IF (INUM .GT. 30) GO TO 5001

```

```

1206 GO TO 5087
1207 *****
1208 * ALL INDEXES ARE LOADED *****
1209 *****
1210 *****
1211 5001 OPEN (19,FILE='GEOPRINTA',STATUS='NEW',
1212 - FORM='FORMATTED')
1213 5004 IF (PASS(1:1)).EQ. '5') GO TO 6000
1214 PRINT *, 'WELCOME TO SELECT BY YEAR ROUTINE'
1215
1216 5003 PRINT *, 'ENTER YEAR (LIKE 1980) OR END'
1217 10 FORMAT (A)
1218 READ (*,10)KYEAR
1219 IF (KYEAR(1:1)).EQ. 'E') GO TO 5011
1220 IF (KYEAR(1:1)).NE. '1')GO TO 5001
1221 READ (KYEAR,FMT='(14)')L
1222 PRINT *,L
1223 J=1
1224 PRINT *, 'ENTER 1 = ANALOG LISTING'
1225 PRINT *, 'ENTER 2 = DIGITAL LISTING'
1226 PRINT *, 'ENTER 3 = FILM LISTING'
1227 READ (*,10)PASS
1228 IF (PASS(1:1)).EQ. '2') GO TO 5020
1229 IF (PASS(1:1)).EQ. '3') GO TO 5030
1230 KS3(1:20) = ' '
1231 KS3(21:33) = ' '
1232 KS3(34:41) = ' '
1233 PRINT *,KS3
1234 WRITE (19,101)KS3
1235 KS3(34:35) = ' '
1236 KS3(36:39) = KYEAR(1:4)
1237 KS3(40:41) = ' '
1238 PRINT *,KS3
1239 WRITE (19,101)KS3
1240 KS3(34:41) = '-----'
1241 PRINT *,KS3
1242 WRITE (19,101)KS3
1243
1244 PRINT *,KS1
1245 PRINT *,KS2
1246 WRITE (19,101)KS1
1247 WRITE (19,101)KS2
1248 101 FORMAT (A71)
1249 *****
1250 * CALCULATE LOCATIONS OF EACH OBS-YEAR *****
1251 *****
1252 50016 INUM = KNUM (J) + (L - K19YR (J))
1253 READ (20,REC=INUM,ERR=5010)KOUT
1254 J=J+1
1255 IF (J .GT. 500) GO TO 5010
IF (J .GT. 500) GO TO 5010
IF (KOUT(1:5)).EQ. ' ') GO TO 50016
IF (KYEAR(1:4)).EQ. KOUT(31:34)) GO TO 5002
GO TO 50016
KS3(1:16) = KOUT (1:16)
KS3(17:17) = ' '
KS3(18:20) = KOUT (17:19)
KS3(21:21) = ' '
KS3(22:22) = KOUT (35:35)
KS3(23:24) = KOUT (39:40)
KS3(25:26) = ' '
KS3(27:27) = KOUT (41:41)
KS3(28:28) = ' '
KS3(29:40) = KOUT (47:58)
KS3(41:41) = ' '
KS3(42:42) = KOUT (59:59)
KS3(43:43) = ' '
KS3(44:55) = KOUT(65:76)
KS3(56:56) = ' '
KS3(57:57) = KOUT (77:77)
KS3(58:58) = ' '
KS3(59:70) = KOUT(83:94)
KS3(71:71) = ' '
PRINT *,KS3
WRITE (19,101)KS3
GO TO 50016
GO TO 5003
PRINT *, 'YOUR LISTING IS ON FILE GEOPRINTA'
GO TO 9999
KS3(1:34) = ' '
KS3(34:41) = ' '
PRINT *,KS3
WRITE (19,101)KS3
KS3(34:35) = ' '
KS3(36:39) = KYEAR(1:4)
KS3(40:41) = ' '
PRINT *,KS3
WRITE (19,101)KS3
KS3(34:41) = '-----'
PRINT *,KS3
WRITE (19,101)KS3
PRINT *,KS4
PRINT *,KS2
WRITE (19,101)KS4
WRITE (19,101)KS2
INUM = KNUM (J) + (L - K19YR (J))
READ (20,REC=INUM,ERR=5010)KOUT
J=J+1
IF (J .GT. 500) GO TO 5010

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```

1306 IF (KOUT(1:5) .EQ. ' ') GO TO 5021
1307 IF (KYEAR(1:4) .EQ. KOUT(31:34)) GO TO 5022
1308 GO TO 5021
1309 5022 KS3(1:16) = KOUT (1:16)
1310 KS3(17:17) = ' '
1311 KS3(18:20) = KOUT (17:19)
1312 KS3(21:21) = ' '
1313 KS3(22:22) = KOUT (35:35)
1314 KS3(23:24) = KOUT (39:40)
1315 KS3(25:26) = ' '
1316 KS3(27:27) = KOUT (95:95)
1317 KS3(28:28) = ' '
1318 KS3(29:40) = KOUT (101:112)
1319 KS3(41:41) = ' '
1320 KS3(42:42) = KOUT (113:113)
1321 KS3(43:43) = ' '
1322 KS3(44:55) = KOUT (119:130)
1323 KS3(56:56) = ' '
1324 KS3(57:57) = KOUT (131:131)
1325 KS3(58:58) = ' '
1326 KS3(59:70) = KOUT(137:148)
1327 KS3(71:71) = ' '
1328 PRINT *,KS3
1329 WRITE (19,101)KS3
1330 GO TO 5021
1331 *****
1332 * FILM
1333 *****
1334 5030 KS3(1:20) = ' '
1335 KS3(21:33) = ' '
1336 KS3(34:41) = ' '
1337 PRINT *,KS3
1338 WRITE (19,101)KS3
1339 KS3(34:35) = ' '
1340 KS3(36:39) = KYEAR(1:4)
1341 KS3(40:41) = ' '
1342 PRINT *,KS3
1343 WRITE (19,101)KS3
1344 KS3(34:41) = '-----'
1345 PRINT *,KS3
1346 WRITE (19,101)KS3
1347
1348 PRINT *,KS5
1349 PRINT *,KS6
1350 WRITE (19,101)KS5
1351 WRITE (19,101)KS6
1352 5031 INUM = KNUM (J) + (L - K19YR (J))
1353 READ (20,REC=INUM,ERR=5010)KOUT
1354 J=J+1
1355 IF (KOUT(1:5) .EQ. ' ') GO TO 5031

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1356 IF (J .GT. 500) GO TO 5010
1357 IF (KYEAR(1:4) .EQ. KOUT(31:34)) GO TO 5032
1358 GO TO 5031
1359 5032 KS3(1:16) = KOUT (1:16)
1360 KS3(17:17) = ' '
1361 KS3(18:20) = KOUT (17:19)
1362 KS3(21:21) = ' '
1363 KS3(22:22) = KOUT (35:35)
1364 KS3(23:23) = ' '
1365 KS3(24:25) = KOUT (39:40)
1366 KS3(26:29) = ' '
1367 KS3(30:34) = KOUT(167:171)
1368 KS3(35:35) = ' '
1369 KS3(36:40) = KOUT(172:176)
1370 KS3(41:41) = ' '
1371 KS3(42:46) = KOUT(177:181)
1372 KS3(47:47) = ' '
1373 KS3(48:52) = KOUT(182:186)
1374 KS3(53:53) = ' '
1375 KS3(54:58) = KOUT(187:191)
1376 KS3(59:59) = ' '
1377 KS3(60:64) = KOUT (192:196)
1378 WRITE (19,101)KS3
1379 PRINT *,KS3
1380 GO TO 5031
1381 *****
1382 * LISTOUT ARE YEARS OF DATA FOR A GIVEN OBSERVATORY *
1383 * *****
1384 * *****
1385 *****
1386 *****
1387 6000 PRINT *, 'WELCOME TO SELECT BY OBSERVATORY'
1388 6001 PRINT *, 'ENTER OBSERVATORY CODE--(LIKE IRT)'
1389 READ (*,10)ICOD
1390 J=1
1391 DO 6080 I=1,500
1392 IF (ICOD (1:3) .EQ. KCOD (I)) GO TO 6081
1393 J=J+1
1394 6080 CONTINUE
1395 PRINT *, 'NO SUCH OBSERVATORY--TRY AGAIN'
1396 GO TO 9999
1397
1398 INUM =KNUM (J)
1399 PRINT *, 'LOCATION OF FIRST RECORD IN OBS = ', INUM
1400 READ (20,REC=INUM,ERR=9999)KOUT
1401 KZ (1:29) = ' '
1402 KZ (30:54) = ' '
1403 PRINT *,KZ
1404 WRITE (19,101)KZ
1405 KZ(1:16) = ' | OBSERVATORY = '

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1456 6002 READ (20,REC=INUM,ERR=9999)KOUT
1457 IF (KOUT(31:34).EQ.' ') GO TO 9999
1458 KZ(55:66) = KOUT(119:130)
1459 KZ(67:67) =
1460 IF (KOUT(137:148).NE.' ')
1461 - KZ(55:66) = KOUT(137:148)
1462 IF (KOUT(137:148).NE.' ')
1463 - KZ(67:67) = '*'
1464 KZ(1:4) = KOUT(31:34)
1465 KZ(5:6) =
1466 KZ(7:7) = KOUT(35:35)
1467 KZ(8:8) = KOUT(39:40)
1468 KZ(9:12) =
1469 KZ(13:24) = KOUT(47:58)
1470 KZ(25:26) =
1471 KZ(27:38) = KOUT(83:94)
1472 KZ(39:40) =
1473 KZ(41:52) = KOUT(101:112)
1474 KZ(53:54) =
1475 PRINT *,KZ
1476 WRITE (19,101)KZ
1477
1478 INUM= INUM + 1
1479 GO TO 6002
1480
1481 9999 RETURN
1482 END
1483

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KZ(17:32) = KOUT(1:16)
KZ(33:40) = ' CODE = '
KZ(41:43) = KOUT(17:19)
KZ(44:54) =
PRINT *,KZ
WRITE (19,101)KZ

KZ(1:29) = ' |
KZ(30:54) = ' | LATTITUDE =
KZ(13:15) = KOUT(21:23)
KZ(16:16) =
KZ(17:18) = KOUT(24:25)
KZ(19:24) = ' NORTH'
IF (KOUT(21:21).EQ.' - ') KZ(18:23) = ' SOUTH'
IF (KOUT(22:22).EQ.' - ') KZ(18:23) = ' SOUTH'
KZ(30:41) = ' LONGITUDE =
KZ(42:44) = KOUT(26:28)
KZ(45:45) =
KZ(46:47) = KOUT(29:39)
KZ(48:55) = ' EAST |
PRINT *,KZ
WRITE (19,101)KZ

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1484 SUBROUTINE GEOSB1 (PASS)
1485 *****
1486 * 10-SECOND TYPE CATALOG LISTING
1487 *
1488 *
1489 *****
1490
1491 CHARACTER*132 KSPACE
1492 CHARACTER*200 KOUT
1493 CHARACTER*132 KTEMP
1494 CHARACTER*132 KH1
1495 CHARACTER*132 KH2
1496 CHARACTER*132 KH3
1497 CHARACTER*30 PASS
1498 CHARACTER*3 KCODE
1499 CHARACTER*3 KCODE2
1500 CHARACTER*1 KPAGE
1501
1502 KPAGE (1:1) = ''
1503 KH1 (1:8) = 'TABLE VI'
1504 KH1 (9:35) = ''
1505 KH1 (36:71) = 'HIGH-RESOLUTION GEOMAGNETIC DIGITAL'
1506 KH1 (72:75) = 'DATA'
1507
1508 KH2 (1:16) = 'OBSERVATORY'
1509 KH2 (17:21) = 'CODE'
1510 KH2 (22:49) = 'YEAR WDC 10-SECOND DATA'
1511 KH2 (50:61) = ''
1512 KH2 (62:90) = 'OBSERVATORY CODE YEAR'
1513 KH2 (91:110) = 'WDC 10-SECOND DATA'
1514
1515 KH3 (1:17) = ''
1516 KH3 (18:52) = ''
1517 KH3 (53:61) = ''
1518 KH3 (62:97) = ''
1519 KH3 (98:110) = ''
1520
1521 KSPACE(1:30) = ''
1522 KSPACE(31:60) = ''
1523 KSPACE(61:90) = ''
1524 KSPACE(91:120) = ''
1525 KSPACE(121:132) = ''
1526
1527 PRINT *,
1528
1529 PRINT *
1530 -|| WELCOME TO 10-SECOND CATALOG LISTING
1531 PRINT *
1532 -||
1533 PRINT *

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1534
1535 PRINT *
1536 -|| 1) THE MASTER DATA BASE IS SEARCHED AND A
1537 PRINT *
1538 -|| FILE IS CREATED CONTAINING 10-SECOND DATA
1539 PRINT *
1540
1541 PRINT *
1542 -|| 2) A 10-SECOND LISTING IS CREATED FROM THE
1543 PRINT *
1544 -|| NEW DATA BASE
1545 PRINT *
1546
1547 PRINT *
1548 -|| THE NEW DATA BASE IS SAVED AND MAYBE USED
1549 PRINT *
1550 -|| PRODUCE ADDITIONAL LISTINGS
1551 PRINT *
1552
1553 PRINT *
1554 -|| 3) THE LISTING FILE IS NAMED GEOPRINTC
1555 PRINT *
1556 -||
1557
1558 PRINT *,'DO YOU HAVE A 10-SECOND DATA BASE--'
1559 -ENTER Y/N'
1560 READ (*,10)PASS
1561 FORMAT (A)
1562
1563 INUM=35
1564 J=1
1565
1566 IF (PASS(1:1) .EQ. '1') GO TO 10001
1567 OPEN (25,FILE='GEOTEMP',ACCESS='DIRECT',RECL=200,
1568 -FORM='UNFORMATTED')
1569 10001 IF (PASS(1:1) .EQ. 'Y') GO TO 2001
1570 *****
1571 * READ ALL RECORDS IN MAIN DATA BASE-SECOND DATA *
1572 * SELECT ONLY RECORDS WHICH HAVE 10 SECOND DATA *
1573 * SEPARATE OBSERVATORIES WITH A BLANK RECORD *
1574 *****
1575 1001 READ (20,REC=INUM,ERR=2000)KOUT
1576 INUM = INUM+1
1577 IF (KOUT(149:149) .NE. 'A') GO TO 1001
1578
1579 1002 IF (J .EQ. 1) KCODE (1:3) = KOUT(17:19)
1580 IF(KCODE(1:3) .EQ. KOUT(17:19))GO TO 1003
1581 KSPACE(17:19) = KCODE(1:3)
1582 KSPACE(1:5) =
1583 WRITE (25,REC=J)KSPACE

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1584 J=J+1
1585 KCODE(1:3) = KOUT(17:19)
1586 WRITE (25,REC=J)KOUT
1587 J=J+1
1588 GO TO 1001
1589 *****
1590 * ALL DATA HAS BEEN SELECTED
1591 * BUILD A PAGE WITH TWO COLUMNS
1592 *****
1593 2000 PRINT *, 'ALL 10-SECOND HAS BEEN SELECTED'
1594 PRINT *, 'NUMBER OF RECORDS = ', J
1595 2001 OPEN (26,FILE='GEOPRINTC',STATUS='NEW',
1596 -FORM='FORMATTED')
1597 *****
1598 * FIND BEGINNING OF AN OBSERVATORY ONE PAGE DOWN
1599 * FOR THE SECOND COLUMN
1600 *****
1601 J=1
1602 K=40
1603 4000 READ (25,REC=K)KOUT
1604 K=K+1
1605 PRINT *,K,' ',KOUT(1:35)
1606 IF (KOUT(1:5) .EQ. ' ') GO TO 4002
1607
1608 GO TO 4000
1609 WRITE (26,100)KPAGE
1610 WRITE (26,100)KH1
1611 WRITE (26,100)KSPACE
1612 WRITE (26,100)KH2
1613 WRITE (26,100)KH3
1614 WRITE (26,100)KSPACE
1615 K HOLD = K
1616 PRINT *, 'SECOND DATA COLUMN BEGINS AT POSITION = ', K
1617 100 FORMAT (A132)
1618 *****
1619 * FIRST HALF OF PAGE
1620 *****
1621 2002 IF (J .GE. KHOLD) GO TO 2050
1622 READ (25,REC=J,ERR=9999)KOUT
1623 J=J+1
1624 KTEMP(1:49) = '
1625 IF (KOUT(17:19) .EQ. KCODE(1:3)) GO TO 2003
1626 KTEMP(1:16) = KOUT(1:16)
1627 KTEMP(17:18) = '
1628 KTEMP(19:21) = KOUT(17:19)
1629 KTEMP(22:23) = '
1630 KCODE(1:3) = KOUT(17:19)
1631 IF (KOUT(1:5) .EQ. ' ') GO TO 2004
1632 2003 KTEMP(24:27) = KOUT (31:34)
1633 *****
1634 KTEMP (28:29) = '
1635 KTEMP (30:35) = KOUT (149:154)
1636 KTEMP (36:41) = KOUT (155:160)
1637 KTEMP (42:43) = '
1638 KTEMP (44:49) = KOUT (161:166)
1639 *****
1640 * SECOND HALF OF PAGE
1641 *****
1642 2004 READ (25,REC=K,ERR=3000)KOUT
1643 K=K+1
1644 KTEMP(50:82) = '
1645 IF (KOUT(17:19) .EQ. KCODE2(1:3)) GO TO 2005
1646 KTEMP (62:77) = KOUT(1:16)
1647 KTEMP (78:79) = '
1648 KTEMP (80:82) = KOUT(17:19)
1649 KTEMP (84:85) = '
1650 KCODE2(1:3) = KOUT(17:19)
1651 *****
1652 2005 KTEMP (86:89) = KOUT (31:34)
1653 KTEMP (90:91) = '
1654 KTEMP (92:97) = KOUT (149:154)
1655 KTEMP (98:103) = KOUT (155:160)
1656 KTEMP (104:105) = '
1657 KTEMP (106:111) = KOUT (161:166)
1658 *****
1659 WRITE (26,100)KTEMP
1660 GO TO 2002
1661 *****
1662 * END OF A PAGE
1663 *****
1664 2050 KTEMP(1:30) = '
1665 KTEMP(31:49) = '
1666 2051 READ (25,REC=K,ERR=9999)KOUT
1667 K=K+1
1668 KTEMP(50:61) = '
1669 KTEMP(62:77) = '
1670 KTEMP(78:82) = '
1671 IF (KOUT(17:19) .EQ. KCODE2(1:3)) GO TO 2052
1672 J=K
1673 K=K+40
1674 PRINT *,J = ',J
1675 PRINT *,K = ',K
1676 READ (25,REC=J)KOUT
1677 PRINT *,KOUT
1678 J= J-1
1679 READ (25,REC=J)KOUT
1680 PRINT *,KOUT
1681 GO TO 4000
1682 *****
1683 2052 KTEMP (86:89) = KOUT (31:34)

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1684 KTEMP (90:91) = ' '
1685 KTEMP (92:97) = KOUT (149:154)
1686 KTEMP (98:103) = KOUT (155:160)
1687 KTEMP (104:105) = ' '
1688 KTEMP (106:111) = KOUT (161:166)
1689
1690 WRITE (26,100)KTEMP
1691 GO TO 2002
1692 *****
1693 * END OF GEOTEMP FILE *
1694 * NO ADDITIONAL SECOND COLUMNS *
1695 *****
1696 3000 KTEMP(50:82) = ' '
1697 KTEMP(83:113) = ' '
1698
1699 WRITE(26,100)KTEMP
1700 3001 IF (J .GE. KHOLD) GO TO 9999
1701 READ (25,REC=J,ERR=9999)KOUT
1702 J=J+1
1703 KTEMP(1:30) = ' '
1704 KTEMP(31:49) = ' '
1705 IF (KOUT(17:19) .EQ. KCODE(1:3)) GO TO 3003
1706 KTEMP(1:16) = KOUT(1:16)
1707 KTEMP(17:18) = ' '
1708 KTEMP(19:21) = KOUT(17:19)
1709 KTEMP (22:23) = ' '
1710 KCODE(1:3) = KOUT(17:19)
1711 3003 IF (KOUT(1:5) .EQ. ' ') GO TO 3004
1712 KTEMP (24:27) = KOUT (31:34)
1713 KTEMP (28:29) = ' '
1714 KTEMP (30:35) = KOUT (149:154)
1715 KTEMP (36:41) = KOUT (155:160)
1716 KTEMP (42:43) = ' '
1717 KTEMP (44:49) = KOUT (161:166)
1718 WRITE (26,100)KTEMP
1719 GO TO 3001
1720
1721 9999 PRINT *, 'THE LISTING IS ON FILE GEOPRINTC'
1722 RETURN
1723 END
1724

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1775 CHARACTER*132 KH6
1776 CHARACTER*132 KH7
1777 CHARACTER*132 KH8
1778 CHARACTER*132 KSPACE
1779 CHARACTER*10 KL
1780 CHARACTER*1 KNPAGE
1781
1782 KNPAGE (1:1) = ''
1783
1784 KSPACE(1:30) = ''
1785 KSPACE(31:60) = ''
1786 KSPACE(61:90) = ''
1787 KSPACE(91:120) = ''
1788 KSPACE(121:132) = ''
1789
1790
1791 KH1(1:7) = 'TABLE 1'
1792 KH1(8:30) = ''
1793 KH1(31:50) = ''
1794 KH1(51:86) = 'GEOMAGNETIC OBSERVATORY TABLE'
1795
1796 KH11(1:40) = ''
1797 KH11(41:70) = ''
1798 KH12(1:40) = ''
1799 KH12(41:70) = '1 9 8 0'
1800 KH2(1:32) = '(SEQUENCED BY OBSERVATORY NAME)'
1801
1802 KH22(1:32) = '(ALL VALUES AS OF 1980.5)'
1803
1804 KH3(1:20) = ''
1805 KH3(21:46) = 'G E O G R A P H I C'
1806 KH3(47:87) = 'G E O M A G N E T I C M O D E L S'
1807 KH3(88:120) = 'A N N U A L V A'
1808 KH3(121:130) = 'L U E S'
1809
1810 KH4(1:24) = ''
1811 KH4(25:49) = 'COORDINATES'
1812 KH4(50:79) = 'DIPOLE'
1813 KH4(80:109) = 'TSYGANENKO'
1814 KH4(110:131) = 'OR IGRF CALCULATED(*)'
1815
1816 KH5(1:29) = 'OBSERVATORY CODE LAT E'
1817 KH5(30:42) = 'LONG CO-LAT'
1818 KH5(43:79) = 'CO-LAT E LONG CO-LAT E LONG CO'
1819 KH5(80:91) = '-LAT E LONG'
1820 KH5(92:131) = 'D H Z X Y'
1821 KH6(1:38) = '-----'
1822 KH6(39:53) = '-----'
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SUBROUTINE GEOSB2 (PASS)
*****
LISTS TABLE 1 AND TABLE 2
*****
FILE1 FORMAT
*****
CC 1-16 OBSERVATORY NAME
17 BLANK
18-20 CODE
21-26 GEOGRAPHIC LATITUDE
27-32 GEOGRAPHIC LONGITUDE
33-38 GEOGRAPHIC CO-LATITUDE
39 BLANK
40-45 DIPOLE CO-LATITUDE
46-51 DIPOLE LONGITUDE
52 BLANK
53-58 GUSTAFFSSON CO-LATITUDE
59-64 GUSTAFFSSON LONGITUDE
65 BLANK
66-71 TSYGANENKO CO-LATITUDE
72-77 TSYGANENKO LONGITUDE
78 BLANK
79-84 OBSERVED YEAR (1966.5)
85-90 D OBSERVED
91-96 H OBSERVED
97-102 Z OBSERVED
103-108 X OBSERVED
109-114 Y OBSERVED
115-117 OBSERVED ELEMENTS
118 BLANK
119-124 CALCULATED YEAR (1980.5)
125-130 D CALCULATED
131-136 H CALCULATED
137-142 Z CALCULATED
143-148 X CALCULATED
149-154 Y CALCULATED
155-160 BLANK
*****
CHARACTER*10 PASS
CHARACTER*160 KOUT
CHARACTER*132 KH1
CHARACTER*132 KH11
CHARACTER*132 KH12
CHARACTER*132 KH2
CHARACTER*132 KH22
CHARACTER*132 KH3
CHARACTER*132 KH4
CHARACTER*132 KH5
CHARACTER*132 KH6

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1825 KH6(54:91) = '-----'
1826 KH6(92:130) = '-----'
1827
1828 KH8(1:20) = '-----'
1829 KH8(21:43) = '-----'
1830 KH8(44:80) = '-----'
1831 KH8(81:94) = '-----'
1832 KH8(95:97) = '-----'
1833 KH8(98:130) = '-----'
1834 KLOOP = 0
1835 KPAGE = 0
1836
1837 PRINT *, 'WELCOME TO FILE-1 LISTING'
1838
1839 1000 INUM=1
1840 IF (PASS(1:1) .EQ. '7') GO TO 10002
1841 OPEN (25, FILE='GEOFILE1', ACCESS='DIRECT', RECL=160,
1842 -FORM='UNFORMATTED')
1843 KH1(1:8) = 'TABLE 1'
1844 KH2(1:32) = '(SEQUENCED BY OBSERVATORY NAME)'
1845 OPEN (26, FILE='GEOPRINTD', STATUS='NEW',
1846 -FORM='FORMATTED')
1847 GO TO 10003
1848
1849 10002 OPEN (25, FILE='GEOFILE1C', ACCESS='DIRECT', RECL=160,
1850 -FORM='UNFORMATTED')
1851 OPEN (26, FILE='GEOPRINTD2', STATUS='NEW',
1852 -FORM='FORMATTED')
1853 KH1(1:8) = 'TABLE 2'
1854 KH2(1:32) = '(SEQUENCED BY DIPOLE CO-LAT)'
1855
1856 10003 WRITE (26,100)KNPAGE
1857 WRITE (26,100)KH1
1858 WRITE (26,100)KH11
1859 WRITE (26,100)KH12
1860 WRITE (26,100)KSPACE
1861 WRITE (26,100)KSPACE
1862 WRITE (26,100)KH2
1863 WRITE (26,100)KSPACE
1864 WRITE (26,100)KH3
1865 WRITE (26,100)KH8
1866 WRITE (26,100)KH4
1867 WRITE (26,100)KH5
1868 WRITE (26,100)KH6
1869 WRITE (26,100)KH7
1870
1871 *****
1872 GEOGRAPHIC COORDINATES *****
1873 * *****
1874 *****

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1875
1876 1001 READ (25, REC=INUM, ERR=2000)KOUT
1877 INUM = INUM + 1
1878 KH7(1:20) = KOUT(1:20)
1879 KH7(21:21) =
1880 KH7(22:27) = KOUT(21:26)
1881 KH7(28:28) =
1882 KH7(29:34) = KOUT(27:32)
1883 KH7(35:35) =
1884 KH7(36:41) = KOUT(33:38)
1885 *****
1886 * DIPOLE *****
1887 *****
1888 1002 KH7(42:45) =
1889 KH7(46:51) = KOUT(40:45)
1890 KH7(52:52) =
1891 KH7(53:58) = KOUT(46:51)
1892 KH7(59:61) =
1893 *****
1894 * GUSTAFFSSON *****
1895 *****
1896 1003 KH7(62:67) = KOUT(53:58)
1897 KH7(68:68) =
1898 KH7(69:74) = KOUT(59:64)
1899 KH7(75:77) =
1900 IF (KH7(69:71) .EQ. '999')
1901 -KH7(62:74) =
1902 *****
1903 * TSYGANENKO *****
1904 *****
1905 1004 KH7(78:83) = KOUT(66:71)
1906 KH7(84:84) =
1907 KH7(85:90) = KOUT(72:77)
1908 IF (KH7(85:87) .EQ. '999')KH7(78:90) =
1909 *****
1910 * ANNUAL MEANS *****
1911 *****
1912 1005 KH7(91:110) =
1913 KH7(111:132) =
1914 IF (KOUT(79:84) .NE. '1980.5')GO TO 1006
1915 *****
1916 * OBSERVED DATA *****
1917 * ----- *****
1918 * D ELEMENT *****
1919 *****
1920 KH7(97:102) = KOUT(85:90)
1921 *****
1922 * H ELEMENT *****
1923 *****
1924 KH7(103:104) =

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1975 1009 KLOOP = 0
1976 WRITE (26,100)KSPACE
1977 100 FORMAT (A132)
1978 KPAGE = KPAGE + 1
1979 IF (KPAGE .GE. 7) GO TO 1011
1980 GO TO 1001
1981
1982 1011 WRITE (26,100)KNPAGE
1983 WRITE (26,100)KSPACE
1984 WRITE (26,100)KSPACE
1985 WRITE (26,100)KSPACE
1986 WRITE (26,100)KH22
1987 WRITE (26,100)KSPACE
1988 WRITE (26,100)KH3
1989 WRITE (26,100)KH8
1990 WRITE (26,100)KH4
1991 WRITE (26,100)KH5
1992 WRITE (26,100)KH6
1993 WRITE (26,100)KSPACE
1994 KPAGE = 0
1995 KPAGE = 0
1996 GO TO 1001
1997
1998 2000 PRINT *, 'END OF COPY NUMBER OF RECORDS = ', INUM
1999 IF (PASS(1:1) .EQ. '7')GO TO 2001
2000 PRINT *, 'LISTING IS ON FILE GEOPRINTD'
2001 GO TO 2002
2002 2001 PRINT *, 'LISTING IS ON FILE GEOPRINTD2'
2003 2002 RETURN
2004 END
2005 *****
2006 * LIST ONE OBSERVATORY
2007 * 99999999999999999999
2008 * *****
2009 *****

```

```

1925 KH7(105:109) = KOUT(92:96)
1926 KH7(110:110) = ' '
1927 *****
1928 * Z ELEMENT
1929 *****
1930 KH7(111:116) = KOUT(97:102)
1931 KH7(117:117) = ' '
1932 *****
1933 * X ELEMENT
1934 *****
1935 KH7(118:123) = KOUT(103:108)
1936 *****
1937 * Y ELEMENT
1938 *****
1939 KH7(125:130) = KOUT(109:114)
1940 GO TO 1007
1941
1942 *****
1943 * C A L C U L A T E D   D A T A   *
1944 *
1945 * D ELEMENT
1946 *****
1947 1006 KH7(97:102) = KOUT(125:130)
1948 *****
1949 * H ELEMENT
1950 *****
1951 KH7(103:104) = ' '
1952 KH7(105:109) = KOUT(132:136)
1953 KH7(110:110) = ' '
1954 *****
1955 * Z ELEMENT
1956 *****
1957 KH7(111:116) = KOUT(137:142)
1958 KH7(117:117) = ' '
1959 *****
1960 * X ELEMENT
1961 *****
1962 KH7(118:123) = KOUT(143:148)
1963 KH7(124:124) = ' '
1964 *****
1965 * Y ELEMENT
1966 *****
1967 KH7(125:130) = KOUT(149:154)
1968 KH7(131:131) = ' '
1969 WRITE (26,100)KH7
1970 KLOOP = KLOOP + 1
1971 IF (KLOOP .EQ. 5) GO TO 1009
1972 GO TO 1001
1973
1974

```

```

2010 SUBROUTINE GEOLSB (PASS)
2011
2012 INTEGER*4 KNUM,K19YR
2013 DIMENSION KNUM (500), KOUT1(50),K19YR(500)
2014 CHARACTER*3 KCOD (500)
2015
2016 CHARACTER*200 KOUT
2017 CHARACTER*132 KH1
2018 CHARACTER*132 KH2
2019 CHARACTER*132 KH3
2020 CHARACTER*132 KH4
2021 CHARACTER*132 KH5
2022 CHARACTER*132 KH6
2023 CHARACTER*132 KH7
2024 CHARACTER*1 KPAGE
2025 CHARACTER*10 KLL
2026 CHARACTER*4 KYEAR
2027 CHARACTER*132 KSPACE
2028 CHARACTER*1 PASS
2029 CHARACTER*3 ICOD
2030 CHARACTER*16 KOB5
2031 CHARACTER*3 KCODE
2032 CHARACTER*5 KLAT
2033 CHARACTER*5 KLONG
2034
2035 KPAGE (1:1) = ' '
2036 KH1(1:7) = 'TABLE V'
2037 KH1(8:35) = ' '
2038 KH1(36:61) = 'CATALOG LISTING OF ANALOG'
2039 KH1(62:86) = 'DIGITAL GEOMAGNETIC DATA'
2040
2041 KH2(1:28) = ' '
2042 KH2(29:46) = 'WORLD DATA CENTER'
2043 KH2(47:73) = 'A=BOULDER B=MOSCOW C=KYOTO'
2044 KH2(74:106) = 'D=COPENHAGEN E=EDINBURGH I=BOMBAY'
2045
2046 KH3(1:11) = 'OBSERVATORY'
2047 KH3(12:19) = ' '
2048 KH3(20:26) = 'YEAR KA'
2049 KH3(27:36) = 'Q'
2050 KH3(37:45) = 'NORMAL'
2051 KH3(46:54) = ' '
2052 KH3(55:65) = 'RAPID RUN'
2053 KH3(66:74) = ' '
2054 KH3(75:88) = 'HOURLY VALUES'
2055 KH3(89:97) = ' '
2056 KH3(98:110) = 'HOURLY VALUES'
2057 KH3(111:118) = ' '
2058 KH3(119:129) = '2.5-MINUTE'
2059

```

```

2060
2061 KH4(1:16) = ' '
2062 KH4(17:21) = 'COMP'
2063 KH4(22:29) = ' '
2064 KH4(29:32) = 'WDC'
2065 KH4(33:47) = 'MAGNETOGRAMS'
2066 KH4(48:53) = 'WDC'
2067 KH4(54:65) = 'MAGNETOGRAMS'
2068 KH4(66:74) = 'WDC'
2069 KH4(75:87) = 'ANY MEDIUM'
2070 KH4(88:99) = 'WDC'
2071 KH4(100:112) = 'ON TAPE'
2072 KH4(113:118) = 'WDC'
2073 KH4(119:132) = '1.0-MINUTE(*)'
2074
2075 KH5(1:16) = ' '
2076 KH5(17:34) = ' '
2077 KH5(35:48) = ' '
2078 KH5(49:53) = ' '
2079 KH5(54:66) = ' '
2080 KH5(67:74) = ' '
2081 KH5(75:88) = ' '
2082 KH5(90:98) = ' '
2083 KH5(99:111) = ' '
2084 KH5(112:117) = ' '
2085 KH5(118:131) = ' '
2086 99 FORMAT (A1)
2087
2088 *****
2089 * LOAD INDEXES *
2090 *****
2091 5080 INUM = 1
2092 J= 1
2093 5081 READ (20,REC=INUM)KOUT1
2094 DO 5082 I=1,50
2095 KNUM (J) = KOUT1 (I)
2096 J=J+1
2097 5082 CONTINUE
2098 INUM = INUM + 1
2099 IF (INUM .GT. 10) GO TO 5083
2100 GO TO 5081
2101
2102 5083 INUM = 11
2103 I1 = 1
2104 I2 = 3
2105 I3 = 1
2106 5084 READ (20,REC=INUM)KOUT
2107 DO 5085 I=1,50
2108 KCOD (I3) = KOUT (I1:I2)
2109 I1 = I1 + 3

```



```

2110 I2 = I2 + 3
2111 I3 = I3 + 1
2112 CONTINUE
2113 INUM = INUM + 1
2114 IF (INUM .GT. 20) GO TO 5086
2115 I1 = 1
2116 I2 = 3
2117 GO TO 5084
2118
2119 5086 INUM=21
2120 J=1
2121 READ (20,REC=INUM)KOUT1
2122 DO 5088 I = 1,50
2123 K19YR (J) = KOUT1 (I)
2124 J= J+1
2125 5088 CONTINUE
2126 INUM = INUM + 1
2127 IF (INUM .GT. 30) GO TO 1000
2128 GO TO 5087
2129 *****
2130 * INDEXES ARE LOADED *
2131 *****
2132 1000 OPEN (19,FILE='GEOPRINT9',STATUS='NEW',FORM='FORMATTED
2133 PRINT *, 'YOU OUTPUT LISTING IS NAMED GEOPRINT9'
2134
2135 1001 PRINT *, 'ENTER OBSERVATORY CODE (LIKE VOS) OR END'
2136 READ (*,10)ICOD
2137 FORMAT (A)
2138 IF (ICOD (1:3) .EQ. 'END') GO TO 9999
2139 J=J+1
2140 DO 1003 I=1,500
2141 IF (ICOD (1:3) .EQ. KCOD (I)) GO TO 1004
2142 J=J+1
2143 1003 CONTINUE
2144 PRINT *, 'NO SUCH OBSERVATORY CODE'
2145 GO TO 1001
2146 INUM = KNUM (J)
2147 1004 PRINT *, 'BEGIN LOCATION OF OBSERVATORY = ', INUM
2148
2149 WRITE (19,99) KPAGE
2150 WRITE (19,100)KH1
2151 WRITE (19,100)KH2
2152 WRITE (19,100)KSPACE
2153 KCOUNT = 3
2154 100 FORMAT (A132)
2155 *****
2156 * PRINT PAGE HEADERS *
2157 *****
2158 *****
2159 2002 WRITE (19,100)KH3

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```

2160 WRITE (19,100)KH4
2161 WRITE (19,100)KH5
2162 KCOUNT = KCOUNT + 3
2163 KPCNT = 0
2164 2004 READ (20,REC=INUM,ERR=9999)KOUT
2165 INUM = INUM + 1
2166 IF (KOUT(17:19) .EQ. ' ') GO TO 2004
2167 2005 KOB(1:16) = KOUT(1:16)
2168 KLAT(1:5) = KOUT(21:25)
2169 KLONG(1:5) = KOUT(26:30)
2170 KCODE(1:3) = KOUT(17:19)
2171 2006 KH7(1:16) = KOUT (1:16)
2172 KH7(17:17) =
2173 KH7(18:18) = KOUT (36:36)
2174 KH7 (19:19) =
2175 KH7 (20:23) = KOUT (31:34)
2176 KH7 (24:24) =
2177 KH7 (25:25) = KOUT (35:35)
2178 KH7 (26:27) = KOUT (39:40)
2179 KH7 (28:28) =
2180 KH7 (29:34) = KOUT (41:46)
2181 KH7 (35:35) =
2182 KH7 (36:41) = KOUT (47:52)
2183 KH7 (42:42) =
2184 KH7 (43:48) = KOUT (53:58)
2185 KH7 (49:49) =
2186 KH7 (50:52) = KOUT (59:61)
2187 KH7 (53:53) =
2188 KH7 (54:59) = KOUT (65:70)
2189 KH7 (60:60) =
2190 KH7 (61:66) = KOUT (71:76)
2191 KH7 (67:68) =
2192 KH7 (69:74) = KOUT (77:82)
2193 KH7 (75:75) =
2194 KH7 (76:81) = KOUT (83:88)
2195 KH7 (82:82) =
2196 KH7 (83:88) = KOUT (89:94)
2197 KH7 (89:90) =
2198 KH7 (91:96) = KOUT (95:100)
2199 KH7 (97:97) =
2200 KH7 (98:103) = KOUT (101:106)
2201 KH7 (104:104) =
2202 KH7 (105:110) = KOUT (107:112)
2203 KH7 (111:112) =
2204 KH7 (113:116) = KOUT (113:118)
2205 KH7 (117:117) =
2206 KH7 (118:123) = KOUT (119:124)
2207 KH7 (124:124) =
2208 KH7 (125:130) = KOUT (125:130)
2209 KH7 (131:131) =

```

```

2210 KH7 (132:132) = ' '
2211 IF (KOUT(131:136) .EQ. ' ') GO TO 2007
2212 KH7(113:116) = KOUT (131:136)
2213 KH7(117:117) = ' '
2214 KH7(118:123) = KOUT (137:142)
2215 KH7(124:124) = ' '
2216 KH7(125:130) = KOUT (143:148)
2217 KH7(131:131) = '*'
2218 2007 WRITE (19,100)KH7
2219 KCOUNT = KCOUNT + 1
2220 *****
2221 * SECOND RECORD *
2222 *****
2223 *****
2224 2008 READ (20,REC=INUM,ERR=9999)KOUT
2225 INUM = INUM + 1
2226 IF (KOUT(17:19) .EQ. ' ') GO TO 2008
2227 IF (KOUT(1:16) .EQ. KOB(1:16)) GO TO 2009
2228 GO TO 1001
2229 2009 KH7 (1:3) = KOUT (17:19)
2230 KH7 (4:16) = ' '
2231 KH7(18:18) = KOUT (36:36)
2232 KH7 (19:19) = ' '
2233 KH7 (20:23) = KOUT (31:34)
2234 KH7 (24:24) = ' '
2235 KH7 (25:25) = KOUT (35:35)
2236 KH7 (26:27) = KOUT (39:40)
2237 KH7 (28:28) = ' '
2238 KH7 (29:34) = KOUT (41:46)
2239 KH7 (35:35) = ' '
2240 KH7 (36:41) = KOUT (47:52)
2241 KH7 (42:42) = ' '
2242 KH7 (43:48) = KOUT (53:58)
2243 KH7 (49:49) = ' '
2244 KH7 (50:52) = KOUT (59:61)
2245 KH7 (53:53) = ' '
2246 KH7 (54:59) = KOUT (65:70)
2247 KH7 (60:60) = ' '
2248 KH7 (61:66) = KOUT (71:76)
2249 KH7 (67:68) = ' '
2250 KH7 (69:74) = KOUT (77:82)
2251 KH7 (75:75) = ' '
2252 KH7 (76:81) = KOUT (83:88)
2253 KH7 (82:82) = ' '
2254 KH7 (83:88) = KOUT (89:94)
2255 KH7 (89:90) = ' '
2256 KH7 (91:96) = KOUT (95:100)
2257 KH7 (97:97) = ' '
2258 KH7 (98:103) = KOUT (101:106)
2259 KH7 (104:104) = ' '

2260 KH7 (105:110) = KOUT (107:112)
2261 KH7 (111:112) = ' '
2262 KH7 (113:116) = KOUT (113:118)
2263 KH7 (117:117) = ' '
2264 KH7 (118:123) = KOUT (119:124)
2265 KH7 (124:124) = ' '
2266 KH7 (125:130) = KOUT (125:130)
2267 KH7 (131:131) = ' '
2268 KH7 (132:132) = ' '
2269 IF (KOUT(131:136) .EQ. ' ') GO TO 20099
2270 KH7(113:116) = KOUT (131:136)
2271 KH7(117:117) = ' '
2272 KH7(118:123) = KOUT (137:142)
2273 KH7(124:124) = ' '
2274 KH7(125:130) = KOUT (143:148)
2275 KH7(131:131) = '*'
2276
2277 20099 WRITE (19,100)KH7
2278 KCOUNT = KCOUNT + 1
2279 *****
2280 * THIRD RECORD *
2281 *****
2282 *****
2283 2010 READ (20, REC=INUM,ERR=9999)KOUT
2284 KLL(1:10) =KOUT(21:30)
2285 INUM = INUM + 1
2286 IF (KOUT(17:19) .EQ. ' ') GO TO 2010
2287 IF (KOUT (1:16) .NE. KOB(1:16)) GO TO 1001
2288 20101 KH7(1:1) = ' '
2289 KH7 (2:4) = KOUT (21:23)
2290 IF (KH7(2:2) .EQ. ' ') KH7(2:2) = '0'
2291 IF (KH7(3:3) .EQ. ' ') KH7(3:3) = '0'
2292 IF (KH7(3:3) .EQ. ' ') KH7(2:2) = ' '
2293 KH7 (5:5) = ' '
2294 KH7 (6:7) = KOUT (24:25)
2295 KH7 (8:8) = ' '
2296 KH7 (9:11) = KOUT (26:28)
2297 KH7 (12:12) = ' '
2298 KH7 (13:14) = KOUT (29:30)
2299 KH7 (15:16) = ' '
2300 KH7 (17:17) = ' '
2301 KH7 (18:18) = KOUT (36:36)
2302 KH7 (19:19) = ' '
2303 KH7 (20:23) = KOUT (31:34)
2304 KH7 (24:24) = ' '
2305 KH7 (25:25) = KOUT (35:35)
2306 KH7 (26:27) = KOUT (39:40)
2307 KH7 (28:28) = ' '
2308 KH7 (29:34) = KOUT (41:46)
2309 KH7 (35:35) = ' '

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```

2310 KH7 (36:41) = KOUT (47:52)
2311 KH7 (42:42) = KOUT (47:52)
2312 KH7 (43:48) = KOUT (53:58)
2313 KH7 (49:49) = KOUT (53:58)
2314 KH7 (50:52) = KOUT (59:61)
2315 KH7 (53:53) = KOUT (65:70)
2316 KH7 (54:59) = KOUT (65:70)
2317 KH7 (60:60) = KOUT (71:76)
2318 KH7 (61:66) = KOUT (71:76)
2319 KH7 (67:68) = KOUT (77:82)
2320 KH7 (69:74) = KOUT (77:82)
2321 KH7 (75:75) = KOUT (83:88)
2322 KH7 (76:81) = KOUT (83:88)
2323 KH7 (82:82) = KOUT (89:94)
2324 KH7 (83:88) = KOUT (89:94)
2325 KH7 (89:90) = KOUT (95:100)
2326 KH7 (91:96) = KOUT (95:100)
2327 KH7 (97:97) = KOUT (101:106)
2328 KH7 (98:103) = KOUT (101:106)
2329 KH7 (104:104) = KOUT (107:112)
2330 KH7 (105:110) = KOUT (107:112)
2331 KH7 (111:112) = KOUT (113:118)
2332 KH7 (113:116) = KOUT (113:118)
2333 KH7 (117:117) = KOUT (119:124)
2334 KH7 (118:123) = KOUT (119:124)
2335 KH7 (124:124) = KOUT (125:130)
2336 KH7 (125:130) = KOUT (125:130)
2337 KH7 (131:131) = KOUT (131:136)
2338 KH7 (132:132) = KOUT (131:136)
2339 IF (KOUT(131:136) .EQ. ' ') GO TO 2011
2340 KH7 (113:116) = KOUT (131:136)
2341 KH7 (117:117) = KOUT (137:142)
2342 KH7 (118:123) = KOUT (137:142)
2343 KH7 (124:124) = KOUT (143:148)
2344 KH7 (125:130) = KOUT (143:148)
2345 KH7 (131:131) = KOUT (143:148)
2346 2011 WRITE (19,100)KH7
2347 KCOUNT = KCOUNT + 1
2348 KH7(1:16) =
2349 *****
2350 * REST OF RECORDS
2351 *****
2352 2012 READ (20,REC=INUM,ERR=9999)KOUT
2353 INUM=INUM + 1
2354 IF (KOUT(17:19) .EQ. ' ') GO TO 2012
2355 IF (KOUT(1:16) .EQ. KOB(1:16)) GO TO 2013
2356 WRITE (19,100)KH5
2357 GO TO 1001
2358 2013 KH7(17:17) =
2359 IF (KOUT(21:30) .EQ. KLL(1:10)) GO TO 20131
KLL(1:10) = KOUT (21:30)
GO TO 20101
KH7(18:18) = KOUT (36:36)
KH7 (19:19) = KOUT (36:36)
KH7 (20:23) = KOUT (31:34)
KH7(24:24) =
KH7 (25:25) = KOUT (35:35)
KH7(26:27) = KOUT (39:40)
KH7 (28:28) =
KH7 (29:34) = KOUT (41:46)
KH7 (35:35) =
KH7 (36:41) = KOUT (47:52)
KH7 (42:42) =
KH7 (43:48) = KOUT (53:58)
KH7 (49:49) =
KH7 (50:52) = KOUT (59:61)
KH7 (53:53) =
KH7 (54:59) = KOUT (65:70)
KH7 (60:60) =
KH7 (61:66) = KOUT (71:76)
KH7 (67:68) =
KH7 (69:74) = KOUT (77:82)
KH7 (75:75) =
KH7 (76:81) = KOUT (83:88)
KH7 (82:82) =
KH7 (83:88) = KOUT (89:94)
KH7 (89:90) =
KH7 (91:96) = KOUT (95:100)
KH7 (97:97) =
KH7 (98:103) = KOUT (101:106)
KH7 (104:104) =
KH7 (105:110) = KOUT (107:112)
KH7 (111:112) =
KH7 (113:116) = KOUT (113:118)
KH7 (117:117) =
KH7 (118:123) = KOUT (119:124)
KH7 (124:124) =
KH7 (125:130) = KOUT (125:130)
KH7 (131:131) =
KH7 (132:132) =
KH7 (131:131) =
KH7 (132:132) =
IF (KOUT(131:136) .EQ. ' ') GO TO 2014
KH7(113:116) = KOUT (131:136)
KH7(117:117) =
KH7(118:123) = KOUT (137:142)
KH7(124:124) =
KH7(125:130) = KOUT (143:148)
KH7(131:131) =
WRITE (19,100)KH7
KCOUNT = KCOUNT + 1
GO TO 2012

```

```

2410 9999 RETURN
2411 END
2412
2413 SUBROUTINE GEOANN (PASS)
2414 *****
2415 *
2416 * CREATES TABLES 3,4,5 FROM ANNUAL DATA BASE
2417 *
2418 * TABLE 3 = BEGINNING AND ENDING ANNUAL VALUES
2419 * FOR EACH OBSERVATORY
2420 * TABLE 4 = LOG OF YEARS FOR 1810-1899 WHERE
2421 * ANNUAL MEAN VALUES EXIST
2422 * TABLE 5 = LOG OF YEARS FOR 1900-1990 WHERE
2423 * ANNUAL MEAN VALUES EXIST
2424 *****
2425 *****
2426 *****
2427 *
2428 * R E C O R D F O R M A T (GEOANNUAL)
2429 *****
2430 * KOUT CC 1 - 19 = OBSERVATORY NAME
2431 * 20 - = not used
2432 * 21 - 23 = OBSERVATORY CODE
2433 * 24 - = not used
2434 * 25 - 32 = DATE
2435 * 33 - 40 = LATITUDE
2436 * 41 - 48 = LONGITUDE (East)
2437 * 49 - 54 = ELEVATION (Meters)
2438 * 55 - 62 = DECLINATION
2439 * 63 - 70 = INCLINATION
2440 * 71 - 76 = HORIZONTAL INTENSITY
2441 * 77 - 82 = NORTH COMPONENT
2442 * 83 - 88 = EAST COMPONENT
2443 * 89 - 95 = VERTICAL INTENSITY
2444 * 96 - 101 = TOTAL INTENSITY
2445 * 102 = not used
2446 * 103 = RECORD TYP FLAG
2447 * 104 - 106 = FOOT NOTE
2448 * 107 - 111 = DATA SOURCE
2449 * 112 - 116 = SOURCE CODE
2450 * 117 - 119 = ELEMENT CODE
2451 * 120 = not used
2452 * 121 - 123 = COUNTRY CODE
2453 * 124 = not used
2454 * 125 - 130 = RECORD NUMBER
2455 *****
2456 *****
2457 CHARACTER*130 KOUT
2458 CHARACTER*10 PASS
2459 CHARACTER*1 KE
2460
2461 CHARACTER*131 KH11
2462 CHARACTER*131 KH12

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```

2463 CHARACTER*131 KH13
2464 CHARACTER*131 KH14
2465 CHARACTER*131 KSPACE
2466 CHARACTER*2 KNPAGE
2467
2468 CHARACTER*131 KH21
2469 CHARACTER*131 KH22
2470 CHARACTER*131 KH23
2471 CHARACTER*131 KH24
2472 CHARACTER*131 KH25
2473 CHARACTER*131 KH26
2474 CHARACTER*131 KH27
2475 CHARACTER*131 KH28
2476 CHARACTER*131 KH29
2477 CHARACTER*131 KH210
2478 CHARACTER*131 KH211
2479 CHARACTER*131 KH212
2480 CHARACTER*131 KH213
2481 CHARACTER*131 KH214
2482 CHARACTER*131 KH215
2483 CHARACTER*131 KH216
2484 CHARACTER*131 KH217
2485 CHARACTER*131 KH218
2486 CHARACTER*131 KH31
2487 CHARACTER*131 KH32
2488 CHARACTER*131 KH33
2489 CHARACTER*131 KH34
2490 CHARACTER*131 KH35

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```

KNPAGE (1:1) = ' '
KSPACE (1:30) = ' '
KSPACE (31:60) = ' '
KSPACE (61:90) = ' '
KSPACE (91:120) = ' '
KSPACE (121:131) = ' '
KH11(1:35) = ' '
KH11(36:72) = 'ANNUAL'
KH11(73:94) = 'DATA'
KH11(1:35) = ' '
KH12(1:20) = 'OBSERVATORY'
KH12(21:25) = 'CODE'
KH12(26:56) = 'YEAR'
KH12(57:92) = 'MONTH'
KH12(93:120) = 'ZFLG'
KH12(121:131) = 'ELECT NUMBER'
KH13(1:20) = ' '

```

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G E O M A G N E T I C
B A S E

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Station	Code	Year	Mean Log	Genetic	Annual
2513	KH13(21:25)				
2514	KH13(26:60)				
2515	KH13(61:71)				
2516	KH13(72:100)				
2517	KH13(101:116)				
2518	KH13(117:131)				
2519					
2520	KH21(1:20)				
2521	KH21(21:62)				
2522	KH21(63:80)				
2523	KH21(81:110)				
2524					
2525	KH218(1:20)				
2526	KH218(21:42)				
2527	KH218(43:70)				
2528	KH218(71:110)				
2529	KH22(1:27)				
2530	KH22(28:38)				
2531	KH22(39:49)				
2532	KH22(50:60)				
2533	KH22(61:71)				
2534	KH22(72:82)				
2535	KH22(83:93)				
2536	KH22(94:104)				
2537	KH22(105:115)				
2538	KH22(116:126)				
2539					
2540	KH23(1:27)				
2541	KH23(28:38)				
2542	KH23(39:49)				
2543	KH23(50:60)				
2544	KH23(61:71)				
2545	KH23(72:82)				
2546	KH23(83:93)				
2547	KH23(94:104)				
2548	KH23(105:115)				
2549	KH23(116:126)				
2550	KH24(1:27)				
2551	KH24(28:38)				
2552	KH24(39:49)				
2553	KH24(50:60)				
2554	KH24(61:71)				
2555	KH24(72:82)				
2556	KH24(83:93)				
2557	KH24(94:104)				
2558	KH24(105:115)				
2559	KH24(116:126)				
2560					
2561	KH25(1:26)				
2562					
2563	KH25(27:37)				
2564	KH25(38:48)				
2565	KH25(49:59)				
2566	KH25(60:70)				
2567	KH25(71:81)				
2568	KH25(82:92)				
2569	KH25(93:103)				
2570	KH25(104:114)				
2571	KH25(115:125)				
2572	KH25(126:131)				
2573					
2574	KH26(1:40)				
2575	KH26(41:58)				
2576	KH26(59:90)				
2577	KH26(91:113)				
2578	KH26(114:131)				
2579					
2580	KH214(1:22)				
2581	KH214(23:62)				
2582	KH214(63:80)				
2583	KH214(81:110)				
2584					
2585	KH29(1:27)				
2586	KH29(28:38)				
2587	KH29(39:49)				
2588	KH29(50:60)				
2589	KH29(61:71)				
2590	KH29(72:82)				
2591	KH29(83:93)				
2592	KH29(94:104)				
2593	KH29(105:115)				
2594					
2595	KH210(1:27)				
2596	KH210(28:38)				
2597	KH210(39:49)				
2598	KH210(50:60)				
2599	KH210(61:71)				
2600	KH210(72:82)				
2601	KH210(83:93)				
2602	KH210(94:104)				
2603	KH210(105:115)				
2604					
2605	KH211(1:27)				
2606	KH211(28:38)				
2607	KH211(39:49)				
2608	KH211(50:60)				
2609	KH211(61:71)				
2610	KH211(72:82)				
2611	KH211(83:93)				
2612	KH211(94:104)				

TABLE 5  
 G E O M A G N E T I C A N N U A L  
 M E A N L O G :  
 1 9 0 0 - P R E S E N T

TABLE 4  
 G E O M A G N E T I C A N N U A L  
 M E A N L O G :  
 1 8 1 0 - 1 8 9 9

Y 1'

Y 1'

E 9'

E 8'

A 0'

A 1'

'OBSERVATORY CODE R

```

2613 KH211(105:115)= ' 9'
2614
2615
2616 KH212(1:26) = 'OBSERVATORY'
2617 KH212(27:37) = '0123456789'
2618 KH212(38:48) = '0123456789'
2619 KH212(49:59) = '0123456789'
2620 KH212(60:70) = '0123456789'
2621 KH212(71:81) = '0123456789'
2622 KH212(82:92) = '0123456789'
2623 KH212(93:103) = '0123456789'
2624 KH212(104:114) = '0123456789'
2625 KH212(115:125) = '0123456789'
2626
2627
2628 KH213(1:40) = '-----'
2629 KH213(41:58) = '-----'
2630 KH213(59:90) = '-----'
2631 KH213(91:113) = '-----'
2632 KH213(114:131) = '-----'
2633
2634 KH215(1:20) = '-----'
2635 KH215(21:54) = '1=XHZ 2=DHZ 3=DIH 4=OI 7=IHZ'
2636 KH215(55:90) = '5=DH 6=DZ 8=IH 9=IZ'
2637 KH215(91:105) = '8=IH 9=IZ'
2638 KH215(106:115) = 'D=D ONLY'
2639
2640 KH216(1:20) = '-----'
2641 KH216(21:60) = 'F=F ONLY H=H ONLY I=I ONLY Z=Z ONL'
2642 KH216(61:90) = 'Q=HZ P=DIF R=DHF'
2643 KH216(91:115) = 'S=XVF T=DHX U= HZF'
2644
2645 KH217(1:20) = '-----'
2646 KH217(21:57) = '*=INCOMPLETE YEAR'
2647 KH217(58:91) = '-----'
2648 KH217(92:115) = '--- ?=UNKNOWN ELEMENTS'
2649
2650 KH31(1:30) = 'TABLE 3'
2651 KH31(31:69) = 'OBSERVED GEOMAGNETIC'
2652 KH31(70:100) = 'ANNUAL MEANS'
2653
2654 KH32(1:30) = '-----'
2655 KH32(31:54) = '-----EARLIEST COMPLETE'
2656 KH32(55:87) = 'YEAR'
2657 KH32(88:130) = '-----LATEST COMPLETE YEAR'
2658 KH33(1:23) = 'OBSERVATORY'
2659 KH33(24:50) = 'ELE YEAR D H'
2660 KH33(51:71) = 'X Y Z'
2661 KH33(72:99) = 'ELE YEAR D Z'
2662 KH33(100:131) = 'H X Y Z'

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2663 KH35(1:24) = '-----'
2664 KH35(25:49) = '-----'
2665 KH35(50:72) = '-----'
2666 KH35(73:100) = '-----'
2667 KH35(101:125) = '-----'
2668 OPEN (25,FILE='GEOANNUAL',ACCESS='DIRECT',RECL=130,
2669 -FORM='UNFORMATTED')
2670 FORMAT (A)
2671 PRINT *
2672
2673 PRINT *
2674 -| WELCOME TO GEOMAGNETIC/ANNUAL LISTING SYSTEM |
2675 PRINT *
2676
2677 PRINT *
2678
2679
2680 1001
2681
2682
2683
2684
2685
2686
2687
2688 READ (*,10)PASS
2689 IF (PASS(1:1) .EQ. '1') GO TO 2000
2690 IF (PASS(1:1) .EQ. '2') GO TO 3000
2691 IF (PASS(1:1) .EQ. '3') GO TO 4000
2692 GO TO 9999
2693 *****
2694 * COMPLETE ANNUAL VALUE FILE LISTING *****
2695 *****
2696 2000 K1=K1+1
2697 IF (K1 .NE. 1)GO TO 20000
2698 OPEN (26,FILE='GEOPRINTE',STATUS='NEW',FORM='FORMATTED'
2699 INUM=1
2700 WRITE (26,11)KNPAGE
2701 WRITE (26,11)KH11
2702 WRITE (26,11)KSPACE
2703 WRITE (26,11)KH12
2704 WRITE (26,11)KH13
2705 WRITE (26,11)KSPACE
2706 KL=4
2707 READ (25,REC=INUM,ERR=7777)KOUT
2708 INUM=INUM+1
2709 WRITE (26,11)KOUT
2710 FORMAT (A131)
2711 KL=KL+1
2712 IF (KL .GT. 58) GO TO 2002

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ENTER 1 = COMPLETE ANNUAL VALUE LISTING
ENTER 2 = LOG OF ANNUAL VALUE LISTING
ENTER 3 = BEGIN/END ANNUAL VALUE LISTING
ENTER E = END PROGRAM

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2713 GO TO 2001
2714 WRITE (26,11)KNPAGE
2715 WRITE (26,11)KH12
2716 WRITE (26,11)KH13
2717 WRITE (26,11)KSPACE
2718 KL=4
2719 GO TO 2001
2720 *****
2721 * LOG LISTING (TABLES 4 AND 5)
2722 *****
2723 3000 KC=-1
2724 KCC=0
2725 KB=-1
2726 KBB=0
2727 K2=K2+1
2728
2729 IF (K2.NE.1) GO TO 3001
2730 OPEN (26,FILE='GEOPRINTH',STATUS='NEW',
2731 -FORM='FORMATTED')
2732 OPEN (27,FILE='GEOPRINTJ',STATUS='NEW',
2733 -FORM='FORMATTED')
2734 PRINT *
2735 '- LOG LISTING FOR 1900-PRESENT IS ON FILE GEOPRINTH'
2736 PRINT *
2737 '- LOG LISTING FOR 1800-1899 IS ON FILE GEOPRINTJ'
2738
2739 3001 WRITE (26,11)KNPAGE
2740 WRITE (26,11)KH21
2741 WRITE (26,11)KH218
2742 WRITE (26,11)KSPACE
2743 WRITE (26,11)KH22
2744 WRITE (26,11)KH23
2745 WRITE (26,11)KH24
2746 WRITE (26,11)KH25
2747 WRITE (26,11)KH26
2748
2749 WRITE (27,11)KNPAGE
2750 WRITE (27,11)KH214
2751 WRITE (27,11)KH218
2752 WRITE (27,11)KSPACE
2753 WRITE (27,11)KH29
2754 WRITE (27,11)KH210
2755 WRITE (27,11)KH211
2756 WRITE (27,11)KH212
2757 WRITE (27,11)KH213
2758
2759 INUM=1
2760 3002 READ (25,REC=INUM,ERR=6666)KOUT
2761 INUM=INUM+1
2762 3003 READ (KOUT,(26X,I2)')KYR

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2763 KE(1:1)='?'
2764 IF (KOUT(117:119) .EQ. 'DZH') KE='2'
2765 IF (KOUT(117:119) .EQ. 'DIH') KE='3'
2766 IF (KOUT(117:119) .EQ. 'DHI') KE='3'
2767 IF (KOUT(117:119) .EQ. 'DI') KE='4'
2768 IF (KOUT(117:119) .EQ. 'XYZ') KE='1'
2769 IF (KOUT(117:119) .EQ. 'DH') KE='5'
2770 IF (KOUT(117:119) .EQ. 'DH') KE='5'
2771 IF (KOUT(117:119) .EQ. 'DZ') KE='6'
2772 IF (KOUT(117:119) .EQ. 'IHZ') KE='7'
2773 IF (KOUT(117:119) .EQ. 'IH') KE='8'
2774 IF (KOUT(117:119) .EQ. 'IZ') KE='9'
2775 IF (KOUT(117:119) .EQ. 'HZ') KE='Q'
2776 IF (KOUT(117:119) .EQ. 'HZ') KE='Q'
2777 IF (KOUT(117:119) .EQ. 'D') KE='D'
2778 IF (KOUT(117:119) .EQ. 'H') KE='H'
2779 IF (KOUT(117:119) .EQ. 'Z') KE='Z'
2780 IF (KOUT(117:119) .EQ. 'I') KE='I'
2781 IF (KOUT(117:119) .EQ. 'DIF') KE='P'
2782 IF (KOUT(117:119) .EQ. 'DHF') KE='R'
2783 IF (KOUT(117:119) .EQ. 'F') KE='F'
2784 IF (KOUT(117:119) .EQ. 'XYF') KE='S'
2785 IF (KOUT(117:119) .EQ. 'DHX') KE='T'
2786 IF (KOUT(117:119) .EQ. 'D') KE='D'
2787 IF (KOUT(30:31) .NE. '50') KE='*'
2788
2789 3004 IF (KOUT(25:26) .EQ. '19') GO TO 3005
2790 IF (KOUT(25:26) .EQ. '18') GO TO 3015
2791 IF (KOUT(25:26) .EQ. ' ') GO TO 3002
2792 PRINT *,ERROR, KOUT(1:40)
2793 GO TO 3002
2794 *****
2795 * 1900-PRESENT LOG LISTING
2796 * ARRAY POSITION BEGINS IN 27
2797 * AND INCREASES 10 POSITIONS FOR
2798 * FOR EACH 9 YEARS
2799 *****
2800
2801 3005 IF (KH27(1:16) .EQ. KOUT(1:16))GO TO 3007
2802 WRITE (26,11)KH27
2803
2804 3006 KH27(1:16) = KOUT(1:16)
2805 KH27(17:17) =
2806 KH27(18:20) =KOUT(21:23)
2807 KH27(21:21) =
2808 KH27(22:23) =
2809 KH27(24:26) =
2810 KH27(27:60) =
2811 KH27(61:96) =
2812 KH27(97:131) =

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```

2813 KC=KC+1
2814 IF (KC .GE. 5)GO TO 3008
2815 KD = KYR /10
2816 KPOS = 27 + KYR + KD
2817 KH27(KPOS:KPOS) = KE(1:1)
2818 GO TO 3002
2819 3008 WRITE (26,11)KH26
2820 KC=0
2821 KCC=KCC+1
2822 IF (KCC .GE. 7) GO TO 3009
2823 GO TO 3007
2824 3009 WRITE (26,11)KH26
2825 WRITE (26,11)KSPACE
2826 WRITE (26,11)KH215
2827 WRITE (26,11)KH216
2828 WRITE (26,11)KH217
2829
2830 WRITE (26,11)KNPAGE
2831 WRITE (26,11)KSPACE
2832 WRITE (26,11)KH22
2833 WRITE (26,11)KH23
2834 WRITE (26,11)KH24
2835 WRITE (26,11)KH25
2836 WRITE (26,11)KH26
2837 KCC=0
2838 GO TO 3007
2839 *****
2840 * LOG LISTING 1800-1899 (TABLE 4) *
2841 *****
2842 3015 IF (KH28(1:16) .EQ. KOUT(1:16))GO TO 3017
2843 WRITE (27,11)KH28
2844
2845 3016 KH28(1:16) = KOUT(1:16)
2846 KH28(17:17) = ' '
2847 KH28(18:20) =KOUT(21:23)
2848 KH28(21:21) = ' '
2849 KH28(22:23) = ' '
2850 KH28(24:26) = ' '
2851 KH28(27:60) = ' '
2852 KH28(61:96) = ' '
2853 KH28(97:131)= ' '
2854 KB=KB+1
2855 IF (KB .GE. 5)GO TO 3018
2856
2857 3017 KD = KYR /10
2858 KPOS = 16 + KYR + KD
2859 KH28(KPOS:KPOS) = KE(1:1)
2860 GO TO 3002
2861 3018 WRITE (27,11)KH213
2862 KB=0

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```

2863 KBB=KBB+1
2864 IF (KBB .GE. 7) GO TO 3019
2865 GO TO 3017
2866 3019 WRITE (27,11)KH213
2867 WRITE (27,11)KSPACE
2868 WRITE (27,11)KH215
2869 WRITE (27,11)KH216
2870 WRITE (27,11)KH217
2871
2872 WRITE (27,11)KNPAGE
2873 WRITE (27,11)KSPACE
2874 WRITE (27,11)KH29
2875 WRITE (27,11)KH210
2876 WRITE (27,11)KH211
2877 WRITE (27,11)KH212
2878 WRITE (27,11)KH213
2879 KBB=0
2880 GO TO 3017
2881 *****
2882 * TABLE 3 BEGIN/END LISTING *
2883 *****
2884 4000 K3=K3+1
2885 IF (K3 .NE. 1)GO TO 4001
2886 OPEN (26,FILE='GEOPRINTG',STATUS='NEW',
2887 -FORM='FORMATTED')
2888 PRINT *, 'FILE = GEOPRINTG - OPENED'
2889 WRITE (26,11)KNPAGE
2890 WRITE (26,11)KH31
2891 WRITE (26,11)KSPACE
2892 WRITE (26,11)KH32
2893 WRITE (26,11)KSPACE
2894 WRITE (26,11)KH33
2895 WRITE (26,11)KH35
2896 WRITE (26,11)KSPACE
2897 INUM=1
2898 KC=0
2899 KCC=0
2900 *****
2901 * BEGINNING YEAR *
2902 *****
2903 4002 READ (25,REC=INUM,ERR=8888)KOUT
2904 INUM=INUM+1
2905 IF (KOUT(30:30) .NE. '5') GO TO 4002
2906 IF (KOUT(58:62) .EQ. '0.000') GO TO 4002
2907 IF (KOUT(58:62) .EQ. '0.000') GO TO 4002
2908 IF (KOUT(72:76) .EQ. '0') GO TO 4002
2909 IF (KOUT(91:95) .EQ. '0') GO TO 4002
2910 IF (KOUT(102:102) .EQ. 'D') GO TO 4002
2911 IF (KOUT(102:102) .EQ. 'Q') GO TO 4002
2912 KH34(1:17) = KOUT(1:17)

```



```

2913 KH34(18:19) = KOUT(21:23)
2914 KH34(20:22) = KOUT(21:23)
2915 KH34(23:26) = KOUT(117:119)
2916 KH34(27:29) = KOUT(117:119)
2917 KH34(30:30) = KOUT(25:28)
2918 KH34(31:34) = KOUT(25:28)
2919 KH34(35:35) = KOUT(56:62)
2920 KH34(36:42) = KOUT(56:62)
2921 KH34(43:44) = KOUT(72:76)
2922 KH34(45:49) = KOUT(72:76)
2923 KH34(50:51) = KOUT(78:82)
2924 KH34(52:56) = KOUT(78:82)
2925 KH34(57:57) = KOUT(83:88)
2926 KH34(58:63) = KOUT(83:88)
2927 KH34(64:65) = KOUT(90:95)
2928 KH34(66:71) = KOUT(90:95)
2929 KH34(72:79) = KOUT(90:95)
2930 *****
2931 * LATEST YEAR *
2932 *****
2933 4003 READ (25,REC=INUM,ERR=8880)KOUT
2934 INUM=INUM+1
2935 INUM=INUM-2
2936 4004 READ (25,REC=INUM,ERR=8888)KOUT
2937 4005 IF (KOUT(30:30) .EQ. '5')GO TO 4007
2938 IF (KOUT(58:62) .EQ. '0.000') GO TO 4007
2939 IF (KOUT(58:62) .EQ. '0.000') GO TO 4007
2940 IF (KOUT(72:76) .EQ. '0') GO TO 4007
2941 IF (KOUT(91:95) .EQ. '0') GO TO 4007
2942 IF (KOUT(102:102) .EQ. 'D') GO TO 4007
2943 IF (KOUT(102:102) .EQ. 'Q') GO TO 4007
2944 INUM=INUM +1
2945 4006 KH34(80:82) = KOUT(117:119)
2946 KH34(83:83) = KOUT(25:28)
2947 KH34(84:87) = KOUT(25:28)
2948 KH34(88:88) = KOUT(56:62)
2949 KH34(89:95) = KOUT(56:62)
2950 KH34(96:97) = KOUT(72:76)
2951 KH34(98:102) = KOUT(78:82)
2952 KH34(103:104) = KOUT(83:88)
2953 KH34(105:109) = KOUT(83:88)
2954 KH34(110:110) = KOUT(90:95)
2955 KH34(111:116) = KOUT(90:95)
2956 KH34(117:118) = KOUT(90:95)
2957 KH34(119:124) = KOUT(90:95)
2958 WRITE(26,11)KH34
2959 KC=KC+1
2960 IF (KC .EQ. 5)GO TO 4010
2961 GO TO 4002
2962
2963 4007 J=INUM-1
2964 4008 READ (25,REC=J,ERR=8888)KOUT
2965 J=J-1
2966 IF (KOUT(58:62) .EQ. '0.000') GO TO 4008
2967 IF (KOUT(58:62) .EQ. '0.000') GO TO 4008
2968 IF (KOUT(72:76) .EQ. '0') GO TO 4008
2969 IF (KOUT(91:95) .EQ. '0') GO TO 4008
2970 IF (KOUT(102:102) .EQ. 'D') GO TO 4008
2971 IF (KOUT(102:102) .EQ. 'Q') GO TO 4008
2972
2973 IF (KOUT(30:30) .EQ. '5')GO TO 4009
2974 GO TO 4008
2975 INUM=INUM+1
2976 GO TO 4006
2977 4010 WRITE (26,11)KSPACE
2978 KC=0
2979 KCC=KCC+1
2980 IF (KCC .EQ. 7)GO TO 4011
2981 GO TO 4002
2982 WRITE (26,11)KNPAGE
2983 WRITE (26,11)KH32
2984 WRITE (26,11)KSPACE
2985 WRITE (26,11)KH33
2986 WRITE (26,11)KH35
2987 WRITE (26,11)KSPACE
2988 KCC=0
2989 GO TO 4002
2990 6666 WRITE (26,11)KH27
2991 WRITE (26,11)KH26
2992 WRITE (26,11)KH26
2993 WRITE (26,11)KH215
2994 WRITE (26,11)KH216
2995 WRITE (26,11)KH217
2996 6667 WRITE (27,11)KH28
2997 WRITE (27,11)KH213
2998 WRITE (27,11)KH213
2999 WRITE (27,11)KH215
3000 WRITE (27,11)KH216
3001 WRITE (27,11)KH217
3002 PRINT *
3003 -'END OF LOG LIST--OUTPUT FILE 1900 IS GEOPRINTH'
3004 PRINT *
3005 OUTPUT FILE 1800 IS GEOPRINTJ'
3006 GO TO 1001
3007 PRINT *
3008 -'END OF ANNUAL LISTING--OUTPUT FILE IS GEOPRINTH'
3009 GO TO 1001
3010 8880 INUM=INUM-1
3011 8881 READ (25,REC=INUM,ERR=8888)KOUT
3012 INUM=INUM -1

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```

3013 IF (KOUT(1:17) .NE. KH34(1:17))GO TO 8884
3014 IF (KOUT(30:30) .NE. '5')GO TO 8881
3015 IF (KOUT(58:62) .EQ. '0.000') GO TO 8881
3016 IF (KOUT(58:62) .EQ. '0.000') GO TO 8881
3017 IF (KOUT(72:76) .EQ. '0') GO TO 8881
3018 IF (KOUT(91:95) .EQ. '0') GO TO 8881
3019 IF (KOUT(102:102) .EQ. 'D') GO TO 8881
3020 IF (KOUT(102:102) .EQ. 'Q') GO TO 8881
3021 8882 KH34(78:80) = KOUT(117:119)
3022 KH34(81:81) = '
3023 KH34(82:85) = KOUT(25:28)
3024 KH34(86:86) = '
3025 KH34(87:93) = KOUT(56:62)
3026 KH34(94:95) = '
3027 KH34(96:100) = KOUT(72:76)
3028 KH34(101:102) = '
3029 KH34(103:107) = KOUT(78:82)
3030 KH34(108:108) = '
3031 KH34(109:114) = KOUT(83:88)
3032 KH34(115:116) = '
3033 KH34(117:122) = KOUT(90:95)
3034 WRITE(26,11)KH34
3035 GO TO 8888
3036
3037 8884 KH34(78:122) = '
3038 WRITE (26,11)KH34
3039
3040 8888 PRINT *
3041 - 'END OF BEGIN/END ANNUAL LISTING--OUTPUT FILE IS GEOPR
3042 GO TO 1001
3043 9999 PRINT *, 'END OF COPY NUMBER OF RECORDS = ', INUM
3044 RETURN
3045 END

```

1	CC					51	C	CC 13-16	THE CORRECTION PRINTOUT	OPTION: < YES>	OR	C
2	CC					52	C		BLANKS			C
3	CC					53	C	CC 17-20	THE NEW COPY OF IAGA-FILE	OPTION: < YES>	OR	C
4		PROGRAM: GAMMA				54	C		BLANKS			C
5		WRITTEN BY: N.E.PAPITASHVILI,				55	C	CC 21-25	MAXIMUM PERMISS. ERRORS (BLANKS FOR 10000	OR		C
6		WDC-B2				56	C		MORE)			C
7		MOSCOW, USSR				57	C		THE EDITING FUNCTIONS UNITED IN TWO GROUPS:			C
8						58	C	GROUP I -	DELETE, INSERT, REPLACE			C
9						59	C	1-ST CARD	DEL.			C
10		V.O.PAPITASHVILI,				60	C	2-ND CARD	MOS8507D1520			C
11		IZMIRAN				61	C	1-ST CARD	INIS.			C
12		MOSCOW REGION, USSR				62	C	2-ND CARD	MOS8507H1600	010099999999999999999999		C
13						63	C			9999999999999999999999999999		C
14		LANGUAGE: FORTRAN-4				64	C	3-RD CARD		9999999999999999999999999999		C
15						65	C					C
16		COMPUTER: IBM-360 (ES series)				66	C	1-ST CARD	REZ.			C
17		PDP-1140 (SM-4)				67	C	2-ND CARD	MOS8507Z1522	042099999999999999999999		C
18	CC					68	C			9999999999999999999999999999		C
19	CC					69	C	3-RD CARD		9999999999999999999999999999		C
20	CC					70	C					C
21		INTRODUCTION				71	C	4-TH CARD	MOS8507Z1523	042099999999999999999999		C
22						72	C			9999999999999999999999999999		C
23		THE PROGRAM WAS DEVELOPED ON BASIS OF THE				73	C	5-TH CARD		9999999999999999999999999999		C
24		HOURLY MAGNETIC AND METEOROLOGICAL DATA EDITING				74	C					C
25		ROUTINE (MORRIS J.; GUPTA J.C. PROGRAM DATALOG.				75	C					C
26		EPRINT. DIVISION OF GEOMAGNETISM, EPB/EMR CANADA,				76	C					C
27		OTTAWA, 1979, 15 P.).				77	C					C
28		FOR THE EDITING OF 2.5-MINUTE DATA				78	C					C
29		THE ESSENTIAL CHANGES AND SUPPLEMENTS WERE INCLUDED				79	C					C
30		AND THE PROGRAM WAS ADAPTED FOR IBM/360 (ES SERIES)				80	C					C
31		OR PDP 11/40 OR SM-4 COMPATIBLE COMPUTERS.				81	C					C
32	CC					82	C					C
33	CC					83	C					C
34	CC					84	C					C
35		THE PURPOSE OF THIS PROGRAM IS AS FOLLOWS:				85	C	GROUP II -	MULTIPLY, ADD, SUBSTRACT			C
36						86	C	1-ST CARD	MU2.5 (OR) AD1276. (OR) SU570.			C
37						87	C	2-ND CARD	MOS8507H1600MOS8508H1500			C
38		THE PROGRAM CAN VERIFY THE STANDARD IAGA-FORMATED				88	C	3-RD CARD	0025			C
39		FILES OF HOURLY OR 2.5-MINUTE VALUES OF GEOMAGNETIC				89	C					C
40		DATA (THE LOGICAL RECORD LENGTH IS 120 BYTES)				90	C					C
41		AND CORRECT WRONG DATA USING EDITING FUNCTIONS.				91	C					C
42		THE FORMAT OF THE VERIFICATION CARDS				92	C					C
43		-----				93	C					C
44		1-ST CARD CC 1-40 ARBITRARY HEADER				94	C					C
45		(THE FIRST FOUR CHARACTERS MUST BE <HOUR> OR <2.5->)				95	C					C
46		2-ND CARD				96	C					C
47		CC 1- 4 MAXIMUM PERMISSIBLE				97	C					C
48		JUMP FOR H/X COMPONENT DATA (NT)				98	C					C
49		CC 5- 8 THE SAME FOR D/Y (TENTH OF MINUTES)				99	C					C
50		CC 9-12 THE SAME FOR Z [NT]				100	C					C

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101 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
102 C
103 C
104 C THIS PROGRAM IS DESIGNED TO SEARCH AND CORRECT
105 C THE ERRORS IN THE STANDARD IAGA FORMAT FILES OF THE
106 C HOURLY OR 2,5-MINUTE VALUES OF GEOMAGNETIC DATA
107 C (FORTRAN-4 LANGUAGE,IBM/360(370) COMPATIBLE
108 C OPERATIONAL SYSTEM)
109 C THIS PROGRAM WILL NOT FUNCTION IF DATA PRECEEDS
110 C THE YEAR 1900
111 C INPUT : TAPE OR DISC (LOGICAL UNIT 9).
112 C OUTPUT: TAPE OR DISC (LOGICAL UNIT 8).
113 C THE READER (LOGICAL UNIT 5) IS ASSIGNED FOR THE
114 C CARDS INPUT.
115 C THE PRINTER OUTPUT IS SYSTEM ONE,
116 C THE PROCESSING OF FORBIDDEN SYMBOLS-REPLACING
117 C IT BY ZEROS.
118 C
119 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
120 C
121 C LOGICAL END, CORECT, INDCTR, OK
122 C DIMENSION TITLE(10), IKC(3), FG(7), FF(7)
123 C COMMON IVAL(32), JH, JD, JZ, IPLT, ERROR, IC, F(7)
124 C COMMON ILINE(24), IFL
125 C COMMON /WM/ IW, IPRC, IKNT(3), ICOUNT(3)
126 C COMMON /FIDXK/ IREC(32), END, CORECT, FACT
127 C COMMON /IND/ INDCTR, OK, IERORC
128 C DATA IERRR/10000/
129 C DATA BLNK/4H /, YNO/4H NO /, YES/4H YES/
130 C DATA HOUR/4H CPE/, TPFM/4H 2.5/
131 C DATA FG/ (A3, ', 212, ', A1, I', '2, A2', ', 4X, ',
132 C *'2614', ', )/
133 C DATA FF/ (A3, ', 212, ', A1, I', '2, 12', ', 4X, ',
134 C *'2614', ', )/
135 C IERORC=0
136 C CORECT=.FALSE.
137 C END=.FALSE.
138 C INDCTR=.FALSE.
139 C OK=.TRUE.
140 C ERROR=BLNK
141 C IPRC=0
142 C IFL=0
143 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
144 C TITLE
145 C JH, JD, JZ - PERMISSIBLE JUMP IN DATA VALUES
146 C ERROR - PERMISSIBLE NUMBER OF ERRORS IN THE
147 C VERIFIED FILE
148 C IPRINT=YES FOR FULL PRINTOUT OF THE CORRECTED FILE
149 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
150 C
READ 150, TITLE, JH, JD, JZ, PRNC, PRNT, ERROR
IF(TITLE(2).EQ.TPFM) IFL=1
IF(TITLE(2).NE.TPFM.AND.TITLE(2).NE.HOUR) GO TO 120
IF (PRNC.EQ.BLNK) PRNC=YNO
IF (PRNT.EQ.YES) IPRC=1
IF (PRNT.EQ.BLNK) PRNT=YNO
IF (IERRR.GT.0) IERRR=IERRR
PRINT 180, TITLE, JH, JD, JZ, IERRR, PRNT, PRNC
DO 10 I1=1,7
IF(IFL.EQ.0) F(IT)=FG(IT)
IF(IFL.EQ.1) F(IT)=FF(IT)
10 CONTINUE
DO 11 I1=1,3
IKNT(IT)=0
11 ICOUNT(IT)=0
READ FIRST RECORD FROM INPUT FILE
READ(9,F,END=100) IVAL
30 CALL PROCES
40 ICOUNT(IC)=ICOUNT(IC)+1
IF(ERROR.EQ.BLNK) GO TO 50
IF(IFL.EQ.0) PRINT 170, IVAL
IF(IFL.EQ.1) PRINT 190, IVAL
PRINT 200, ILINE
IERORC=IERORC+1
50 IF(IERORC.LE.IERRR) GO TO 60
PRINT 210, IERORC
GO TO 90
60 ERROR=BLNK
IVECTR=IVAL(4)
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
C READ SECOND AND FOLLOWING RECORDS
C FROM INPUT FILE AND CHECK THE
C COMPONENT INDEX
C CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
READ(9,F,END=100) IVAL
IF(IVECTR.NE.IVAL(4)) GO TO 30
CALL PROENT
GO TO 40
90 IF (.NOT.CORECT) GO TO 100
IF (.NOT.END) PRINT 230, (IREC(J0),J0=1,5)
100 PRINT 220, ICOUNT
PRINT 240, IKNT
IF(IFL.EQ.0) PRINT 260, IVAL(4), IVAL(1),
*IVAL(5), IVAL(3), IVAL(2)
IF(IFL.EQ.1) PRINT 250, IVAL(4), IVAL(1),
*IVAL(6), IVAL(5), IVAL(3), IVAL(2)
END FILE 8
IF (PRINT.EQ.YNO) GO TO 130

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251 SUBROUTINE PROCES
252 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
253 C THE MANAGER OF THE VERIFICATION PROCESS C
254 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
255
256 LOGICAL INDCTR,OK,END
257 COMMON IVAL(32),IE(5),IC,F(7),ILINE(24),IFL
258 COMMON/IFIXDK/ IREC(32),END
259 COMMON /IND/ INDCTR,OK
260 COMMON /WM/ IW,IPRC,IKNT(3)
261 DATA IDD/1HD/,I11/IHI/,IRR/1HR/
262 5 CALL KORECT
263 IF (END) GO TO 10
264 CALL KORENT
265 IF (OK.AND.IW.EQ.IDD) GO TO 40
266 IF (OK.AND.IW.EQ.I11) GO TO 5
267 IF (OK.AND.IW.EQ.IRR) GO TO 5
268 C THE DATE IS SET ACCODING THE FIRST RECORD
269 IF(IFL.EQ.0) CALL HOURCK
270 IF(IFL.EQ.1) CALL TPFMCK
271 C THE COMPONENT INDEX IS SET
272 CALL NAMECK
273 C CHECK THE DATA ON ABNORMAL JUMPS
274 CALL JUMPCK(1)
275 C CHECK THE AVERAGE VALUES
276 CALL MEANCK(1)
277 GO TO 30
278 ENTRY PROENT
279 CALL KORECT
280 IF (END) GO TO 20
281 CALL KORENT
282 IF (OK.AND.IW.EQ.IDD) GO TO 40
283 IF (OK.AND.IW.EQ.I11) GO TO 15
284 IF (OK.AND.IW.EQ.IRR) GO TO 15
285 C ARE THE DATES SEQUENTIAL?
286 IF(IFL.EQ.0) CALL HOURCK
287 IF(IFL.EQ.1) CALL TPFMCK
288 C CHECK THE MNEMONIC NAME OF THE OBSERVATORY
289 CALL NAMECK
290 C CHECK THE DATA ON ABNORMAL JUMPS
291 CALL JUMPCK(2)
292 C DO THE CURRENT RECORD DUBLICATE THE PREVIOUS?
293 CALL MEANCK(2)
294 C WRITE THE CURRENT RECORD INTO OUTPUT FILE
295 30 WRITE(8,F) IVAL
296 IKNT(IC)=IKNT(IC)+1
297 40 CONTINUE
298 RETURN
299 END
300 C

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201 REWIND 8
202 C PRINTER DUMP OF THE OUTPUT FILE (IF REQUESTED)
203 110 READ(8,F,END=130) IVAL
204 IF(IFL.EQ.0) PRINT 170, IVAL
205 IF(IFL.EQ.1) PRINT 190, IVAL
206 GO TO 110
207 120 PRINT 140
208 130 CONTINUE
209 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
210 C THE END OF PROGRAM *GAMMA* C
211 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
212 140 FORMAT(/1X,50('*')//)
213 *' *INTERRUPTION* WRITE TRUE HEADER, PLEASE: '//
214 *' FILE 2,5 MINUTE... (OR) FILE HOURLY...')//
215 150 FORMAT (10A4/314,2A4,14)
216 180 FORMAT (4X,10A4//) MAX. PERMIS. JUMP IN H/X=' ,
217 *' 15//' MAX. PERMIS. JUMP IN D/Y=' ,15//
218 *' MAX. PERMIS. JUMP IN Z=' ,15//
219 *' TOTAL ERRORS PERMITTED BEFORE PROGRAM WILL ABO IS'
220 *',16//
221 *' THE PRINT OPTION FOR THE OUTPUT FILE IS',A4//
222 *' THE PRINT OPTION FOR THE CORRECTION CARDS IS',/,)
223 170 FORMAT(1X,A3,2I2,A1,I2,A2,4X,26I4)
224 190 FORMAT(1X,A3,2I2,A1,2I2,4X,26I4)
225 200 FORMAT(1X,20X,24A4)
226 210 FORMAT(/'***THE PERMISSIBLE NUMBER OF ERRORS
227 *' IN THE FILE =',I7,', PROGRAM WILL ABORT ****')
228 220 FORMAT(/'$$$ THERE WERE READ',I6,', RECORDS OF
229 *' H/X COMPONENT',
230 *',I6,', RECORDS OF D/Y COMPONENT AND',I6,
231 *' RECORDS OF Z COMPONENT $$$')
232 230 FORMAT(/1X,50('*')//)' * FROM DATE',A3,2I2,A1,2I2,
233 *' ALL CORRECTIONS WERE NOT PROCESSED *//1X,50('*')
234 240 FORMAT(/'$$$ THERE WERE WRITTEN',I6,
235 *' RECORDS OF H/X COMPONENT',
236 *',I6,', RECORDS OF D/Y COMPONENT AND',I6,
237 *' RECORDS OF Z COMPONENT $$$')
238 250 FORMAT(/'5X', THE LAST PROCESSED RECORD CONTAINED',A1
239 *' COMP. OF',A3,', OBS. FOR THE DATE',3(I2,1H/),I2,
240 *' (HOUR/DAY/MONTH/YEAR)')//
241 260 FORMAT(/'5X', THE LAST PROCESSED RECORD CONTAINED',A1
242 *' COMP. OF',A3,', OBS. FOR THE DATE',2(I2,1H/),I2,
243 *' (DAY/MONTH/YEAR)')//
244 STOP
245 END
246 C
247 C
248 C
249 C
250 C

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301 SUBROUTINE KORECT
302 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
303 C THIS SUBROUTINE INPUTS AND
304 C ANALYSES THE CORRECTION CARDS
305 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
306
307 LOGICAL END_CORRECT, INDCTR, OK
308 COMMON IVAL(32), JC(6), F(7), ILINE(24), IFL
309 COMMON /WW/ IW, IPRC
310 COMMON /DD/ IDATE(5)
311 COMMON /IFIXDK/IREC(32), END, CORRECT, FACT
312 COMMON /IND/ INDCTR, OK
313 DATA IBLNK/4H /
314 DATA IEE/IHEZ, INN/1HM/, IDD/1HD/, III/IHI/
315 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
316 C IF THE LOGICAL VARIABLE OK=.TRUE.
317 C THIS SUBROUTINE WILL READ THE NEXT TWO OR TREE C
318 C CORRECTION CARDS FROM FT05F001
319 C THE FIRST CARD CONTAINES THE CORRECT DIRECTIVE, C
320 C THE SECOND- THE SEARCH KEY ON THE
321 C CORRECTED RECORD DATE
322 C THE THIRD- COMPLETE THE LOGICAL RECORD
323 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
324 C IF (.NOT.OK) RETURN
325 READ (5,100,END=70) IW, JW, FACT
326 IF (IPRC.GT.0) PRINT 140, IW, JW, FACT
327 IF (JW.LT.IEE.OR.JW.GT.INN) GOTO 30
328 IF (IFL.EQ.0) READ(5,115,END=70) (IREC(I), I=1,17)
329 IF (IFL.EQ.1) READ(5,110,END=70) (IREC(I), I=1,17)
330 IF (IW.NE.IDD) GO TO 20
331 IF (IPRC.EQ.0) GO TO 55
332 IF (IFL.EQ.0) PRINT 175, (IREC(I), I=1,5)
333 IF (IFL.EQ.1) PRINT 170, (IREC(I), I=1,6)
334 GO TO 55
335 20 READ(5,120,END=70) (IREC(I), I=18,32)
336 GO TO 60
337 30 READ(5,130,END=70) (IREC(I), I=1,14)
338 40 DO 50 I=15,32
339 IREC(I)=IBLNK
340 CONTINUE
341 IF (IPRC.GT.0) PRINT 150, (IREC(I), I=1,14)
342 GO TO 55
343 60 IF (IPRC.EQ.0) GO TO 55
344 IF (IFL.EQ.0) PRINT 165, IREC
345 IF (IFL.EQ.1) PRINT 160, IREC
346 55 DO 65 IO=1,5
347 IDATE(IO)=IREC(IO+1)
348 CONTINUE
349 IF (IW.EQ.III.AND.IFL.EQ.0) CALL HOUEUT
350 IF (IW.EQ.III.AND.IFL.EQ.1) CALL TPFENT

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351 CORRECT=.TRUE.
352 OK=.FALSE.
353 RETURN
354 70 CONTINUE
355 END=.TRUE.
356 OK=.FALSE.
357 RETURN
358 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
359 C ADDITIONAL ENTRY FOR BRANCHING ACCORDING C
360 C TO CORRION FUNCTIONS
361 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
362 ENTRY KORENT
363 IF (JW.LT.IEE.OR.JW.GT.INN) GOTO 90
364 CALL DIRFUN
365 RETURN
366 90 CALL MASFUN
367 RETURN
368 100 FORMAT(2A1,F10.0)
369 110 FORMAT (A3,2I2,A1,2I2,4X,11I4)
370 115 FORMAT(A3,2I2,A1,I2,A2,4X,11I4)
371 120 FORMAT (15I4)
372 130 FORMAT (A3,2I2,A1,2I2,A3,2I2,A1,2I2/2I2)
373 140 FORMAT(/' $$$ CORRECTION CARDS PRINTOUT $$$'
374 *1X,2A1,8X,F10.0)
375 150 FORMAT (1X,2(A3,2I2,A1,2I2),2I2)
376 160 FORMAT (1X,A3,2I2,A1,2I2,4X,26I4)
377 165 FORMAT(1X,A3,2I2,A1,I2,A2,4X,26I4)
378 170 FORMAT (1X,A3,2I2,A1,2I2)
379 175 FORMAT(1X,A3,2I2,A1,I2)
380 END
381 C
382 SUBROUTINE HOURCK
383 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
384 C THE MANAGER OF THE SEQUENCE DATE VERIFICATION C
385 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
386 DIMENSION MO(12)
387 COMMON IVAL(32), JC(3), IPILOT
388 COMMON /DD/ IDATE(4)
389 DATA MO/31,28,31,30,31,30,31,31,30,31,30,31,30,31/
390 DATA KYR/0/
391 IPILOT=0
392 C CHECKING OF THE YEAR
393 10 IF (IVAL(2).EQ.KYR) GO TO 30
394 MO(2)=28
395 IIN=IVAL(2)+1900
396 IF (IIN.EQ.(IIN/4)*4) MO(2)=29
397 IF (KYR.EQ.0) GO TO 61
398 C CHECKING OF THE MONTH
399 20 IF (KMO.EQ.12.AND.KDAY.EQ.31.AND.IVAL(2).EQ.
400 *KYR-1.AND.IVAL(3).EQ.1.AND.IVAL(5).EQ.1) GOTO 61

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401 30 IF (IVAL(3).EQ.KMO) GO TO 40
402 IF (KDAY.EQ.MO(IVAL(3)-1).AND.IVAL(3).EQ.KM
403 *O+1.AND.IVAL(5).EQ.1) GO TO 61
404 GO TO 50
405 CHECKING OF THE DAY
406 IF (IVAL(5).EQ.KDAY+1) GO TO 60
407 I1=KYR*10000+KMO*100+KDAY
408 I2=IVAL(2)*10000+IVAL(3)*100+IVAL(5)
409 THE SEQUENCE OF THE DATES IS NOT CORRECT
410 IF (I1.LT.I2) PRINT 70,KDAY,KMO,KYR,
411 *IVAL(5),IVAL(3),IVAL(2),IVAL(4)
412 IF (I1.EQ.I2) PRINT 80,KDAY,KMO,KYR,
413 *IVAL(5),IVAL(3),IVAL(2),IVAL(4)
414 IF (KDAY.EQ.MO(IVAL(3)).AND.IVAL(3).EQ.KMO.
415 *AND.IVAL(5).EQ.1) GO TO 61
416 IF (I1.GT.I2) PRINT 90,KDAY,KMO,KYR,
417 *IVAL(5),IVAL(3),IVAL(2),IVAL(4)
418 GO TO 60
419 61 I1=KMO
420 60 KDAY=IVAL(5)
421 KMO=IVAL(3)
422 KYR=IVAL(2)
423 RETURN
424 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
425 C THE ADDITIONAL ENTRY FOR THE PREVIOUS RECORD
426 C DATA CALCULATION
427 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
428 ENTRY HOUEINT
429 IF (IDATE(4).EQ.1) GO TO 62
430 IDATE(4)=IDATE(4)-1
431 RETURN
432 IF (IDATE(2).EQ.1) GO TO 64
433 IDATE(2)=IDATE(2)-1
434 IDATE(4)=MO(IDATE(2))
435 IF (IDATE(2).NE.2) RETURN
436 I1=IDATE(1)+1900
437 IF (I1N.EQ.(I1N/4)*4) IDATE(4)=29
438 RETURN
439 64 IDATE(1)=IDATE(1)-1
440 IDATE(2)=12
441 IDATE(4)=31
442 RETURN
443 ENTRY HOUEINT
444 MO(2)=28
445 I1N=IVAL(2)+1900
446 IF (I1N.EQ.(I1N/4)*4) MO(2)=29
447 KYR=IVAL(2)
448 KMO=IVAL(3)
449 KDAY=IVAL(5)
450 RETURN
451 70 FORMAT(' ***** DATA MISSING BETWEEN *****/10X,
452 *2(12,1H/),
453 * I2,5H AND ,2(12,1H/),I2, FOR COMP. ',A1)
454 80 FORMAT(' ***** RECORD IS REPEATED *****/10X,
455 *2(12,1H/),
456 * I2,5H AND ,2(12,1H/),I2, FOR COMP. ',A1)
457 90 FORMAT(' ***** DATE IS INCORRECT *****/10X,
458 *2(12,1H/),
459 * I2,5H AND ,2(12,1H/),I2, FOR COMP. ',A1)
460 END
461 C
462 SUBROUTINE TPFMCK
463 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
464 C THE MANAGER OF THE SEQUENCE HOURS
465 C VERIFICATION
466 C (ANALOGOUSLY TO THE SUBROUTINE HOURCK)
467 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
468 DIMENSION MO(12)
469 COMMON IVAL(32),JC(3),I1PLOT
470 COMMON /DD/ IDATE(5)
471 DATA MO/31,28,31,30,31,30,31,31,30,31,31,30,31,30,31/
472 DATA KYR/0/
473 I1PLOT=0
474 10 IF (IVAL(2).EQ.KYR) GO TO 30
475 MO(2)=28
476 I1N=IVAL(2)+1900
477 IF (I1N.EQ.(I1N/4)*4) MO(2)=29
478 IF (KYR.EQ.0) GO TO 61
479 20 IF (KMO.EQ.I2.AND.KDAY.EQ.31.AND.KHR.EQ.23.AND.
480 *IVAL(2).EQ.KYR+1.AND.IVAL(3).EQ.1.AND.
481 *IVAL(5).EQ.1.AND.IVAL(6).EQ.0) GO TO 61
482 30 IF (IVAL(3).EQ.KMO) GO TO 40
483 IF (KDAY.EQ.MO(IVAL(3)-1).AND.IVAL(3).EQ.KMO+1.AND.
484 *KHR.EQ.23.AND.IVAL(5).EQ.1.AND.IVAL(6).EQ.0) GO TO 61
485 GO TO 50
486 40 IF (IVAL(5).EQ.KDAY) GO TO 44
487 IF (IVAL(5).EQ.KDAY+1.AND.IVAL(6).EQ.0.AND.
488 *KHR.EQ.23) GO TO 65
489 GO TO 50
490 44 IF (IVAL(6).EQ.KHR+1) GO TO 60
491 50 I1=KYR*100000+KMO*10000+KDAY*100+KHR
492 I2=IVAL(2)*100000+IVAL(3)*10000+IVAL(5)*100+IVAL(6)
493 IF (I1.LT.I2) PRINT 70,KHR,KDAY,KMO,KYR,IVAL(6),
494 *IVAL(5),IVAL(3),IVAL(2),IVAL(4)
495 IF (I1.EQ.I2) PRINT 80,KHR,KDAY,KMO,KYR,IVAL(6),
496 *IVAL(5),IVAL(3),IVAL(2),IVAL(4)
497 IF (KDAY.EQ.MO(IVAL(3)).AND.IVAL(3).EQ.KMO.
498 *AND.IVAL(5).EQ.1.AND.IVAL(6).EQ.0) GO TO 61
499 IF (I1.GT.I2) PRINT 90,KHR,KDAY,KMO,KYR,IVAL(6),
500 *IVAL(5),IVAL(3),IVAL(2),IVAL(4)

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501 GO TO 60
502 65 IF (IVAL(5).GT.MO(IVAL(3))) PRINT 90, KHR, KDAY, KMO, KYR,
503 *IVAL(6), IVAL(5), IVAL(3), IVAL(2), IVAL(4)
504 61 I PLOT=1
505 60 KDAY=IVAL(5)
506 KHR=IVAL(6)
507 KMO=IVAL(3)
508 KYR=IVAL(2)
509 RETURN
510 ENTRY TPFINT
511 IF (IDATE(5).EQ.0) GO TO 63
512 IDATE(5)=IDATE(5)-1
513 RETURN
514 63 IF (IDATE(4).EQ.1) GO TO 62
515 IDATE(4)=IDATE(4)-1
516 IDATE(5)=23
517 RETURN
518 62 IF (IDATE(2).EQ.1) GO TO 64
519 IDATE(2)=IDATE(2)-1
520 IDATE(4)=MO(IDATE(2))
521 IDATE(5)=23
522 IF (IDATE(2).NE.2) RETURN
523 I LN=IDATE(1)+1900
524 IF (I LN.EQ.(I LN/4)*4) IDATE(4)=29
525 RETURN
526 64 IDATE(1)=IDATE(1)-1
527 IDATE(2)=12
528 IDATE(4)=31
529 IDATE(5)=23
530 RETURN
531 ENTRY TPFINT
532 MO(2)=28
533 I LN=IVAL(2)+1900
534 IF (I LN.EQ.(I LN/4)*4) MO(2)=29
535 KYR=IVAL(2)
536 KMO=IVAL(3)
537 KDAY=IVAL(5)
538 KHR=IVAL(6)
539 RETURN
540 70 FORMAT(' ***** DATA MISSING BETWEEN *****/10X,3(I2,1H/)
541 * I2,5H AND ,3(I2,1H/),I2,' FOR COMP.',A1)
542 80 FORMAT('/' ***** RECORD IS REPEATED *****/10X,3(I2,1H/),
543 * I2,5H AND ,3(I2,1H/),I2,' FOR COMP.',A1)
544 90 FORMAT('/' ***** DATE IS INCORRECT *****/10X,3(I2,1H/),
545 * I2,5H AND ,3(I2,1H/),I2,' FOR COMP.',A1)
546 END
547 C
548 SUBROUTINE NAMECK
549 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
550 C THE MANAGER OF THE COMPONENT INDEX C
551 C AND MNEMONIC OBSERVATORY CODE VERIFICATION C
552 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
553 LOGICAL BEGIN
554 DIMENSION IVECTR(3,4)
555 COMMON IVAL(32),JC(3),IPL0T,ERROR,IC,F(7),ILINE(24),IF
556 DATA BEGIN/TRUE/,YES/2H A/
557 C THE ARRAY OF PERMISSIBLE INDICES OF COMPONENTS
558 DATA IVECTR/1H3,1H1,1H7,1H5,1H6,1H7,
559 *1H1,1H4,1H2,1H3,1H4,1H5,1H6,1H7,
560 IF(BEGIN)GOTO 10
561 IF(IPL0T.EQ.1) GO TO 20
562 ERROR=YES
563 PRINT 60, KP, IVAL(4)
564 GO TO 20
565 10 IF(I FL.EQ.0) PRINT 75, IVAL(4), IVAL(1),
566 *IVAL(5), IVAL(3), IVAL(2)
567 IF(I FL.EQ.1) PRINT 70, IVAL(4), IVAL(1),
568 *IVAL(6), IVAL(5), IVAL(3), IVAL(2)
569 KOD=IVAL(1)
570 DO 40 M=1,3
571 DO 30 N=1,4
572 IF (IVAL(4).NE.IVECTR(M,N)) GOTO 30
573 IC=M
574 GO TO 50
575 30 CONTINUE
576 40 CONTINUE
577 ERROR=YES
578 PRINT 80, IVAL(4)
579 50 CONTINUE
580 BEGIN=.FALSE.
581 KP=IVAL(4)
582 C THE CHECKING OF THE OBSERVATORY CODE
583 ENTRY NAMECT
584 IF (KOD.EQ.IVAL(1)) RETURN
585 ERROR=YES
586 PRINT 90, KOD, IVAL(1)
587 KOD=IVAL(1)
588 RETURN
589 60 FORMAT('/' ***** THE CURRENT COMPONENT ',A1,
590 *' IS MIXED WITH COMP.',A1,5H *****)
591 70 FORMAT ('//5X,' THE FIRST RECORD CONTAINS ',A1,' COMP.
592 *A3,' FOR THE DATE ',3(I2,1H/),I2,' (HOUR/DAY/MONTH/YE
593 75 FORMAT('///5X,' THE FIRST RECORD CONTAINS ',A1,' COMP.
594 *A3,' FOR THE DATE ',2(I2,1H/),I2,' (DAY/MONTH/YEAR) /)
595 80 FORMAT('/' ***** INDEX OF COMP.',A1,
596 *' IS NOT RECOGNIZABLE *****')
597 90 FORMAT(' ***** THE MNEMONIC CODE OF THE OBS.
598 *WAS CHANGED FROM ',A3,6H TO ',A3,6H *****)
599 END
600 C

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601 SUBROUTINE JUMPCK(I)
602 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
603 C THIS SUBROUTINE CHECKS DATA ON ABNORMAL JUMPS C
604 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
605 LOGICAL START
606 COMMON IVAL(32),JJ(3),IPL0T,ERROR,IC,F(7),ILINE(24),IF
607 DATA IBLNK/4H /,IFILL/4H----/
608 DATA IDD/1HD/,ID1/1H1/,YES/3HYES/
609 NN=8
610 NO=0
611 DO 10 MM=1,24
612 ILINE(MM)=IBLNK
613 GO TO (20,30),I
614 20 START=.TRUE.
615 30 IF (.NOT.START) GO TO 50
616 IFCT=100
617 IF (IVAL(4).EQ.IDD.OR.IVAL(4).EQ.ID1) IFCT=600
618 ICHKB=IVAL(7)*IFCT
619 N8=NN
620 DO 40 J=N8,31
621 IF (IVAL(J).EQ.9999) GO TO 40
622 START=.FALSE.
623 NN=J+1
624 ICHK=IVAL(7)+ICHB
625 GO TO 50
626 40 CONTINUE
627 GO TO 90
628 50 IF(MN.GE.31) GO TO 90
629 DO 80 J=NN,31
630 NN=J
631 IF (IVAL(J).EQ.9999) GO TO 70
632 IVL=IVAL(J)+ICHB
633 IF(IABS(IVL-ICBK).LE.JJ(IC)) GO TO 60
634 ERROR=YES
635 NO=1
636 ILINE(J-7)=IFILL
637 IF(ILINE(1).NE.IBLNK) IOLD=ICBK-ICHB
638 ICHK=IVL
639 80 CONTINUE
640 90 IF (NO.NE.0) PRINT 100
641 IF (NO.NE.0.AND.ILINE(1).NE.IBLNK) PRINT 110,ICHB,IOLD
642 RETURN
643 100 FORMAT(/' **** EXCESSIVE CHANGE IN HOURLY VALUES ****'
644 110 FORMAT(7X,' (THE BASE OF THE PREVIOUS RECORD = ',I6,
645 *, ' THE PAST VALUE OF THE COMPONENT = ',I4,')')
646 END
647 C
648 SUBROUTINE MEANCK(I)
649 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
650 C THIS SUBROUTINE CHECKS THE AVERAGE VALUE C

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651 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
652 DIMENSION IOLD(31)
653 COMMON IVAL(32),JC(3),IPL0T,ERROR
654 DATA YES/3HYES/
655 GO TO (10,30),I
656 10 IK=0
657 ISM=0
658 DO 20 J=8,31
659 IOLD(J)=IVAL(J)
660 IF (IVAL(J).EQ.9999) GO TO 20
661 ISM=ISM+IVAL(J)
662 IK=IK+1
663 20 CONTINUE
664 GO TO 50
665 30 IC=0
666 DO 40 J=8,31
667 IF (IVAL(J).EQ.9999) IC=IC+1
668 IF (IOLD(J).NE.IVAL(J)) GO TO 10
669 40 CONTINUE
670 IF (IC.EQ.24) GO TO 10
671 PRINT 70
672 ERROR=YES
673 GO TO 10
674 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
675 C VERIFY THE AVERAGE VALUE C
676 C (IF NO MEAN EXISTS C
677 C ONE WILL BE CREATED AND PUT INTO OUTPUT RECORD)C
678 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
679 50 IF(IVAL(32).EQ.0.OR.IVAL(32).EQ.9999.OR.IK.LE.0)
680 * GO TO 60
681 IDIFF=ISM/IK-IVAL(32)
682 IF (IABS(IDIFF).LE.2) RETURN
683 PRINT 80
684 ERROR=YES
685 RETURN
686 60 IVAL(32)=9999
687 IF (IK.GE.1) IVAL(32)=ISM/IK
688 RETURN
689 70 FORMAT(/' **** THE PREVIOUS RECORD IS REPEATED ****')
690 80 FORMAT(/' **** INCORRECT AVERAGE VALUE ****')
691 END
692 C
693 C SUBROUTINE DIRFUN
694 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
695 C THIS SUBROUTINE WILL TAKE CARE OF C
696 C ALL DELETE,INSERT AND REPLACE DIRECTIVES C
697 C LOGICAL INDCTR,OK
698 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
699 DIMENSION MO(12)
700

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701 COMMON IVAL(32),JC(3),IPLOT,ERROR,IC,F(7),ILN(24),IFL
702 COMMON /FIXDK/ IREC(32),END,CORRECT,FACT
703 COMMON /DD/ IDATE(5)
704 COMMON /WW/ IW,IPRC,IKNT(3),ICNT(3)
705 COMMON /IND/ INDCTR,OK,IROR
706 DATA MO/31,28,31,30,31,30,31,31,30,31,30,31/
707 DATA IDD/1HD/,IRR/1HR/,III/1HI/,BLNK/4H /
708 IF (IREC(1).NE.IVAL(1)) RETURN
709 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
710 C CHECK THE RECORDS OF A DATE COINCIDENCE C
711 C WITH A CORRECTING CARD C
712 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
713 DO 10 IO=2,6
714 IF (IDATE(10-1).NE.IVAL(IO)) RETURN
715 10 CONTINUE
716 IFACT=FACT+0.5
717 OK=.TRUE.
718 C IS IT A REPLACE REQUESTED?
719 IF (IW.EQ.IRR) GO TO 20
720 C DELETE OLD RECORD
721 IF (IW.EQ.IDD) GO TO 40
722 C IS IT A INSERT REQUESTED?
723 IF (IW.EQ.III) GO TO 50
724 C UNKNOWN DIRECTIVE
725 PRINT 80, (IREC(IO),IO=1,5)
726 RETURN
727 C REPLACE OLD RECORD
728 DO 30 JX=1,32
729 IVAL(JX)=IREC(JX)
730 CONTINUE
731 IF (IFACT.EQ.1) RETURN
732 DO 35 IX=2,IFACT
733 WRITE(8,F) IVAL
734 READ(9,F) IVAL
735 READ 90, IVAL
736 IF (IFL.EQ.0) CALL HOUTINT
737 IF (IFL.EQ.1) CALL TPFINT
738 IF (IFL.EQ.0) CALL HOURCK
739 IF (IFL.EQ.1) CALL TPFMCK
740 CALL NAMENT
741 CALL JUMPCK(2)
742 CALL MEANCK(2)
743 35 CONTINUE
744 IKNT(IC)=IKNT(IC)+IFACT-1
745 ICNT(IC)=ICNT(IC)+IFACT-1
746 RETURN
747 40 IF (IFACT.EQ.1) RETURN
748 DO 45 IX=2,IFACT
749 READ(9,F) IVAL
750 45 CONTINUE
751 ICNT(IC)=ICNT(IC)+IFACT-1
752 RETURN
753 C INPUT RECORD
754 50 IF (IFL.EQ.0) CALL HOURCK
755 IF (IFL.EQ.1) CALL TPFMCK
756 CALL NAMENT
757 CALL JUMPCK(2)
758 CALL MEANCK(2)
759 WRITE(8,F) IVAL
760 IKNT(IC)=IKNT(IC)+1
761 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
762 C THE PRINT OF ERRONEOUS RECORD AFTER C
763 C CORRESPONDING INFORMATION C
764 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
765 PRINT 100, IVAL
766 PRINT 110, ILN
767 ERROR=BLNK
768 IRROR=IROR+1
769 DO 60 JX=1,32
770 IVAL(JX)=IREC(JX)
771 60 CONTINUE
772 IF (IFACT.EQ.1) RETURN
773 MO(2)=28
774 IYR=IVAL(2)+1900
775 DO 70 IX=2,IFACT
776 WRITE(8,F) IVAL
777 IF (IX.EQ.IFACT.AND.IFL.EQ.0) CALL HOUTINT
778 IF (IX.EQ.IFACT.AND.IFL.EQ.1) CALL TPFINT
779 IF (IFL.EQ.0) GO TO 65
780 IVAL(6)=IVAL(6)+1
781 IF (IVAL(6).LE.23) GO TO 70
782 IVAL(6)=0
783 IVAL(5)=IVAL(5)+1
784 IF (IYR.EQ.(IYR/4)*4) MO(2)=29
785 IF (IVAL(5).LE.MO(IVAL(3))) GO TO 70
786 IVAL(5)=1
787 IVAL(3)=IVAL(3)+1
788 IF (IVAL(3).LE.12) GO TO 70
789 IVAL(3)=1
790 IVAL(2)=IVAL(2)+1
791 70 CONTINUE
792 IKNT(IC)=IKNT(IC)+IFACT-1
793 RETURN
794 80 FORMAT(/' **** UNKNOWN DATA UPDATE DIRECTIVE ( ',
795 *A3,2I2,A1,2I2,7H ) ****)
796 FORMAT (A3,2I2,A1,2I2,4X,16I4/10I4)
797 100 FORMAT (1X,A3,2I2,A1,2I2,4X,26I4)
798 110 FORMAT(1X,20X,24A4)
799 END
800 C

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851 IVAL(I+7)=FLOAT(IVAL(I+7))*FACT+0.5
852 90 CONTINUE
853 GO TO 130
854 120 IVAL(7)=FLOAT(IVAL(7))*FACT+0.5
855 IF (OK) NS=1
856 130 RETURN
857 END

```

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801 SUBROUTINE MASFUN
802 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
803 C THIS SUBROUTINE WILL ADD,SUBTRACT OR MULTIPLY C
804 C A COMMON FACTOR TO SPECIFIED VALUES
805 CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC
806 LOGICAL INDCTR,OK
807 COMMON IVAL(32)
808 COMMON /FIXDK/ IREC(32),END,CORRECT,FACT
809 COMMON /M/IW
810 COMMON /IND/ INDCTR,OK
811 DATA ISS/1HS/, IMM/1HM/, NS/1/
812 IF (NS.EQ.0) GO TO 30
813 IF (INDCTR) GO TO 20
814 DO 10 JX=1,6
815 IF (IREC(JX).NE.IVAL(JX)) RETURN
816 10 CONTINUE
817 INDCTR=.TRUE.
818 NS=IREC(13)
819 ISET=0
820 IFACT=FACT+0.5
821 C IS THE NUMBER SUBTRACTED?
822 IF (IW.EQ.ISS) IFACT=-IFACT
823 C IS THE DATA MULTIPLIED?
824 IF (IW.EQ.IMM) ISET=1
825 GO TO 30
826 20 NS=1
827 30 IF (IREC(7).NE.IVAL(1)) GO TO 50
828 DO 40 JX=2,6
829 IF (IREC(JX+6).NE.IVAL(JX)) GO TO 50
830 40 CONTINUE
831 INDCTR=.FALSE.
832 OK=.TRUE.
833 NF=IREC(14)
834 GO TO 60
835 50 NF=25
836 60 IF (ISET.GE.1) GO TO 80
837 IF (NS.EQ.0) GO TO 100
838 C ADD THE NUMBER
839 DO 70 I=NS,NF
840 IF (IVAL(I+7).EQ.9999) GO TO 70
841 IVAL(I+7)=IVAL(I+7)+IFACT
842 70 CONTINUE
843 GO TO 110
844 100 IVAL(7)=IVAL(7)+IFACT
845 IF (OK) NS=1
846 110 RETURN
847 80 IF (NS.EQ.0) GO TO 120
848 C MULTIPLY THE NUMBER
849 DO 90 I=NS,NF
850 IF (IVAL(I+7).EQ.9999) GO TO 90

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Table 13

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28 *****
29
30 IDENTIFICATION DIVISION.
31 PROGRAM-ID.
32   MAPOUT.
33 AUTHOR.
34   CARL ABSTON.
35 ENVIRONMENT DIVISION.
36 CONFIGURATION SECTION.
37 SOURCE-COMPUTE
38   ECLIPSE.
39 OBJECT-COMPUTER.
40 ECLIPSE.
41 INPUT-OUTPUT SECTION.
42 FILE-CONTROL
43   SELECT INA20 ASSIGN TO TAPE10
44   RESERVE AREAS
45   SELECT INE20 ASSIGN TO TAPE10
46   RESERVE AREAS
47   SELECT INA40 ASSIGN TO TAPE10
48   RESERVE 4 AREAS
49   FILE STATUS IS FILE-STATUS.
50   SELECT INE40 ASSIGN TO TAPE10
51 *****
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99 *
100 *****

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RESERVE 4 AREAS.  
SELECT PRINTFILE ASSIGN TO PRINTER TAPE41.  
SELECT ARCHIVE-FILE ASSIGN TO TAPE40.  
SELECT SEQ-FILE ASSIGN TO 'SEQFILE'.  
DATA DIVISION.  
FILE SECTION.  
FD SEQ-FILE  
LABEL RECORDS ARE OMITTED  
DATA RECORD IS SEQ-RECORD.  
01 SEQ-RECORD PIC X(2200).  
FD ARCHIVE-FILE  
LABEL RECORDS ARE OMITTED  
DATA RECORD IS ARCHIVE-RECORD.  
01 ARCHIVE-RECORD.  
02 ATYPE PIC XX.  
02 ADATE PIC X(6).  
02 ATAPE PIC X(6).  
02 AFILE PIC 999.  
02 ABTAP PIC X(6).  
02 ADATA PIC X(133).  
02 ACOUNT PIC 9(6).  
71 INA20  
72 FD  
BLOCK CONTAINS 20 RECORDS  
LABEL RECORDS ARE OMITTED  
DATA RECORD IS INA20-RECORD.  
01 INA20-RECORD.  
02 INA20-13 PIC X(13).  
02 FILLER PIC X(107).  
79 FD  
INA40  
BLOCK CONTAINS 40 RECORDS  
LABEL RECORDS ARE OMITTED  
DATA RECORD IS INA40-RECORD.  
01 INA40-RECORD.  
02 INA40-13 PIC X(13).  
02 FILLER PIC X(107).  
86 FD  
INE20  
BLOCK CONTAINS 20 RECORDS  
LABEL RECORDS ARE OMITTED  
DATA RECORD IS INE20-RECORD  
CODE-SET IS EBCDIC.  
01 INE20-RECORD.  
02 INE20-13 PIC X(13).  
02 FILLER PIC X(107).  
94 FD  
INE40  
BLOCK CONTAINS 40 RECORDS  
LABEL RECORDS ARE OMITTED  
DATA RECORD IS INE40-RECORD  
CODE-SET IS EBCDIC.  
01 INE40-RECORD.  
02 INE40-13 PIC X(13).

101 02 FILLER PIC X(107).  
102 FD PRINTFILE  
103 LABEL RECORDS ARE OMITTED  
104 DATA RECORD IS PRINT-LINE-ALC.  
105 01 PRINT-LINE-ALC.  
106 02 PRINT-LINE.  
107 03 FILLER PIC X(120).  
108 03 PCOUNT PIC -----9.  
109 03 PEND REDEFINES PCOUNT PIC X(10).  
110 03 FILLER PIC X(6).  
111 WORKING-STORAGE SECTION.  
112 01 INCOMING-RECORD.  
113 03 CHECK-AREA.  
114 04 FULL-HEADER-STORE.  
115 05 OBSYRMOEDA.  
116 06 OBSYRMO.  
117 07 OBSYR.  
118 08 OBSM PIC XXX.  
119 08 YRM PIC XX.  
120 07 MOM PIC XX.  
121 07 MON REDEFINES MOM PIC 99.  
122 06 ELE PIC X.  
123 06 DAM PIC XX.  
124 06 DAN REDEFINES DAM PIC 99.  
125 05 HRM PIC XX.  
126 04 COUNTX PIC X.  
127 03 FILLER PIC X(107).  
128 01 FIRST-RECORD REDEFINES INCOMING-RECORD.  
129 02 REELX PIC X(4).  
130 02 FILLER PIC X(6).  
131 02 HOURLY-VALUE PIC XX.  
132 02 MM-TV-VALUE PIC X.  
133 02 FILLER PIC X(107).  
134 01 INC-1 REDEFINES INCOMING-RECORD.  
135 02 FILLER PIC X(14).  
136 02 CC-15 PIC X.  
137 02 FILLER PIC X.  
138 02 CC-17-20 PIC XXXX.  
139 02 FILLER PIC X(100).  
140 01 XX PIC X.  
141 01 AATAPE PIC X.  
142 01 OBSMM PIC X(3).  
143 01 DAMM PIC XX.  
144 01 DAMH PIC XX.  
145 01 ELA PIC X.  
146 01 PRINT-COUNT PIC S9(6) COMP VALUE 0.  
147 01 INCOUNT PIC 9(6) VALUE 0.  
148 01 SUB-W PIC S9(10) COMP VALUE 0.  
149 01 INCR PIC S9(4) COMP VALUE 0.  
150 01 LOOP-CONTROLX PIC S9(4) COMP VALUE 0.  
151 01 SUBJ PIC S9(4) COMP VALUE 0.  
152 01 SUBL PIC S9(4) COMP VALUE 1.  
153 01 TCOUNT PIC 9(8) VALUE 0.  
154 01 HOBSPIC XXX.  
155 01 HDATE PIC X(6).  
156 01 HTAPE PIC X(6).  
157 01 HBTAPE PIC X(6).  
158 01 TAPE40 PIC X(20).  
159 01 TAPE41 PIC X(20).  
160 01 TAPE10.  
161 02 FILLER PIC X(7).  
162 02 TN.  
163 03 TN1 PIC X.  
164 03 TN2 PIC X.  
165 03 TN3 PIC X.  
166 02 TNM REDEFINES TN PIC 999.  
167 01 INCREMENT PIC S9(4) COMP VALUE 0.  
168 01 IPL-DATE.  
169 02 IPL-YR PIC XX.  
170 02 IPL-MO PIC XX.  
171 02 IPL-DA PIC XX.  
172 01 HEADERB.  
173 03 FILLER PIC X(44) VALUE \*\*\*\*\*.  
174 'OBSYRMO \*\*\*\*\*  
175 03 FILLER PIC X(42) VALUE \*\*\*\*\*.  
176 \*\*\*\*\*  
177 03 FILLER PIC X(42) VALUE \*\*\*\*\*.  
178 \*\*\*\*\*  
179 01 HEADERA.  
180 03 FILLER PIC X(44) VALUE \*\*\*\*\*.  
181 D-X-F-T VALUES  
182 03 FILLER PIC X(44) VALUE \*\*\*\*\*.  
183 H-Y-I VALUES  
184 03 FILLER PIC X(44) VALUE \*\*\*\*\*.  
185 Z VALUES  
186 01 DATA-LINEA.  
187 03 D-L-OBSYRMO PIC X(7).  
188 03 FILLER PIC X.  
189 03 DATA-POST OCCURS 39 TIMES PIC X.  
190 03 FILLER PIC X(3).  
191 03 DATA-POST OCCURS 39 TIMES PIC X.  
192 03 FILLER PIC X(3).  
193 03 DATA-POST OCCURS 39 TIMES PIC X.  
194 01 DATA-LINEB.  
195 03 D-L-OBSYRMO-B PIC X(7).  
196 03 FILLER PIC X.  
197 03 DATA-POST OCCURS 39 TIMES PIC X.  
198 01 NAME-LINE.  
199 03 FILLER PIC X(57) VALUE SPACE.  
200 03 OBS-NL PIC XXX.

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201 03 FILLER PIC XXX VALUE =
202 03 OBS-NAME PIC X(18).
203 01 OVERFLOW-ALC PIC X.
204 01 J-B PIC X(41) VALUE
205 04 'JOB BEGIN MAPOUT 2.5-MIN OR HOURLY VALUES'.
206 01 J-A PIC X(23) VALUE
207 01 'JOB ABORT MAP-OUT
208 01 01-STORAGE.
209 02 MESS-LINE.
210 03 FILLER PIC X(51).
211 03 MESS PIC X(30).
212 02 DUPLICATE-COUNT PIC S9(4) COMP VALUE 0.
213 02 LINE-COUNT PIC S9(4) COMP VALUE 0.
214 02 HV-MESS.
215 03 FILLER PIC X(48) VALUE SPACE.
216 03 FILLER PIC X(37) VALUE
217 03 'H O U R L Y V A L U E M A P O U T'.
218 03 FILLER PIC X(48) VALUE SPACE.
219 02 TV-MESS.
220 03 FILLER PIC X(45) VALUE SPACE.
221 03 FILLER PIC X(43) VALUE
222 03 'T A B U L A R V A L U E M A P O U T'.
223 03 FILLER PIC X(44) VALUE SPACE.
224 02 MM-MESS.
225 03 FILLER PIC X(49) VALUE SPACE.
226 03 FILLER PIC X(35) VALUE
227 03 'M I L I M E T E R M A P O U T'.
228 03 FILLER PIC X(48) VALUE SPACE.
229 02 BUILD-MESS.
230 03 FILLER PIC X(39) VALUE SPACES.
231 03 MESSAGEX PIC X(41).
232 03 FILLER PIC X(5) VALUE SPACE.
233 03 DATEX.
234 04 DATEX-YR PIC XX.
235 04 FILLER PIC X VALUE '/'.
236 04 DATEX-MO PIC XX.
237 04 FILLER PIC X VALUE '/'.
238 04 DATEX-DA PIC XX.
239 03 FILLER PIC X(15) VALUE SPACE.
240 03 MTAPE PIC X(15) VALUE SPACES.
241 03 MFILE PIC X(13).
242 02 NO-DATA PIC X(23) VALUE
243 02 'NO DATA ON THIS TAPE
244 02 INVALID-DATA PIC X(23) VALUE
245 02 'INVALID OBSERVATORY
246 02 EXITX PIC X VALUE '0'.
247 02 SECOND-ARRAY PIC X VALUE '0'.
248 02 PREVIOUS-HEADER.
249 03 PREVIOUS-OBSYRMOEDAHR.
250 04 PREVIOUS-OBSYRMOEDA.

05 PREVIOUS-OBSYRMO.
06 PREVIOUS-OBSYR. PIC XXX.
07 PREVIOUS-OBS PIC XX.
07 PREVIOUS-YR PIC XX.
06 PREVIOUS-MO PIC XX.
05 PREVIOUS-E PIC X.
05 PREVIOUS-DA PIC XX.
05 PREVIOUS-HR PIC XX.
04 PREVIOUS-COUNT PIC X.
03 OUT-OF-SEQ PIC X(24) VALUE
02 '*** SEQUENCE ERROR ***'.
02 J-E-1.
03 FILLER PIC X(32) VALUE SPACE.
03 FILLER PIC X(23) VALUE
03 'NUMBER INPUT RECORDS =
03 NUMBER-INPUT PIC -----9.
03 FILLER PIC X(5) VALUE SPACE.
03 FILLERX PIC X(27) VALUE
03 'NUMBER DUPLICATE RECORDS =
03 NUMBER-DUP PIC -----9.
03 FILLER PIC X(31) VALUE SPACE.
01 RECORD-COUNTX PIC S9(8) COMP VALUE 0.
01 BINARY-DAY PIC S9(2) COMP VALUE 0.
01 SUBM PIC S9(8) COMP VALUE 0.
*****
275 *
276 *
277 *
278 *
279 *
280 01 TABLE-CODE.
281 02 TABLEPOS OCCURS 6 TIMES PIC X(2200).
282 01 TABLE-CODEX REDEFINES TABLE-CODE.
283 02 TABLENAMECODE OCCURS 600 TIMES.
284 03 TABLE-CODEPOS PIC XXX.
285 03 FILLER PIC X.
286 03 TABLE-NAMEPOS PIC X(18).
287 01 SUBTABLE PIC S9(6) COMP VALUE 0.
288 01 AETYPE PIC X.
289 01 BLOCKTYPE PIC XX.
290 01 SHORTTYPE PIC X.
291 01 DISCTYPE PIC X VALUE
292 01 FILE-STATUS PIC XX.
293
294
295
296
297
298
299
300
*****
TABLE OF OBSERVATORY CODES AND THEIR FULL NAMES *
*****

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301 * *****
302 * THIS PROGRAM PRODUCES A CATALOG OF GEOMAGNETIC DATA FOR
303 * 1---GEOMAGNETIC MILLIMETER VALUES
304 * 2---GEOMAGNETIC 2.5-MINUTE ABSOLUTE VALUES
305 * (TABULAR VALUES)
306 * 3---GEOMAGNETIC INDICES (AE,AL,A0,AU,DST)
307 * 4---GEOMAGNETIC HOURLY ABSOLUTE VALUES
308 * WHICH EXIST ON A GIVEN MAGNETIC TAPE OR DISK FILE
309 *
310 * *****
311 * PROCEDURE DIVISION.
312 * BEGINX SECTION.
313 *
314 * X1000A.
315 * DISPLAY '****WELCOME TO MAPOUT PROGRAM ****'.
316 * OPEN INPUT SEQ-FILE.
317 * MOVE 1 TO SUBTABLE.
318 * DISPLAY 'LOAD OBS NAMES AND CODES'.
319 * X1001A.
320 * READ SEQ-FILE AT END GO TO X1002A.
321 * IF SUBTABLE > 6
322 * DISPLAY 'OVER 500 NAMES READ IN--STOP RUN'
323 * STOP RUN.
324 * MOVE SEQ-RECORD TO TABLEPOS (SUBTABLE).
325 * ADD 1 TO SUBTABLE.
326 * GO TO X1001A.
327 * X1002A.
328 * DISPLAY 'TABL-CODEPOS = ' TABLE-CODEPOS (1).
329 * DISPLAY 'TABLE-CODEPOS = ' TABLE-CODEPOS (201).
330 * CLOSE SEQ-FILE.
331 * 1000B.
332 * DISPLAY '*****'.
333 * DISPLAY 'ENTER A IF INPUT IS ASCII'.
334 * DISPLAY 'ENTER E IF INPUT IS EBCDIC'.
335 * ACCEPT AETYPE.
336 * IF AETYPE NOT = 'E' AND NOT = 'A' GO TO 1000B.
337 * 1000C.
338 * DISPLAY 'ENTER 20 IF INPUT IS BLOCK 20'.
339 * DISPLAY 'ENTER 40 IF INPUT IS BLOCK 40'.
340 * DISPLAY 'ENTER D IF INPUT IS ON DISK'.
341 * ACCEPT BLOCKTYPE.
342 * IF BLOCKTYPE = 'D' MOVE '20' TO BLOCKTYPE
343 * MOVE 'D' TO DISCTYPE.
344 * IF BLOCKTYPE NOT = '20' AND NOT = '40' GO TO 1000C.
345 * IF AETYPE = 'A' AND BLOCKTYPE = '20'
346 * ALTER LOOP-CONTROL TO PROCEED TO UREADA2
347 * IF AETYPE = 'E' AND BLOCKTYPE = '20'
348 * ALTER LOOP-CONTROL TO PROCEED TO UREADE2
349 * IF AETYPE = 'A' AND BLOCKTYPE = '40'
350 * ALTER LOOP-CONTROL TO PROCEED TO UREADA4
351 * IF AETYPE = 'E' AND BLOCKTYPE = '20'
352 * ALTER LOOP-CONTROL TO PROCEED TO UREADE4
353 * 1000D.
354 * DISPLAY '*****'.
355 * DISPLAY 'DO YOU WANT TO ADD TO THE SHORTMAP FILE ENTER Y/N'.
356 * ACCEPT SHORTTYPE.
357 * IF SHORTTYPE NOT = 'N' AND NOT = 'Y' GO TO 1000D.
358 * DISPLAY '*****'.
359 * DISPLAY 'ENTER NAME OF MAPOUT PRINT FILE'.
360 * ACCEPT TAPE41.
361 * DISPLAY '*****'.
362 * EXPUNGE PRINTFILE.
363 * OPEN OUTPUT PRINTFILE.
364 * 1000A.
365 * DISPLAY 'ENTER INPUT UNIT NAME---LIKE TAPE1F OR CARL'.
366 * DISPLAY 'DISC INPUT CAN BE ANYTHING'.
367 * DISPLAY 'TAPE INPUT SHOULD BE NAMED TAPE10:0'.
368 * DISPLAY 'REMEMBER BEFORE EXECUTING THIS PROGRAM'.
369 * DISPLAY 'YOU SHOULD ISSUED A MOUNT COMMAND FOR A TAPE'.
370 * DISPLAY
371 * 'TAPE MOUNT COMMAND = MOUNT TAPE10 W0011-9TRACK-1600'.
372 * ACCEPT TAPE10.
373 * MOVE TAPE10 TO MFILE.
374 * IF DISCTYPE = 'D' GO TO 1000E.
375 * IF TN3 = ' ' MOVE TN2 TO TN3
376 * MOVE TN1 TO TN2
377 * MOVE 'O' TO TN1.
378 * IF TN3 = ' ' MOVE TN2 TO TN3
379 * MOVE TN1 TO TN2
380 * MOVE 'O' TO TN1.
381 * MOVE TN TO MFILE.
382 * DISPLAY 'ENTER REAL TAPE NUMBER LIKE W00923'.
383 * ACCEPT HTAPE.
384 * 1000E.
385 * IF SHORTTYPE = 'N' GO TO 1001A.
386 * DISPLAY
387 * 'ENTER H FOR HOURLY VALUES, 2 FOR 2.5-MIN DATA'.
388 * ACCEPT XX.
389 * IF XX = 'H' MOVE 'ARCHIVEH' TO TAPE40 ELSE
390 * MOVE 'ARCHIVE25' TO TAPE40.
391 * 1000F.
392 * OPEN EXTEND ARCHIVE-FILE.
393 * MOVE SPACES TO ARCHIVE-RECORD.
394 * MOVE HIAPE TO ATAPE.
395 * DISPLAY 'ENTER READ TAPE NUMBER BACKUP IF ANY'.
396 * ACCEPT HBTAPE.
397 * MOVE HBTAPE TO ABTAPE.
398 * ACCEPT HDATE FROM DATE.
399 * MOVE HDATE TO ADATE.
400

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401 MOVE TNN TO AFILE.
402 DISPLAY 'ENTER H=HOURLY VALUE, 2=2.5-MIN VALUE DATA'.
403 ACCEPT AATAPE.
404 MOVE AATAPE TO ATYPE.
405 1001A.
406 MOVE SPACES TO PREVIOUS-HEADER.
407 MOVE SPACES TO DATA-LINEA.
408 MOVE SPACES TO DATA-LINEB.
409 MOVE 1 TO SUBM. MOVE 0 TO RECORD-COUNTX.
410 MOVE 0 TO DUPLICATE-COUNT.
411 *****
412 *
413 * PRINTOUT RECORD DESCRIPTION FOR 2.5-MIN GEOMAGENTIC OR
414 * GEOMAGNETIC HOURLY VALUES
415 *
416 *****
417 1002A.
418 MOVE SPACES TO PRINT-LINE-ALC.
419 PERFORM PRINTNEWPAGE.
420 MOVE '**** THE FOLLOWING IS A FORMAT OF THE DATA RECORDS
421 TO PRINT-LINE PERFORM PRINT.
422 MOVE '-----
423 TO PRINT-LINE PERFORM PRINT.
424 MOVE 'CC 1-3 = OBSERVATORY CODE (CO =COLLEGE)'
425 TO PRINT-LINE PERFORM PRINT.
426 MOVE 'CC 4-5 = YEAR (78 = 1978)'
427 TO PRINT-LINE PERFORM PRINT.
428 MOVE 'CC 6-7 = MONTH (12 = DECEMBER)'
429 TO PRINT-LINE PERFORM PRINT.
430 MOVE 'CC 8 = ELEMENT (D,H,Z,X,Y,F)'
431 TO PRINT-LINE PERFORM PRINT.
432 MOVE ' D= DECLARATION'
433 TO PRINT-LINE PERFORM PRINT.
434 MOVE ' H= HORIZONTAL INSTENSITY'
435 TO PRINT-LINE PERFORM PRINT.
436 MOVE ' Z= VERTICAL INSTENSITY'
437 TO PRINT-LINE PERFORM PRINT.
438 MOVE ' F= TOTAL INSTENSITY'
439 TO PRINT-LINE PERFORM PRINT.
440 MOVE ' X= X COMPONENT OF HORIZONTAL INSTENSITY'
441 TO PRINT-LINE PERFORM PRINT.
442 MOVE ' Y= Y COMPONENT OF HORIZONTAL INSTENSITY'
443 TO PRINT-LINE PERFORM PRINT.
444 MOVE 'CC 8-10 = DAY (01 = FIRST DAY OF MONTH)'
445 TO PRINT-LINE PERFORM PRINT.
446 MOVE 'CC 11-12 = HOUR (00-23)'
447 TO PRINT-LINE PERFORM PRINT.
448 MOVE ' IF FORMAT IS HOURLY VALUES---NO HOUR'
449 TO PRINT-LINE PERFORM PRINT.
450 MOVE 'CC 13-16 = NOT USED'

451 TO PRINT-LINE PERFORM PRINT.
452 MOVE 'CC 17-20 = TAB BASE'
453 TO PRINT-LINE PERFORM PRINT.
454 MOVE 'IF ELEMENT = D AND TAB BASE = 1 (1 DGREE)'
455 TO PRINT-LINE PERFORM PRINT.
456 MOVE 'IF ELEMENT NOT = D AND TAB = 550 (55000 GAMMAS
457 TO PRINT-LINE PERFORM PRINT.
458 MOVE 'CC 21-116 = 24 4-DIGIT DATA VALUES'
459 TO PRINT-LINE PERFORM PRINT.
460 MOVE 'CC 117-120 = MEAN OF RECORD'
461 TO PRINT-LINE PERFORM PRINT.
462 MOVE 'IF HOURLY THEN MEAN = DAILY MEAN'
463 TO PRINT-LINE PERFORM PRINT.
464 MOVE 'IF 2.5-MIN RECORD THEN MEAN = HOURLY MEAN'
465 TO PRINT-LINE PERFORM PRINT.
466 MOVE '*****'
467 TO PRINT-LINE PERFORM PRINT.
468 IF BLOCKTYPE = '20' AND DISCTYPE NOT = 'D'
469 MOVE
470 'THE 120 CHARACTERS ARE BLOCKED 20 (2400 CHARACTERS/PHYS
471 TO PRINT-LINE PERFORM PRINT.
472 IF BLOCKTYPE = '40'
473 MOVE
474 'THE 120 CHARACTER RECORDS ARE BLOCKED 40 (4800 CHAR/PHY
475 TO PRINT-LINE PERFORM PRINT.
476 IF AETYPE = 'E'
477 MOVE 'THE DATA IS IN EBCDIC CODE' TO PRINT-LINE PERFORM
478 MOVE SPACES TO PRINT-LINE PERFORM PRINT.
479 PERFORM PRINTNEWPAGE.
480 *****
481 *
482 * GET TODAYS DATE FROM COMPUTER
483 *
484 * SEPARATE YEAR MONTH AND DAY WITH / MARKS
485 *****
486 1003A.
487 ACCEPT IPL-DATE FROM DATE.
488 IF BLOCKTYPE = '20' AND AETYPE = 'A'
489 OPEN INPUT INA20 GO TO 1003B.
490 IF BLOCKTYPE = '40' AND AETYPE = 'A'
491 OPEN INPUT INA40 GO TO 1003B.
492 IF BLOCKTYPE = '20' AND AETYPE = 'E'
493 OPEN INPUT INE20 GO TO 1003B.
494 IF BLOCKTYPE = '40' AND AETYPE = 'E'
495 OPEN INPUT INE40 GO TO 1003B.
496 DISPLAY 'NO INPUT WAS OPENED'.
497 STOP RUN.
498 1003B.
499 MOVE J-B TO MESSAGEX.
500 MOVE HTAPE TO MTAPE.

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*****
551 * MOVE IPL-YR TO DATEX-YR.
552 * MOVE IPL-MO TO DATEX-MO.
553 * MOVE IPL-DA TO DATEX-DA.
554 * MOVE IPL-DA TO DATEX-DA.
555 * PERFORM MOVE-PRINT-MESS.
556 * MOVE 0 TO INCOUNT.
557 * 1004A.
558 * PERFORM UREADIT.
559 * IF BLOCKTYPE = '20' AND AETYPE = 'A'
560 * MOVE INA20-RECORD TO INCOMING-RECORD.
561 * IF BLOCKTYPE = '40' AND AETYPE = 'A'
562 * MOVE INA40-RECORD TO INCOMING-RECORD.
563 * IF BLOCKTYPE = '20' AND AETYPE = 'E'
564 * MOVE INE20-RECORD TO INCOMING-RECORD.
565 * IF BLOCKTYPE = '40' AND AETYPE = 'E'
566 * MOVE INE40-RECORD TO INCOMING-RECORD.
567 * ADD 1 TO INCOUNT TCOUNT.
568 * GO TO 1006A.
569 * *****
570 * PRINTOUT FIRST DATA RECORD
571 * *****
572 * IF COUNT = '1'
573 * MOVE TV-MESS TO PRINT-LINE.
574 * ELSE MOVE MM-MESS TO PRINT-LINE.
575 * PERFORM PRINT2LINES.
576 * *****
577 * IF YOU HAVE HOURLY VALUES THERE 2 TYPES
578 * (1)---MILLIMETER VALUES ---CC 17-20 = BLANKS
579 * (2)---TV TABULAR VALUES OR ABSOLUTE VALUE)
580 * IN CC13-17
581 * IN CC17-20 = TAB
582 * *****
583 * 1012A.
584 * IF HRM NOT = ' ' GO TO 1013A.
585 * IF CC-17-20 IS NOT EQUAL TO ' '
586 * MOVE TV-MESS TO PRINT-LINE
587 * ELSE
588 * MOVE MM-MESS TO PRINT-LINE.
589 * PERFORM PRINTERX.
590 * GO TO 1013A.
591 * *****
592 * 1013A.
593 * IF CC-15 = ' ' GO TO 1014A.
594 * MOVE SPACES TO PRINT-LINE.
595 * IF CC-15 = 'A'
596 * MOVE 'ASMO' TO PRINT-LINE.
597 * IF CC-15 = 'F' MOVE 'FLEXGATE' TO PRINT-LINE.
598 * IF CC-15 = 'T' MOVE 'TRIPLE SENSOR' TO PRINT-LINE.
599 * PERFORM PRINTERX.
600 * GO TO 1014A.
*****

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*****
501 * MOVE IPL-YR TO DATEX-YR.
502 * MOVE IPL-MO TO DATEX-MO.
503 * MOVE IPL-DA TO DATEX-DA.
504 * PERFORM MOVE-PRINT-MESS.
505 * MOVE 0 TO INCOUNT.
506 * 1004A.
507 * PERFORM UREADIT.
508 * IF BLOCKTYPE = '20' AND AETYPE = 'A'
509 * MOVE INA20-RECORD TO INCOMING-RECORD.
510 * IF BLOCKTYPE = '40' AND AETYPE = 'A'
511 * MOVE INA40-RECORD TO INCOMING-RECORD.
512 * IF BLOCKTYPE = '20' AND AETYPE = 'E'
513 * MOVE INE20-RECORD TO INCOMING-RECORD.
514 * IF BLOCKTYPE = '40' AND AETYPE = 'E'
515 * MOVE INE40-RECORD TO INCOMING-RECORD.
516 * ADD 1 TO INCOUNT TCOUNT.
517 * GO TO 1006A.
518 * *****
519 * PRINTOUT FIRST DATA RECORD
520 * *****
521 * IF COUNT = '1'
522 * MOVE TV-MESS TO PRINT-LINE.
523 * ELSE MOVE MM-MESS TO PRINT-LINE.
524 * PERFORM PRINT2LINES.
525 * DISPLAY INCOMING-RECORD ' ' TN.
526 * 1007A.
527 * GO TO 1009A.
528 * *****
529 * IF FIRST 3-DIGITS (OBSERVATORY CODE CODE GMR)
530 * ARE NOT ALPHABETIC---YOU PROBABLY HAVE THE WRONG DATA
531 * *****
532 * 1008A.
533 * IF OBSM IS NOT ALPHABETIC
534 * MOVE INVALID-DATA TO MESSAGEX
535 * PERFORM MOVE-PRINT-MESS
536 * GO TO JOB-ABORT.
537 * *****
538 * 1009A.
539 * MOVE OBSYRMO TO D-L-OBSYRMO.
540 * *****
541 * LOOKUP THE ENGLISH TRANSLATION FOR THE
542 * CODE (CO = COLLEGE)
543 * *****
544 * OBSM TO OBS-NL.
545 * PERFORM LOOKUP.
546 * IF ELE = '*' PERFORM INDICES.
547 * *****
548 * *****
549 * *****
550 * *****
*****

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601 *****
602 *
603 * BEGIN A NEW PAGE
604 *
605 *****
606 1014A.
607 MOVE '*' TO OVERFLOW-ALC.
608 PERFORM PAGE-CHECK.
609 MOVE SPACES TO PRINT-LINE.
610 PERFORM PRINT2LINES.
611 *****
612 *
613 * STORE THE PRESENT INPUT ID
614 *
615 *****
616 1015A.
617 MOVE CHECK-AREA TO PREVIOUS-HEADER.
618 GO TO 1019A.
619 *****
620 *
621 * D CHECK TO SEE IF PRESENT INPUT RECORD IS >
622 * PREVIOUS INPUT RECORD
623 * IF THIS STATEMENT IS TRUE CONTINUE---
624 * OTHERWISE YOU HAVE A
625 * IF THIS STATEMENT IS TRUE CONTINUE---
626 * ELSE THERE IS A PROGRAM*
627 * (1) DUPLICATE RECORD OR (2) OUT OF SEQUENCE RECORD
628 *
629 *****
630 1016A.
631 IF FULL-HEADER-STORE > PREVIOUS-OBSYRMOEDAHR
632
633 GO TO 1017A ELSE
634 GO TO PROBLEM-CHECK.
635 *****
636 *
637 * IF YOU HAVE HOURLY VALUES---THIS CHECK MEANS NOTHING
638 * IF YOU HAVE VALUES---THIS CHECK DOES NOT MEAN ANYTHING
639 * FOR 2.5-MIN VALUES---WE ONLY MAKE AN ENTRY ONE TIME
640 * THEREFORE---AFTER ONE ENTRY HAS BEEN MADE DO NOT CHECK
641 * FOR OTHER HOUR RECORDS FOR THE SAME DAY
642 *
643 *****
644 1017A.
645 IF OBSYRMOEDA = PREVIOUS-OBSYRMOEDA
646 GO TO LOOP-CONTROL.
647 *****
648 *
649 * IF THE OBSERVATORY YEAR AND MONTH = PREVIOUS RECORD
650 * CONTINUE ACCUMULATING ARRAY ELSE
*****
651 * YOU HAVE TO DO SOME HOUSECLEANING
652 *
653 *****
654 1018A.
655 IF OBSYRMO = PREVIOUS-OBSYRMO
656 MOVE CHECK-AREA TO PREVIOUS-HEADER GO TO 1019A.
657 GO TO PRINT-LINE-LOOP.
658 *****
659 *
660 * THIS PARAGRAPH IS THE HEART OF THE PROGRAM
661 * WE ARE BUILDING AN ARRAY
662 * WE ARE MAKING AN ENTRY FOR EACH DAY ELEMENT
663 * DAYS ARE GROUPED INTO 5 DAYS AT A TIME SEPARATED
664 * BY A SPACE
665 * SO IF YOU HAVE DAY 1 YOU MAKE AN ENTRY INTO POSITION
666 * ONE
667 * SO YOU HAVE DAY 6 YOU MAKE AN ENTRY INTO POSITION 7
668 * (L+1)
669 *
670 *****
671 1019A.
672 IF DAM > '31' DISPLAY INA20-RECORD.
673 IF DAM < '01' DISPLAY INA20-RECORD.
674 IF DAM NOT NUMERIC DISPLAY INA20-RECORD.
675 MOVE DAM TO DAMH.
676 MOVE DAM TO BINARY-DAY.
677 IF DAMH >
678 25 ADD 5 TO BINARY-DAY GO TO 1020A.
679 IF DAMH >
680 20 ADD 4 TO BINARY-DAY GO TO 1020A.
681 IF DAMH >
682 15 ADD 3 TO BINARY-DAY GO TO 1020A.
683 IF DAMH >
684 10 ADD 2 TO BINARY-DAY GO TO 1020A.
685 IF DAMH >
686 05 ADD 1 TO BINARY-DAY GO TO 1020A.
687 *****
688 * AS WE BUILD THE ARRAY---THE ENTRY WE ARE MAKING IS
689 * (1)---D IF ELEMENT DECLINATION OR H,Z(F,X,Y
690 *
691 *****
692 1020A.
693 MOVE ELE TO ELA.
694 IF ELA = 'D' MOVE 'D' TO DATA-POSD (BINARY-DAY) GO TO
695 LOOP-CONTROL.
696 IF ELA = 'H' MOVE 'H' TO DATA-POSH (BINARY-DAY) GO TO
697 LOOP-CONTROL.
698 IF ELA = 'Z' MOVE 'Z' TO DATA-POSZ (BINARY-DAY) GO TO
699 LOOP-CONTROL.
700
*****

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751 MOVE INE40-13 TO INCOMING-RECORD.
752 UEXIT.
753 ADD 1 TO INCOUNT TCOUNT.
754 GO TO 1016A.
755 PRINT-LINE-LOOP.
756 IF OBSYR NOT = PREVIOUS-OBSYR
757 MOVE '1' TO EXITX.
758 PRINT-LINE-LOOP-1.
759 PERFORM PAGE-CHECK.
760 IF OBSM NOT = PREVIOUS-OBS
761 MOVE OBSM TO OBS-NL
762 PERFORM LOOKUP.
763 PRINT-LINE-LOOP-2.
764 MOVE DATA-LINEA TO PRINT-LINE.
765 WRITE PRINT-LINE-ALC.
766 ADD 1 TO PRINT-COUNT.
767 IF PRINT-COUNT > 50 MOVE '*' TO OVERFLOW-ALC
768 MOVE 0 TO PRINT-COUNT.
769 IF SHORTTYPE NOT = 'N'
770 MOVE DATA-LINEA TO ADATA WRITE ARCHIVE-RECORD.
771 MOVE SPACES TO DATA-LINEA.
772
773 IF SECOND-ARRAY = '1' MOVE '0' TO SECOND-ARRAY
774 MOVE DATA-LINEB TO ADATA PERFORM WRITEARCH
775 MOVE DATA-LINEB TO PRINT-LINE
776 PERFORM PRINTERX MOVE SPACE TO DATA-LINEB.
777 PRINT-LINE-LOOP-2A.
778 IF EXITX = '1'
779 MOVE '0' TO EXITX GO TO PRINT-LINE-LOOP-3.
780 PRINT-LINE-LOOP-2B.
781 MOVE CHECK-AREA TO PREVIOUS-HEADER.
782 MOVE OBSYRMO TO D-L-OBSYRMO.
783 GO TO 1019A.
784 PRINT-LINE-LOOP-3.
785 IF OVERFLOW-ALC = '*'
786 PERFORM PAGE-CHECK
787 GO TO PRINT-LINE-LOOP-2B.
788 MOVE NAME-LINE TO PRINT-LINE
789 PERFORM PRINT2LINES
790 MOVE SPACES TO PRINT-LINE
791 PERFORM PRINT2LINES
792 MOVE SPACES TO DATA-LINEA
793 MOVE SPACES TO DATA-LINEB
794 MOVE SPACES TO DATA-LINEB
795 PRINT-LINE-LOOP-2B.
796 PROBLEM-CHECK.
797 IF FULL-HEADER-STORE = PREVIOUS-OBSYRMOEDAH
798 ADD 1 TO DUPLICATE-COUNT
799 GO TO LOOP-CONTROL.
800 SEQUENCE-ERROR.

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701 IF ELA = '*' MOVE '*' TO DATA-POSD (BINARY-DAY) GO TO
702 LOOP-CONTROL.
703 IF ELA = 'X' GO TO 1021A.
704 IF ELA = 'Y' GO TO 1022A.
705 IF ELA = 'I' MOVE 'I' TO DATA-POST (BINARY-DAY)
706 MOVE '1' TO SECOND-ARRAY GO TO LOOP-CONTROL.
707 IF ELA = 'F' MOVE 'F' TO DATA-POST (BINARY-DAY)
708 MOVE '1' TO SECOND-ARRAY GO TO LOOP-CONTROL.
709 GO TO JOB-ABORT.
710 1021A.
711 IF DATA-POSD (BINARY-DAY) = ' ' MOVE 'X' TO
712 DATA-POSD (BINARY-DAY) ELSE
713 MOVE 'X' TO DATA-POST (BINARY-DAY) MOVE '1' TO
714 SECOND-ARRAY.
715 GO TO LOOP-CONTROL.
716 1022A.
717 IF DATA-POSH (BINARY-DAY) = ' ' MOVE 'Y' TO
718 DATA-POSH (BINARY-DAY) ELSE
719 MOVE 'Y' TO DATA-POST (BINARY-DAY) MOVE '1' TO
720 SECOND-ARRAY.
721 LOOP-CONTROL.
722 GO TO LOOP-CONTROL1.
723 LOOP-CONTROL1.
724 IF BLOCKTYPE = '20' AND AETYPE = 'A' GO TO UREADA20.
725 IF BLOCKTYPE = '40' AND AETYPE = 'A' GO TO UREADA40.
726 IF BLOCKTYPE = '20' AND AETYPE = 'E' GO TO UREADE20.
727 IF BLOCKTYPE = '40' AND AETYPE = 'E' GO TO UREADE40.
728 DISPLAY 'ERROR--IN READ'.
729 STOP RUN.
730 UREADA20.
731 READ INA20
732 AT END DISPLAY TCOUNT ' ' INCOUNT
733 GO TO JOB-END-1.
734 MOVE INA20-13 TO INCOMING-RECORD.
735 GO TO UEXIT.
736 UREADA40.
737 READ INA40 INTO INCOMING-RECORD
738 AT END DISPLAY TCOUNT ' ' INCOUNT
739 GO TO JOB-END-1.
740 GO TO UEXIT.
741 UREADE20.
742 READ INE20
743 AT END DISPLAY TCOUNT ' ' INCOUNT
744 GO TO JOB-END-1.
745 MOVE INE20-13 TO INCOMING-RECORD.
746 GO TO UEXIT.
747 UREADE40.
748 READ INE40
749 AT END DISPLAY TCOUNT ' ' INCOUNT
750 GO TO JOB-END-1.

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801 PERFORM PAGE-CHECK.
802 PERFORM PRINT-LINE-LOOP-2.
803 MOVE OUT-OF-SEQ TO PRINT-LINE
804 PERFORM PRINT2LINES.
805 MOVE INCOMING-RECORD TO PRINT-LINE PERFORM PRINT.
806 IF OBSM NOT = OBS-NL
807 PERFORM 1010A.
808 GO TO PRINT-LINE-LOOP-2B.
809 PAGE-CHECK.
810 IF OVERFLOW-ALC = '*'
811 MOVE ' ' TO OVERFLOW-ALC
812 MOVE HEADERS TO PRINT-LINE
813 PERFORM PRINTNEWPAGE
814 MOVE HEADERS TO PRINT-LINE
815 PERFORM PRINT2LINES
816 MOVE NAME-LINE TO PRINT-LINE
817 PERFORM PRINT2LINES
818 MOVE SPACES TO PRINT-LINE
819 PERFORM PRINT.
820 UTILITY SECTION.
821 PRINTERX.
822 WRITE PRINT-LINE-ALC.
823 ADD 1 TO PRINT-COUNT.
824 IF PRINT-COUNT > 50 MOVE '*' TO OVERFLOW-ALC
825 MOVE 0 TO PRINT-COUNT.
826 MOVE-PRINT-MESS.
827 MOVE BUILD-MESS TO PRINT-LINE.
828 PERFORM PRINT2LINES.
829 IF OVERFLOW-ALC = '*' PERFORM PAGE-CHECK.
830 JOB-END-1.
831 IF INCOUNT = 0 GO TO JOB-END-2.
832 IF BLOCKTYPE = '20' AND AETYPE = 'A'
833 MOVE INA20-RECORD TO INCOMING-RECORD
834 IF BLOCKTYPE = '40' AND AETYPE = 'A'
835 MOVE INA40-RECORD TO INCOMING-RECORD.
836 IF BLOCKTYPE = '20' AND AETYPE = 'E'
837 MOVE INE20-RECORD TO INCOMING-RECORD.
838 IF BLOCKTYPE = '40' AND AETYPE = 'E'
839 MOVE INE40-RECORD TO INCOMING-RECORD.
840 IF BLOCKTYPE = '20' AND AETYPE = 'A' CLOSE INA20.
841 IF BLOCKTYPE = '40' AND AETYPE = 'A' CLOSE INA40.
842 IF BLOCKTYPE = '20' AND AETYPE = 'E' CLOSE INE20.
843 IF BLOCKTYPE = '40' AND AETYPE = 'E' CLOSE INE40.
844 PERFORM PRINT-LINE-LOOP-2.
845 MOVE SPACES TO PRINT-LINE PERFORM PRINT.
846 MOVE INCOMING-RECORD TO PRINT-LINE PERFORM PRINT.
847 MOVE DUPLICATE-COUNT TO NUMBER-DUP.
848 MOVE INCOUNT TO NUMBER-INPUT.
849 MOVE J-E-1 TO PRINT-LINE.
850 PERFORM PRINT2LINES.
851 IF INCOUNT = 0 GO TO JOB-END-2.
852 IF DISCTYPE = 'D' GO TO JOB-END-2.
853 MOVE INCOUNT TO ACCOUNT PERFORM WRITEARCH.
854 MOVE 0 TO INCOUNT.
855 ADD 1 TO TNM.
856 MOVE TN TO MFILE.
857 MOVE SPACES TO PRINT-LINE PERFORM PRINTNEWPAGE.
858 PERFORM 1001A.
859 IF BLOCKTYPE = '20' AND AETYPE = 'A' OPEN INPUT INA20.
860 IF BLOCKTYPE = '40' AND AETYPE = 'A' OPEN INPUT INA40.
861 IF BLOCKTYPE = '20' AND AETYPE = 'E' OPEN INPUT INE20.
862 IF BLOCKTYPE = '40' AND AETYPE = 'E' OPEN INPUT INE40.
863 IF FILE-STATUS = '34' GO TO JOB-END-2.
864 MOVE TNM TO AFILF.
865 MOVE 0 TO PRINT-COUNT.
866 GO TO 1003B.
867 JOB-END-2.
868 IF SHORTTYPE NOT = 'N'
869 CLOSE ARCHIVE-FILE.
870 MOVE SPACES TO PRINT-LINE PERFORM PRINT.
871 MOVE TCOUNT TO NUMBER-INPUT.
872 MOVE 0 TO NUMBER-DUP.
873 MOVE J-E-1 TO PRINT-LINE PERFORM PRINT.
874 DISPLAY 'TO PRINT THE MAPOUT QPRINT ' TAPE41.
875 STOP RUN.
876 JOB-ABORT.
877 MOVE J-A TO MESSAGEX.
878 PERFORM MOVE-PRINT-MESS.
879 MOVE SPACES TO PRINT-LINE
880 PERFORM PRINTERX.
881 MOVE INCOMING-RECORD TO PRINT-LINE PERFORM PRINTERX.
882 STOP RUN.
883 WRITEARCH.
884 IF SHORTTYPE NOT = 'N' WRITE ARCHIVE-RECORD.
885 *****
886 * IF THE ELEMENT IS AN *8 THEN THE OBSERVATORY CODE *
887 * REFERS TO THE TYPE OF INDICES AE,AL,AO,AU,DST *
888 *****
889 INDICES.
890 MOVE OBSM TO OBSMM.
891 IF OBSMM = 'AE' MOVE
892 'AE INDICES ' TO OBS-NAME.
893 IF OBSMM = 'AL' MOVE
894 'AL INDICES ' TO OBS-NAME.
895 IF OBSMM = 'AO' MOVE
896 'AO INDICES ' TO OBS-NAME.
897 IF OBSMM = 'AU' MOVE
898 'AU INDICES ' TO OBS-NAME.
899 IF OBSMM = 'DST' MOVE
900 'DST INDICES ' TO OBS-NAME.

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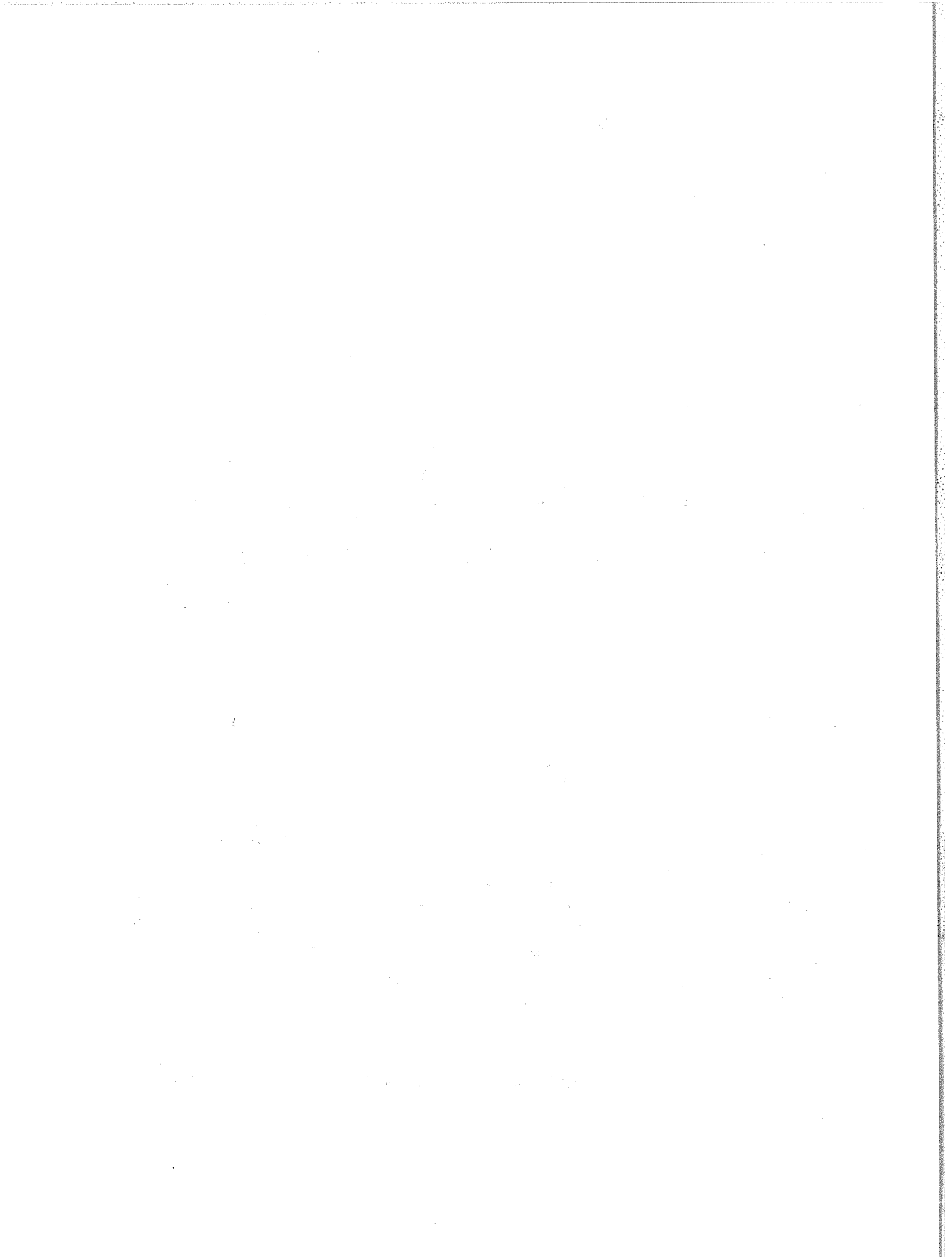
951 MOVE OBS-NL TO HOBBS.
952 R-2001.
953 EXIT.
954 UTILITY1 SECTION.
955 PRINT.
956 WRITE PRINT-LINE-ALC.
957 PRINT2LINES.
958 WRITE PRINT-LINE-ALC AFTER ADVANCING 2 LINES.
959 ADD 2 TO PRINT-COUNT.
960 IF PRINT-COUNT > 50 MOVE '*' TO
961 OVERFLOW-ALC MOVE 0 TO PRINT-COUNT.
962 PRINTNEWPAGE.
963 WRITE PRINT-LINE-ALC AFTER ADVANCING PAGE.
964 UREADIT SECTION.
965 UREAD.
966 IF BLOCKTYPE = '20' AND AETYPE = 'A' GO TO UREADA20X.
967 IF BLOCKTYPE = '40' AND AETYPE = 'A' GO TO UREADA40X.
968 IF BLOCKTYPE = '20' AND AETYPE = 'E' GO TO UREADE20X.
969 IF BLOCKTYPE = '40' AND AETYPE = 'E' GO TO UREADE40X.
970 DISPLAY 'ERROR--IN READ'.
971 STOP RUN.
972 UREADA20X.
973 READ INA20
974 AT END DISPLAY TCOUNT ' ' INCOUNT
975 GO TO JOB-END-1.
976 MOVE INA20-13 TO INCOMING-RECORD.
977 GO TO UEXITX.
978 UREADA40X.
979 READ INA40
980 AT END DISPLAY TCOUNT ' ' INCOUNT
981 GO TO JOB-END-1.
982 MOVE INA40-13 TO INCOMING-RECORD.
983 GO TO UEXITX.
984 UREADE20X.
985 READ INE20
986 AT END DISPLAY TCOUNT ' ' INCOUNT
987 GO TO JOB-END-1.
988 MOVE INE20-13 TO INCOMING-RECORD.
989 GO TO UEXITX.
990 UREADE40X.
991 READ INE40
992 AT END DISPLAY TCOUNT ' ' INCOUNT
993 GO TO JOB-END-1.
994 MOVE INE40-13 TO INCOMING-RECORD.
995 UEXITX.
996 EXIT.
997
998

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*****
*
* TO STRAGY IS TO GO TO MIDDLE OF THE ARRAY AND
* CHECK OBS. CODE. THIS WAY WE HAVE DIVIDED
* THE TABLE INTO 2 PARTS AND WE NOW ONLY HAVE
* TO BE CONCERNED ABOUT 1 PART. WE CONTINUE
* THIS HALFGING PROCESS UNTIL WE FIND THE CORRECT
* OBSERVATORY CODE AND GET THE OBSERVATORY NAME
*
*****
901 LOOKUP SECTION.
902
903 IF ELE = '*' PERFORM INDICES GO TO R-2001.
904 IF OBS-NL = HOBBS GO TO R-2001.
905 MOVE 300 TO SUB-W.
906 MOVE 150 TO INCREMENT.
907 MOVE 0 TO LOOP-CONTROLX.
908 MOVE 0 TO INCR.
909 COMPARE.
910 IF SUB-W < 1 GO TO FOUND-NO-NAME.
911 IF SUB-W > 600 GO TO FOUND-NO-NAME.
912 IF OBS-NL = TABLE-CODEPOS (SUB-W)
913 GO TO FOUND-NAME.
914 COMPARE-2.
915 IF LOOP-CONTROLX = 1
916 GO TO FOUND-NO-NAME.
917 COMPARE-3.
918 IF SUB-W > 600 GO TO FOUND-NO-NAME.
919 IF OBS-NL < TABLE-CODEPOS (SUB-W)
920 GO TO COMPARE-INCR ELSE
921 ADD INCREMENT TO SUB-W
922 MOVE 1 TO INCR GO TO COMPARE-INCREMENT.
923 COMPARE-INCR.
924 IF INCR = 1
925 SUBTRACT INCREMENT FROM SUB-W GO TO COMPARE-INCREMENT
926 ELSE MOVE INCREMENT TO SUB-W
927 GO TO COMPARE-INCREMENT.
928 IF INCREMENT = 1
929 MOVE 1 TO LOOP-CONTROLX GO TO COMPARE
930 ELSE
931 COMPUTE INCREMENT ROUNDED = INCREMENT / 2
932 GO TO COMPARE.
933 *** WE HAVE NOT FOUND THE OBS CODE
934 FOUND-NO-NAME.
935 MOVE SPACES TO OBS-NAME.
936 GO TO R-2000.
937 FOUND-NAME.
938 MOVE TABLE-NAMEPOS (SUB-W) TO OBS-NAME.
939
940
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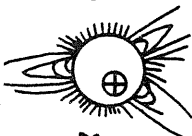
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- UAG-79 SOLAR OBSERVATIONS DURING SKYLAB, APRIL 1973 - FEBRUARY 1974, I. CORONAL X-RAY STRUCTURE, II. SOLAR FLARE ACTIVITY, by J.M. Hanson, University of Michigan, Ann Arbor, MI; and E.C. Roelof and R.E. Gold, The Johns Hopkins University, Laurel, MD, December 1980, 43 pp, \$2.50.
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- UAG-82 INTERNATIONAL REFERENCE IONOSPHERE - IRI 79, edited by J. Virginia Lincoln and Raymond O. Conkright, National Geophysical and Solar-Terrestrial Data Center, NOAA, Boulder, CO, November 1981, 243 pp, \$4.50.
- UAG-83 SOLAR-GEOPHYSICAL ACTIVITY REPORTS FOR SEPTEMBER 7-24, 1977 AND NOVEMBER 22, 1977, Parts 1 and 2, compiled by John A. McKinnon and J. Virginia Lincoln, World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO, February 1982, 553 pp, \$10.00.
- UAG-84 CATALOG OF AURORAL RADIO ABSORPTION DURING 1976-1979 AT ABISKO, SWEDEN, by J.K. Hargreaves, C.M. Taylor and J.M. Penman, Environmental Sciences Department, University of Lancaster, Lancaster, UK, July 1982, 69 pp, \$3.00.
- UAG-85 CATALOG OF IONOSPHERE VERTICAL SOUNDINGS DATA, edited by Raymond O. Conkright and H. Irene Brophy, National Geophysical Data Center, NOAA, Boulder, CO, July 1982, 107 pp. Supersedes UAG-54
- UAG-86 INTERNATIONAL CATALOG OF GEOMAGNETIC DATA, compiled by J.H. Allen and C.C. Abston, National Geophysical Data Center, NOAA, Boulder, CO; E.P. Kharin and N.E. Papitashvili, Academy of Sciences of the USSR, World Data Center B2, Moscow, USSR; and V.O. Papitashvili, IZMIRAN, Moscow Region, USSR, November 1982, 191 pp. Supersedes UAG-35 and 49.
- UAG-87 CHANGES IN THE GLOBAL ELECTRIC FIELDS AND CURRENTS FOR MARCH 17-19, 1978, FROM SIX IMS MERIDIAN CHAINS OF MAGNETOMETERS, by Y. Kamide, Kyoto Sangyo University, Kyoto, Japan; H.W. Kroehl, National Geophysical Data Center, NOAA, Boulder, CO; and A.D. Richmond, NOAA Space Environment Laboratory, Boulder, CO, November 1982, 102 pp, \$3.50.
- UAG-88 NUMERICAL MODELING OF IONOSPHERIC PARAMETERS FROM GLOBAL IMS MAGNETOMETER DATA FOR THE CDAW-6 INTERVALS, by Y. Kamide, Kyoto Sangyo University, Kyoto, Japan; H.W. Kroehl, National Geophysical Data Center, NOAA, Boulder, CO; and B.A. Hausman, National Geophysical Data Center, NOAA, Boulder, CO, November 1983, 197 pp, \$4.00.
- UAG-89 ATMOSPHERIC HANDBOOK: ATMOSPHERIC DATA TABLES AVAILABLE ON COMPUTER TAPE, by V.E. Derr, NOAA Environmental Research Laboratories, Boulder, CO, July 1984, 56 pp.
- UAG-90 EXPERIENCE WITH PROPOSED IMPROVEMENTS OF THE INTERNATIONAL REFERENCE IONOSPHERE (IRI): CONTRIBUTED PAPERS, MAINLY FROM THE URSI-COSPAR WORKSHOP HELD IN BUDAPEST IN 1980, edited by K. Rawer, University of Freiburg, Federal Republic of Germany, and C.M. Minnis, former Secretary General of URSI, Brussels, Belgium, May 1984, 233 pp, \$6.00.
- UAG-91 COMBINED CATALOG OF IONOSPHERE VERTICAL SOUNDINGS DATA, compiled by Raymond O. Conkright and Marcus O. Ertle, National Geophysical Data Center, NOAA, Boulder, CO; December 1984, 174 pp.
- UAG-92 INTERNATIONAL CATALOG OF GEOMAGNETIC DATA, compiled by C.C. Abston, National Geophysical Data Center, NOAA, Boulder, CO; N.E. Papitashvili, Academy of Sciences of the USSR, World Data Center B2, Moscow, USSR; and V.O. Papitashvili, IZMIRAN, Moscow Region, USSR, August 1985, 291 pp. Supersedes UAG-35, 49, 86.



# DATA ANNOUNCEMENT

STP-85-3  
March 1985

## UNITED STATES AND CANADIAN DIGITAL GEOMAGNETIC OBSERVATORY DATA 1978-1983

The National Geophysical Data Center (NGDC) announces the availability of digital geomagnetic data from the United States and Canadian Standard Observatory Networks. The United States observatories are operated by the United States Geological Survey (USGS). The Canadian observatories are operated by the Energy Mines and Resources Canada, Division of Seismology and Geomagnetism. Both organizations supply their data to NGDC/WDC-A for STP. The data are 1.0-minute average samples of geomagnetic variations relative to absolute baselines and hourly averages. It should be noted that in the near future all 12 U.S. standard observatories will be converted to digital recording systems.

### Locations of Observatories—United States

Observatories	Corrected Geomagnetic Coordinates		Geographic Coordinates	
	N LAT	E LONG	LAT	W LONG
BRW Barrow, AK	21.1	242.6	71.3	156.8
BOU Boulder, CO	41.0	318.2	40.1	105.2
CMO College, AK	25.1	258.1	64.9	147.8
SIT Sitka, AK	29.8	277.1	57.1	135.3

### Locations of Observatories—Canada

ALE Alert	4.0	165.2	82.5	62.5
BLC Baker Lake	16.2	317.7	64.3	96.0
CBB Cambridge Bay	13.2	297.3	69.1	105.0
FCC Fort Churchill	21.3	325.0	58.8	94.1
GLL Glenlea	30.6	325.2	49.6	97.1
GWC Great Whale River	23.5	349.5	55.3	77.8
MEA Meanook	28.0	303.0	54.6	113.3
MBC Mould Bay	10.6	258.3	76.2	119.4
OTT Ottawa	33.3	353.4	45.4	75.6
RES Resolute Bay	6.8	292.9	74.7	94.9
STJ St. John's	31.8	22.9	47.6	52.7
VIC Victoria	35.6	294.7	48.5	123.4
YKC Yellowknife	20.8	295.4	62.4	114.4

The data are available on magnetic tape at the following costs; Two (2) observatory years on one (1) tape at 9 track, 1600 bpi, ASCII or EBCDIC for \$100; Six (6) observatory years on one (1) tape at 9 track, 6250 bpi, ASCII or EBCDIC for \$115.

To order, either call (303) 497-6475 or write the National Geophysical Data Center, Solar-Terrestrial Physics Division (E/GC2), 325 Broadway, Boulder, CO 80303 U.S.A. With your written request please include check or money order payable in U.S. currency to COMMERCE, NOAA/NGDC. Payment may be made through American Express, MasterCard or VISA credit cards. Please include the correct name of credit card holder, card number, and expiration date. Prices are subject to change.

