



A HISTORICAL SUMMARY OF EARTHQUAKE
EPICENTERS IN AND NEAR ALASKA

Herbert Meyers

National Geophysical and Solar-Terrestrial Data Center
Boulder, CO
April 1976

QC
801
U6
N3
no.1

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION

/ Environmental Data
Service



NOAA TECHNICAL MEMORANDA

Environmental Data Service National Geophysical and Solar-Terrestrial Data Center

The National Geophysical and Solar-Terrestrial Data Center (NGSDC) of the Environmental Data Service (EDS) combines in a single center the data activities in seismology, marine geology and geophysics, geomagnetism, solar activity, interplanetary phenomena, the ionosphere, cosmic rays, aurorae, and airglow. Data collected from worldwide sources are processed, archived, and provided in many usable formats to the scientific community.

NOAA Technical Memoranda in the EDS/NGSDC series facilitate prompt distribution of scientific and technical material by staff members, cooperators, and contractors. Information presented in this series may be preliminary in nature and may be published formally elsewhere at a later date.

Report of studies in the Northeast Gulf of Alaska, Bering and Beaufort Seas, is part of a multi-year program of environmental assessment related to petroleum development on the Alaskan Continental Shelf. The program is directed by the National Oceanic and Atmospheric Administration under the sponsorship of the Bureau of Land Management.



QC
801
U6
N3
no.1

NOAA Technical Memorandum EDS NGSDC-1

A HISTORICAL SUMMARY OF EARTHQUAKE
EPICENTERS IN AND NEAR ALASKA

Herbert Meyers

National Geophysical and Solar-Terrestrial Data Center
Boulder, CO
April 1976

Property of
NOAA Miami Library
301 Rickenbacker Causeway
Miami, Florida 33149

011477

UNITED STATES
DEPARTMENT OF COMMERCE
Elliot L. Richardson, Secretary

NATIONAL OCEANIC AND
ATMOSPHERIC ADMINISTRATION
Robert M. White, Administrator

Environmental Data
Service
Thomas S. Austin, Director



CONTENTS

	Page
INTRODUCTION.	1
DESCRIPTION OF FILE	1
DATA SOURCES	3
<i>Preliminary Determination of Epicenters</i>	3
<i>Seismicity of the Earth and Associated Phenomena.</i>	3
<i>Earthquake History of the United States</i>	4
<i>United States Earthquakes</i>	4
Other Sources	4
TABULAR SUMMARY OF EARTHQUAKE DATA FILE	4
TSUNAMIS AND SEICHES IN ALASKA.	5
DATA FORMATS.	5
ACKNOWLEDGMENTS	6
BIBLIOGRAPHY.	6

Tables

Table

1 Summary of earthquakes in Alaska by year, magnitude, and depth	8
2A Summary of earthquakes in Alaska by magnitude and 1° and 10° Marsden Squares, 1786-1974	10
2B Summary of earthquakes in Alaska by magnitude and 1° and 10° Marsden Squares, 1963-1974	22
3 Sample geographical search of data file.	32
4 List of Alaskan earthquakes with magnitudes 6.0 and greater. .	33
5 Earthquakes that produced tsunamis and seiches in Alaska . . .	43
6 Maximum tsunami wave heights recorded in Alaska.	45

Figures

Figure

1 Earthquakes in and near Alaska (thru 1974)	49
2 Major earthquakes in Alaska, 1899-1974	51
3 Maximum earthquake magnitude per 1° square, 1899-1974.	53
4 Alaskan localities experiencing tsunamis or seiches.	55
5 Seward (Alaska) residence severely damaged by tsunami of March 27, 1964	56
6 Scotch Cap Lighthouse (Alaska) before and after tsunami of April 1, 1946.	57

Appendices

Appendix

1 Modified Mercalli Intensity Scale of 1931.	1-1
2 Flinn-Engdahl Regions.	2-1
3 Codes of Data Sources.	3-1
4 Tape Format.	4-1
5 Punched Card Format.	5-1
6 Printout Format.	6-1
7 Marsden Square Charts.	7-1

INTRODUCTION

This publication summarizes the Alaska earthquake data file as presently developed by the National Geophysical and Solar-Terrestrial Data Center (NGSDC). This is a growing file and additional data are being added both for current and historical earthquakes as they are prepared for machine processing. It describes data formats, sources used in developing the data file, and data limitations. Included are several tables which summarize the data in usable forms. The publication also is designed to accompany magnetic tapes, microfilm, and print-outs produced from the data file.

DESCRIPTION OF FILE

The data file contains information on approximately 10,000 earthquakes, known or suspected explosions, and other earth disturbances for the period 1786 through 1974. The file includes for each event the date, origin time, geographic location, focal depth, and magnitude when available (see fig. 1).

A number of data fields for some events in this file are unfilled because of the limited information available. Information on cultural effects, intensity, and other phenomena associated with the event (such as surface faulting, tsunami generated, etc.) has been included for numerous earthquakes. Reference to *Preliminary Determination of Epicenters* (PDE) reports*, the annual *United States Earthquakes* publications of NOAA, "Seismological Notes" of the *Bulletin of the Seismological Society of America* or the original source is recommended for special studies. Some key studies are listed in the bibliography on page 6.

The quality of epicenter determinations varies significantly with the time period studied. Most epicenters prior to 1961 were located graphically to the nearest $\frac{1}{4}$ to $\frac{1}{2}$ degree of latitude and longitude. Reliable information on the quality of many epicenter determinations is lacking. Since May 1968, the latitude and longitude values for most events have been listed to three decimal places. This precision is not intended to reflect the accuracy of the location of events except for special epicenter determinations. Where several sources have determined an epicenter for the same earthquake, one solution has been selected as the most reliable. Usually, it is the source believed to contain the best data set for the earthquake. In some cases, data from two sources were combined to provide a more complete data record.

*The PDE program was initiated in 1937 by the Coast and Geodetic Survey and continued by successor agencies--the National Ocean Survey and Environmental Research Laboratories--both of which are components of the National Oceanic and Atmospheric Administration, and by the U.S. Geological Survey since 1973.

Prior to the Prince William Sound, Alaska, earthquake in March 1964, only 2 permanent seismograph stations were in operation in Alaska.

At the Sitka Observatory, two Bosch-Omori horizontal seismographs were installed in April 1904 and operated until December 1932 when they were replaced with two Wenner horizontal systems. In June 1956, the Wilson-Lamison vertical seismograph was added to improve detection capabilities of local earthquakes and teleseismic *P* waves. The station, which is equipped with a visual recorder and an earthquake alarm device, participates in the Alaska Tsunami Warning System.

The College Observatory was first established at the University of Alaska in November 1935 and was instrumented with two horizontal tilt-compensated McComb-Romberg seismometers of 12 seconds' natural period, with magnetic damping and photographic recording. In January 1948, a three-component short-period moving coil Benioff system was installed at the observatory, and a vertical component Benioff was placed about 3 miles north on rock outcrop to permit operation at higher magnification. The station site is extremely quiet and strategically located for recording local and teleseismic earthquakes, detecting between 20 and 50 every day. Because of the favorable conditions this station has made valuable contributions to the study of both Alaskan and world-wide earthquakes.

In January 1964, this outpost site became a part of the Worldwide Network of Standard Seismograph Stations, operating short- and long-period systems. In July 1964, following the Prince William Sound earthquake, a four-channel United Electro Dynamics strong-motion seismograph system was installed at the College Observatory.

In the late 60's and in the 70's additional seismic nets were established in support of geophysical and environmental studies in Alaska. This permitted greater accuracies in the data and the detection of smaller seismic events than was possible with the limited network in the earlier part of the century.

Magnitudes from a number of different sources are included in the Alaska data file. Gutenberg and Richter (1954) and Richter (1958) discuss the development of the magnitude scale. Many magnitudes published by Gutenberg and Richter (1954) were later revised by Richter (1958). The revised magnitudes are used in the file even though the source is identified as Gutenberg and Richter (1954). The concept of earthquake magnitude is not restricted to one value, as several definitions are possible, depending on which seismic waves are measured. Three different magnitude scales, BODY WAVE (MB), SURFACE WAVE (MS), and LOCAL (ML), are distinguished in this file. In addition, another data field, OTHER MAGNITUDE, has been included when it was unclear which scale was used. Richter (1958) and other modern seismology references provide detailed discussions of this topic. Because of the different methods

used, differences between values quoted on different magnitude scales occur. In many cases it is not always obvious which scale has been applied.

A maximum intensity is listed for many of the earthquakes. Each is assigned according to the Modified Mercalli Intensity Scale of 1931 (Wood and Neumann, 1931). Some of these values have been converted from reported intensities on other scales. An abridged version of the Modified Mercalli Intensity Scale of 1931 and a comparison of ratings on the Japanese, Rossi-Forel, and European (Mercalli-Cancani-Sieberg) scales are included in appendix 1. Because of the large distances between populated centers, intensities reported in Alaska often are not good indicators of the severity of the earthquake in the region surrounding the epicenter. Most of the earthquakes in Alaska occur offshore or away from population centers, which limits the completeness of intensity reports.

DATA SOURCES

Preliminary Determination of Epicenters

Under the PDE program, incoming seismic data (i.e., earthquake arrival times) are processed routinely by computer, with external control by a seismologist. Readings from a minimum of five seismograph stations are required for an acceptable solution or epicenter. These locations are published by the USGS in their biweekly and monthly PDE publications as soon as sufficient data have accumulated to insure a reasonable degree of accuracy. The PDE program was begun in 1937 when a few of the larger earthquakes were located. Until 1960, all epicenters were located graphically with an accuracy of about $\frac{1}{4}$ to $\frac{1}{2}$ degree in latitude and longitude and 50 km in depth. Shallow epicenters were assumed to be 25 km deep. Since 1960 when epicenters began to be computed by electronic means, most PDE determinations are considered accurate to a few tenths of a degree in position and to 25 km in depth. (A complete description of the PDE computer program is provided by Engdahl and Gunst, 1966). Approximately 500 Alaskan earthquakes are added to the file from the PDE program each year. Body-wave magnitudes (MB) have been routinely computed by the Coast and Geodetic Survey and successor organizations as part of the PDE program since April 1963. Surface-wave magnitudes (MS) have been computed as part of the PDE program since May 1968 whenever sufficient data were available. In general, these magnitudes represent an average of individual station values. Significant deviations from a computed average are deleted and a new mean value is then determined. The resultant values are probably accurate to within about 0.3 unit of magnitude.

Seismicity of the Earth and Associated Phenomena

Gutenberg and Richter (1954) describe the data tabulated in their classic reference, *Seismicity of the Earth and Associated Phenomena*.

Approximately 200 earthquake epicenters, covering the period 1899 through 1949, were added to the Alaska data file from this source.

Earthquake History of the United States

This summary of significant earthquakes, revised by Coffman and von Hake (1973), has provided most of the pre-1928 Alaska data now included in the earthquake data file. The geographic locations listed are given to the nearest tenth of a degree and usually represent the place where the highest intensity occurred. Locations prior to 1899 should not be considered to be "epicenters," as instrumental data are not available prior to about 1899. Generally, only those earthquakes between 1786 and 1927 (about 100) in *Earthquake History of the United States* have been incorporated in the data file, because post-1927 data have been included from other, more detailed sources.

United States Earthquakes

Much of the "felt" data incorporated in the Alaska data file (including intensity, associated phenomena, and cultural effects) and some instrumental data have been extracted from the *United States Earthquakes* reports, published annually by the Coast and Geodetic Survey and NOAA from 1928 through 1972 and jointly by NOAA/USGS thereafter.

Other Sources

Other sources utilized in developing the Alaska data file include monthly publications of the Bureau Central International de Séismologie, Strasbourg, France, for the 1950-61 period and *The International Seismological Summary*, Kew, England, for the 1950-59 interval. All abbreviations used to indicate an earthquake source in the data file are listed in appendix 3.

TABULAR SUMMARY OF EARTHQUAKE DATA FILE

Table 1 summarizes earthquakes in Alaska by magnitude and depth distribution per year through 1974. The tabular summary includes the 1786-1899 period, although data on magnitude or depth of focus are not available for this preinstrumental era. The total number of events per year shows significant increases in about 1949 and later years. These increases represent improvements in seismic instrumentation, reporting procedures, and location techniques, rather than a real increase in earthquake occurrences. The seismic magnitude scale was developed for earthquakes in southern California by Prof. Charles F. Richter, California Institute of Technology, Pasadena, in the early 1930's. Later work extended magnitude determinations to earthquakes at greater distances and to earthquakes originating at focal depths in excess of 25 km. Magnitudes for the largest shocks dating back to 1899 were calculated using amplitude data from available seismograms.

Table 2A summarizes all earthquakes in the Alaska file by magnitude for 1° and 10° Marsden Squares (appendix 7) that contain one or more earthquakes. Known tectonic events are counted separately but are included in the total. Also, the maximum magnitude for each 1° Marsden Square is listed. A glance at table 1 shows that the file is fairly complete for magnitudes greater than 7 since 1899. For magnitudes between 6 and 7, the file is fairly complete since about 1928. It is only since about 1963 that the file becomes useful in representing earthquakes with magnitudes less than 6. It should be noted that although table 2A contains all earthquakes in the Alaska file, there are only 29 earthquakes included prior to 1899, none of which has an assigned magnitude. Table 2B is a Marsden Square summary for the years 1963 through 1974, the interval in which the data are fairly homogeneous.

For those earthquakes with more than one magnitude type in the data record, the higher value is used for the count and maximum value in tables 1, 2A, and 2B, and is shown in figures 2 and 3. In these tables, there are numerous earthquakes listed with no given magnitude. It can be assumed that most of those since 1899 are probably less than magnitude 5.5.

TSUNAMIS AND SEICHES IN ALASKA

During recorded history there have been 54 instances where earthquakes have produced tsunamis or seiches in Alaska. Approximately 26 of these earthquakes occurred in or near Alaska, and the remainder occurred in more distant localities. Table 5 lists those earthquakes that have produced tsunamis and seiches in Alaska. The maximum wave height at communities in Alaska experiencing the tsunami is shown in table 6 (also see fig. 4). Two examples of tsunami damage in Alaska are shown in figures 5 and 6.

DATA FORMATS

In addition to offering copies of the Alaska earthquake data file on magnetic tape, NGSDC also can provide computer listings, punched cards, or plots of selected portions of the data file. These usually cover a particular geographical area, bounded by a set of predetermined coordinates or within a certain radius of a set point (see table 3, sample geographic search). Data searches by magnitude, depth of focus, selected earthquake effects, Flinn-Engdahl regions (appendix 2), or other parameters also are provided (see tables 4 and 5).

Appendix 4 contains a description of the 90-character tape format of the earthquake data file. Each data field is explained or a reference is given to another section for additional explanation. The format for punched cards incorporates the data from positions 6 through 85 adjusted to the common 80-column format as shown in appendix 5. Most of the description of the tape format applies to printout versions of the data file (appendix 6).

ACKNOWLEDGMENTS

This study, part of a program for the environmental assessment of the Alaskan Continental Shelf, was supported by the Bureau of Land Management and the Outer Continental Shelf Environmental Assessment Program Office of the National Oceanic and Atmospheric Administration.

All of the computer programs related to the tables and maps in this report were developed by Carl Abston, National Geophysical and Solar-Terrestrial Data Center.

BIBLIOGRAPHY

Coffman, Jerry L. and Carl A. von Hake, *Earthquake History of the United States, Publication 41-1, Revised Edition (Through 1970)*, National Oceanic and Atmospheric Administration, Environmental Data Service, 1973.

Cox, Doak C. and George Pararas-Carayannis (with revisions by Jeff Calebaugh), *Catalog of Tsunamis in Alaska, Report SE-1*, World Data Center A for Solid Earth Geophysics, NOAA, Environmental Data Service, March 1976.

Davis, T. Neil, "Preliminary Report on the Alaskan Earthquake of April 7, 1958," *Transactions of the American Geophysical Union*, vol. 39, no. 5, October 1958.

Davis, T. Neil and Carol Echols, *A Table of Alaskan Earthquakes, 1788-1961*, Geophysical Research Report No. 8, University of Alaska, August 1962.

Engdahl, Eric R. and Robert H. Gunst, "Use of a High Speed Computer for the Preliminary Determination of Earthquake Hypocenters," *Bulletin of the Seismological Society of America*, vol. 56, no. 2, April 1966.

Flinn, Edward A., E.R. Engdahl, and Alan R. Hill, "Seismic and Geographical Regionalization," *Bulletin of the Seismological Society of America*, vol. 64, no. 3, Part II, June 1974.

Gutenberg, B. and C.F. Richter, *Seismicity of the Earth and Associated Phenomena*, Princeton University Press, 1954 (Second Edition), Hafner Publishing Company, 1965, Facsimile Edition.

National Academy of Sciences, National Research Council, *The Great Alaska Earthquake of 1964*, an eight-volume set as follows: Summary and Recommendations (1973); Human Ecology (1970); Geology (1971); Seismology and Geodesy (1972); Hydrology (1968); Biology (1971); Oceanography and Coastal Engineering (1972); and Engineering (1973).

Richter, Charles F., *Elementary Seismology*, W.H. Freeman and Company, 1958.

Tarr, R.S. and Lawrence Martin, "The Earthquakes at Yakutat Bay, Alaska, in September 1899," *U.S. Geological Survey Professional Paper* 69, 135 pp., 1912.

U.S. Department of Commerce, Coast and Geodetic Survey, *The Fairbanks, Alaska, Earthquakes of June 21, 1967*, 60 pp., 1968.

U.S. Department of Commerce, Environmental Science Services Administration, *The Prince William Sound, Alaska, Earthquake of 1964 and Aftershocks*, Publication 10-3, vol. 1 (1966); vol. II, Part A (1967); vol. II Parts B and C (1969); vol. III, Parts A and B (1969).

Wood, Harry O. and Frank Neumann, Modified Mercalli Intensity Scale of 1931, *Bulletin of the Seismological Society of America*, vol. 21, no. 4, pp. 277-283, December 1931.

Table 1. Summary of earthquakes in Alaska by year, magnitude, and depth
(Area covered: 48°-75° N, 165° E-125° W)

YEAR	MAG NOT GIVEN	LESS THAN 3.5	MAGNITUDES										TOTAL	DEPTHS (KM)			
			3.5 TO 3.9	4.0 TO 4.4	4.5 TO 4.9	5.0 TO 5.4	5.5 TO 5.9	6.0 TO 6.4	6.5 TO 6.9	7.0 TO 7.4	7.5 TO 7.9	8.0 TO 8.4		8.5 TO 8.9	0 TO 70	71 TO 300	301 OR MORE
1786	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1788	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1796	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1802	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1812	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1817	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1818	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1826	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1835	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1836	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1843	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1847	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1857	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1861	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1866	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1867	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1868	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1878	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1879	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1880	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1883	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1896	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1897	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1898	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1899	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
1900	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1901	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
1902	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1903	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1904	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
1905	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1906	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
1907	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1908	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
1909	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1910	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
1911	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1912	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
1913	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1914	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1915	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1916	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1917	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1918	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1920	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
1921	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
1922	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
1923	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
1924	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1

Table 1 (Continued)

YEAR	MAG NOT GIVEN	MAGNITUDES										TOTAL				DEPTHS (KM)			
		LESS THAN 3.5	3.5 TO 3.9	4.0 TO 4.4	4.5 TO 4.9	5.0 TO 5.4	5.5 TO 5.9	6.0 TO 6.4	6.5 TO 6.9	7.0 TO 7.4	7.5 TO 7.9	8.0 TO 8.4	8.5 TO 8.9	TOTAL		0 TO 70	71 TO 300	301 OR MORE	DEPTH NOT GIVEN
1925	3	0	0	0	0	0	0	0	0	1	0	0	0	4	4	0	0	0	4
1926	0	0	0	0	0	0	1	1	1	1	0	0	0	4	4	1	0	0	3
1927	2	0	0	0	0	0	0	0	0	1	0	0	0	3	3	1	0	0	2
1928	19	0	0	0	0	0	0	2	2	1	0	0	0	24	24	5	0	0	19
1929	18	0	0	0	0	0	0	4	1	3	1	0	0	28	28	7	0	0	21
1930	12	0	0	0	0	1	2	0	1	0	0	0	0	16	16	0	1	0	15
1931	3	0	0	0	0	0	3	4	0	0	0	0	0	10	10	2	1	0	7
1932	4	0	0	0	0	0	1	6	4	0	0	0	0	15	15	10	0	0	5
1933	7	0	0	0	0	1	6	10	4	1	0	0	0	29	29	15	0	0	14
1934	3	0	0	0	0	0	1	3	4	1	0	0	0	12	12	6	2	0	4
1935	3	0	0	0	0	0	2	2	2	0	0	0	0	7	7	3	2	0	4
1936	6	0	0	0	0	0	0	2	0	0	0	0	0	10	10	1	2	0	7
1937	6	0	0	0	0	1	3	1	0	2	0	0	0	13	13	2	1	0	10
1938	12	0	0	0	0	2	2	2	0	1	0	0	0	20	20	3	1	0	16
1939	16	0	0	0	0	0	2	3	2	0	0	0	1	22	22	3	1	0	18
1940	30	0	0	0	0	1	2	2	2	4	1	0	0	42	42	7	5	0	30
1941	10	0	0	0	0	1	1	2	4	0	0	0	0	18	18	2	2	0	14
1942	8	0	0	0	0	0	2	1	1	1	0	0	0	13	13	0	2	0	11
1943	6	0	0	0	0	0	0	0	0	1	0	0	0	7	7	1	0	0	6
1944	14	0	0	0	0	0	0	2	1	2	0	0	0	19	19	2	1	0	16
1945	19	0	0	0	0	0	1	2	1	0	0	0	0	22	22	3	2	0	17
1946	0	0	0	0	0	0	0	0	4	4	0	0	0	8	8	4	3	0	1
1947	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2	1	0	0	0
1948	0	0	0	0	0	0	0	2	3	0	1	0	0	6	6	2	2	0	2
1949	42	0	0	0	0	0	0	2	1	2	0	1	0	48	48	3	8	0	37
1950	36	0	0	0	0	0	0	3	4	0	0	0	0	45	45	2	5	0	38
1951	49	0	0	0	0	0	2	3	0	1	0	0	0	55	55	11	12	0	32
1952	53	0	0	0	0	3	0	5	3	0	0	0	0	64	64	12	9	0	43
1953	35	0	0	0	0	0	0	2	3	1	0	0	0	41	41	2	5	0	34
1954	42	0	0	0	0	0	0	7	4	0	0	0	0	80	80	4	6	0	37
1955	59	0	0	0	0	0	4	7	10	0	0	0	0	83	83	5	7	0	69
1956	69	0	0	0	0	0	1	5	8	0	0	0	0	83	83	5	6	0	72
1957	431	0	0	0	0	2	11	21	24	7	0	1	0	497	497	7	4	0	486
1958	186	0	0	0	0	3	13	18	8	1	1	0	0	231	231	8	4	0	219
1959	119	0	0	0	1	3	6	7	3	0	0	0	0	138	138	6	4	0	128
1960	120	0	0	1	3	6	4	9	4	1	0	0	0	174	174	51	15	0	0
1961	142	0	0	0	4	5	13	8	2	0	0	0	0	168	168	161	13	0	0
1962	149	0	0	0	7	3	4	8	5	0	0	0	0	265	265	151	17	0	0
1963	66	2	2	37	53	21	5	15	9	0	0	0	0	1160	1160	225	39	0	1
1964	16	0	132	426	351	167	43	15	2	0	0	0	1	1819	1819	1130	29	1	0
1965	32	0	111	636	576	305	80	16	11	1	1	0	0	532	532	1775	43	0	0
1966	8	0	61	234	136	69	18	4	1	1	0	0	0	495	495	495	36	0	1
1967	32	2	77	181	111	32	20	6	0	0	0	0	0	396	396	597	63	0	2
1968	332	3	87	159	89	34	7	6	1	1	0	0	0	719	719	657	122	0	0
1969	418	23	97	157	102	38	13	5	2	1	0	0	0	856	856	300	196	0	3
1970	43	28	63	112	79	39	14	8	3	1	0	0	0	390	390	332	90	0	0
1971	78	28	56	109	101	49	18	6	2	2	0	0	0	449	449	367	117	0	0
1972	140	48	75	102	97	46	16	5	0	1	0	0	0	530	530	378	163	0	0
1973	107	57	91	94	106	37	16	5	1	0	0	0	0	514	514	359	136	0	0
1974	96	53	76	116	83	32	18	4	1	0	0	0	0	479	479	7541	120	0	0
TOTAL	3163	244	950	2454	1894	901	353	239	157	56	13	7	4	10445	10445	7541	1302	1	1601

Table 2A. Summary of earthquakes in Alaska by magnitude and 1 and 10 Marsden Squares, 1786-1974¹

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
15786											3	4.9
15787	1										3	4.2
15788	9	1			1						23	6.6
15789	1			2							6	6.3
15795		2	1								1	7.3
15796						1					2	7.0
15797	3		1								9	5.8
15798	4		4								30	5.7
15799	30	14	6	3	1						63	6.5
*TEN DEGREE TOTAL	47	58	14	12	5	2	0	0	0	0	140	7.3
15880		1									1	3.8
15890	3		2	1							8	6.5
15891		1									1	4.4
*TEN DEGREE TOTAL	3	3	0	2	1	1	0	0	0	0	10	6.5
16196	1										1	0.0
*TEN DEGREE TOTAL	1	0	0	0	0	0	0	0	0	0	1	0.0
16293			1								1	5.4
16296	1										1	0.0
16297	1										1	0.0
16298		2									2	4.6
16299		4									4	4.5
*TEN DEGREE TOTAL	2	6	1	0	0	0	0	0	0	0	9	5.4
16386		1									1	4.0
16391	1										2	4.7
16397	1	3									4	4.9
16398		2									2	4.2
16399		5									5	4.9
*TEN DEGREE TOTAL	2	12	0	0	0	0	0	0	0	0	14	4.9
19305	1										1	0.0
19307	1										1	0.0
19309			2								2	0.0
19318	14	69	7	1	2						93	6.4
19319	1	2									3	4.0
19328	2	8		1							11	6.4
19335	1	1									1	3.7
*TEN DEGREE TOTAL	22	80	7	1	3	0	0	0	0	0	113	6.4
19400	14	4	1	1	1	1					22	6.8
19401											1	6.0

¹Magnitude values are available from the year 1899.

Table 2A (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
19402	1										1	0.0
19403											1	3.9
19410	5	2	1	1							17	6.1
19411	1	1	1	2	2	2					10	7.0
19420	1										2	3.6
19421	5	1		2	2						13	6.7
19422	1		1	1							6	6.3
19425	1										1	0.0
19430											1	0.0
19431	1										1	4.0
19432	1			1							4	6.2
19433	2							1			3	8.1
19442	1										1	0.0
19443		1		1							3	6.2
19444	2				2						8	6.5
19445											1	4.6
19446	1										1	0.0
19448	1										1	0.0
19462	1										1	0.0
19465	2	2	1	1			1				10	7.6
19466	1										4	6.2
19468											1	4.2
19469	1										1	0.0
19474											1	3.7
19476	8		1								11	5.6
19477	4	3	1		1	1					17	7.1
19478				1							4	6.4
19479	1	2									3	4.1
19484	1										1	0.0
19486	6	1	1								10	5.6
19487	10	1					1				23	7.9
19488	3	1									6	5.0
19489											3	4.4
19495	3										4	4.8
19496	2			1							11	6.0
19497		2									7	5.2
19498	4		1								7	5.7
19499	6	3									9	4.4
*TEN DEGREE TOTAL	91	89	15	9	14	8	3	2	1	0	232	8.1
19559		1									1	4.1
19568		3									3	4.5
19569		9	1	1							12	6.0
19570	1										1	4.1
19573		1									1	0.0
19574											1	4.5
19576		2									2	4.6
19578			1								1	5.0
19579		13	1								16	5.1
19582	2		1								1	5.3

Table 2A (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
19583	1										1	4.9
19584	2										2	4.2
19585	1										1	3.6
19586	1										1	4.4
19587	1										2	3.3
19588	11										13	5.2
19589	22										35	6.2
19590	2										3	4.2
19591	2										6	7.0
19592	12										16	6.8
19593	8										14	6.2
19594	44										60	5.4
19595	54										62	6.2
19596	52										62	6.2
19597	41										57	7.2
19598	50										60	6.6
19599	21										30	7.0
*TEN DEGREE TOTAL	27	355	55	13	9	2	3	0	0	0	464	7.2
19626	1										1	0.0
19634	2										2	0.0
19636			1								1	5.0
19637			1								1	5.1
19638											1	4.9
19639			1								1	5.5
19640											2	4.5
19646											1	0.0
19647	1										8	4.9
19648	1										9	6.2
19649	1										3	5.1
19650			1								1	4.0
19651											1	5.6
19653	2										3	7.1
19654											9	5.7
19655	3		1								15	6.8
19656	4		2								14	7.1
19657	4										8	4.6
19658	2		2								10	8.7
19659	2										6	6.7
19660			1								4	5.0
19661	2										47	5.3
19662	6		7								173	6.6
19663	10		30								109	6.7
19664	6		12								42	6.5
19665	4		5								14	5.5
19666	3		2								16	7.0
19667	3		2								14	6.5
19668	4		2								11	4.6
19669	5		2								3	5.1
19670	4		5								39	5.5

Table 2A (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NCN-TEC	TOTAL	MAX
19671	1	30	15	3							49	5.7
19672	8	47	7	2	1						66	6.5
19673	6	37	2	4	1						50	6.5
19674	5	14		1		1					23	7.0
19675	3	4	1				1				9	7.5
19676	5	5						1			11	8.3
19677		2									2	4.6
19678	1	1									2	4.4
19680	2	31	8	3	2						46	6.3
19681	8	42	5	3	1	2					61	6.7
19682	14	20	7	1	1						43	6.8
19683	4	18		1	1						24	6.8
19684	13	25	4	2							44	5.6
19685	5	6		1							12	6.0
19686	1	5									6	4.8
19687	2	2									4	4.6
19688	1										1	0.0
19689		1									1	4.1
19690	8	12	1								21	5.1
19691	17	24	3	1	1						46	6.7
19692	70	48		1	1						121	6.5
19693	43	37	7	2		1					91	7.0
19694	5	9									14	4.9
19695	1	3		1							5	6.2
19696		1									1	4.4
19697		1									1	4.7
*TEN DEGREE TOTAL	290	789	137	45	31	22	6	1	1	0	1323	8.7
19714	1				1						1	0.0
19716	1										2	6.3
19717	3	5									8	4.9
19718	10	5	1		1		1				19	7.0
19719	6	9	3								18	5.0
19720	1										1	0.0
19721			1	1							2	5.6
19722			1	1							1	5.1
19723		6					1				8	7.4
19724	2	3	1								6	5.4
19725	3	2	2								7	5.2
19726		20		2							34	7.3
19727	26	18	6	2		1					59	6.7
19728	52	55	10	9	4						139	6.8
19729	55	98	16	8	7	2					186	7.4
19730	1	5	2	1	5						9	5.6
19731	2	5	4	1		2					13	6.6
19732		4	1	2							9	5.7
19733	16	46	5	2		1					69	5.7
19734	14	27	3		3		1				49	7.0
19735	9	12	7	2	2		2				34	7.1
19736	24	22	2	2							50	5.8

Table 2A (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
19737	26	45	5	3	6						85	6.9
19738	28	21		1	3	1					54	7.0
19739	11	8	4	1	2						27	6.7
19740		2		1	1						3	6.7
19741	7	8	3	1	1		1				21	7.5
19742	8	12	2	1	1						25	6.0
19743	16	19	3	1	1						41	6.0
19744	15	27	8	3	1						55	6.9
19745	17	8	1	1	1	1					28	7.1
19746	8	1	2	1	1						13	6.5
19747	7	1		1							9	6.0
19748	2	1	1								3	5.8
19749	3	1									4	4.2
19750	4	9	3	3							20	6.3
19751	5	4	1	1	1						11	6.7
19752	5	2									7	4.4
19753	4										5	6.7
19754	3				1						3	0.0
19755	2	1	1				1				4	7.8
19756	1	1									2	4.2
19757	1	1									2	4.5
19758		2									2	4.3
19759	1		1								1	0.0
19760	1										3	5.6
19761	3	2									5	4.7
19762	3	2	1								1	4.8
19764		1									3	4.8
19767	1	2									1	4.7
19769		1									1	6.7
19770											1	6.5
19771											1	
*TEN DEGREE TOTAL	417	522	96	43	41	35	10	2	0	0	1166	7.8
19800	2	1	1								4	5.0
19801	1	4	1	1		1	1				9	7.0
19802	1	2	1		1						6	6.5
19803	4	1									5	4.3
19804	3	2									5	4.7
19805	6	4	2		1	1					13	6.7
19806	3	3	5	1	1						13	6.5
19807	12	4	1		1						19	6.8
19808	4	9									13	4.6
19809	6	32	2	1	2						43	6.1
19810	20	24	2	4	2				1		53	8.6
19811	18	42	1	2	1						64	6.1
19812	8	6	2	4	1						19	6.5
19813	30	70	15	4	2						123	6.7
19814	18	26	11	1	5	1					63	7.0
19815	25	66	11	5	5	3	1				116	8.3
19816	52	101	18	7	6	4					191	7.3

Table 2A (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
19817	56	69	11	4	3	1					153	7.1
19818	56	65	13	9	4	1					169	7.0
19819	70	142	11	6	10	1					274	7.0
19820	43	47	11	3							106	6.3
19821	36	32	5	2							83	6.2
19822	9	11	1	3	2						23	6.5
19823	26	28	4	3	1						64	6.5
19824	30	21	2								57	5.6
19825	24	22	1	2	1						51	6.5
19826	20	8	1	1	1	1					37	7.1
19827	10	5					1				20	7.8
19828	10	11	1	1		1					21	7.3
19829	8	3	1			1					21	7.0
19830	9	12	1	1			1				25	7.5
19831	3	2			1						8	6.7
19832	5	4			1						10	6.5
19833	1	6				1					8	7.0
19834	1	3									4	4.5
19835	1	3									4	4.9
19836					1						1	6.7
19837	3						1				3	0.0
19838	4										5	7.9
19841	1										1	0.0
19848	1										1	0.0
19860	1										1	0.0
19870	3										3	0.0
19890	1										1	0.0
19899	1										1	0.0
*TEN DEGREE TOTAL	646	896	180	59	42	13	3	1	1	0	1917	8.6
19900		4									4	4.8
19901		4									4	4.9
19902		11									11	4.5
19903		13				1					15	5.7
19904	1	18	1								21	5.3
19905	1	19	5								25	5.2
19906	2	47	1	1							53	6.0
19907	2	92	17								112	7.3
19908		107	4		1	1					114	6.5
19909	12	19		1							33	6.2
19910		4									4	4.9
19911	1	22	1								24	5.1
19912	4	59	4								67	5.4
19913	1	87	11	1	1						104	6.5
19914	8	110	49	3							177	6.1
19915	10	103	21	7		1					147	7.0
19916	8	121	41	2	2						179	6.5
19917	10	73	18	1	2		1				108	7.7
19918	35	109	23	1	4		1	1		1	176	7.7
19919	51	82	9	6					4		165	8.3

Table 2A (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
19920	1	14	1	2	3		1				16	5.1
19921	63	63	6	1							73	7.6
19922	7	63	23	1	3		1				110	6.7
19923	7	45	29	2		2					102	7.7
19924	6	29	13	2	1						56	6.5
19925	3	24	14	1	1						50	6.9
19926	3	11	7	1	1						19	6.5
19927	21	6	2		3						32	6.7
19928	7	9	1	1	1						22	6.6
19929	6	7	1								14	5.0
19930	5	3	1	1							12	6.2
19931	1	10	3	2		1					22	7.1
19932	4	6	2	1	1						13	6.7
19933	1	1	5								3	6.0
19934	1	3	2	1							5	5.3
19936	1	2	1								3	4.7
19937	1	1									1	5.0
19938		1									1	4.0
19939	1										2	6.7
19940	6	1			1						7	4.2
19941	1										1	0.0
19942		1									1	4.7
19944	1										1	0.0
*TEN DEGREE TOTAL	233	1403	307	36	22	6	4	1	0	5	2109	8.3
20006	1										1	0.0
20009		1									1	4.2
20010	1										1	0.0
20029	1	3									3	4.3
20037	1	1									2	4.7
20038	3	2			1						6	6.5
20039	1	6	2		1						11	6.5
20045		1	2								3	5.4
20046				1							1	6.1
20047	1	1	1								3	5.4
20048	2	2	1	1							7	6.0
20049	8	2	3	2							15	6.1
20055		10	5								18	5.8
20056	4	12	2	1	1						22	6.7
20057	2		1								3	5.2
20058		1			1	1					3	7.2
20065			2								2	5.6
20066	1										1	0.0
20075	3										3	0.0
20085			1								1	5.6
20095	1										1	0.0
*TEN DEGREE TOTAL	29	42	17	5	4	1	0	0	0	0	108	7.2
22906		1									1	3.6

Table 2A (Continued)

MARSDEN SQUARE	NO	MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NCN-TEC	TOTAL	MAX
22916	1											1	4.1
22925	1		1									2	5.0
22929	1											1	0.0
22938	1											1	4.8
22946	1											1	3.9
22956	1											1	0.0
22958	1											1	0.0
*TEN DEGREE TOTAL	4	4	1	0	0	0	0	0	0	0	0	9	5.0
23005	1											1	0.0
23006	1											1	0.0
23007	1					1						3	6.5
23008	2			1								3	5.6
23009	1		1									2	5.1
23014	1											1	4.2
23017	1		1									1	5.2
23018	1											1	5.7
23019	2											3	3.8
23024	1											1	3.8
23024	1											1	4.2
23030	1											1	3.9
23034	1											1	4.1
23043	1											3	6.7
23052	2					1						19	6.5
23053	8					1						5	5.2
23054	2		1									1	3.5
23055	1											1	0.0
23056	1											1	4.8
23060	1											1	0.0
23063	1											6	4.8
23065	1											1	4.6
23066	1											2	6.2
23075	1											6	6.5
23076	2				1							1	3.7
23077	1											1	4.3
23085	1											1	4.2
23086	1											1	4.2
*TEN DEGREE TOTAL	25	36	3	4	1	4	0	0	0	0	0	73	6.7
23100	14	13										33	8.6
23101	3	17								1		10	4.7
23102	1	11										14	8.3
23103	1	13						1	2			16	5.4
23104	3	20										23	4.9
23105	5	44										56	6.0
23106	16	87										124	7.0
23107	30	83										121	6.5
23108	9	35										47	5.7
23109	14	27										45	7.4
23110	7	7										9	6.0

Table 2A (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
23111	1										4	4.1
23113	4										5	4.5
23114	1										1	3.6
23115	9										10	4.7
23116	34										57	5.5
23117	46										100	8.5
23118	17			4	1	2					38	6.2
23119	19			2							74	5.7
23121	40										1	4.7
23123	1										2	3.7
23124	2										2	3.7
23125	4										4	4.6
23126	2										6	4.2
23127	3										14	5.1
23128	28										40	5.0
23129	59										89	6.2
23134	1										3	5.8
23135	4										7	4.4
23136	6										12	4.6
23137	8										21	5.6
23138	22										39	5.0
23139	60										85	6.1
23140	1										1	0.0
23141	1										1	0.0
23142	1										1	0.0
23144	2										4	3.6
23145	4										4	0.0
23146	11										24	7.3
23147	41										93	7.4
23148	11										26	6.5
23149	8										18	4.4
23152	1										1	0.0
23155	3										4	5.3
23157	5										11	4.2
23158	12										15	4.5
23159	80										93	5.5
23161	1										1	0.0
23162	1										2	3.1
23164	1										2	3.7
23167	1										2	6.0
23168	1										2	4.9
23169	2										5	3.6
23175	1										3	3.7
23176	1										2	4.2
23177	1										2	3.5
23187	1										2	4.7
23194	1										1	0.0
23195	1										2	4.7
*TEN DEGREE TOTAL	603	49	27	13	4	7	1	2	2	0	1433	8.6

Table 2A (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
23200	23	21									45	6.1
23201	43	29		1							76	6.7
23202	85	49		2							141	6.5
23203	39	47	2	2							91	5.8
23204		3									3	4.5
23205	1	1									2	4.1
23206	1										1	0.0
23207		1									1	3.9
23208		1									1	4.2
23210	69	45		2		1					121	7.0
23211	51	30	2	2		1					88	7.3
23212	16	14	1								32	5.7
23213	1		1								2	5.7
23214		1									1	3.1
23216		1									1	4.7
23220	35	41		1							77	6.0
23221	62	39	1								103	5.6
23222	7	12	2	2							24	6.9
23223	3	6		3	1						12	6.0
23224	2	1									3	4.2
23225	3	3									3	0.0
23226	1	3									2	4.6
23227	2										2	0.0
23229											2	4.6
23230	93	56		1							151	6.2
23231	30	29	3								62	5.4
23232	3	1	1	1							5	6.2
23233	1	1									2	4.1
23234		1									1	4.3
23235	3										3	0.0
23236	1										1	0.0
23237		1									1	4.3
23240	5	4									1	4.6
23241	2	2									5	8.3
23242	4	3									7	4.3
23243	1										1	0.0
23244	2										1	0.0
23246	1										1	0.0
23248											1	3.7
23250	65	26									92	7.1
23251	2	4		2		1					8	6.3
23252	5	2		1							8	6.3
23253	2	1									3	4.8
23255	1	5									5	4.1
23256	1	3									5	4.8
23260	1	1									2	3.6
23261	3										3	0.0
23263	3	1									4	3.8
23264	1										2	3.8
23265	5										5	0.0
23266	1										3	7.3

Table 2A (Continued)

MARS DEN	SQUARE	NO MAGNITUDE UNDER -5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
23267	9	5										14	4.3
23269		1										1	3.7
23275	2	1										3	4.5
23277		2										2	4.4
23279		1										1	4.8
23289		1										1	3.9
*TEN DEGREE TOTAL	694	501	16	13	18	6	4	0	1	0	0	1253	8.3
23311	1	1										2	4.0
23312	1											1	0.0
23321	1											1	0.0
23330	2											2	0.0
23340	2	1										4	5.8
23343	1	1										1	4.3
23345	1				1							2	6.0
23352	2					1						3	6.5
23353		1										1	4.1
23354	4											4	4.9
23356	1											1	0.0
23357	3	2										5	4.5
23358	1	1										1	4.9
23361	1	1										1	4.2
23362	2											2	0.0
23363	1			1								2	5.6
23365	1	1										1	4.1
23366	1											1	0.0
23368	1											1	0.0
23370		1										1	4.3
23371		1										2	5.2
23372	1		1									1	4.2
23374												1	0.0
23375	1											1	0.0
23380		1										1	4.5
23385		1										1	4.4
*TEN DEGREE TOTAL	22	18	1	2	1	1	0	0	0	0	0	45	6.5
23429	1											1	0.0
23443		2										2	4.5
23463	1											1	0.0
23464	1											1	0.0
23471	1	1			1							3	6.2
23472			1		1							3	6.9
23482						1						1	6.5
*TEN DEGREE TOTAL	4	3	1	0	2	2	0	0	0	0	0	12	6.9
23517				1								1	5.6
23523				1								1	5.6
23548				1								1	5.7

Table 2A (Continued)

MARSDEN SQUARE	NO MAGNITUDE	UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NCN-TEC	TOTAL	MAX
*TEN DEGREE TOTAL	0	0	0	3	0	0	0	0	0	0	0	3	5.7
26528						1						1	6.5
*TEN DEGREE TOTAL	0	0	0	0	0	1	0	0	0	0	0	1	6.5
26609	1											1	0.0
26618				1								1	5.5
*TEN DEGREE TOTAL	1	0	0	1	0	0	0	0	0	0	0	2	5.5
26703		3										3	4.5
26704		3										3	4.7
26705		1										1	4.2
*TEN DEGREE TOTAL	0	7	0	0	0	0	0	0	0	0	0	7	4.7
26821		1										1	3.9
*TEN DEGREE TOTAL	0	1	0	0	0	0	0	0	0	0	0	1	3.9
TOTAL	3163	5550	900	353	239	156	55	13	7	4	5	10445	8.7

Table 2B. Summary of earthquakes in Alaska by magnitude and 1 and 10 Marsden Squares, 1963-1974

MARSDEN SQUARE	NO	MAGNITUDE	UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
15786	3												3	4.9
15787	2												2	4.2
15788	13			1									16	5.0
15789	1			1									2	5.7
15796	4			1									1	4.3
15797	19			4									6	5.8
15798	14			4									23	5.3
15799	11			4									20	6.0
*TEN DEGREE TOTAL	2	56	11	3	1	0	0	0	0	0	0	0	73	6.0
15880	1												1	3.8
15890	1												1	3.2
15891	1												1	4.4
*TEN DEGREE TOTAL	0	3	0	0	0	0	0	0	0	0	0	0	3	4.4
16293	1												1	5.4
16298	2												2	4.6
16299	4												4	4.5
*TEN DEGREE TOTAL	0	6	1	0	0	0	0	0	0	0	0	0	7	5.4
16386	1												1	4.0
16391	1												1	4.7
16397	3												3	4.9
16398	2												2	4.2
16399	5												5	4.9
*TEN DEGREE TOTAL	0	12	0	0	0	0	0	0	0	0	0	0	12	4.9
19309	2												80	6.4
19318	59			7		2							2	4.0
19319	2												10	4.9
19328	1												1	3.7
*TEN DEGREE TOTAL	4	80	7	0	0	2	0	0	0	0	0	0	93	6.4
19400	4												6	5.6
19403	1												1	3.9
19410	8												12	5.7
19411	1												3	7.0
19420	1												1	3.6
19421	4												4	4.8
19422	2												2	4.7
19430	1												1	4.0
19432	2												2	4.2
19443	1												2	5.2
19444	4												4	4.0
19445	1												1	4.6
19465	3												8	7.6

Table 2B (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
19466	1	2									3	4.6
19468		1									1	4.2
19474		1									1	3.7
19476		2									2	4.8
19477		7									11	6.7
19478		3			1						4	6.4
19479		2									2	4.1
19486		2									3	4.2
19487	1	12									12	4.7
19488		2									3	5.0
19489		3									3	4.4
19495		1									1	4.8
19496		8									8	4.3
19497		5									5	4.4
19498		2									2	4.6
19499		3									3	4.4

*TEN DEGREE TOTAL	3	89	10	4	2	1	1	0	0	0	111	7.6
19559		1									1	4.1
19568		3									3	4.5
19569		9			1						11	6.0
19570		1									1	4.1
19573		1									1	0.0
19574	1	1									1	4.5
19576		2									2	4.6
19578			1								1	5.0
19579		13									16	5.1
19582		1									1	5.3
19583		1									1	4.9
19584		2									2	4.2
19585		1									1	3.6
19586		1									1	4.4
19587	1	1									2	3.3
19588	1	11									13	5.2
19589		22	9	2	1						34	6.2
19590		2									2	4.2
19591	1	2									3	3.9
19592		12			2		1				16	6.8
19593	1	8									13	5.8
19594	1	44	15	1							60	5.4
19595		54	5	1	2						62	6.2
19596	1	52	6	2	1						62	6.2
19597	5	41	3	4							56	5.6
19598	5	50	3	1					1		60	6.6
19599	3	21	2	1	1						28	6.1

*TEN DEGREE TOTAL	22	355	55	12	8	2	0	0	0	0	454	6.8
19636			1								1	5.0
19637			1								1	5.1

Table 2B (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
19638	1										1	4.9
19639		1									2	5.5
19640	1										1	4.5
19647	7										7	4.9
19649	7										8	6.2
19649	2	1									3	5.1
19650	1										1	4.0
19651											1	5.6
19654	3										8	4.8
19655	3										11	6.8
19656	5										8	5.7
19657	4										4	4.6
19658	3										6	5.7
19659	3										3	4.8
19660	3										4	5.0
19661	38										45	5.3
19662	123										167	6.6
19663	1										87	6.2
19664	70										35	6.5
19665	24										8	5.0
19665	7										10	5.6
19666	7										10	6.0
19667	4										6	4.6
19668	6										3	5.1
19669	2										38	5.5
19670	29										49	5.7
19671	30										61	6.3
19672	4										50	6.5
19673	6										19	6.1
19674	2										7	5.3
19675	2										6	4.8
19676	1										2	4.6
19677	5										1	4.4
19678	2										45	6.3
19680	1										59	6.5
19681	31										36	6.8
19682	7										21	6.8
19683	3										40	5.6
19684	18										7	4.6
19685	9										5	4.8
19685	1										2	4.6
19686	6										18	5.1
19687	5										38	6.7
19689	2										115	5.7
19690	1										86	5.4
19691	5										10	4.9
19692	10										3	4.8
19693	66										1	4.4
19693	43										1	4.7
19693	42										1	4.7
19694	37										1	4.7
19694	9										1	4.7
19695	1										1	4.7
19696	3										1	4.7
19696	1										1	4.7
19697	1										1	4.7

Table 2B (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
*TEN DEGREE TOTAL	173	788	134	39	18	10	0	0	0	0	1162	6.8
19717		5									5	4.9
19718		5	1								6	5.0
19719		9	3								12	5.0
19721			1	1							2	5.6
19722			1								1	5.1
19723			1								7	5.9
19724		6		1							4	5.4
19725		3	2								4	5.2
19726		2	19								21	5.7
19727	1	18	6	2							27	5.9
19728	2	55	8	5							71	6.0
19729	1	99	16	7	1						125	6.3
19730		5	2	1							8	5.6
19731		4	4			2					10	6.6
19732	1	4	1	2							8	5.7
19733	3	46	5	1							55	5.5
19734	1	27	3	1		1					32	6.5
19735	1	12	7	2							22	5.7
19736	1	22	2	2							27	5.8
19737		45	5			1					51	6.9
19738		21	4								21	4.9
19739		3	4	1							13	5.5
19740		2	4								2	4.2
19741		8	3			1					14	6.5
19742	2	12	2	1							15	5.9
19743	1	13	3	2	1						26	6.0
19744	2	27	8	1	1						39	6.0
19745		8	1								9	5.3
19746		1		1							2	5.8
19747		1									1	4.3
19749		1									1	4.2
19750		9	1	1							12	6.0
19751		4	1								4	4.6
19752	3	2									5	4.4
19753			1								1	0.0
19755	1										1	5.2
19756		1									1	4.2
19757		1									1	4.5
19758		2									2	4.3
19760		2	1	1							3	5.3
19761		2									2	5.6
19762		1									1	4.7
19764		2									2	4.8
19767		2									2	4.8
19769		1									1	4.7
*TEN DEGREE TOTAL	20	520	92	34	7	5	0	0	0	0	678	6.9
19800		1	1								2	5.0

Table 2B (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
19801	4	1	1		1	1					8	7.0
19802	2	1									3	5.0
19803	1										1	4.3
19804	2										2	4.7
19805	4	1									5	5.2
19806	3	5	1								9	5.5
19807	4	1									5	5.0
19808	9										9	4.6
19809	32	2	1	1							36	6.0
19810	24	2	4								31	5.8
19811	42	1	1								44	5.5
19812	6			1							7	6.0
19813	1	70	1								86	5.6
19814	2	26	1	3							39	5.5
19815	56	9	2								80	6.4
19816	101	17	5		1						127	6.5
19817	69	9	7	1		1					87	7.1
19818	65	21	13	2							102	6.2
19819	142	32	10	4	1	1					196	7.0
19820	46	8	1								55	5.6
19821	32	8	3								44	5.7
19822	11	1	3								12	5.2
19823	28	2	3								33	5.9
19824	21	3	1	1							27	5.6
19825	22	2									25	6.1
19826	8	6									14	5.4
19827	5	2									7	5.4
19828	11	2									13	5.1
19829	9	2	1								11	5.5
19830	12	2	1								17	5.9
19831	2	2		1							4	6.3
19832	4	4									4	4.9
19833	6	6									7	4.7
19834	3	3									3	4.5
19835	3	3									3	4.9
*TEN DEGREE TOTAL	20	895	166	57	14	3	0	0	0	0	1158	7.1
19900	4										4	4.8
19901	4										4	4.9
19902	11										11	4.5
19903	13		1								15	5.7
19904	18		2								20	5.3
19905	19		5								24	5.2
19906	47		1								52	5.6
19907	92		17	2							112	7.3
19908	107		4			1					114	6.5
19909	19										20	4.8
19910	4										4	4.9
19911	1		1								24	5.1
19912	3	59									66	5.4

Table 2B (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
19913	37	11	3	1	1						103	6.5
19914	110	49	7	3							175	6.1
19915	3	21	5	5							137	6.3
19916	1	41	5	2	2						172	6.5
19917	73	18	3								94	5.9
19918	19	23	6	1			1				160	7.7
19919	3	9	2	3	2					1	105	6.8
19920	1	1								4	16	5.1
19921	53	6	1	2							72	6.0
19922	1	23	13	1	1						102	6.5
19923	45	29	16	1							91	6.3
19924	29	13	4	1	1						48	6.5
19925	24	14	7	1							46	6.1
19926	1	11									12	4.9
19927	6	1	2								7	5.4
19928	9	1									12	5.7
19929	7	1									8	5.0
19930	3	1	2	1							9	6.2
19931	10	5	3	2							20	6.2
19932	6	2									8	5.2
19933	1	1									1	4.0
19934	3	1									4	5.3
19936	2										2	4.7
19937		1									1	5.0
19938	1										1	4.0
19939	1										1	0.0
19940	1										1	4.2
19942	1										1	4.7
*TEN DEGREE TOTAL	47	1403	306	84	24	8	1	0	0	5	1879	7.7
20009	1										1	4.2
20029	3										3	4.3
20037	1										1	4.7
20038	2										2	4.5
20039	6	2									8	5.4
20045	1	2									3	5.4
20046					1						1	6.1
20047	1	1									3	5.4
20048	2	1	1		1						5	6.0
20049	2	3									5	5.4
20055	10	5	3								18	5.8
20056	2	12	2	1							17	5.8
*TEN DEGREE TOTAL	3	41	16	5	2	0	0	0	0	0	67	6.1
22906	1										1	3.6
22916	1										1	4.1
22925			1								1	5.0
22938	1										1	4.8
22946	1										1	3.9

Table 2B (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NCN-TEC	TOTAL	MAX
*TEN DEGREE TOTAL	0	4	1	0	0	0	0	0	0	0	5	5.0
23007	1	1									2	4.1
23009		1	1								2	5.1
23014		1	1								1	4.2
23018		1	1								1	4.5
23019		3									3	3.8
23024		1									1	3.8
23030		1									1	4.2
23034		1									1	3.9
23043		1									1	4.1
23053		8		1							9	5.2
23054		2	1								3	5.2
23055		1									1	3.5
23060		1									1	4.8
23065	1	5									6	4.8
23066		1									1	4.6
23075		1									1	4.0
23076		3									3	4.5
23077		1									1	3.7
23085		1									1	4.3
23086		1									1	4.2
*TEN DEGREE TOTAL	2	36	2	1	0	0	0	0	0	0	41	5.7
23100		13	2	3							18	5.9
23101		7									7	4.7
23102		11									11	4.9
23103		13	2								15	5.4
23104	1	20									21	4.9
23105	3	44	6		1						54	6.0
23106	13	87	14	1							120	6.3
23107	24	83	5	2	1						119	6.5
23108	5	35	1	2							43	5.7
23109	9	27	1	2							37	5.1
23110		7		1							8	5.5
23111		4									4	4.1
23113		4									4	4.5
23114		1									1	3.6
23115	1	9									10	4.7
23116	13	34		1							48	5.5
23117	29	46	7	2	1				1		88	8.5
23118	11	17									28	4.6
23119	31	31	2	1							65	5.7
23121		1									1	4.7
23123		2									2	3.7
23124	1	1									2	3.7
23125	1	2									3	4.6
23126	1	2									3	4.2
23127	2	10	1								13	5.1

Table 2B (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
23128	23	11	1								35	5.0
23129	58	28	1								87	5.1
23134		1									1	4.5
23135	3	3									6	4.4
23136	5	6									11	4.6
23137	4	10									14	4.8
23138	18	16									35	5.0
23139	56	20	1								80	6.1
23144	2	2									4	3.6
23145	1										1	0.0
23146	11	12									23	4.6
23147	39	46	2								89	5.6
23148	10	13									23	4.3
23149	6	10									16	4.4
23152	1										1	0.0
23155	1										2	5.3
23157	4	6									10	4.2
23158	3	3									6	4.5
23159	79	12									91	4.5
23161	1										1	0.0
23162	1	1									2	3.1
23164		2									2	3.7
23167		1									1	3.5
23168	1	4									5	4.9
23169	2	1									3	3.6
23175	1	1									2	3.7
23176		1									1	4.2
23177	1	1									2	3.5
23187		2									2	4.7
23194	1										1	0.0
23195	1	1									2	4.7
*TEN DEGREE TOTAL	482	725	49	20	5	2	0	0	1	0	1234	8.5
23200	16	21									37	4.6
23201	36	29	1	1							67	5.6
23202	82	49	3		1	1					136	6.5
23203	34	47	3	1							85	5.6
23204		3									3	4.5
23205		1									1	4.1
23207		1									1	3.9
23208		1									1	4.2
23210	59	45	1	2							107	5.6
23211	45	30	2	2							79	5.5
23212	13	14	1								28	5.0
23214		1									1	3.1
23216		1									1	4.7
23220	34	41									75	4.6
23221	59	39	1	1							100	5.6
23222	3	10									14	5.6
23223	1	6									7	4.9

Table 2B (Continued)

MAPS ON SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX
23224	1										1	4.2
23226	3										3	4.6
23229	2										2	4.6
23230	56	1									145	5.0
23231	29	3									56	5.4
23232	1										2	3.9
23233	1										1	4.1
23234	1										1	4.3
23237	1										1	4.3
23240	3										1	4.6
23241	2										7	4.6
23242	2										4	4.4
23243	1										5	4.3
23244	2										1	0.0
23248											2	0.0
23250	63	1				1					90	3.7
23251	4										5	7.1
23252	2										4	4.2
23253	1										4	4.4
23255	1										2	4.8
23256	3										5	4.1
23260	1										3	4.8
23263	1										2	3.6
23264	1										1	3.8
23266	1										1	3.8
23267	9										14	0.0
23269	1										1	4.3
23275	1										1	3.7
23277	1										2	4.5
23279	2										2	4.4
23289	1										1	4.8
23289	1										1	3.9
-----*												
TEN DEGREE TOTAL	584	499	16	8	1	1	1	0	0	0	110	7.1
23311	1										1	4.0
23340	1			1							4	5.8
23343	2										1	4.3
23345	1										1	6.0
23353	1			1							1	4.1
23354	4										4	4.9
23356	1										1	0.0
23358	1										1	4.9
23361	1										1	4.2
23362	1										1	0.0
23363	1										1	0.0
23365	1										2	4.1
23370	1										1	4.3
23371	1										2	5.2
23372	1										1	4.2
23380	1										1	4.5
23385	1										1	4.4

Table 2B (Continued)

MARSDEN SQUARE	NO MAGNITUDE UNDER-5.0	5.0-5.4	5.5-5.9	6.0-6.4	6.5-6.9	7.0-7.4	7.5-7.9	8.0-8.4	8.5-8.9	NON-TEC	TOTAL	MAX	
*TEN DEGREE TOTAL	6	16	1	1	0	0	0	0	0	0	25	6.0	
23443		2									2	4.9	
23471		1									1	3.9	
23472			1								1	5.3	
*TEN DEGREE TOTAL	0	3	1	0	0	0	0	0	0	0	4	5.3	
26703		3									3	4.5	
26704		3									3	4.7	
26705		1									1	4.2	
*TEN DEGREE TOTAL	0	7	0	0	0	0	0	0	0	0	7	4.7	
26821		1									1	3.9	
*TEN DEGREE TOTAL	0	1	0	0	0	0	0	0	0	0	1	3.9	
TOTAL	1363	5533	868	268	85	32	6	2	0	1	5	8174	8.5

Table 3. Sample geographical search of data file

RADIUS SEARCH 230KM AROUND SEWARD, ALASKA (60.1N, 149.5W) MAGNITUDE = 6.0+										-----MAGNITUDES-----												
SOURCE	YEAR	MO	DA	HR	MIN	SEC	LAT	LONG	DEPTH (KM)	BODY	SURF.	OTHER	LOCAL	INT MAP	INT MAX	PHENOM	RN	CE	O/S	MAR	DG	DIST (KM)
EQH	1909	09	19	20	00	00.0Z	60.600N	149.270W				7.40										
G-R	1911	09	22	05	01	24.0	60.500N	149.000W	060			6.90PAS			VIII	QS	014	F		231	09	57
G-R	1912	01	31	20	11	48.0	61.000N	147.500W	080			7.25PAS			IV		002	F		231	17	148
G-R	1928	06	21	16	27	13.0	60.000N	146.500W	025A			7.00PAS			VI		002	F		231	06	167
G-R	1931	12	24	03	40	40.0	60.000N	152.000W	100			6.25PAS			IV		002	F	BBA	232	02	139
G-R	1932	09	14	08	43	23.0	61.000N	148.000W	050			6.25PAS			V		002	F		231	18	129
G-R	1933	01	04	03	59	28.0	61.000N	148.000W	025A			6.25PAS			VI		002	D		231	18	129
G-R	1933	04	27	02	36	04.0	61.250N	150.750W	025A			7.00PAS			VII		002	D		232	10	145
G-R	1933	06	13	22	19	47.0	61.000N	151.000W	025A			6.25PAS					002	F		232	11	129
G-R	1934	06	19	18	47	43.0	61.250N	150.500W	025A			6.00PAS					002	F		232	10	139
G-R	1934	05	04	04	36	07.0	61.250N	147.500W	080			7.20PAS			VI		002	D		231	17	168
G-R	1934	06	18	09	13	50.0	60.500N	151.000W	080			6.25PAS			V		002	F	AAA	231	17	187
G-R	1934	08	02	07	13	08.0	61.500N	147.500W	025A			6.00PAS			V		014	D		232	01	94
G-R	1940	10	11	07	53	10.0	59.500N	152.000W	025A			6.00PAS			V		002	F		231	17	190
G-R	1941	07	30	01	51	21.0	61.000N	151.000W				6.00PAS			VI		002	D	BBB	232	11	129
G-R	1942	12	05	14	28	40.0	59.500N	152.000W	100			6.25PAS					002	D		232	11	129
G-R	1943	11	03	14	32	17.0	61.750N	151.000W	025A			7.30PAS			V		002	F		196	92	155
G-R	1945	11	03	22	09	03.0	58.500N	151.000W	050			6.75PAS					013	F		232	11	201
G-R	1946	01	12	20	25	37.0	59.250N	147.250W	050			7.20PAS			IV		015	F		196	81	197
G-R	1949	09	27	15	30	45.0	59.750N	149.000W	050			7.00PAS			V	Q	014	F		195	97	158
ISS	1951	06	25	16	12	37.0	61.100N	150.100W	128			6.25PAS			V		014	F		195	99	48
USE	1954	10	03	11	19	46.0	60.500N	151.000W	100			6.75PAS			V		002	F		232	10	116
USE	1958	01	24	23	17	29.0	60.000N	152.000W	060			6.50PAS			VIII		002	F		232	01	94
ISS	1959	12	26	18	19	08.0	59.740N	151.380W				6.50PAS			IV		002	F		232	02	139
CGS	1961	09	05	11	34	37.3	60.000N	150.600W	043			6.25PAS			VI		014	F		196	91	112
CGS	1962	05	10	00	03	40.2	62.000N	150.100W	072			6.13PAS			VI		014	D		232	00	62
CGS	1963	06	24	04	26	37.9	59.500N	151.700W	052			6.00BK			VII	UTS	001	F	020	232	20	214
CGS	1964	03	28	03	36	14.0S	61.040N	147.730W	033G			8.3MS		USE	X		014	D	014	196	91	140
CGS	1964	03	28	04	54	07.9	59.800N	149.400W	025			5.70MB					002	C	181	231	17	142
CGS	1964	03	28	06	43	57.4	58.300N	151.300W	025			6.10MB					014		025	195	99	33
CGS	1964	03	28	07	10	21.4	58.800N	149.500W	020			6.10MB					013		031	196	81	225
CGS	1964	03	28	09	52	55.7	59.700N	146.600W	030			5.50MB					015	F	053	195	89	145
CGS	1964	03	28	14	47	37.1	60.400N	146.500W	010			5.70MB					015	F	056	195	96	168
CGS	1964	03	28	14	49	13.7	60.400N	147.100W	010			5.80MB					002	F	061	231	06	169
CGS	1964	03	28	20	29	08.5	59.900N	148.700W	040			5.60MB					002	F	028	231	07	137
CGS	1964	03	30	07	09	34.0	59.900N	145.700W	015			5.60MB					014	F	081	195	98	55
CGS	1964	04	03	22	33	42.2	61.600N	147.600W	040			5.70MB					015	F	080	195	95	213
CGS	1964	04	20	11	56	41.5	61.400N	147.300W	030			5.70MB			V		002	D	080	231	17	196
CGS	1964	04	21	05	01	35.7	61.500N	147.400W	040			5.40MB					002	F	087	231	17	188
USE	1968	04	23	20	29	14.5	58.700N	150.000W	023			6.00PAS					002	F	066	231	17	193
CGS	1968	11	15	00	07	09.7	58.326N	150.367W	026			6.13PAS					015	F	058	196	80	158
USE	1968	12	17	12	02	15.0P	60.200N	152.800W	086			6.50PAS			VI		015		063	196	80	204
USE	1970	01	16	08	05	39.6	60.300N	152.700W	091D			6.00PAS			V		002	F	101	232	02	183
												6.00PAS					002	F	078	232	02	179

NOTE. Magnitude values are generally accurate to within 0.3 unit. Geographic positions prior to 1961 are generally accurate to no better than $\frac{1}{4}$ or $\frac{1}{2}$ degree.

Table 4. List of Alaskan earthquakes with magnitudes 6.0 and greater
(Area covered: 48°-75° N, 165 E-125° W)

ALASKA EARTHQUAKES MAG = 6.0+										-----MAGNITUDES-----				-----LOCAL		INT MAP	INT MAX DTSVNO	RN CE	Q/S	MAR	DG	DIST (KM)
SOURCE	YEAR	MO	DA	HR	MN	SEC	LAT	LONG	DEPTH (KM)	BODY	SURF.	OTHER	LOCAL	INT MAX DTSVNO	RN CE	Q/S	MAR	DG	DIST (KM)			
EQH	1899	09	04	00	22	00.0Z	60.000N	142.000W	025A			8.30PAS		XI UT	002 D		231	02				
CFR	1899	09	10	17	04	00.0	60.000N	142.000W	025A			7.80CFR		XI UTS	002 F		231	02				
EQH	1899	09	10	21	40	00.0	60.000N	140.000W				8.60PAS		VIII	019 D		231	00				
EQH	1900	10	09	12	28	00.0	60.000N	142.000W	025A			8.30PAS			002 D		231	02				
CFR	1901	12	31	09	02	00.0	52.000N	177.000W	025A			7.80PAS			007		198	27				
CFR	1902	01	01	05	20	00.0	55.000N	165.000W	025A			7.80PAS			009		197	55				
CFR	1903	06	02	13	17	00.0	57.000N	156.000W	100			8.30PAS		VI	012		196	76				
G-R	1904	08	27	21	56	06.0	64.000N	151.000W	025A			9.30CFR			001 D		232	41				
G-R	1905	02	14	08	46	36.0	53.000N	178.000W	025A			7.90CFR			007		198	38				
G-R	1906	08	17	00	10	42.0	51.000N	179.000E	025A			8.30CFR			006		199	19				
G-R	1907	08	22	22	24	00.0	57.000N	161.000W	120			6.50PAS			011		197	71				
G-R	1907	09	02	16	01	30.0	52.000N	173.000E	025A			7.75PAS		VI	005		199	23				
G-R	1908	05	15	08	31	36.0	59.000N	141.000W	025A			7.00PAS			019 F		195	91				
C-R	1909	09	17	49	48.0		52.500N	169.000W	090			7.40PAS			009 F		197	29				
EQH	1909	09	19	20	00.00Z		60.600N	149.270W				7.40			014 F		231	09				
G-R	1910	05	13	07	58	06.0	57.000N	160.000W	100			6.75PAS			011		197	70				
G-R	1910	09	09	01	13	18.0	51.500N	176.000W	025			7.10PAS		VIII QS	007		198	16				
G-R	1911	09	22	05	01	24.0	60.500N	149.000W	060			6.90PAS			014 D		231	09				
G-R	1912	01	04	15	46	54.0	52.000N	179.000W	025A			7.00PAS		IV	007		198	29				
G-R	1912	01	31	20	11	48.0	61.000N	147.500W	080			7.25PAS			002 F		231	17				
G-R	1912	03	11	10	17	30.0	51.000N	131.000W				6.50PAS			022		194	11				
G-R	1912	06	07	09	55	54.0	53.000N	153.000W	025A			6.40PAS		V	002 F		196	93				
G-R	1912	06	10	16	06	06.0	59.000N	153.000W	025A			7.00PAS			002 F		196	93				
G-R	1912	07	07	07	57	36.0	64.000N	147.000W	025A			7.40PAS		IX	001 F		231	47				
G-R	1912	11	07	07	40	24.0	57.500N	155.000W	090			7.50PAS		V	012 F		196	75				
G-R	1912	12	05	12	27	36.0	57.500N	154.000W	090			7.00PAS			013		196	74				
G-R	1913	03	31	03	41	06.0	51.000N	179.000W	060			6.90PAS			007		198	19				
G-R	1914	07	21	22	31	18.0	49.000N	130.000W				6.50PAS			025		158	90				
G-R	1916	04	18	04	01	48.0	53.250N	170.000W	170			7.50PAS		V	009		198	30				
G-R	1918	12	06	03	41	05.0	49.750N	126.500W				7.00PAS			025 F		157	96				
G-R	1920	03	29	05	07	53.0	51.000N	129.000W				6.40PAS			022		193	19				
G-R	1920	07	07	18	41	29.0	61.000N	140.000W	025A			6.00PAS			018		231	10				
G-R	1920	11	16	08	30	57.0	72.500N	128.000W	050			6.50PAS			675		265	28				
G-R	1921	04	10	13	40	16.0	54.000N	134.000W	025A			6.50PAS			022		194	44				
G-R	1923	05	04	16	26	39.0	55.500N	156.500W	025A			7.10PAS			017		196	56				
G-R	1924	03	30	00	08	56.0	50.000N	130.250W				6.00PAS			025		194	00				
G-R	1924	03	30	00	08	56.0	50.000N	130.250W				7.20PAS			004		200	58				
G-R	1925	08	19	12	07	27.0	55.250N	168.000E				7.10PAS			007		198	26				
G-R	1926	10	13	19	08	07.0	52.000N	176.000W	025A			7.10PAS			025		157	89				
G-R	1926	10	30	19	41	55.0	48.500N	129.000W				6.10PAS			025		157	88				
G-R	1926	11	01	01	39	18.0	48.750N	128.500W				7.10PAS		VI	020 D		194	77				
G-R	1927	10	24	15	59	55.0	57.500N	137.000W	025A			6.90PAS			670		234	72				
G-R	1928	02	21	19	49	04.0	67.000N	172.000W	025A			6.25PAS			672		234	71				
G-R	1928	02	24	14	10	23.0	67.000N	171.000W	025A			6.50PAS			672		234	82				
G-R	1928	02	26	01	19	10.0	68.000N	172.000W	025A			6.50PAS			670		234	72				
G-R	1928	05	01	18	54	41.0	67.000N	172.000W	025A			7.00PAS		VI	002 D		231	06				
G-R	1928	06	21	16	27	13.0	60.000N	146.500W	025A													

Table 4 (Continued)

SOURCE	YEAR	MO	DA	HR	MN	SEC	LAT	LONG	DEPTH (KM)	-----MAGNITUDES----- BODY SURF. OTHER LOCAL	INT MAP	INT MAX	PHENOM DTSVNO	RN	CE	Q/S	MAR	DG	DIST (KM)
G-R	1929	01	21	10	30	53.0	64.000N	148.000W	025A	6.25PAS			VI	001 F			231 48		
G-R	1929	03	01	07	31	13.0	51.500N	130.750W		6.10PAS				022			194 10		
G-R	1929	03	07	01	34	39.0	51.000N	170.000W	050	8.60CFR			T	009 F			193 10		
G-R	1929	05	26	22	39	54.0	51.000N	131.000W		7.00PAS		VII	T	022 D			194 11		
G-R	1929	07	03	00	53	00.0	62.500N	149.000W	025A	6.25PAS				001 F			231 29		
G-R	1929	07	04	00	35	03.0	64.000N	148.000W	025A	6.50PAS				001			231 48		
G-R	1929	07	05	14	19	02.0	51.000N	178.000W	025A	7.00PAS				007 F			193 18		
G-R	1929	07	07	21	23	12.0	52.000N	178.000W	025A	7.30PAS				007 F			198 28		
G-R	1929	09	17	13	17	34.0	51.000N	131.000W		6.30PAS				022			194 11		
G-R	1929	12	17	10	58	30.0	52.500N	171.500E	025A	7.60PAS				005			199 21		
G-R	1930	12	06	07	03	28.0	53.000N	170.000W	080	6.50PAS				007	CCC		198 32		
G-R	1931	03	29	17	24	58.0	51.000N	170.000W	025A	6.00PAS				009			198 10		
EDH	1931	05	30	10	00	00.0Z	53.000N	173.000E		6.00PAS			VI	005 D			199 33		
G-R	1931	08	14	16	12	03.0	52.500N	168.000W	025A	6.00PAS				009			197 28		
G-R	1931	12	24	03	40	40.0	50.000N	152.000W	100	6.25PAS		IV		002 F	BBA		232 02		
G-R	1932	01	13	16	17	27.0	52.000N	179.000W	025A	6.00PAS				007			198 29		
G-R	1932	03	08	04	23	30.0	51.500N	178.000W	025A	6.00PAS				007			198 18		
G-R	1932	03	25	23	54	51.0	62.500N	153.000W	025A	6.00PAS				001			232 23		
G-R	1932	03	25	23	58	31.0	62.500N	152.500W	025A	6.90PAS		VII		001 D			232 22		
G-R	1932	04	29	18	18	23.0	51.500N	178.000W	025A	6.25PAS				007			198 18		
G-R	1932	06	04	07	52	39.0	62.500N	153.000W	025A	6.00PAS				001			232 23		
G-R	1932	08	12	03	23	57.0	52.250N	169.000W	025A	6.75PAS		V		009			197 29		
G-R	1932	09	14	08	43	23.0	61.000N	148.000W	050	6.25PAS				002 F			231 18		
G-R	1932	10	16	12	08	01.0	54.250N	160.000W	050	6.75PAS				012			197 40		
G-R	1932	10	30	20	46	56.0	55.000N	159.750W	025A	6.75PAS				012			196 59		
G-R	1933	01	04	03	59	28.0	61.000N	148.000W	025A	6.25PAS		VI		002 D			231 18		
G-R	1933	04	27	02	36	04.0	61.250N	150.750W	025A	7.00PAS		VII		002 C			232 10		
G-R	1933	04	27	11	55	38.0	52.500N	167.000W	025A	6.00PAS				009			197 27		
G-R	1933	05	01	18	49	47.0	51.750N	173.000W	025A	6.50PAS				007			198 13		
G-R	1933	06	13	22	19	47.0	61.000N	151.000W	025A	6.25PAS				002 F			232 11		
G-R	1933	06	19	18	47	43.0	61.250N	150.500W	025A	6.00PAS				002 F			232 10		
G-R	1933	06	28	23	34	58.0	53.500N	165.000W	025A	6.00PAS				009 F			197 35		
G-R	1933	07	19	10	45	29.0	51.750N	174.000W	025A	6.00PAS				007			193 14		
G-R	1933	07	19	10	53	53.0	51.750N	174.000W	025A	6.00PAS				007			198 14		
G-R	1933	07	19	14	59	52.0	51.750N	174.000W	025A	6.25PAS				007			198 14		
G-R	1933	07	19	14	59	52.0	51.750N	174.000W	025A	6.25PAS				007			198 14		
G-R	1933	07	22	20	55	13.0	53.000N	169.500W	025A	6.75PAS				009			197 39		
G-R	1933	09	24	15	19	41.0	51.750N	177.000W	070	6.75PAS				007	AAA		198 17		
G-R	1933	10	14	22	19	01.0	53.750N	164.000W	025A	6.25PAS				010			197 34		
G-R	1933	11	02	12	26	54.0	52.000N	176.000W	025A	6.50PAS				007			198 26		
G-R	1934	05	04	04	36	07.0	61.250N	147.500W	080	7.20PAS			VI	002 D			231 17		
G-R	1934	05	14	22	12	46.0	57.750N	152.250W	060	6.50PAS		VI		013 D			196 72		
G-R	1934	06	02	16	45	29.0	61.250N	147.000W	025A	6.25PAS				002 F			231 17		
G-R	1934	06	18	09	13	50.0	60.500N	151.000W	080	6.75PAS		V		014 D	AAA		232 01		
G-R	1934	07	20	02	10	44.0	52.000N	173.000W	025A	6.00PAS				007			198 23		
G-R	1934	07	28	21	36	57.0	55.500N	156.750W	025A	6.75PAS				017			196 56		
G-R	1934	08	02	07	13	09.0	61.500N	147.000W	025A	6.00PAS				007 F			231 17		
G-R	1934	11	05	23	02	20.0	52.000N	175.000W	025A	6.50PAS				007			198 25		
G-R	1935	01	23	07	24	00.0	52.250N	169.500W	025A	6.75PAS				009 F			197 29		
G-R	1935	02	22	17	05	54.0	52.250N	175.000E	025A	6.90PAS				006			199 25		
G-R	1935	09	04	01	27	39.0	63.750N	152.500W	025A	6.25PAS				001			232 32		

Table 4 (Continued)

SOURCE	YEAR	MO	DA	HR	MIN	SEC	LAT	LONG	DEPTH (KM)	-----MAGNITUDES----- BODY SURF. OTHER LOCAL	INT MAP	INT MAX	PHENOM DTSVNO	RN	CE	Q/S	MAR	DG	DIST (KM)
G-R	1935	09	24	22	12	15.0	49.500N	130.000W		6.20PAS				025			158	90	
G-R	1936	04	23	23	14	21.0	50.250N	179.000E	025A	6.25PAS				006			199	09	
G-R	1936	12	21	19	03	13.0	52.500N	131.500W		6.00PAS				022			194	21	
G-R	1937	07	18	01	01	15.0	54.000N	166.500W	070	6.25PAS			VIII	009		CCB	197	46	
G-R	1937	07	22	17	09	29.0	54.750N	146.750W	025A	7.30PAS				001	D		231	46	
G-R	1937	09	03	18	48	12.0	52.500N	177.500W	080	7.30PAS				007	F		198	27	
G-R	1938	03	22	15	22	14.0	52.250N	132.000W		6.30PAS				022			194	22	
G-R	1938	07	24	13	12	13.0	53.500N	167.000W	050	6.25PAS				009			197	37	
G-R	1938	11	10	20	18	43.0	55.500N	158.000W	025A	8.70CFR			VI	012	F		196	58	
G-R	1938	11	17	03	54	34.0	55.500N	158.500W	025A	7.20PAS				012			196	58	
G-R	1939	02	24	14	15	45.0	53.000N	164.500W	070	6.25PAS				010	F	CCA	197	34	
G-R	1939	07	14	08	31	40.0	53.750N	169.000E	060	6.50PAS				004			200	39	
G-R	1939	07	18	03	26	38.0	49.000N	129.250W		6.50PAS			V	025	F		157	99	
G-R	1939	08	20	07	17	26.0	54.000N	164.000W	075	6.25PAS				010	F	CCB	197	44	
G-R	1939	08	21	15	19	03.0	51.500N	177.000E		6.00PAS				006			199	17	
G-R	1940	02	12	09	17	46.0	55.000N	175.000E	070	7.00PAS				006		AAA	199	15	
G-R	1940	02	12	09	17	46.0	55.000N	161.500W	025A	6.75PAS			V	012	F		197	51	
G-R	1940	04	16	06	07	43.0	52.000N	173.500E	025A	7.10PAS				005			199	23	
G-R	1940	05	29	01	57	52.0	52.000N	173.500E	025A	7.20PAS				005			199	23	
G-R	1940	06	05	11	01	10.0	67.000N	135.000W		6.25PAS				679			230	75	
G-R	1940	07	14	05	52	53.0	67.500N	136.000W	080	6.50PAS				677			230	76	
G-R	1940	08	22	03	27	18.0	51.750N	177.500E		7.75PAS				006		AAA	199	17	
G-R	1940	10	11	07	53	10.0	53.000N	165.500W	025A	7.10PAS				009			197	35	
G-R	1940	10	11	07	53	10.0	59.500N	152.000W	025A	6.00PAS				002			196	92	
G-R	1941	04	01	10	40	59.0	56.000N	153.500W		6.50PAS			VI	013			196	63	
G-R	1941	07	30	01	51	21.0	61.000N	151.000W		6.25PAS				002	D		232	11	
G-R	1941	08	04	10	53	09.0	53.250N	179.000E	070	6.75PAS				006		BBB	199	39	
G-R	1941	08	06	06	15	06.0	55.750N	163.000W	150	6.75PAS				010		AAA	197	53	
G-R	1941	09	29	05	34	12.0	56.500N	157.500W	100	6.50PAS				012		CCB	196	67	
G-R	1941	11	06	12	29	46.0	54.000N	161.500W	025A	6.00PAS				012			197	41	
G-R	1942	03	19	11	59	19.0	50.500N	131.000W		6.00PAS				025			194	01	
G-R	1942	12	05	14	28	40.0	53.000N	164.500W	080	7.00PAS				010		BBB	197	34	
G-R	1942	12	05	14	28	40.0	59.500N	152.000W	100	6.50PAS				002		BBB	196	92	
G-R	1943	11	03	14	32	17.0	61.750N	151.000W	025A	7.30PAS			V	002	F		232	11	
G-R	1944	02	03	12	14	59.0	60.500N	137.500W		6.50PAS				018			230	07	
G-R	1944	07	27	00	04	23.0	54.000N	165.500W	070	7.10PAS				009		BBB	197	45	
G-R	1944	08	10	01	52	50.0	51.250N	131.000W		6.25PAS				022			194	11	
G-R	1944	08	14	11	07	23.0	59.000N	155.000W	100	6.25PAS				002		BBB	196	95	
G-R	1944	12	12	04	17	10.0	51.500N	179.500E	025A	7.00PAS				006			199	19	
G-R	1945	08	02	20	44	45.0	54.000N	133.000W		6.25PAS				022			194	43	
G-R	1945	11	03	22	09	03.0	58.500N	151.000W	050	6.75PAS				013			196	81	
G-R	1946	01	12	20	25	37.0	59.250N	147.250W	050	7.20PAS			IV	015	F		195	97	
G-R	1946	02	04	03	44	48.0	53.000N	176.000W	160	6.75PAS				007		CCA	198	36	
G-R	1946	04	01	12	28	54.0	52.750N	163.500W	050	7.40PAS			VI	017	C		197	23	
OTT	1946	06	23	17	13	19.0	49.900N	125.300W		7.30PAS			VIII	007			157	95	
G-R	1946	07	12	21	56	27.0	53.500N	169.000W	100	6.75PAS				025	D		197	39	
G-R	1946	10	30	07	47	34.0	54.250N	164.000W	050	6.90PAS				010		CCC	197	44	
G-R	1946	11	01	11	14	24.0	51.500N	174.500W	040	7.00PAS				007			198	14	
G-R	1946	12	25	11	13	10.0	51.500N	180.000E	090	6.50PAS				006		CCC	199	19	
G-R	1947	10	16	02	09	47.0	64.500N	147.500W	050	7.00PAS			VIII	001	D		231	47	
CGS	1948	01	16	11	08	30.0	52.000N	172.000E	100	6.70PAS				005			199	22	

Table 4 (Continued)

SOURCE	YEAR	MO	DA	HR	MN	SEC	LAT	LONG	DEPTH (KM)	-----MAGNITUDES----- BODY SURF. OTHER LOCAL	INT MAP	INT MAX	INT PHENOM DTSVNO	RN	CE	Q/S	MAR	CG	DIST (KM)
G-R	1948	05	14	22	31	43.0	54.500N	161.000W	025A	7.50PAS				012				197	41
CGS	1948	05	26	09	16	42.0	56.000N	156.000W		6.00PAS				012				196	66
G-R	1948	08	19	13	50	46.0	63.000N	150.500W	100	6.25PAS				001	BBB			232	30
CGS	1948	12	13	17	18.0		52.000N	178.000E		6.63PAS				006				199	28
G-R	1948	12	23	08	41	17.0	55.500N	166.000E	060	6.75PAS				004				200	56
G-R	1949	02	02	17	41	29.0	53.000N	173.000W	220	7.00PAS				007	BBA			198	33
G-R	1949	08	22	04	01	11.0	53.750N	133.250W	025A	8.10PAS			T	022 D				194	33
CGS	1949	08	23	20	24	32.0	53.000N	132.000W		6.25PAS				022 F				194	32
CGS	1949	08	25	04	14	28.0	51.500N	179.000W		6.75PAS				007				198	19
G-R	1949	09	27	15	30	45.0	59.750N	149.000W	050	7.00PAS			V	014 F				195	99
G-R	1949	10	31	01	33	31.0	56.000N	136.000W		6.25PAS				020 F				194	66
ISS	1950	03	27	13	04	02.0	53.300N	172.200E		6.75PAS				005				199	32
ISS	1950	05	25	08	34	37.0	65.500N	151.500W		6.00PAS				676 F				232	51
ISS	1950	07	12	11	09	10.0	52.500N	167.500W		6.25PAS				009				197	27
ISS	1950	08	26	04	39	27.0	65.000N	162.000W		6.50PAS				676 F				233	52
ISS	1950	09	02	02	47	13.0	52.500N	170.000W		6.38PAS			V	009				198	20
ISS	1950	09	16	21	58	17.0	52.000N	177.100E	096	6.60PAS				006				199	27
ISS	1951	01	13	21	15	45.0	51.400N	176.000W		6.75PAS				007 F				198	16
ISS	1951	02	13	22	12	57.0	52.100N	177.500W		6.38PAS				007 F				198	27
G-R	1951	06	25	16	12	37.0	56.000N	156.000W		7.00PAS				012				196	66
ISS	1951	11	08	13	45	08.0	55.600N	160.400W	128	6.25PAS			V	002 F				232	10
ISS	1952	01	12	20	11	37.0	52.500N	167.500W		6.25PAS				012				197	50
ISS	1952	01	21	03	42	55.0	52.500N	167.500W		6.50PAS				009				197	27
USE	1952	03	20	00	17.0		59.500N	136.000W		6.75PAS			V	009				197	27
ISS	1952	03	22	18	15	42.0	51.500N	173.500W		6.00PAS				019 F				194	96
ISS	1952	07	07	02	52	59.0	54.200N	164.500W		6.38PAS				007				198	13
ISS	1952	11	23	23	46	27.0	56.300N	153.800W		6.25PAS				010				197	44
ISS	1952	12	04	03	51	40.0	52.000N	178.200E	128	6.75PAS				013				196	63
ISS	1953	01	05	07	48	20.0	52.500N	174.200E		6.00BRK			VI	006				199	28
ISS	1953	01	11	22	53	30.0	53.000N	171.500E		6.25PAS				005 F				199	24
ISS	1953	02	25	21	16	12.0	56.300N	133.200W		7.10PAS				005 F				199	31
ISS	1953	06	15	17	47	14.0	56.000N	156.200W		6.50PAS				677				230	53
ISS	1953	06	16	19	48	25.0	56.300N	153.800W		6.75PAS				012				196	66
ISS	1953	12	04	14	54	48.0	55.600N	160.400W	033	6.50PAS				013				196	63
ISS	1954	03	28	20	36	21.0	49.500N	129.000W		6.00PAS				025				157	99
USE	1954	04	17	20	10	37.0	51.600N	175.800E		6.13PAS				006				199	15
CGS	1954	06	17	01	42	22.0	51.500N	179.000W		6.75PAS				007 F				198	19
ISS	1954	08	05	08	49	53.0	56.000N	154.500W		6.50PAS				013				196	64
USE	1954	10	03	11	18	46.0	51.700N	175.800E	064	6.00PAS			VIII	006				199	15
CGS	1954	12	30	11	32	28.0	60.500N	151.000W	100	6.75PAS				014 0				232	01
USE	1955	01	13	02	03	43.0	53.000N	168.000W	060	6.63PAS				009 F				197	38
USE	1955	01	13	02	35	45.0	53.000N	167.500W		6.90PAS				009 F				197	37
ISS	1955	03	01	04	42	58.0	53.000N	167.500W		6.50PAS			IV	009 F				197	37
CGS	1955	03	14	13	12	04.0	65.300N	132.900W		6.75PAS				677 F				230	52
USE	1955	04	28	19	04	59.0	52.500N	173.500W	100	6.50PAS				007				198	23
CGS	1955	06	02	00	18	56.0	51.000N	178.500W		6.50PAS				007 F				198	18
CGS	1955	06	02	02	02	10.0	51.500N	180.000E		6.75PAS				006				199	19
CGS	1955	06	05	01	53	16.0	51.500N	180.000W		6.00PAS				006				199	19
CGS	1955	06	20	12	07	25.0	51.500N	180.000W		6.25PAS				007				198	19
CGS	1955									6.75PAS				007				198	19

Table 4 (Continued)

SOURCE	YEAR	MO	DA	HR	MN	SEC	LAT	LONG	DEPTH (KM)	-----MAGNITUDES----- BODY SURF. OTHER LOCAL	INT MAP	INT HAP	INT MAX	PHENOM	RN	CE	Q/S	MAR	DG	DIST (KM)
ISS	1955	07	03	14	26	34.0	51.600N	177.600E	033	6.50PAS					006				199 17	
CGS	1955	07	04	14	19	44.0	51.000N	177.000E		6.63PAS					006				199 17	
ISS	1955	07	19	23	52	23.0	56.500N	153.000W		6.00PAS					013				196 63	
CGS	1955	07	26	04	04	18.0	56.500N	153.000W		6.00PAS					013				196 63	
CGS	1955	07	27	18	19	08.0	56.500N	153.000W		6.25PAS					013				196 63	
ISS	1955	09	13	02	00	40.0	52.000N	176.000E		6.00PAS					007				198 26	
CGS	1955	10	09	23	13	32.0	50.500N	176.000E		6.00PAS					006				199 06	
ISS	1955	11	15	10	06	47.0	55.400N	155.600W		6.50PAS					017				196 55	
CGS	1956	01	14	14	08	41.0	51.500N	173.000W		6.00PAS					007				198 13	
CGS	1956	02	19	02	18	00.0	52.000N	131.500W		6.75PAS					022				194 21	
ISS	1956	04	18	11	00	22.0	51.800N	177.700W	033	6.50PAS					007				198 17	
CGS	1956	04	22	17	21	53.0	54.000N	162.000W		6.00PAS					012				197 42	
ISS	1956	06	04	07	09	19.0	52.100N	170.600W		6.25PAS					009				198 20	
CGS	1956	06	28	22	50	50.0	48.750N	129.250W		6.37PAS					025				157 89	
ISS	1956	08	24	04	27	34.0	52.740N	172.600E		6.00PAS					005				199 22	
ISS	1956	08	30	04	24	26.0	53.300N	164.020W	033	6.00PAS					010				197 34	
ISS	1956	10	19	20	47	31.0	52.270N	177.400E		6.75PAS					006				199 27	
USE	1956	11	17	20	27	15.0	54.500N	134.000W		6.50PAS					022	F			194 44	
ISS	1956	12	03	07	20	06.0	52.640N	168.610W		6.63PAS					019				197 28	
ISS	1956	12	08	16	10	25.0	51.370N	179.170W		6.50PAS					007				198 19	
CGS	1956	12	21	08	58	53.0	51.000N	131.000W		6.75PAS					022				194 11	
CGS	1957	01	02	03	39	22.0	53.000N	168.500W		6.63PAS					009				197 38	
CGS	1957	01	02	02	17	35.0	52.500N	168.000W		6.75PAS					009				197 28	
CGS	1957	01	02	03	12	52.0	53.000N	168.000W		6.63PAS					009				197 38	
CGS	1957	01	02	10	49	32.0	52.580N	168.530W		7.00PAS					009				197 39	
ISS	1957	01	07	07	52	56.0	52.660N	167.500W		6.50PAS					009				197 27	
CGS	1957	01	25	03	36	47.0	51.500N	177.000W		6.50PAS					009				198 17	
ISS	1957	02	21	14	30	11.0	53.020N	171.270W	126	6.75PAS					009				198 31	
USE	1957	03	09	14	22	27.5	51.300N	175.800W		8.30PAS					007	D			198 15	
CGS	1957	03	09	20	39	16.0	52.300N	169.000W		7.10PAS					009				197 29	
CGS	1957	03	10	03	06	10.5	51.600N	174.400W		6.63PAS					007	F			198 14	
CGS	1957	03	10	15	26	23.5	51.500N	173.600W		6.75BRK					007	F			198 13	
ISS	1957	03	11	03	12	43.0	51.200N	176.700W		6.37PAS					007	F			198 16	
ISS	1957	03	11	09	58	44.0	52.740N	168.410W		6.88PAS					009				197 28	
ISS	1957	03	11	14	55	19.0	51.510N	178.750W		6.75PAS					007	F			198 18	
CGS	1957	03	11	15	35	53.0	51.100N	179.000W		6.50PAS					007	F			198 19	
CGS	1957	03	12	07	28	48.0	51.700N	174.100W		6.37PAS					007	F			198 14	
ISS	1957	03	12	07	39	17.0	51.470N	178.190W		6.37PAS					007	F			198 18	
ISS	1957	03	12	11	44	54.0	51.390N	176.900W		7.30PAS					007	F			198 16	
CGS	1957	03	13	15	42	04.0	51.300N	178.500W		6.75PAS					007	F			198 16	
ISS	1957	03	14	14	47	45.0	51.320N	176.440W		7.20PAS					007	F			198 18	
CGS	1957	03	15	02	52	08.0	53.000N	167.000W		6.75PAS					009				197 37	
ISS	1957	03	16	02	34	15.0	51.570N	178.860W		6.75PAS					007	F			198 16	
CGS	1957	03	17	22	44	44.0	54.000N	166.000W		6.50PAS					009				197 46	
CGS	1957	03	18	02	24	39.0	52.500N	171.000W		6.20UPP					009				198 21	
CGS	1957	03	19	12	50	51.0	51.500N	175.000W		6.75PAS					007	F			198 15	
ISS	1957	03	22	14	21	10.0	53.740N	165.660W	020	7.00PAS					025				197 35	
ISS	1957	03	24	08	22	22.0	50.890N	130.360W		6.88PAS					009				194 00	
CGS	1957	03	29	05	10	28.0	53.500N	167.000W		6.50PAS					009				197 37	
ISS	1957	03	29	22	49	51.0	52.760N	168.490W		6.13PAS					009				197 28	

Table 4 (Continued)

SOURCE	YEAR	MO	DA	HR	MN	SEC	LAT	LONG	DEPTH (KM)	-----MAGNITUDES----- BODY SURF. OTHER LOCAL	INT MAP	INT MAX	PHENOM DTSVNO	RN	CE	Q/S	MAR	DG	DIST (KM)
ISS	1957	03	30	09	17	00.0	51.950N	175.160W		6.20UPP				007 F			198 15		
ISS	1957	03	31	10	08	28.0	51.510N	178.470W		6.10UPP				007 F			198 18		
ISS	1957	04	04	00	13	04.0	58.170N	155.040W	089	6.00UPP			IV	012 F			196 85		
CGS	1957	04	05	02	49	39.0	52.000N	172.500W		6.50PAS				007			198 22		
ISS	1957	04	10	11	33	00.0	55.960N	153.860W		7.10PAS				017			196 53		
ISS	1957	04	15	21	33	06.0	52.070N	167.040W		6.43UPP				009			197 27		
CGS	1957	04	19	15	44	53.0	51.500N	168.500W		6.70UPP				009			197 18		
CGS	1957	04	19	22	19	26.0	52.000N	166.500W		7.30PAS				009			197 26		
ISS	1957	05	22	13	29	48.0	50.460N	176.900W		6.50PAS				007			198 06		
CGS	1957	05	24	03	36	33.0	53.000N	167.500W		6.13BRK				009			197 37		
ISS	1957	05	31	22	17	09.0	51.190N	179.240W		6.00UPP				007			198 19		
ISS	1957	06	11	23	53	56.0	51.590N	176.040W		6.05MOS				007			198 16		
CGS	1957	06	13	10	40	38.0	51.500N	175.000W		6.75PAS				007			198 15		
ISS	1957	06	14	06	24	25.0	51.950N	176.110W	040	6.25BRK				007			198 16		
CGS	1957	06	15	18	18	20.0	52.000N	171.000W		6.00BRK				009			198 21		
ISS	1957	06	29	07	48	15.0	51.710N	166.640W		6.30UPP				016			197 16		
CGS	1957	07	03	12	24	37.0	50.500N	179.000W		6.13PAS				007			198 09		
ISS	1957	07	23	00	45	10.0	51.360N	177.190W		6.38PAS				007			198 17		
ISS	1957	07	25	07	42	24.0	51.220N	177.210W		6.25PAS				007			198 17		
CGS	1957	09	02	14	20	13.0	51.500N	168.000W		6.18UPP				009			197 18		
ISS	1957	10	23	05	56	56.0	52.530N	169.690W	038	6.25PAS				009			197 29		
CGS	1957	11	20	12	40	23.0	54.000N	165.000W		6.37BRK				009			197 45		
CGS	1957	11	23	00	58	36.0	53.000N	167.500W		6.15MAT				009			197 37		
ISS	1958	01	13	00	02	27.0	52.370N	176.730E	121	6.50UPP				006			199 26		
USE	1958	01	24	23	17	29.0	60.000N	152.000W	060	6.50PAS		IV		002 F			232 02		
CGS	1958	02	12	23	43	45.0	52.000N	175.000W		6.00PAS				007			198 25		
CGS	1958	02	22	10	50	23.0	50.500N	175.000W		6.75PAS				007			198 05		
CGS	1958	03	03	16	18	17.0	55.500N	166.500E		6.38PAS				004			200 56		
ISS	1958	03	18	22	20	00.0	50.240N	172.950W		6.20UPP				007			198 02		
ISS	1958	03	20	01	38	05.0	50.490N	172.840W		6.50PAS				007			198 02		
ISS	1958	04	07	15	30	40.0	66.030N	156.590W		7.30PAS		USE VIII		676 D			232 66		
USE	1958	04	13	09	07	24.0	66.000N	156.000W		6.75PAS			V	676 F			232 66		
ISS	1958	05	10	22	54	39.0	65.230N	152.010W		6.38PAS			V	676 F			232 52		
ISS	1958	05	11	05	23	55.0	65.100N	151.940W		6.38PAS			V	676 F			232 51		
ISS	1958	05	12	05	38	18.0	52.210N	169.540W		6.40QUE				009			197 29		
CGS	1958	05	26	10	50	30.0	53.000N	169.500W		6.13PAS				009			197 39		
ISS	1958	05	30	18	04	53.0	52.730N	168.620W		6.13PAS				009			197 28		
ISS	1958	06	04	14	29	54.0	52.590N	167.220W	019	6.13PAS				009			197 27		
CGS	1958	06	08	00	38	52.0	53.000N	167.000W		6.63PAS				009			197 37		
ISS	1958	06	12	20	53	01.0	52.980N	166.970W		6.50PAS				009			197 26		
CGS	1958	07	01	05	53	07.0	51.500N	176.500W		6.00PAS				007			198 16		
USE	1958	07	10	06	15	51.0	53.600N	137.100W		7.90PAS		XI T		019 C			194 87		
CGS	1958	07	17	20	59	17.0	51.000N	177.500W		6.00BRK				007			198 17		
CGS	1958	07	21	14	37	18.0	51.500N	178.000W		6.25BRK				007			198 18		
ISS	1958	08	13	20	12	59.0	50.590N	177.750W		6.38PAS				007			198 07		
ISS	1958	08	14	14	55	12.0	51.590N	175.390W		6.50PAS				007			198 15		
ISS	1958	08	16	13	17	54.0	51.430N	176.110W		6.13PAS				007			198 16		
CGS	1958	09	24	03	44	14.0	59.500N	143.500W		6.25PAS				015			195 93		
CGS	1958	10	01	17	47	15.0	53.000N	165.500W		6.25PAS				009			197 35		
ISS	1958	10	29	07	44	10.0	51.490N	179.410E		6.25PAS				006			199 19		
USE	1958	12	22	02	41	29.0	66.000N	147.000W		6.00PAS				676 F			231 67		

Table 4 (Continued)

SOURCE	YEAR	MO	DA	HR	MIN	SEC	LAT	LONG	DEPTH (KM)	BODY	MAGNITUDES SURF. OTHER LOCAL	INT MAP	INT MAX	PHENOM MAX	DN	CE	Q/S	MAP	DG	DIST (KM)
CGS	1959	02	06	14	33	02.0	51.000N	175.500W	060		6.00PAS				007			194	15	
ISS	1959	02	17	12	03	04.0	51.100N	171.230W			6.13PAS				009			198	11	
CGS	1959	04	19	15	03	26.0	58.000N	152.500W			6.25PAS				013			196	82	
CGS	1959	04	22	10	55	05.0	54.000N	167.000W			6.00PAS				009			197	47	
ISS	1959	05	12	04	57	39.0	55.150N	168.240E	017		6.50PAS				004			200	58	
ISS	1959	05	12	21	59	56.0	51.210N	176.950W			6.00PAS				007			198	16	
CGS	1959	07	13	12	28	45.0	52.000N	172.500W			6.50PAS				007			198	22	
ISS	1959	12	14	22	00	51.0	52.450N	168.210W			6.00PAS				009			197	28	
ISS	1959	12	18	16	24	50.0	52.560N	168.390W			6.50PAS				009			197	28	
ISS	1959	12	26	18	19	08.0	59.740N	151.380W			6.25PAS				014	F		196	91	
CGS	1960	02	26	23	29	25.0	51.500N	178.000W			6.13PAS				007	F		198	18	
CGS	1960	05	13	16	07	14.0	55.000N	161.500W			6.25PAS				012	F		197	51	
CGS	1960	06	17	16	35	32.0	52.500N	173.500W			6.13PAS				007	F		193	23	
CGS	1960	06	22	23	28	50.0	52.000N	173.000W			6.13PAS				007			193	23	
CGS	1960	06	29	17	07	00.0	53.000N	168.500W			6.30QUE				009			197	38	
CGS	1960	07	03	20	20	46.0	50.500N	177.000W			6.88PAS				007	F		198	07	
CGS	1960	07	04	04	28	33.0	52.000N	131.500W			6.63PAS				022			194	21	
CGS	1960	07	04	13	10	05.0	52.000N	131.000W			6.00PAS				022			194	21	
CGS	1960	09	01	15	37	14.4	51.200N	179.000E	020		6.13PAS				006	F		195	19	
CGS	1960	09	01	15	37	14.4	56.300N	153.700W	024		6.13PAS				013			196	63	
CGS	1960	10	01	16	10	55.6	51.600N	172.400W	046		6.50PAS				007			198	12	
CGS	1960	10	14	21	19	11.4	51.900N	172.100W	050		6.50PAS				007			198	12	
CGS	1960	11	13	09	20	32.3	51.400N	168.800W	032		7.00PAS				009			197	18	
CGS	1960	12	01	20	43	45.5	49.000N	129.300W	015		6.00BRK				025			157	99	
CGS	1961	01	05	14	06	25.9	51.800N	176.300W	037		6.75PAS				007	F		198	16	
CGS	1961	01	20	17	09	15.7	56.600N	152.300W	046		6.38PAS				013			196	62	
CGS	1961	01	31	00	48	36.5	56.000N	153.900W	026		6.25PAS				013			196	63	
CGS	1961	02	27	13	06	35.3	52.700N	168.600W	056		6.10QUE				009			197	28	
CGS	1961	03	28	12	29	12.7	51.700N	176.200W	060		6.25PAS				007	F		198	16	
CGS	1961	05	17	19	29	19.3	52.200N	173.900E	021		6.00PAS				005	F		199	23	
CGS	1961	08	08	12	13	23.1	51.200N	170.700W	033N		6.13PAS				009			193	10	
CGS	1961	09	04	09	49	13.5	51.600N	178.200W	040		6.25BRK				007			198	18	
CGS	1961	09	05	11	34	37.3	60.000N	150.600W	043		6.13PAS				014	D		232	00	
CGS	1961	12	30	00	39	27.1	52.300N	177.600E	056		6.75PAS				006			199	27	
CGS	1962	05	10	00	03	40.2	52.000N	150.100W	072		6.00BRK				001	F		232	20	
CGS	1962	05	10	05	12	15.3	52.400N	170.900W	043		6.00BRK				009			023	198	20
CGS	1962	06	14	07	51	53.3	54.400N	169.100E	030		6.13PAS				004			0E9	200	49
CGS	1962	06	14	07	55	51.8	54.300N	169.200E	060		6.00PAS				004			021	200	49
CGS	1962	07	16	12	54	40.6	52.300N	153.100W	039		6.00PAL				001	D		232	23	
CGS	1962	08	18	16	43	54.3	62.300N	152.500W	032		6.13PAS				001	F		050	232	22
CGS	1962	08	13	17	46	14.9	62.300N	152.500W	032		6.38PAS				001	F		038	232	22
USE	1962	08	31	17	02	44.4	51.300N	179.700W	032		6.75PAS				007	F		198	19	
CGS	1962	09	01	03	46	05.0	51.300N	179.700W	025		6.50PAS				007	F		037	198	19
CGS	1962	09	01	07	51	08.2	51.300N	179.900W	042		6.50PAS				007			037	194	19
CGS	1962	12	21	04	42	44.3	52.400N	168.500W	033		6.50PAS				009			037	197	28
CGS	1962	12	22	15	20	31.0	52.500N	168.800W	047		6.25PAS				009			029	197	28
CGS	1962	12	26	22	25	15.5	53.900N	168.700E	033		6.50PAS				004			048	200	38
CGS	1963	01	28	13	00	48.1	54.700N	161.700W	014		6.50PAS				012			121	197	41
CGS	1963	03	24	21	35	23.2	51.300N	178.100W	047		6.00PAS				007			088	198	18
CGS	1963	04	02	16	10	55.3	53.100N	171.700W	140		6.38PAS				009			105	198	31
CGS	1963	04	29	21	44	17.2	51.300N	178.700E	056		6.00PAS				006			110	199	18

5.90MB

Table 4 (Continued)

SOURCE	YEAR	MO	DA	HR	MN	SEC	LAT	LONG	DEPTH (KM)	-----MAGNITUDES----- BODY SURF. OTHER LOCAL	INT MAP	INT MAX	INT PHENOM DTSVNO	RN	CE	Q/S	MAR	DG	DIST (KM)
CGS	1963	05	02	23	13	09.4	63.100N	149.900W	079	6.10MB				001		019	231	39	
CGS	1963	05	12	20	08	40.8	57.300N	154.000W	060	6.10MB				013	F	126	196	74	
CGS	1963	06	24	04	26	37.9	59.500N	151.700W	052	5.70MB			VII	014	D	014	196	91	
CGS	1964	02	06	13	07	25.2	55.700N	155.800W	033	5.60MB			V	017	D	066	196	55	
CGS	1964	03	28	03	36	14.0S	61.040N	147.730W	033G	8.3MS 8.50PAS	USE		X	002	C	181	231	17	
CGS	1964	03	28	04	54	07.9	59.800N	149.400W	025	6.10MB				014		025	195	99	
CGS	1964	03	28	05	43	57.4	58.300N	151.300W	025	6.10MB				013		031	196	81	
CGS	1964	03	28	07	10	21.4	58.800N	149.500W	020	6.10MB				015	F	053	195	89	
CGS	1964	03	23	03	33	47.0	58.100N	151.100W	020	5.60MB				013	F	050	196	81	
CGS	1964	03	28	09	01	00.5	56.500N	152.000W	025	6.00MB				013	F	060	196	62	
CGS	1964	03	28	09	52	55.7	59.700N	146.600W	030	5.50MB				015	F	056	195	96	
CGS	1964	03	28	10	35	38.9	57.200N	152.400W	025	6.00MB				013	F	035	196	72	
CGS	1964	03	28	12	20	49.4	56.500N	154.000W	025	6.10MB				013	F	061	196	64	
CGS	1964	03	28	14	47	37.1	60.400N	146.500W	010	5.70MB				002	F	028	231	07	
CGS	1964	03	28	14	49	13.7	60.400N	147.100W	010	5.80MB				014	F	081	195	98	
CGS	1964	03	28	20	29	08.5	59.800N	148.700W	040	5.80MB				002	F	080	195	95	
CGS	1964	03	30	02	18	06.3	56.600N	152.900W	025	5.90MB				013	F	075	196	62	
CGS	1964	03	30	07	09	34.0	59.900N	145.700W	015	5.60MB				015	F	080	195	95	
CGS	1964	04	03	22	33	42.2	61.600N	147.600W	040	5.70MB			V	002	D	080	231	17	
CGS	1964	04	04	17	40	08.0	56.300N	154.400W	025	5.70MB				013	F	078	196	64	
CGS	1964	04	04	17	59	43.3	56.400N	154.500W	025	5.50MB				013	F	048	196	64	
CGS	1964	04	05	01	22	13.3	56.200N	153.500W	022	5.40MB				013	F	065	196	63	
CGS	1964	04	12	01	24	31.2	56.600N	152.200W	025	5.60MB				013	F	095	196	62	
CGS	1964	04	16	19	20	37.4	56.400N	152.900W	030	5.50MB				013	F	087	196	62	
CGS	1964	04	20	11	56	41.6	61.400N	147.300W	030	5.70MB				002	F	067	231	17	
CGS	1964	04	21	05	01	35.7	61.500N	147.400W	040	5.40MB				002	F	066	231	17	
CGS	1964	08	02	08	36	16.9	56.200N	149.900W	031	5.40MB			VI	015	F	037	195	69	
CGS	1964	12	13	00	33	24.7	64.900N	155.700W	015	5.40MB			VI	015	F	046	233	45	
CGS	1965	02	04	05	01	21.8	51.300N	178.600E	040	6.00MB				006	D	071	199	18	
CGS	1965	02	04	06	04	57.7	51.700N	174.900E	035	6.10MB				005		028	199	14	
CGS	1965	02	04	08	40	40.9	51.300N	179.500E	040	6.40MB				006		054	199	19	
CGS	1965	02	04	12	06	04.3	52.600N	172.100E	025	5.80MB				005		056	199	22	
CGS	1965	02	04	14	18	27.3	53.000N	171.000E	030	5.70MB				005		055	199	31	
CGS	1965	02	04	15	51	25.5	53.100N	170.800E	040	5.70MB				005		052	199	30	
CGS	1965	02	05	06	33	49.5	51.500N	175.100E	025	5.70MB				006		047	199	15	
CGS	1965	02	05	09	32	09.3	52.300N	174.300E	041	5.90MB				005		065	199	24	
CGS	1965	02	06	01	40	33.2	53.200N	161.900W	033	6.40MB				005		077	197	31	
CGS	1965	02	06	08	46	51.2	51.900N	174.000E	030	6.00MB				005		036	195	14	
CGS	1965	02	06	14	11	10.1	51.700N	174.200E	038	6.00MB			IV	017	F	033	199	14	
CGS	1965	02	06	16	50	29.6	53.300N	161.800W	033	6.10MB				005		039	199	19	
CGS	1965	02	07	02	17	09.2	51.400N	173.400E	040	6.00MB				005		050	199	13	
CGS	1965	02	07	09	25	51.1	51.400N	179.100E	030	5.30MB				006		039	199	19	
CGS	1965	02	12	00	55	06.2	52.200N	172.800E	025	5.50MB				005		040	195	22	
CGS	1965	02	15	01	25	08.3	51.400N	179.400E	042	5.80MB				006		022	199	19	
CGS	1965	02	17	10	18	51.3	51.800N	176.600E	044	5.60MB				006		021	199	16	
CGS	1965	02	18	23	13	36.3	51.400N	179.100E	028	5.40MB				006	F	029	199	19	
CGS	1965	03	17	14	27	12.4	52.800N	171.900E	023	6.00MB				005	F	023	199	21	
CGS	1965	03	30	02	27	07.2	50.600N	177.900E	051	7.30MB			T	006	F	026	199	07	
CGS	1965	04	13	30	37.8	51.900N	175.200E	040	5.70MB					006		057	199	15	
CGS	1965	05	23	23	46	12.0	52.200N	175.000E	022	6.10MB				006		025	199	25	
CGS	1965	06	23	11	09	15.7	56.500N	152.800W	033	5.70MB				013		112	196	62	

Table 4 (Continued)

SOURCE	YEAR	MO	DA	HR	MIN	SEC	LAT	LONG	DEPTH (KM)	-----MAGNITUDES----- BODY SURF. OTHER LOCAL	INT MAP	INT MAX	PHENOM DISVNO	RN	CE	Q/S	MAR	DG	DIST (KM)
CGS	1965	07	02	20	58	40.3	53.100N	167.600W	060	6.70MB	6.90PAS	VI	T	009	D	156	197	37	
CGS	1965	07	29	08	29	21.2	50.900N	171.400W	022	6.30MB	6.75PAS			016	F	133	199	01	
CGS	1965	09	04	14	32	46.7	53.200N	152.700W	010	6.20MB	6.88PAS			013	F	137	196	82	
CGS	1965	09	13	20	46	36.5	59.400N	145.200W	005	5.30MB	6.00PAL			015	F	089	195	95	
CGS	1965	10	01	08	52	04.4	50.100N	178.200E	023	6.30MB	6.50PAS			006	F	148	199	08	
CGS	1965	12	22	19	41	23.1	58.400N	153.100W	051	6.50MB	6.80PAS	V		013	D	142	196	83	
CGS	1966	01	22	14	27	07.9	56.000N	153.700W	023	5.90MB	6.00PAS			013	D	123	196	63	
CGS	1966	04	16	01	27	13.5	56.900N	153.600W	023	5.70MB	6.25PAS	IV		010	F	144	196	63	
CGS	1966	05	19	07	06	24.4	54.100N	164.100W	009	5.10MB	6.00PAS			006	F	141	195	16	
CGS	1966	06	02	03	27	50.0	51.100N	176.000E	016	5.90MB	6.00PAS			006	F	170	195	19	
CGS	1966	07	04	13	33	37.1	51.900N	179.800E	015	6.00MB	6.88PAS			006	F	189	198	01	
CGS	1966	07	04	13	33	37.1	51.900N	179.800E	015	6.00MB	6.88PAS			006	F	189	198	01	
CGS	1967	01	18	08	18	22.0	52.534N	168.202W	033N	5.80MB	6.00PAS			009	F	208	197	29	
CGS	1967	01	28	13	52	58.2	52.375N	169.515W	0430	5.90MB	6.38PAS			009	F	120	197	29	
CGS	1967	01	28	16	31	22.6	52.272N	169.303W	045G	5.30MB	6.10UPP			009	F	152	197	29	
CGS	1967	01	28	17	42	01.9	52.401N	169.386W	0500	5.60MB	6.00PAS			006	F	229	199	16	
CGS	1967	05	27	17	22	58.5	51.866N	176.124E	0320	5.70MB	6.00PAS	IV		017	F	109	196	48	
USE	1967	07	01	23	10	07.2P	54.400N	158.000W	033	6.20MB	6.13PAS			015	F	058	196	80	
USE	1968	04	23	20	29	14.5	58.700N	150.000W	023	6.30MB	6.0MS	VIII		676	D	105	232	50	
CGS	1968	08	22	14	00	06.3	53.013N	171.047E	033	5.40MB	6.5MS			005	061	199	31		
USE	1968	10	29	22	16	15.6	65.400N	150.100W	007	6.00MB	6.80PAS			015	063	196	80		
CGS	1968	11	15	00	07	09.7	58.326N	150.367W	026	5.10MB	6.38PAS			006	068	199	15		
CGS	1968	12	14	09	59	02.3	51.479N	175.745E	033N	5.20MB	6.25PAS			006	062	199	15		
CGS	1968	12	15	02	14	17.5	51.645N	175.796E	033N	5.70MB	6.38PAS			006	041	199	15		
CGS	1968	12	15	02	28	32.4	51.723N	175.779E	033N	5.40MB	6.1MS	VI		002	F	101	232	02	
USE	1968	12	17	12	02	15.0P	60.200N	152.800W	086	5.90MB	6.50PAS			004	004	134	200	46	
CGS	1969	01	20	14	20	11.5	54.362N	166.029E	023	6.10MB	6.80BRK	V		007	D	139	198	19	
USE	1969	05	14	19	32	54.2	51.300N	179.900W	021	6.10MB	5.25BRK			007	F	106	198	19	
USE	1969	06	22	10	45	24.5	51.500N	179.900W	056	6.10MB	6.20PAS			007	F	137	198	19	
CGS	1969	09	12	08	57	07.3	51.219N	179.154W	048	6.00MB	6.00PAS	I		006	F	159	199	19	
CGS	1969	10	02	22	06	00.0A	51.417N	179.182E	001	6.50MB	6.00PAS			007	F	155	198	19	
CGS	1969	10	21	20	53	47.5	51.306N	179.235W	049	5.90MB	6.30PAS	IV		007	F	091	198	19	
USE	1969	10	31	11	33	04.8	51.300N	179.000W	049	6.00MB	6.30PAS	IV		013	F	113	196	63	
USE	1969	11	24	22	51	50.1	56.200N	153.600W	033N	5.50MB	5.70BRK			002	F	078	232	02	
USE	1970	01	15	08	05	39.5	60.300N	152.700W	0910	5.60MB	6.00PAS	III		007	F	092	198	09	
USE	1970	02	27	07	07	53.1	50.100N	179.600W	020	6.00MB	5.90PAS	III		007	F	110	198	25	
USE	1970	02	28	10	52	31.2	52.700N	175.100W	162	6.00MB	6.10PAS	III		013	F	075	196	73	
USE	1970	03	11	22	38	34.0	57.500N	153.900W	029	6.00MB	6.50PAS	V		005	F	150	199	13	
USE	1970	03	19	23	33	29.1	51.300N	173.800E	0160	5.80MB	6.50PAS	III		015	F	072	195	92	
USE	1970	04	11	04	05	41.1	59.700N	142.700W	007	5.20MB	6.20PAS	IV		015	F	120	195	92	
USE	1970	04	16	05	33	17.5	59.800N	142.600W	007	5.50MB	6.80PAS			015	F	110	195	92	
USE	1970	04	19	01	15	46.8	59.600N	142.800W	020G	5.80MB	5.50BRK			005	F	122	199	21	
CGS	1970	04	26	14	20	30.5	52.972N	171.455E	041	5.80MB	5.7MS			022		081	194	11	
CGS	1970	06	24	13	09	08.3	51.753N	131.024W	012	5.60MB	7.0MS	IV		002	F	082	231	05	
CGS	1970	08	14	17	02	06.3	60.700N	145.384W	016	5.60MB	5.9MS	II		007	F	136	198	15	
USE	1970	12	01	21	09	37.2M	51.400N	175.300W	036	5.60MB	6.00PAS	IV		007	F	175	198	17	
NOS	1971	01	25	16	08	15.1	51.445N	177.693W	038	5.90MB	6.3MS			007	F	119	198	12	
NOS	1971	02	01	05	19	23.4	51.670N	172.947W	040	5.50MB	5.8MS	V		007	D	132	198	16	
NOS	1971	02	07	02	29	28.2	51.356N	176.718W	050	6.00MB	6.50PAS			025	F	124	193	09	
NOS	1971	03	13	23	51	35.5	50.603N	129.947W	033N	5.70MB	6.1MS	IV		007	F	204	198	17	
NOS	1971	05	02	06	08	27.3	51.433N	177.213W	043	6.00MB	7.1MS	IV	T						

Table 4 (Continued)

SOURCE	YEAR	MO	DA	HR	MN	SEC	LAT	LONG	DEPTH (KM)	BODY	MAGNITUDES SURF. OTHER	LOCAL	INT MAP	INT MAX	PHENOM DTSVNO	RN	CE	Q/S	MAR	DG	DIST (KM)
NOS	1971	06	11	13	58	37.7	51.487N	176.084E	032	5.90MB	6.5MS	6.10PAS		IV			006	F	118	199	16
ERL	1971	07	25	15	41	21.3	52.151N	173.095E	028	5.80MB	6.3MS	6.00PAS		I		005	F	129	199	23	
ERL	1971	11	06	22	00	00.1A	51.472N	179.107E	002	6.80MB	5.7MS	7.40PAS		IV		006	F	315	199	19	
ERL	1971	11	22	00	46	11.1	52.269N	174.317E	043	5.60MB	5.5MS	6.00PAS		IV	E	005	F	156	199	24	
ERL	1971	12	05	05	50	05.8	49.625N	129.450W	005	5.60MB	6.0MS					025	F	056	157	99	
ERL	1972	03	20	23	31	48.8	51.290N	179.220W	046	6.00MB	5.4MS	5.20BRK		IV		007	F	198	198	19	
ERL	1972	03	24	03	38	27.1	56.142N	157.180W	0690	6.00MB				IV		012	F	175	196	67	
ERL	1972	07	23	19	13	09.0	50.149N	129.273W	033N	5.90MB	6.4MS					025	F	104	193	09	
ERL	1972	07	30	21	45	14.1	56.820N	135.685W	025G	6.50MB	7.6MS	7.50PRU			TS	019	D	103	194	65	
ERL	1972	08	03	04	40	54.9	51.199N	178.119W	049	5.80MB	6.2MS	6.10PAS		VI		007	D	080	198	18	
ERL	1972	08	04	11	38	08.3	56.205N	135.342W	020	5.60MB	5.8MS	6.00PAS		V		019	F	075	194	65	
ERL	1973	05	29	06	14	22.3	54.011N	163.760W	0300	6.00MB	5.5MS	5.30BRK		V		010	F	095	197	43	
ERL	1973	07	01	13	33	34.6	57.840N	137.330W	033N	6.10MB	6.7MS	6.70PAS		V		020	D	116	194	77	
ERL	1973	07	03	16	59	35.1	57.380N	138.021W	033N	6.00MB	6.0MS	6.40PAS		V		020	F	124	194	78	
GS	1973	11	06	09	36	05.0	51.619N	175.404W	034	5.80MB	6.4MS	6.20PAS		IV		007	F	172	198	15	
GS	1973	11	06	18	26	35.1	51.579N	175.247W	041	5.90MB	6.3MS	6.20PAS		IV		007	F	183	198	15	
GS	1973	12	29	08	20	16.2	54.640N	168.735E	033N	5.50MB	6.0MS					004	F	132	200	48	
GS	1974	02	06	04	04	07.2	53.759N	164.672W	002	5.90MB	6.5MS	6.30PAS		V		010	F	118	197	34	
GS	1974	04	06	03	56	01.8	55.120N	160.443W	0400	6.00MB	5.3MS			V		012	F	190	197	50	
GS	1974	08	01	05	07	59.0	56.516N	152.315W	010	5.20MB	6.1MS					013		64	196	62	
GS	1974	08	01	05	55	38.2	56.670N	152.105W	033N	5.70MB	6.3MS					013		94	196	62	
GS	1974	08	01	07	59	56.3	56.632N	152.265W	033N	5.20MB	6.0MS					013		59	196	62	

NOTE. Magnitude values are generally accurate to within 0.3 unit. Geographic positions prior to 1961 are generally accurate to no better than $\frac{1}{4}$ or $\frac{1}{2}$ degree.

Table 5. Earthquakes that produced tsunamis and seiches in Alaska
(Area covered: 48°-75° N, 165 E-125° W)

SOURCE	YEAR	MO	DA	HR	MN	SEC	LAT	LONG	DEPTH (KM)	-----MAGNITUDES----- BODY SURF. OTHER LOCAL	INT MAP	INT MAX	PHENOM DTSVNO	FN	CE	O/S	MAR	CG	DIST (KM)
EQH	1788	07	22	00	00	00.00	55.000N	161.000W					T	012	C		197	51	
* HIG	1792																		
+ HIG	1827																		
O HIG	1845																		
+ HIG	1856																		
HIG	1868																		
* HIG	1874																		
EQH	1878	08	29	00	00	00.00	54.000N	167.000W					T	009	D		197	47	
+ HIG	1893	10	06											00			001		
EQH	1899	09	04	00	22	00.00	60.000N	142.000W	025A	8.30PAS		XI	UT	002	D		231	02	
EQH	1899	09	10	21	40	00.00	60.000N	140.000W		8.60PAS		XI	UTS	019	D		231	00	
EQH	1901	12	30	00	00	00.00	60.500N	151.000W					T V	014	F		232	01	
O HIG	1905	07	04																
EQH	1908	02	14	11	25	00.00	61.000N	146.250W				V	TQ	002	D		231	16	
G-R	1911	09	22	05	01	24.00	60.500N	149.000W	060	6.90PAS		VIII	QS	014	D		231	09	
EQH	1925	02	23	23	55	00.00	62.000N	146.000W				VII	T	001	D		231	26	
** G-R	1929	03	07	01	34	39.00	51.000N	170.000W	050	8.60CFR		VII	T	009	F		198	10	
** G-R	1929	05	26	22	39	54.00	51.000N	131.000W		7.00PAS		VII	T	022	D		194	11	
* HIG	1936	10	27																
G-R	1938	11	10	20	18	43.00	55.500N	158.000W	025A	8.70CFR		VI	T	012	F		196	58	
G-R	1944	12	07	04	35	42.00	33.750N	136.000E	025A	8.30PAS		VI	T	233	C		131	36	
G-R	1946	04	01	12	28	54.00	52.750N	163.500W	050	7.40PAS		VI	T	017	C		197	23	
G-R	1949	08	22	04	01	11.00	53.750N	133.250W	025A	8.10PAS		V	Q	014	F		194	33	
G-R	1949	09	27	15	30	45.00	59.750N	149.000W	050	7.00PAS		IX	T	224	C		195	99	
G-R	1952	03	04	01	22	43.00	42.500N	143.000E	025A	8.60PAS				219	D		166	23	
G-R	1952	11	04	16	58	26.00	52.750N	159.500E	025A	8.40PAS				229	C		201	29	
ISS	1953	11	25	17	48	54.00	33.900N	141.500E	033	8.25PAS				218			130	31	
BCI	1956	03	30	06	11	01.00	54.500N	159.000E						201	49		201	49	
USE	1957	03	09	14	22	27.50	51.300N	175.800W				VIII	T V	007	D		198	15	
USE	1958	07	10	06	15	51.00	58.600N	137.100W				XI	T	019	C		194	87	
ISS	1958	11	06	22	58	08.00	44.380N	148.580E	032	7.90PAS				221	D		166	48	
ISS	1958	11	12	20	23	29.00	44.150N	148.820E		7.30PAS				221	F		166	48	
CGS	1959	05	04	07	15	42.00	52.500N	159.500E	060	8.00PAS		III	T	219	C		201	29	
CGS	1960	05	22	19	11	17.00	39.500S	074.500W		8.50PAS				134	C		415	94	
CGS	1962	12	21	08	42	48.30	52.400N	168.500W	033	6.50PAS			Q	009		037	197	28	
CGS	1963	10	13	05	17	57.10	44.800N	149.500E	060					221		075	166	49	
CGS	1964	03	28	03	36	14.00	61.040N	147.730W	033G	8.3MS	USE	X	UTS	002	C	181	231	17	
CGS	1965	02	04	05	01	21.30	51.300N	178.600E	040	6.00MB		VI	T	006	D	071	199	18	
CGS	1965	03	30	02	27	07.20	50.600N	177.900E	051	7.75PAS				006	F	026	199	07	
CGS	1965	07	02	20	58	40.30	53.100N	167.600W	060	6.70MB		VI	T	009	E	156	197	37	
CGS	1966	10	17	21	41	54.70	10.700S	078.800W	024	6.30MB				115		164	343	08	
CGS	1968	04	01	00	42	04.20	32.500N	132.200E	033					236		133	131	22	
CGS	1968	05	16	00	48	55.40	40.840N	143.222E	007	7.9MS				229	C	115	166	03	
CGS	1968	05	16	10	36	29.90	41.285N	142.974E	033N	4.40MB				224	F	007	166	12	
CGS	1968	08	01	20	19	21.90	16.522N	122.201E	037	5.90MB				249	C	114	060	62	
CGS	1969	08	11	21	27	39.40	43.545N	147.353E	028	7.10MB		VII	T	221	D	022	166	37	

See footnotes at end of table.

Table 5 (Continued)

SOURCE	YEAR	MO	DA	HR	MIN	SEC	LAT	LCNG	DEPTH (KM)	----- BODY	MAGNITUDES SURF. OTHER	----- LOCAL	INT MAP	INT MAX	PHENOM CTS/VNO	RN	CE	Q/S	MAR	CG	DIST (KM)
CGS	1969	11	22	23	09	37.2	57.760N	163.541E	033N	6.30MB	7.3MS	7.10PAS			T	218		231	200	73	
NOS	1971	05	02	05	08	27.3	51.433N	177.213W	043	6.00MB	7.1MS	6.80PAS		IV	T	007	F	204	198	17	
ERL	1971	07	14	06	11	29.1	05.474S	153.885E	047		7.9MS	7.80BRK			T	150	C	115	320	53	
ERL	1971	07	26	01	23	21.3	04.940S	153.173E	048	6.30MB	7.9MS			VI	T	190	D	121	320	43	
ERL	1971	12	15	08	29	55.3	55.996N	163.295E	033N	6.10MB	7.8MS	7.30PAS			T	219		200	200	53	
ERL	1972	07	30	21	45	14.1	56.820N	135.685W	025G	6.50ME	7.6MS	7.50FRU			TS	019	D	103	194	65	
ERL	1973	02	28	06	37	49.5	50.486N	156.584E	027D	5.30MB	7.2MS	7.10PAS		II	T	221	F	178	201	06	
ERL	1973	06	17	03	55	02.9	43.233N	145.785E	048D	6.50MB	7.7MS	7.70PAS		VIII	T	224	C	201	166	35	

**Tsunami generated, but not in Alaska.

*Tsunami caused by landslide, perhaps not earthquake-related.

oTsunami caused by icefall, perhaps not earthquake-related.

+Tsunami caused by volcano eruption, perhaps not earthquake-related.

NOTE: Magnitude values are generally accurate to within 0.3 unit. Geographic positions prior to 1961 are generally accurate to no better than $\frac{1}{4}$ or $\frac{1}{2}$ degree.

Table 6. Maximum tsunami wave heights recorded in Alaska

Source: *Catalog of Tsunamis in Alaska* (Cox and Pararas-Carayannis, 1976)

Place of observation	Geographic coordinates		Maximum wave height	Date (local) of tsunami ¹ (month-day-year)			
	N lat	W long					
	°	'	°	'			
Adak I.			m				
Sweeper Cove	51 52	176 38	4.0	12-07-44(0) 03-09-57(I) <u>12-20-62(I,?)</u> 11-23-69(0) <u>03-27-64(I)</u>	03-04-52(0) 11-07-58(0) 10-17-66(0) 05-01-71(I) 11-04-52(0) 11-13-58(0) 03-27-64(I) 07-26-71(0)	03-30-56(0) 05-22-60(0) 05-16-68(0) 12-15-71(0)	
Afognak I.	58 15	152 30	-	<u>03-27-64(I)</u>			
Attu I.							
Massacre Bay	52 50	173 14E	3.2	12-07-44(0) 03-30-56(0) 05-04-59(0) 03-29-65(I) 05-16-68(0) 07-14-71(0) 06-17-73(0)	03-04-52(0) 03-09-57(I) 05-22-60(0) 10-17-66(0) 08-02-68(0) 07-26-71(0)	11-04-52(0) 11-07-58(0) 10-12-63(0) 03-27-64(I) 08-12-69(0) 12-15-71(0)	11-26-53(0) 11-13-58(0) 02-03-65(I) <u>04-01-68(0)</u> 11-23-69(0) 02-28-73(0)
Cape Yakataga	60 04	142 26	3.7	<u>03-27-64(I)</u>			
Cook Inlet	59 22	153 25	-	<u>12-30-01(I,V,?)</u>			
Controller Bay							
Bering River	60 11	144 15	1	<u>09-10-1899(I,L)</u>			
Cordova	60 33	145 45	4.2	<u>03-27-64(I)</u>			
Golden	60 58	147 59	-	<u>09-21-11(I,?)</u>			
Juneau	58 18	134 25	1.1	11-04-52(0)	<u>03-27-64(I)</u>	07-30-72(I)	

¹See definitions of letters in parentheses at end of table.

Table 6 (Continued)

Place of observation	Geographic coordinates		Maximum wave height	Date (local) of tsunami ¹ (month-day-year)	
	N	W			
	lat	long	m		
Kenai Peninsula					
Seldovia	59 26	151 43	1.2	03-27-64(I)	
Port Graham	59 26	151 50	7.5-9	10-06-1883(I,V)	
Ketchikan	55 21	131 39	0.6	08-21-49(I)	03-27-64(I)
Kodiak I.					
Kaguyak	56 52	153 46	9±	03-27-64(I)	
Kodiak	57 47	152 47	6.1	08-13-1868(0)	03-27-64(I)
Old Harbor	57 12	153 18	9.2	03-27-64(I)	
Three Saints Bay	57 06	153 28	-	07-22-1788(I)	1827 (?S)
Womens Bay	57 43	152 31	6.1	11-04-52(0)	03-27-64(I)
Lituya Bay	58 37	137 40	525	09-10-1899(I, L)	10-27-36(I,L) 07-09-58(I,L)
Lynn Canal	58 10	134 58	0.3	09-03-1899(I,?S)	
Passage Canal					
Whittier	60 47	148 41	9.2	03-27-64(I)	
Prince William Sound					
Chenega	60 17	148 05	16.2	03-27-64(I)	
Resurrection Bay					
Seward	60 07	149 27	7.0	11-10-38(I)	09-27-49(I,?) 11-04-52(0) 03-27-64(I)
Sanak Is.	54 25	162 40	-	07-22-1788(I)	
Shemya I.	52 43	174 07E	10	02-03-65(I)	11-23-69(0) 12-15-71(0) 02-28-73(0)
Shumagin Is.					
Chernabura I.	54 47	159 33	-	1792(I,V,?)	
Unga I.	55 11	160 30	-	07-22-1788(I)	

¹See definitions of letters in parentheses at end of table.

Table 6 (Continued)

Place of observation	Geographic coordinates		Maximum wave height	Date (local) of tsunami ¹ (month-day-year)	
	N	W			
	lat	long			
	°	'	°	'	m
Sitka	57 03	135 20	2.4	11-10-38(I) 11-04-52(0) <u>03-27-64(I)</u>	04-01-46(I) 03-09-57(I) 05-16-68(0) 08-21-49(I,?) 07-09-58(I) 07-30-72(I) 03-04-52(0) 05-22-60(0)
Snug Harbor	60 06	152 35	0.1	<u>10-17-66(0)</u>	
Unalaska I.	53 53	166 32	0.4	08-29-1878(I)	
Dutch Harbor	53 54	166 31	0.8	11-10-38(I) 03-09-57(I) 12-15-71(0) <u>08-29-1878(I)</u>	11-04-52(0) <u>03-27-64(I)</u> 05-16-68(0)
Makushin	53 46	166 59	-		
Unimak I.	52 24	164 48	30	<u>04-01-46(I)</u>	03-09-57(I)
Scotch Cap	54 20	164 50	-	<u>07-26-1856(I,V)</u>	
Unimak Strait	61 07	146 16	6.1	09-10-1899(I, L)	02-14-08(I, ?S)
Valdez Inlet, Valdez	60 54	147 29	-	<u>09-21-11(I,?)</u>	
Wells Bay	59 40	140 00	35	1845(I,IF)	09-10-1899(I) 07-04-05(I,IF)
Yakutat Bay	59 33	139 44	2.2	04-01-46(I) <u>05-22-60(0)</u>	11-04-52(0) <u>03-27-64(I)</u> 03-09-57(I) 07-09-58(I)

I = Tsunami origin in Alaska

O = Tsunami origin outside Alaska

V = Volcanic generated

IF = Icefall generated

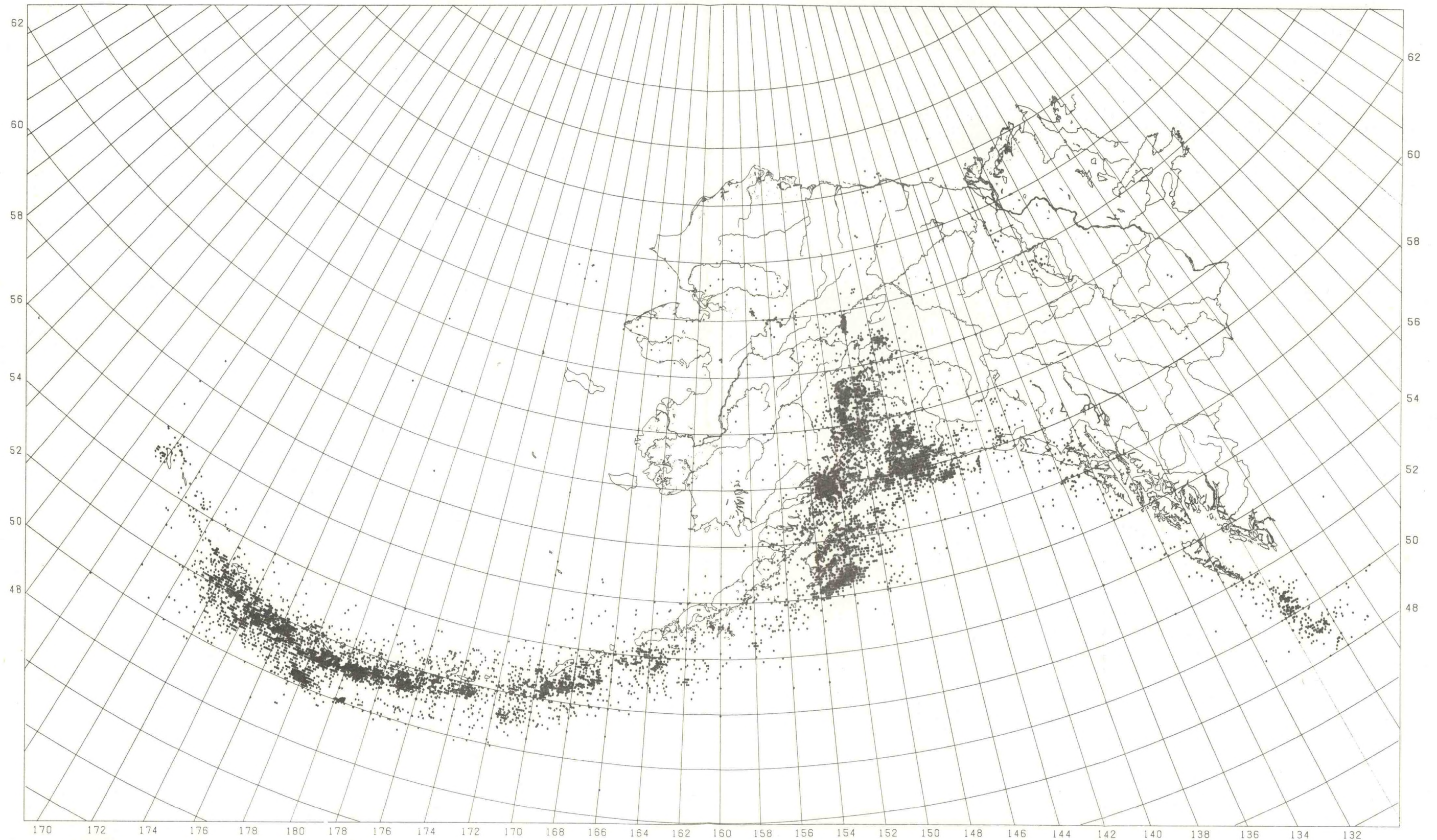
L = Landslide generated

? = Questionable tsunami

?S = Questionable tsunami; probably a seiche

 = Earthquake that generated maximum wave height tabulated

EARTHQUAKES IN AND NEAR ALASKA (THRU 1974)



NOAA/EDS/National Geophysical and Solar-Terrestrial Data Center

Only earthquakes within Lat. 48° – 75° N, Long. 165° E – 125° W are shown on map.

Figure 1. Earthquakes in and near Alaska (thru 1974)

MAJOR EARTHQUAKES IN ALASKA (1899-1974)

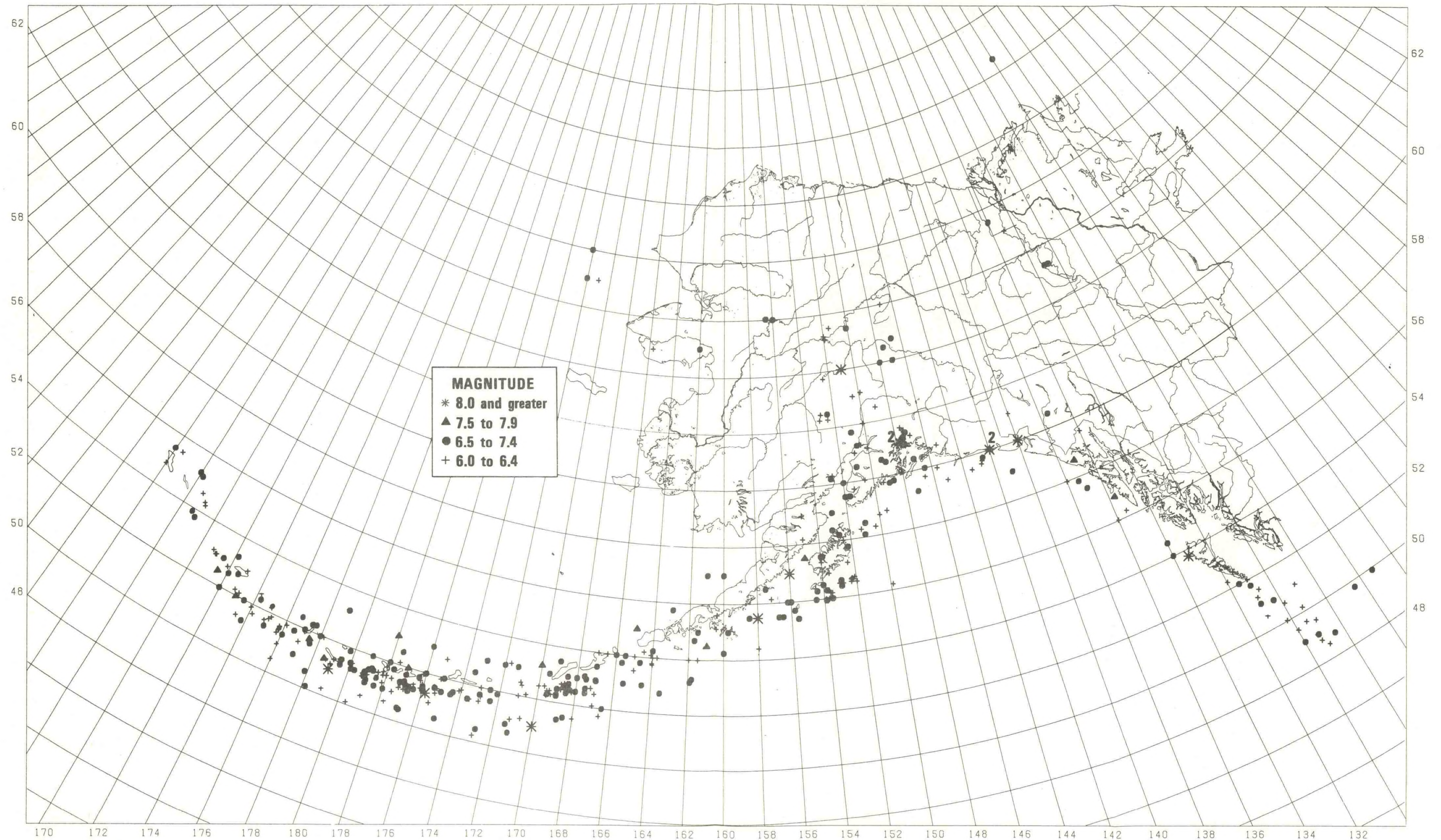
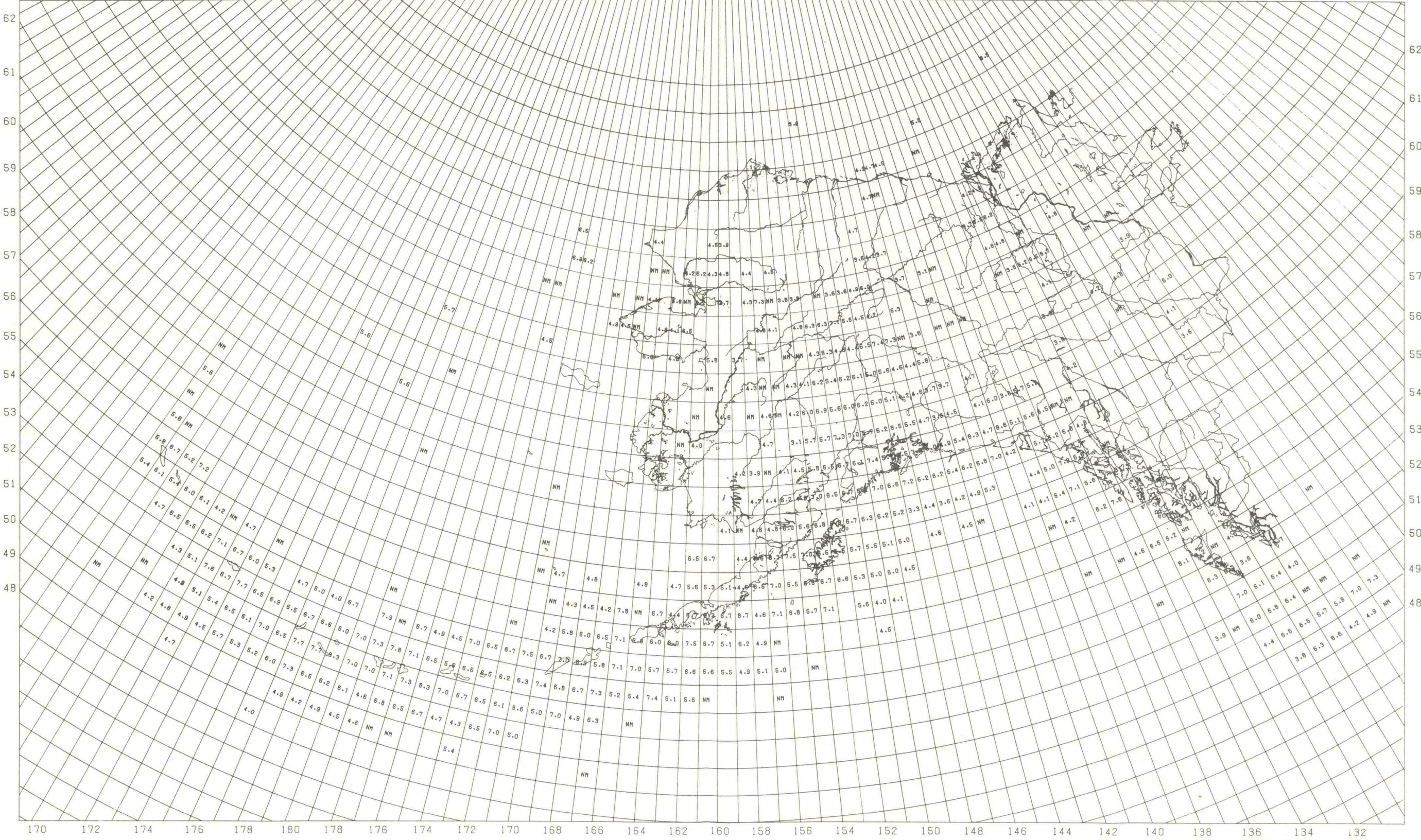


Figure 2. Major earthquakes in Alaska, 1899-1974

MAXIMUM EARTHQUAKE MAGNITUDE PER 1° SQUARE, 1899-1974



Only earthquakes within Lat. 48° - 75° N, Long. 165° E - 125° W are shown on map.

NM=NO MAGNITUDE AVAILABLE

NOAA/EDS/National Geophysical and Solar-Terrestrial Data Center

Figure 3. Maximum earthquake magnitude per 1° square, 1899-1974

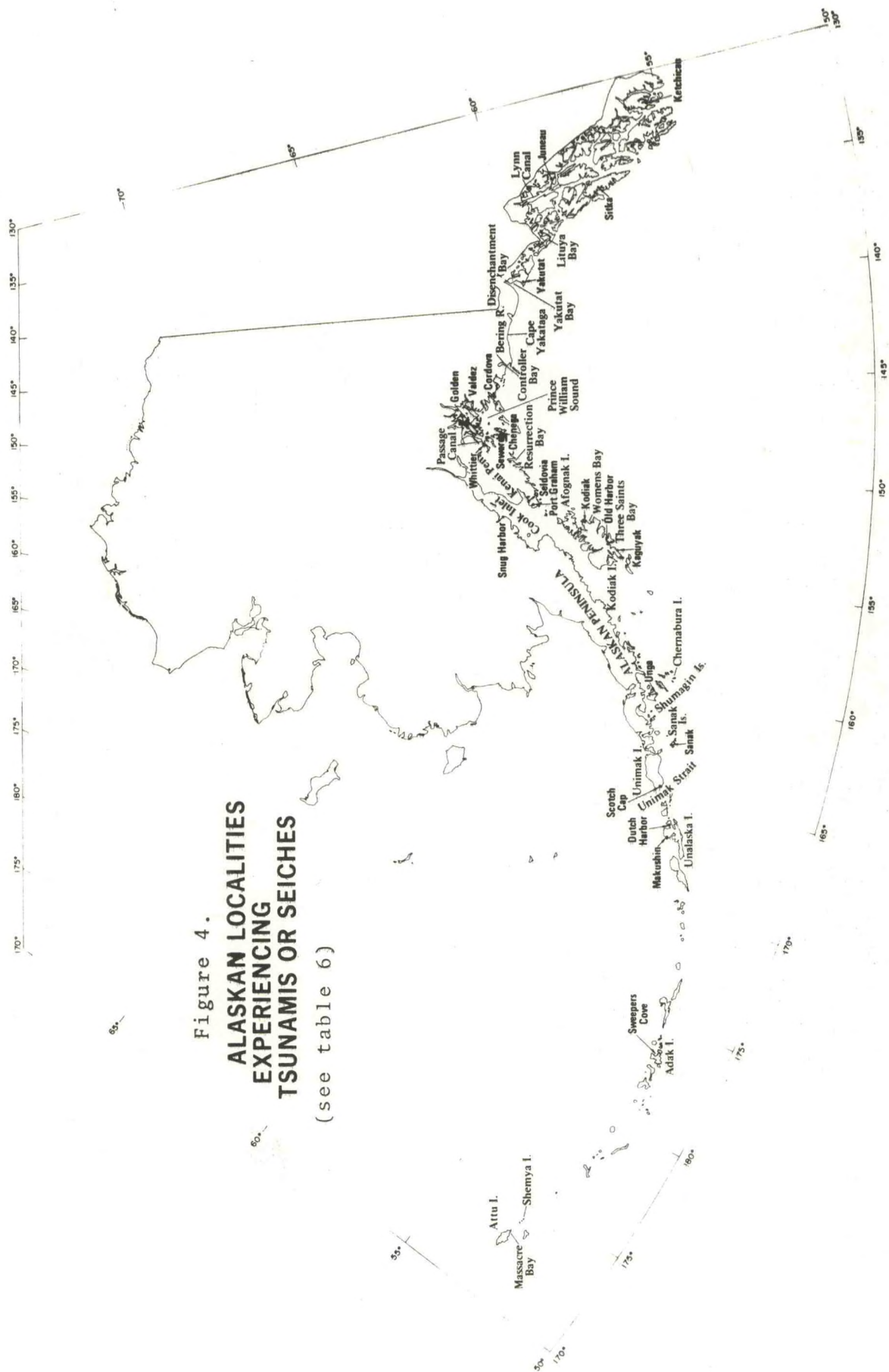


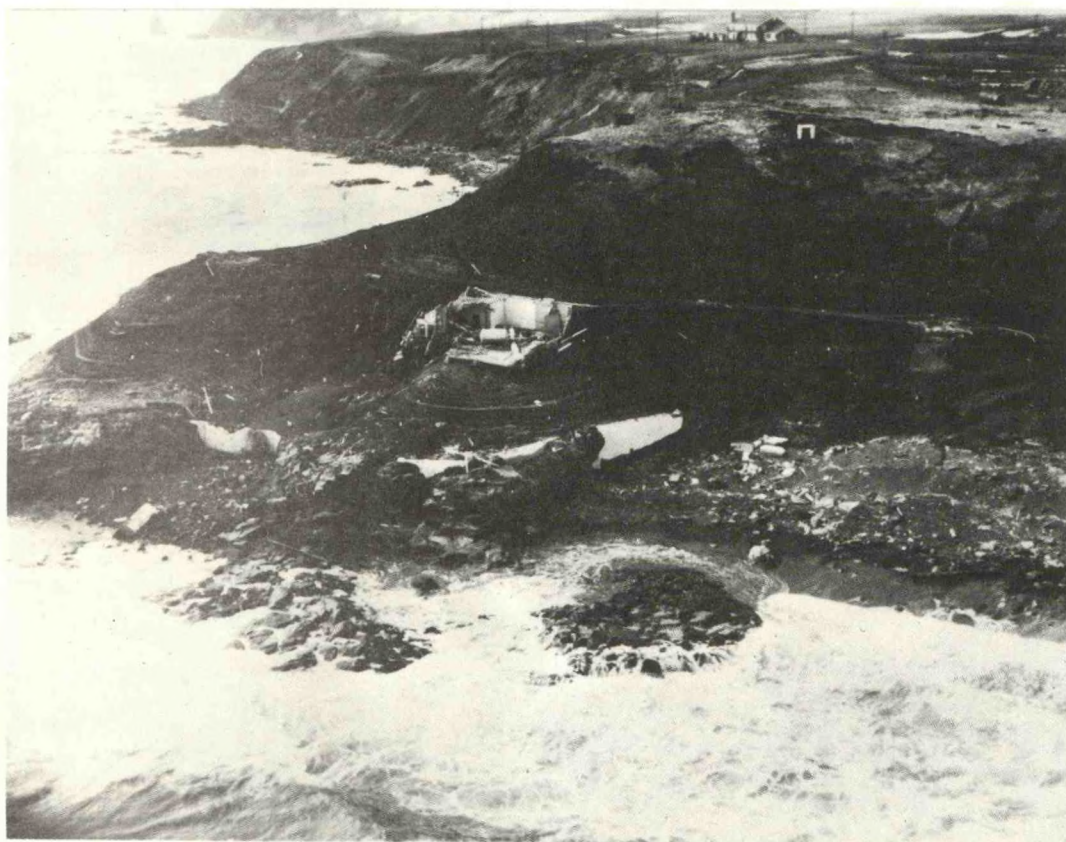
Figure 4.
**ALASKAN LOCALITIES
 EXPERIENCING
 TSUNAMIS OR SEICHES**
 (see table 6)



Figure 5. Seward (Alaska) residence severely damaged by tsunami of March 27, 1964. The tsunami caused heavy damage at many other port towns in southern Alaska.



Figure 6. Scotch Cap Lighthouse (Alaska) before and after (bottom) tsunami of April 1, 1946. The five occupants of the lighthouse were never found. The lighthouse was located high on a cliff just a few miles from the epicenter of the earthquake (off Unimak Island).



APPENDIX 1

MODIFIED MERCALLI INTENSITY SCALE OF 1931 (Abridged)

- I. Not felt except by a very few under especially favorable circumstances.
- II. Felt only by a few persons at rest, especially on upper floors of buildings. Delicately suspended objects may swing.
- III. Felt quite noticeably indoors, especially on upper floors of buildings, but many people do not recognize it as an earthquake. Standing motorcars may rock slightly. Vibration like a passing truck. Duration estimated.
- IV. During the day felt indoors by many, outdoors by few. At night, some awakened. Dishes, windows, doors disturbed; walls make creaking sound. Sensation like heavy truck striking building. Standing motorcars rocked noticeably.
- V. Felt by nearly everyone, many awakened. Some dishes, windows, etc., broken; a few instances of cracked plaster; unstable objects overturned. Disturbances of trees, poles, and other tall objects sometimes noticed. Pendulum clocks may stop.
- VI. Felt by all; many frightened and run outdoors. Some heavy furniture moved; a few instances of fallen plaster or damaged chimneys. Damage slight.
- VII. Everybody runs outdoors. Damage *negligible* in buildings of good design and construction; *slight to moderate* in well-built ordinary structures; *considerable* in poorly built or badly designed structures; some chimneys broken. Noticed by persons driving motorcars.
- VIII. Damage *slight* in specially designed structures; *considerable* in ordinary substantial buildings, with partial collapse; *great* in poorly built structures. Panel walls thrown out of frame structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned. Sand and mud ejected in small amounts. Changes in well water. Persons driving motorcars disturbed.
- IX. Damage *considerable* in specially designed structures; well-designed frame structures thrown out of plumb; *great* in substantial buildings, with partial collapse. Buildings shifted off foundations. Ground cracked conspicuously. Underground pipes broken.
- X. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with their foundations; ground badly cracked. Rails bent. Landslides considerable from river banks and steep slopes. Shifted sand and mud. Water splashed (slopped) over banks.

APPENDIX 1 (Cont.)

XI. Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipelines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly.

XII. Damage *total*. Waves seen on ground surfaces. Lines of sight and level distorted. Objects thrown upward into air.

USA Modified Mercalli, 1931 (MM)	Japanese, 1950 (JMA)	Rossi-Forel, 1873 (RF)	European (Mercalli- Cancani-Sieberg), 1917
I	0	I	I
II	I	I-II	II
III	II	III	III
IV	II-III	IV-V	IV
V	III	V-VI	V
VI	IV	VI-VII	VI
VII	IV-V	VIII-	VII
VIII	V	VIII+ - IX-	VIII
IX	V-VI	IX+	IX
X	VI	X	X
XI	VII		XI
XII			XII

APPENDIX 2
FLINN-ENGDAHL REGIONS

1	CENTRAL ALASKA	75	NICARAGUA
2	SOUTHERN ALASKA	76	OFF COAST OF CENTRAL AMERICA
3	BERING SEA	77	OFF COAST OF COSTA RICA
4	KOMANDORSKY ISLANDS REGION	78	COSTA RICA
5	NEAR ISLANDS, ALEUTIAN ISLANDS	79	NORTH OF PANAMA
6	RAT ISLANDS, ALEUTIAN ISLANDS	80	PANAMA-COSTA RICA BORDER REGION
7	ANDREANOF ISLANDS, ALEUTIAN IS.	81	PANAMA
8	PRIPILOF ISLANDS	82	PANAMA-COLOMBIA BORDER REGION
9	FOX ISLANDS, ALEUTIAN ISLANDS	83	SOUTH OF PANAMA
10	UNIMAK ISLAND REGION	84	YUCUTAN PENINSULA
11	BRISTOL BAY	85	CUBA REGION
12	ALASKA PENINSULA	86	JAMAICA REGION
13	KODIAK ISLAND REGION	87	HAITI REGION
14	KENAI PENINSULA, ALASKA	88	DOMINICAN REPUBLIC REGION
15	GULF OF ALASKA	89	MONA PASSAGE
16	ALEUTIAN ISLANDS REGION	90	PUERTO RICO REGION
17	SOUTH OF ALASKA	91	VIRGIN ISLANDS
18	SOUTHERN YUKON TERRITORY, CANADA	92	LEEWARD ISLANDS
19	SOUTHEASTERN ALASKA	93	BRITISH HONDURAS
20	OFF COAST OF SOUTHEASTERN ALASKA	94	CARIBBEAN SEA
21	WEST OF VANCOUVER ISLAND	95	WINDWARD ISLANDS
22	QUEEN CHARLOTTE ISLANDS REGION	96	NEAR NORTH COAST OF COLOMBIA
23	BRITISH COLUMBIA	97	NEAR COAST OF VENEZUELA
24	ALBERTA PROVINCE, CANADA	98	TRINIDAD
25	VANCOUVER ISLAND REGION	99	NORTHERN COLOMBIA
26	OFF COAST OF WASHINGTON	100	LAKE MARACAIBO
27	NEAR COAST OF WASHINGTON	101	VENEZUELA
28	WASHINGTON-OREGON BORDER REGION	102	NEAR WEST COAST OF COLOMBIA
29	WASHINGTON	103	COLOMBIA
30	OFF COAST OF OREGON	104	OFF COAST OF ECUADOR
31	NEAR COAST OF OREGON	105	NEAR COAST OF ECUADOR
32	OREGON	106	COLOMBIA-ECUADOR BORDER REGION
33	WESTERN IDAHO	107	ECUADOR
34	OFF COAST OF NORTHERN CALIFORNIA	108	OFF COAST OF NORTHERN PERU
35	NEAR COAST OF NORTHERN CALIF.	109	NEAR COAST OF NORTHERN PERU
36	NORTHERN CALIFORNIA	110	PERU-ECUADOR BORDER REGION
37	NEVADA	111	NORTHERN PERU
38	OFF COAST OF CALIFORNIA	112	PERU-BRAZIL BORDER REGION
39	CENTRAL CALIFORNIA	113	WESTERN BRAZIL
40	CALIFORNIA-NEVADA BORDER REGION	114	OFF COAST OF PERU
41	SOUTHERN NEVADA	115	NEAR COAST OF PERU
42	WESTERN ARIZONA	116	PERU
43	SOUTHERN CALIFORNIA	117	SOUTHERN PERU
44	CALIFORNIA-ARIZONA BORDER REGION	118	PERU-BOLIVIA BORDER REGION
45	CALIFORNIA-MEXICO BORDER REGION	119	NORTHERN BOLIVIA
46	W. ARIZ. - MEXICO BORDER REGION	120	BOLIVIA
47	OFF W. COAST OF BAJA CALIFORNIA	121	OFF COAST OF NORTHERN CHILE
48	BAJA CALIFORNIA	122	NEAR COAST OF NORTHERN CHILE
49	GULF OF CALIFORNIA	123	NORTHERN CHILE
50	NORTHWESTERN MEXICO	124	CHILE-BOLIVIA BORDER REGION
51	OFF COAST OF CENTRAL MEXICO	125	SOUTHERN BOLIVIA
52	NEAR COAST OF CENTRAL MEXICO	126	PARAGUAY
53	REVILLA GIGEDO ISLANDS REGION	127	CHILE-ARGENTINA BORDER REGION
54	OFF COAST OF JALISCO, MEXICO	128	JUJUY PROVINCE, ARGENTINA
55	NEAR COAST OF JALISCO, MEXICO	129	SALTA PROVINCE, ARGENTINA
56	NEAR COAST OF MICHOACAN, MEXICO	130	CATAMARCA PROVINCE, ARGENTINA
57	MICHOACAN, MEXICO	131	TUCUMAN PROVINCE, ARGENTINA
58	NEAR COAST OF GUERRERO, MEXICO	132	SANTIAGO DEL ESTERO PROV., ARG.
59	GUERRERO, MEXICO	133	NORTHEASTERN ARGENTINA
60	OAXACA, MEXICO	134	OFF COAST OF CENTRAL CHILE
61	CHIAPAS, MEXICO	135	NEAR COAST OF CENTRAL CHILE
62	MEXICO-GUATEMALA BORDER REGION	136	CENTRAL CHILE
63	OFF COAST OF MEXICO	137	SAN JUAN PROVINCE, ARGENTINA
64	OFF COAST OF MICHOACAN, MEXICO	138	LA RIOJA PROVINCE, ARGENTINA
65	OFF COAST OF GUERRERO, MEXICO	139	MENDOZA PROVINCE, ARGENTINA
66	NEAR COAST OF OAXACA, MEXICO	140	SAN LUIS PROVINCE, ARGENTINA
67	OFF COAST OF OAXACA, MEXICO	141	CORDOBA PROVINCE, ARGENTINA
68	OFF COAST OF CHIAPAS, MEXICO	142	URUGUAY
69	NEAR COAST OF CHIAPAS, MEXICO	143	OFF COAST OF SOUTHERN CHILE
70	GUATEMALA	144	NEAR COAST OF SOUTHERN CHILE
71	NEAR COAST OF GUATEMALA	145	S. CHILE-ARGENTINA BORDER REGION
72	HONDURAS	146	ARGENTINA
73	EL SALVADOR	147	TIERRA DEL FUEGO
74	NEAR COAST OF NICARAGUA	148	FALKLAND ISLANDS REGION

APPENDIX 2 CONTINUED

149	DRAKE PASSAGE	225	OFF COAST OF HOKKAIDO, JAPAN
150	SCOTIA SEA	226	NEAR WEST COAST OF HONSHU, JAPAN
151	SOUTH GEORGIA ISLAND REGION	227	HONSHU, JAPAN
152	SOUTH GEORGIA RISE	228	NEAR EAST COAST OF HONSHU, JAPAN
153	SOUTH SANDWICH ISLANDS REGION	229	OFF EAST COAST OF HONSHU, JAPAN
154	SOUTH SHETLAND ISLANDS	230	NEAR S. COAST OF HONSHU, JAPAN
155	ANTARCTIC PENINSULA	231	SOUTH KOREA
156	SOUTHWESTERN ATLANTIC OCEAN	232	SOUTHERN HONSHU, JAPAN
157	WEDDELL SEA	233	NEAR S. COAST OF SOUTHERN HONSHU
158	OFF W. COAST OF N. ISLAND, N.Z.	234	EAST CHINA SEA
159	NORTH ISLAND, NEW ZEALAND	235	KYUSHU, JAPAN
160	OFF E. COAST OF N. ISLAND, N.Z.	236	SHIKOKU, JAPAN
161	OFF W. COAST OF S. ISLAND, N.Z.	237	SOUTHEAST OF SHIKOKU, JAPAN
162	SOUTH ISLAND, NEW ZEALAND	238	RYUKYU ISLANDS
163	COOK STRAIT, NEW ZEALAND	239	RYUKYU ISLANDS REGION
164	OFF E. COAST OF S. ISLAND, N.Z.	240	EAST OF RYUKYU ISLANDS
165	NORTH OF MACQUARIE ISLAND	241	PHILIPPINE SEA
166	AUCKLAND ISLANDS REGION	242	NEAR SOUTHEASTERN COAST OF CHINA
167	MACQUARIE ISLANDS REGION	243	TAIWAN REGION
168	SOUTH OF NEW ZEALAND	244	TAIWAN
169	SAMOA ISLANDS REGION	245	NORTHEAST OF TAIWAN
170	SAMOA ISLANDS	246	SOUTHWESTERN RYUKYU ISLANDS
171	SOUTH OF FIJI ISLANDS	247	SOUTHEAST OF TAIWAN
172	WEST OF TONGA ISLANDS	248	PHILIPPINE ISLANDS REGION
173	TONGA ISLANDS	249	LUZON, PHILIPPINE ISLANDS
174	TONGA ISLANDS REGION	250	MINDORO, PHILIPPINE ISLANDS
175	SOUTH OF TONGA ISLANDS	251	SAMAR, PHILIPPINE ISLANDS
176	NORTH OF NEW ZEALAND	252	PALAWAN, PHILIPPINE ISLANDS
177	KERMADEC ISLANDS REGION	253	SULU SEA
178	KERMADEC ISLANDS	254	PANAY, PHILIPPINE ISLANDS
179	SOUTH OF KERMADEC ISLANDS	255	CEBU, PHILIPPINE ISLANDS
180	NORTH OF FIJI ISLANDS	256	LEYTE, PHILIPPINE ISLANDS
181	FIJI ISLANDS REGION	257	NEGROS, PHILIPPINE ISLANDS
182	FIJI ISLANDS	258	SULU ARCHIPELAGO
183	SANTA CRUZ ISLANDS REGION	259	MINDANAO, PHILIPPINE ISLANDS
184	SANTA CRUZ ISLANDS	260	EAST OF PHILIPPINE ISLANDS
185	NEW HEBRIDES ISLANDS REGION	261	BORNEO
186	NEW HEBRIDES ISLANDS	262	CELEBES SEA
187	NEW CALEDONIA	263	TALAUD ISLANDS
188	LOYALTY ISLANDS	264	NORTH OF HALMAHERA
189	LOYALTY ISLANDS REGION	265	NORTHERN CELEBES
190	NEW IRELAND REGION	266	MOLUCCA PASSAGE
191	NORTH OF SOLOMON ISLANDS	267	HALMAHERA
192	NEW BRITAIN REGION	268	CELEBES
193	SOLOMON ISLANDS	269	MOLUCCA SEA
194	DENTRECASTEAUX ISLANDS REGION	270	CERAM SEA
195	SOLOMON ISLANDS REGION	271	BURU
196	WEST NEW GUINEA REGION	272	CERAM
197	NEAR N. COAST OF WEST NEW GUINEA	273	SOUTHWEST OF SUMATRA
198	NEW GUINEA REGION	274	SOUTHERN SUMATRA
199	ADMIRALTY ISLANDS REGION	275	JAVA SEA
200	NEAR NORTH COAST OF NEW GUINEA	276	SUNDA STRAIT
201	WEST NEW GUINEA	277	JAVA
202	NEW GUINEA	278	BALI SEA
203	BISMARCK SEA	279	FLORES SEA
204	AROE ISLANDS REGION	280	BANDA SEA
205	NEAR S. COAST OF WEST NEW GUINEA	281	TANIMBAR ISLANDS REGION
206	NEAR SOUTH COAST OF NEW GUINEA	282	SOUTH OF JAVA
207	EAST NEW GUINEA REGION	283	BALI ISLAND REGION
208	ARAFURA SEA	284	SOUTH OF BALI ISLAND
209	WEST CAROLINE ISLANDS	285	SUMBAWA ISLAND REGION
210	SOUTH OF MARIANA ISLANDS	286	FLORES ISLAND REGION
211	SOUTH OF HONSHU, JAPAN	287	SUMBA ISLAND REGION
212	BONIN ISLANDS REGION	288	SAMU SEA
213	VOLCANO ISLANDS REGION	289	TIMOR
214	WEST OF MARIANA ISLANDS	290	TIMOR SEA
215	MARIANA ISLANDS REGION	291	SOUTH OF SUMBAWA ISLAND
216	MARIANA ISLANDS	292	SOUTH OF SUMBA ISLAND
217	KAMCHATKA	293	SOUTH OF TIMOR
218	NEAR EAST COAST OF KAMCHATKA	294	BURMA-INDIA BORDER REGION
219	OFF EAST COAST OF KAMCHATKA	295	BURMA-EAST PAKISTAN BORDER REG.
220	NORTHWEST OF KURIL ISLANDS	296	BURMA
221	KURIL ISLANDS	297	BURMA-CHINA BORDER REGION
222	KURIL ISLANDS REGION	298	SOUTH BURMA
223	EASTERN SEA OF JAPAN	299	SOUTHEAST ASIA
224	HOKKAIDO, JAPAN REGION	300	HAINAN ISLAND

APPENDIX 2 CONTINUED

301	SOUTH CHINA SEA	377	SPAIN
302	EASTERN KASHMIR	378	PYRENEES
303	KASHMIR-INDIA BORDER REGION	379	NEAR SOUTH COAST OF FRANCE
304	KASHMIR-TIBET BORDER REGION	380	CORSICA
305	TIBET-INDIA BORDER REGION	381	CENTRAL ITALY
306	TIBET	382	ADRIATIC SEA
307	SZECHWAN PROVINCE, CHINA	383	YUGOSLAVIA
308	NORTHERN INDIA	384	WEST OF GIBRALTAR
309	NEPAL-INDIA BORDER REGION	385	STRAIT OF GIBRALTAR
310	NEPAL	386	BALEARIC ISLANDS
311	SIKKIM	387	WESTERN MEDITERRANEAN SEA
312	BHUTAN	388	SARDINIA
313	INDIA-CHINA BORDER REGION	389	TYRRHENIAN SEA
314	INDIA	390	SOUTHERN ITALY
315	INDIA-EAST PAKISTAN BORDER REG.	391	ALBANIA
316	EAST PAKISTAN	392	GREECE-ALBANIA BORDER REGION
317	EASTERN INDIA	393	MADEIRA ISLANDS REGION
318	YUNNAN PROVINCE, CHINA	394	CANARY ISLANDS REGION
319	BAY OF BENGAL	395	MOROCCO
320	KIRGIZ-SINKIANG BORDER REGION	396	ALGERIA
321	SOUTHERN SINKIANG PROV., CHINA	397	TUNISIA
322	KANSU PROVINCE, CHINA	398	SICILY
323	NORTHERN CHINA	399	IONIAN SEA
324	KASHMIR-SINKIANG BORDER REGION	400	MEDITERRANEAN SEA
325	TSINGHAI PROVINCE, CHINA	401	NEAR COAST OF LIBYA
326	CENTRAL RUSSIA	402	NORTH ATLANTIC OCEAN
327	LAKE BAIKAL REGION	403	NORTH ATLANTIC RIDGE
328	EAST OF LAKE BAIKAL	404	AZORES ISLANDS REGION
329	EASTERN KAZAKH SSR	405	AZORES ISLANDS
330	ALMA-ATA REGION	406	CENTRAL MID-ATLANTIC RIDGE
331	KAZAKH-SINKIANG BORDER REGION	407	NORTH OF ASCENSION ISLAND
332	NORTHERN SINKIANG PROV., CHINA	408	ASCENSION ISLAND REGION
333	USSR-MONGOLIA BORDER REGION	409	SOUTH ATLANTIC OCEAN
334	MONGOLIA	410	SOUTH ATLANTIC RIDGE
335	URAL MOUNTAINS REGION	411	TRISTAN DA CUNHA REGION
336	WESTERN KAZAKH SSR	412	BOUVET ISLAND REGION
337	EASTERN CAUCASUS	413	SOUTHWEST OF AFRICA
338	CASPIAN SEA	414	SOUTHEASTERN ATLANTIC OCEAN
339	UZBEK SSR	415	EASTERN GULF OF ADEN
340	TURKMEN SSR	416	SOCOTRA REGION
341	IRAN-USSR BORDER REGION	417	ARABIAN SEA
342	TURKMEN-AFGHANISTAN BORDER REG.	418	LACCAOIVE ISLANDS REGION
343	TURKEY-IRAN BORDER REGION	419	NORTHEASTERN SOMALIA
344	N.W. IRAN-USSR BORDER REGION	420	NORTH INDIAN OCEAN
345	NORTHWESTERN IRAN	421	CARLSBERG RIDGE
346	IRAN-IRAQ BORDER REGION	422	MALOIVE ISLANDS REGION
347	WESTERN IRAN	423	LACCAOIVE SEA
348	IRAN	424	CEYLON
349	NORTHWESTERN AFGHANISTAN	425	SOUTH INDIAN OCEAN
350	SOUTHWESTERN AFGHANISTAN	426	CHAGOS ARCHIPELAGO REGION
351	EASTERN ARABIAN PENINSULA	427	MASCARENE ISLANDS REGION
352	PERSIAN GULF	428	ATLANTIC-INDIAN RISE
353	SOUTHERN IRAN	429	MID-INDIAN RISE
354	WESTERN PAKISTAN	430	SOUTH OF AFRICA
355	GULF OF OMAN	431	PRINCE EDWARD ISLANDS REGION
356	NEAR COAST OF WEST PAKISTAN	432	CROZET ISLANDS REGION
357	SOUTHWESTERN RUSSIA	433	KERGUELEN ISLANDS REGION
358	ROMANIA	434	AMSTERDAM-NATURALISTE RIDGE
359	BULGARIA	435	SOUTHEAST INDIAN RISE
360	BLACK SEA	436	KERGUELEN-GAUSSBERG RISE
361	CRIMEA REGION	437	SOUTH OF AUSTRALIA
362	WESTERN CAUCASUS	438	SASKATCHEWAN PROVINCE, CANADA
363	GREECE-BULGARIA BORDER REGION	439	MANITOBA PROVINCE, CANADA
364	GREECE	440	HUDSON BAY
365	AEGEAN SEA	441	ONTARIO
366	TURKEY	442	HUDSON STRAIT REGION
367	TURKEY-USSR BORDER REGION	443	NORTHERN QUEBEC
368	SOUTHERN GREECE	444	DAVIS STRAIT
369	DODECANESE ISLANDS	445	LABRADOR
370	CRETE	446	EAST OF LABRADOR
371	EASTERN MEDITERRANEAN SEA	447	SOUTHERN QUEBEC
372	CYPRUS	448	GASPE PENINSULA
373	DEAD SEA REGION	449	EASTERN QUEBEC
374	JORDAN - SYRIA REGION	450	ANTICOSTI ISLAND, CANADA
375	IRAQ	451	NEW BRUNSWICK
376	PORTUGAL	452	NOVA SCOTIA

APPENDIX 2 CONTINUED

453	PRINCE EDWARD ISLAND, CANADA	529	GUYANA
454	GULF OF ST. LAWRENCE	530	SURINAM
455	NEWFOUNDLAND	531	FRENCH GUIANA
456	MONTANA	532	EIRE
457	EASTERN IDAHO	533	UNITED KINGDOM
458	HEBGEN LAKE REGION	534	NORTH SEA
459	YELLOWSTONE NATIONAL PARK, WYO.	535	SOUTHERN NORWAY
460	WYOMING	536	SWEDEN
461	NORTH DAKOTA	537	BALTIC SEA
462	SOUTH DAKOTA	538	FRANCE
463	NEBRASKA	539	BAY OF BISCAY
464	MINNESOTA	540	NETHERLANDS
465	IOWA	541	BELGIUM
466	WISCONSIN	542	DENMARK
467	ILLINOIS	543	GERMANY
468	MICHIGAN	544	SWITZERLAND
469	INDIANA	545	NORTHERN ITALY
470	SOUTHERN ONTARIO	546	AUSTRIA
471	OHIO	547	CZECHOSLOVAKIA
472	NEW YORK	548	POLAND
473	PENNSYLVANIA	549	HUNGARY
474	NORTHERN NEW ENGLAND	550	NORTHWEST AFRICA
475	MAINE	551	SOUTHERN ALGERIA
476	SOUTHERN NEW ENGLAND	552	LIBYA
477	GULF OF MAINE	553	UNITED ARAB REPUBLIC
478	UTAH	554	RED SEA
479	COLORADO	555	WESTERN ARABIAN PENINSULA
480	KANSAS	556	CENTRAL AFRICA
481	IOWA-MISSOURI BORDER REGION	557	SUDAN
482	MISSOURI-KANSAS BORDER REGION	558	ETHIOPIA
483	MISSOURI	559	WESTERN GULF OF ADEN
484	MISSOURI-ARKANSAS BORDER REGION	560	NORTHWESTERN SOMALIA
485	EASTERN MISSOURI	561	OFF S. COAST OF NORTHWEST AFRICA
486	NEW MADRID, MISSOURI REGION	562	CAMEROON
487	CAPE GIRARDEAU, MISSOURI REGION	563	RIO MUNI
488	SOUTHERN ILLINOIS	564	CENTRAL AFRICAN REPUBLIC
489	SOUTHERN INDIANA	565	GABON
490	KENTUCKY	566	CONGO
491	WEST VIRGINIA	567	REPUBLIC OF THE CONGO
492	VIRGINIA	568	UGANDA
493	CHESAPEAKE BAY REGION	569	LAKE VICTORIA REGION
494	NEW JERSEY	570	KENYA
495	EASTERN ARIZONA	571	SOUTHERN SOMALIA
496	NEW MEXICO	572	LAKE TANGANYIKA REGION
497	TEXAS PANHANDLE REGION	573	TANZANIA
498	WEST TEXAS	574	NORTHWEST OF MALAGASAY REPUBLIC
499	OKLAHOMA	575	ANGOLA
500	CENTRAL TEXAS	576	ZAMBIA
501	ARKANSAS-OKLAHOMA BORDER REGION	577	MALAWI
502	ARKANSAS	578	SOUTHWEST AFRICA
503	LOUISIANA-TEXAS BORDER REGION	579	BOTSWANA REPUBLIC
504	LOUISIANA	580	RHODESIA
505	MISSISSIPPI	581	MOZAMBIQUE
506	TENNESSEE	582	MOZAMBIQUE CHANNEL
507	ALABAMA	583	MALAGASAY REPUBLIC
508	WESTERN FLORIDA	584	REPUBLIC OF SOUTH AFRICA
509	GEORGIA	585	LESOTHO
510	FLORIDA-GEORGIA BORDER REGION	586	SWAZILAND
511	SOUTH CAROLINA	587	OFF COAST OF SOUTH AFRICA
512	NORTH CAROLINA	588	NORTHWEST OF AUSTRALIA
513	OFF EAST COAST OF UNITED STATES	589	WEST OF AUSTRALIA
514	FLORIDA PENINSULA	590	WESTERN AUSTRALIA
515	BAHAMA ISLANDS	591	NORTHERN TERRITORY, AUSTRALIA
516	E. ARIZ. - MEXICO BORDER REGION	592	SOUTH AUSTRALIA
517	MEXICO-NEW MEXICO BORDER REGION	593	GULF OF CARPENTERIA
518	TEXAS-MEXICO BORDER REGION	594	QUEENSLAND, AUSTRALIA
519	SOUTHERN TEXAS	595	CORAL SEA
520	TEXAS GULF COAST	596	SOUTH OF SOLOMON ISLANDS
521	CHIHUAHUA, MEXICO	597	NEW CALEDONIA REGION
522	NORTHERN MEXICO	598	SOUTHWEST OF AUSTRALIA
523	CENTRAL MEXICO	599	OFF SOUTH COAST OF AUSTRALIA
524	JALISCO, MEXICO	600	NEAR SOUTH COAST OF AUSTRALIA
525	VERA CRUZ, MEXICO	601	NEW SOUTH WALES, AUSTRALIA
526	GULF OF MEXICO	602	VICTORIA, AUSTRALIA
527	GULF OF CAMPECHE	603	NEAR S.E. COAST OF AUSTRALIA
528	BRAZIL	604	NEAR EAST COAST OF AUSTRALIA

APPENDIX 2 CONTINUED

605	EAST OF AUSTRALIA	681	BAFFIN BAY
606	NORFOLK ISLAND REGION	682	BAFFIN ISLAND REGION
607	NORTHWEST OF NEW ZEALAND	683	SOUTHEAST CENTRAL PACIFIC OCEAN
608	BASS STRAIT	684	EASTER ISLAND CORDILLERA
609	TASMANIA REGION	685	EASTER ISLAND REGION
610	SOUTHEAST OF AUSTRALIA	686	WEST CHILE RISE
611	NORTH PACIFIC OCEAN	687	JUAN FERNANDEZ ISLANDS REGION
612	HAWAII REGION	688	EAST OF NORTH ISLAND, N.Z.
613	HAWAII	689	CHATHAM ISLANDS REGION
614	CAROLINE ISLANDS REGION	690	SOUTH OF CHATHAM ISLANDS
615	MARSHALL ISLANDS REGION	691	SOUTH PACIFIC CORDILLERA
616	ENIWETOK ATOLL REGION	692	SOUTHERN PACIFIC OCEAN
617	BIKINI ATOLL REGION	693	EAST CENTRAL PACIFIC OCEAN
618	GILBERT ISLANDS REGION	694	NORTHERN EASTER I. CORDILLERA
619	JOHNSON ISLAND REGION	695	WEST OF GALAPAGOS ISLANDS
620	LINE ISLANDS REGION	696	GALAPAGOS ISLANDS REGION
621	PALMYRA ISLAND REGION	697	GALAPAGOS ISLANDS
622	CHRISTMAS ISLAND REGION	698	SOUTHWEST OF GALAPAGOS ISLANDS
623	ELLICE ISLANDS REGION	699	SOUTHEAST OF GALAPAGOS ISLANDS
624	PHOENIX ISLANDS REGION	700	SOUTH OF TASMANIA
625	TEKELAU ISLANDS REGION	701	WEST OF MACQUARIE ISLAND
626	NORTHERN COOK ISLANDS	702	BALLENY ISLANDS REGION
627	COOK ISLANDS REGION	703	ANDAMAN ISLANDS REGION
628	SOCIETY ISLANDS REGION	704	NICOBAR ISLANDS REGION
629	TUBUAI ISLANDS REGION	705	OFF W. COAST OF NORTHERN SUMATRA
630	MARQUESAS ISLANDS REGION	706	NORTHERN SUMATRA
631	TUAMOTU ARCHIPELAGO REGION	707	MALAY PENINSULA
632	SOUTH PACIFIC OCEAN	708	GULF OF SIAM
633	LOMONOSOV RIDGE	709	AFGHANISTAN
634	ARCTIC OCEAN	710	WEST PAKISTAN
635	NEAR NORTH COAST OF GREENLAND	711	SOUTHWESTERN KASHMIR
636	EASTERN GREENLAND	712	INDIA-WEST PAKISTAN BORDER REG.
637	ICELAND REGION	713	CENTRAL KAZAKH SSR
638	ICELAND	714	SOUTHEASTERN UZBEK SSR
639	JAN MAYEN ISLAND REGION	715	TADZHIK SSR
640	GREENLAND SEA	716	KIRGIZ SSR
641	NORTH OF SVALBARD	717	AFGHANISTAN-USSR BORDER REGION
642	NORWEGIAN SEA	718	HINDU KUSH REGION
643	SVALBARD REGION	719	TADZHIK-SINKIANG BORDER REGION
644	NORTH OF FRANZ JOSEF LAND	720	NORTHWESTERN KASHMIR
645	FRANZ JOSEF LAND	721	FINLAND
646	NORTHERN NORWAY	722	NORWAY-USSR BORDER REGION
647	BARENTS SEA	723	FINLAND-USSR BORDER REGION
648	NOVAYA ZEMLYA	724	WESTERN RUSSIA
649	KARA SEA	725	WESTERN SIBERIA
650	NEAR COAST OF WESTERN SIBERIA	726	CENTRAL SIBERIA
651	NORTH OF SEVERNAYA ZEMLYA	727	VICTORIA LAND, ANTARCTICA
652	SEVERNAYA ZEMLYA	728	ROSS SEA
653	NEAR COAST OF CENTRAL SIBERIA	729	ANTARCTICA
654	EAST OF SEVERNAYA ZEMLYA		
655	LAPTEV SEA		
656	EASTERN RUSSIA		
657	E. RUSSIA-N.E. CHINA BORDER REG.		
658	NORTHEASTERN CHINA		
659	NORTH KOREA		
660	SEA OF JAPAN		
661	NEAR E. COAST OF EASTERN RUSSIA		
662	SAKHALIN ISLAND		
663	SEA OF OKHOTSK		
664	EASTERN CHINA		
665	YELLOW SEA		
666	OFF COAST OF EASTERN CHINA		
667	NORTH OF NEW SIBERIAN ISLANDS		
668	NEW SIBERIAN ISLANDS		
669	EAST SIBERIAN SEA		
670	NEAR N. COAST OF EASTERN SIBERIA		
671	EASTERN SIBERIA		
672	CHUKCHI SEA		
673	BERING STRAIT		
674	ST. LAWRENCE ISLAND REGION		
675	BEAUFORT SEA		
676	ALASKA		
677	NORTHERN YUKON TERRITORY, CANADA		
678	QUEEN ELIZABETH ISLANDS		
679	NORTHWEST TERRITORIES, CANADA		
680	WESTERN GREENLAND		

APPENDIX 3

CODES OF DATA SOURCES

ADK	Adak, AK, USA	HEL	Helsinki, Finland
AEC	U.S. Atomic Energy Commission	HRB	Hurbanovo, Czechoslovakia
AGS	Alaska Seismic Studies, USGS- NCER, Menlo Park, CA, USA	HVO	Hawaiian Volcano Obsy., Hawaii National Park, HI, USA
ALG	Algiers, Algeria	ISK	Istanbul-Kandilli, Turkey
ALI	Alicante, Spain	ISS	International Seismological Summary, Kew, England, UK
ALM	Almeria, Spain	IST	Istanbul, Turkey
ALQ	Albuquerque, NM, USA	JER	Jerusalem, Israel
APA	Apatity, RSFSR, USSR	JMA	Japan Meteorological Agency, Tokyo, Japan
API	Apia, Samoa Is.	JOH	Johannesburg, South Africa
ATH	Athens Observatory, Greece	KAR	Karachi, Pakistan
BCI	Bureau Central International de Séismologie, Strasbourg, France	KEW	Kew, England, UK
BLA	Blacksburg, VA, USA	KIR	Kiruna, Sweden
BNS	Bensberg, Federal Republic of Germany	LEM	Lembang, Java, Indonesia
BOG	Bogota, Colombia	LIS	Lisbon, Portugal
BRA	Bratislava, Czechoslovakia	LJU	Ljubljana, Yugoslavia
BRK	Berkeley (Haviland), CA, USA	LWI	Lwiro, Zaire
BSS	<i>Bulletin of the Seismological Society of America</i>	MAL	Malaga, Spain
BUC	Bucharest, Romania	MAN	Manila, Philippines
BUL	Bulawayo, Rhodesia	MAT	Matsushiro, Honshu, Japan
CAN	Canberra, Australian Capital Territory, Australia	MER	Merida, Mexico
CAR	Caracas, Venezuela	MOS	Moscow, RSFSR, USSR
CFR	Charles F. Richter (see Richter, 1958, in References)	MOX	Moxa, German Democratic Republic
CGS	Coast and Geodetic Survey	NCE	National Center for Earth- quake Research (NCER), Menlo Park, CA, USA
CHC	Chapel Hill, NC, USA	NES	Northeastern Seismological Association, Weston, MA, USA
CLL	Collmburg, German Democratic Republic	NOS	National Ocean Survey
DJA	Djakarta, Java, Indonesia	NOU	Noumea, New Caledonia
EQH	<i>Earthquake History of the United States</i> (see References)	NRR	North Reno, NV, USA
ERL	Environmental Research Laboratories	OAX	Oaxaca, Mexico
GIA	Geophysical Institute University of Alaska, Fairbanks, AK, USA	OBM	Ulan Bator, Mongolia
G-R	Gutenberg-Richter (see Gutenberg and Richter, 1954, in References)	OTT	Ottawa, Ontario, Canada
GOL	Golden (Bergen Park), CO, USA	OXF	Oxford, MS, USA
GS	U.S. Geological Survey, Denver, CO, USA	PAL	Palisades, NY, USA
		PAS	Pasadena, CA, USA
		PDE	<i>Preliminary Determination of Epicenters</i>
		PEK	Peking, China
		PET	Petropavlovsk, RSFSR, USSR
		PMG	Port Moresby, Papua

APPENDIX 3 (Cont.)

PMR	Palmer, AK, USA	STU	Stuttgart, Federal Republic of Germany
PRA	Praha (Prague), Czechoslovakia	SYK	Sykes (see References)
PRU	Pruhonice, Czechoslovakia	TAC	Tacubaya, Mexico
QUE	Quetta, Pakistan	TEH	Teheran, Iran
RAC	Raciborz, Poland	TOC	Tocklai, India
REY	Reykjavik, Iceland	TRI	Trieste, Italy
RIV	Riverview, New South Wales, Australia	TRN	Trinidad, Trinidad, W.I.
RMP	Rome (Monte Porzio Catone), Italy	TUL	Tulsa, OK, USA
ROM	Rome, Italy	UCC	Uccle, Belgium
SAN	Santiago, Chile	UGL	Uglegorsk, RSFSR, USSR
SEA	Seattle, WA, USA	UPP	Uppsala, Sweden
SHI	Shiraz, Iran	USE	<i>United States Earthquakes</i>
SHL	Shillong, India	VIC	Victoria, British Columbia, Canada
SLM	St. Louis, MO, USA	WAR	Warsaw, Poland
SNM	Socorro, NM, USA	WEL	Wellington, New Zealand
SSS	San Salvador, El Salvador	YSS	Yuzhno-Sakhalinsk, RSFSR, USSR
STR	Strasbourg, France	ZUR	Zurich, Switzerland

APPENDIX 4

TAPE FORMAT

<i>Tape Position</i>	<i>Field</i>	<i>Comments</i>
1-3	10° Marsden Square number	See appendix 7.
4-5	1° Marsden Square number	Do.
6-8	Data source (see appendix 3)	Publication from which all or most of the data were obtained.
9	Blank	
10-11	First two digits of year	Examples "16", "17", "18", or "19"; combine with positions 16-17.
12-17	Date (UT/GMT)	Positions 12-13 day, 14-15 month, and 16-17 year.
18-24	Origin time (UT/GMT)	Computed, or observed if controlled explosion with shot timed. Positions 18-19 hour, 20-21 minute, and 22-24 second. Implied decimal between positions 23 and 24.
25-30	Geographic latitude (decimal degrees)	Usually given to three decimal places, although this degree of accuracy is not necessarily applicable. N/S in position 30. Implied decimal between positions 26 and 27.
31-37	Geographic longitude (decimal degrees)	Usually given to three decimal places. E/W in position 37. Implied decimal between positions 33 and 34.
38-40	Focal depth (km)	See also position 73.
41-43	Body-wave (MB) average	Implied decimal between positions 41 and 42. Value as determined by PDE program.
44-45	"MB"	
46-48	Isoseismal map	Three-letter abbreviation indicating the publication of an isoseismal (intensity) map. USE, <i>United States Earthquakes</i> ; EQN, <i>Earthquake Notes</i> ; PDE, <i>Preliminary Determination of Epicenters</i> ; WEL, <i>Wellington, N.Z.</i> ; NTR, <i>Nature</i> magazine.

APPENDIX 4 (Cont.)

<i>Tape Position</i>	<i>Field</i>	<i>Comments</i>
49	Intensity	Maximum Modified Mercalli Scale or converted to MM Scale. 1-9 = I-IX, X = X, E = XI, T = XII. See appendix 1.
	<u>Associated Phenomena</u>	
50	Diastrophism code	F = Surface faulting U = Uplift/subsidence D = Faulting and uplift/subsidence.
51	Tsunami code	T = Tsunami generated Q = Possible tsunami.
52	Seiche code	S = Seiche Q = Possible seiche.
53	Volcanism code	V = Earthquake associated with volcanism.
54	Nontectonic code	R = Rockburst C = Coal bump or rockburst in coal mine M = Meteoritic source E = Explosion, accidental, controlled or suspected explosion I = Collapse L = Lights or other such visual phenomena seen.
55	Waves generated code	T = T-wave A = Acoustic wave G = Gravity wave B = Both A & G.
56-58	Flinn-Engdahl geographic region number	As described by Flinn et al. (1974). See Bibliography and appendix 2.
59-60	Surface-wave (MS) average value	Implied decimal between positions 59 and 60. Value determined by PDE program. (IASPEI formula used).
61-62	"MS"	
63	Component Z or H (not used at present)	

APPENDIX 4 (Cont.)

<i>Tape Position</i>	<i>Field</i>	<i>Comments</i>
64	Cultural effects	C, D, F, or H in position 64 indicates reported Casualties, Damage or Felt information, or earthquake Heard. The notations listed here provide a brief summary of the earthquake effects on population and buildings. Casualty, damage, or felt reports associated with a particular earthquake do not imply that the effects were noted at the epicentral position. Especially with offshore earthquakes, the maximum intensity may be reported at some distance from the source of the shock. An "F" in this position, with no accompanying intensity (position 49) is likely associated with an intensity of I-III on the Modified Mercalli Scale.
65	Blank	
66-68	Other magnitude	Value obtained from various sources; unspecified magnitude type but generally MS (implied decimal between positions 66 and 67). Fractions have been converted to decimal numbers: $6\frac{1}{4} = 6.25$. For ranges, median values are listed: $6\frac{1}{2} - 6\frac{3}{4} = 6.63$.
69-71	Authority for magnitude in positions 66-68	See source codes in appendix 3.
72	Special event designator	X = International Data Exchange (IDE) earthquake.
73	Depth control designator	A = Assigned D = Restrained depth based on 2 or more reported pP 's identified as such G = Depth restrained by geophysicist

APPENDIX 4 (Cont.)

<i>Tape Position</i>	<i>Field</i>	<i>Comments</i>
73 (cont.)	Depth control designator (cont.)	N = Held at 33 km (normal depth), when data not sensitive to depth for a shallow focus. S = Depth control aided by use of S-phase data.
74-76	Quality/number of stations	Number of <i>P</i> and/or <i>P'</i> arrivals used in hypocenter solution. Also quality indicators described below.

Quality Indicators

<u>Source</u>	<u>Style</u>	<u>Probable Limits of Error</u>		
G-R (Gutenberg- Richter)	3-letter combination	Epicenter	Origin time	Depth
		deg.	sec.	km.
		1	5	30
		2	8	50
		3	12	80
	A-Very accurate	-	-	-
	B-Good			
	C-Fair			
	D-Poor			
MOS (Moscow)	2-letter or letter/ symbol combination in positions 74 and 76	A-Best accuracy (epicenter/ depth)		
		B-		
		N-		
		V-		
		*-Lowest accuracy.		
PAS (Pasadena)	Single-letter designator in position 74	A-Specially investigated		
		B-Epicenter probably within 5 km, origin time to nearest second		
		C-Epicenter probably within 15 km, origin time to a few seconds		
		D-Epicenter not known with- in 15 km, rough location.		
BRK (Berkeley), WEL (Wellington, N.Z.)	Single-letter designator in position 75	A-Best accuracy (epicenter)		
		B-		
		C-		
		D-Lowest accuracy.		

APPENDIX 4 (Cont.)

<i>Tape Position</i>	<i>Field</i>	<i>Comments</i>
77	Authority for time and coordinates/other quality indicators	blank = Authority same as source (positions 6-8). * = Assigned to solutions for which poor azimuth, depth control, and other factors contribute to a less reliable solution. A = Parameters of explosion supplied by U.S. Atomic Energy Commission (AEC)/Energy Research and Develop- ment Administration (ERDA). B = Parameters of epicenter supplied by University of California, Berkeley. C = Parameters of epicenter supplied by Commission de Energie Atomique, Paris, France. E = Some or all parameters of explo- sion (controlled or accidental) supplied by any group or indi- vidual other than AEC/ERDA. G = Parameters of epicenter supplied by the U.S. Geological Survey for any area other than Island of Hawaii. H = Parameters of epicenter supplied by the USGS Hawaiian Volcano Observatory. J = Parameters of epicenter supplied by St. Louis University. L = Parameters of epicenter supplied by Lamont-Doherty Geological Observatory, Palisades, NY. M = Hypocenter based on macroseismic information. P = Parameters of epicenter supplied by California Institute of Tech- nology, Pasadena. R = Parameters of epicenter supplied by University of Nevada, Reno. S = An NEIS solution based on use of dense local networks, a local crustal model, or other methods not routinely applied by NEIS (USGS).

APPENDIX 4 (Cont.)

<i>Tape Position</i>	<i>Field</i>	<i>Comments</i>
77 (cont.)	Authority for time and coordinates/other quality indicators (cont.)	U = Parameters of epicenter supplied by University of Utah, Salt Lake City. V = Parameters of epicenter supplied by Virginia Polytechnic Institute and State Univ., Blacksburg. W = Parameters of epicenter supplied by University of Washington, Seattle. X = No time reported. Z = Noninstrumental.
78-80	Local magnitude	Implied decimal between positions 78 and 79.
81-82	Scale for positions 78-80	Generally ML.
83-85	Authority for value 78-80	See source codes in appendix 3.
86-90	Blank	

Blocking Factor: 50 records (90 characters each) per tape block. A sample list of a block (50 records) of a geographically sorted tape follows:

Appendix 4 (Cont.)

15786CGS	19280570173832148450N126659M03490MB	025	057	1
15786CGS	19130869161216948483N126474M033460MB	025	N024	2
15786CGS	19011069171111348506N126485W023470MB	025	031	3
15787GS	1928107409383948174N127684W033420MB	025	N 10*	4
15787ISS	19220951101657048000N127000W	025		5
15787CGS	19141066180218048900N127000W033410MB	025	008	6
15788GS	19220874130134548937N126603W033440MB	025	N 13*	7
15788PDE	19220753101739048500N128000W	025		8
15788PDE	19220753103720048500N128000W	025		9
15788BCI	19290658190518048500N128000W	025	*	10
15788ERL	1925037315321149952N126927W033420MB	025	N011*	11
15788ERL	19301271074509948946N128812W033420MB	025	N010*	12
15788G-R	19011126013918048750N128500W	025	660PAS	13
15788CGS	19050454193457048000N128000W	025		14
15788CGS	19130457034400048500N128000W	025		15
15788CGS	19160463165411848100N128600W033	025	006	16
15788CGS	19140664014652448800N128400W033	025	008	17
15788CGS	19020965113749948300N128100W033460MB	025	009	18
15788CGS	190209651140237348400N126200W033430MB	025	013	19
15788CGS	19020965154225648300N128400W033440MB	025	012	20
15788CGS	19020965154339648200N128500W033470MB	025	011	21
15788CGS	19020965180119548300N128300W033440MB	025	013	22
15788CGS	19020965194125648400N128300W033490MB	025	011	23
15788CGS	19020965211643748400N128200W033400MB	025	010	24
15788CGS	19020965212716648400N128200W026500MB	025	014	25
15788CGS	19030965044236148400N128200W012460MB	025	012	26
15788CGS	1911162214520548900N128800W033	025	021	27
15788CGS	19171168211134748979N12882W010440MB	025	031	28
15788CGS	19221168115925848968N128729W04440MB	025	011*	29
15789ERL	19201171212442648755N129520W033550MB	02557MS	N104	30
15789ERL	19251171234012148777N129377W033510MB	025	N042	31
15789G-R	19310530102153048500N129000W	025	540PAS	32
15789G-R	19301026194155048500N129000W	025	610PAS	33
15789CGS	19050454192600048000N129000W	025		34
15789CGS	19200656225850048750N129250W	025	637PAS	35
157950TT	19230646171319049900N125300W	025	D 730PAS	36
15796GS	19200774191559049916N126521W033400MB	025	N 12*430MLNEW	37
15796G-R	19061218084105049750N126500W	025	F 700PAS	38
15797GS	19130773025930149115N127840W033480MB	025	N011*	39
15797BCI	19251254013137049250N127000W	025		40
15797ERL	19050772101638449545N127213W027500MB	02557MS	F 550BRK	41
15797NOS	19100371153828749320N127391W033500MB	025	N040	42
15797CGS	193003492028049000N127500W	025		43
15797CGS	19080464004653249100N127500W033410MB	025	008	44
15797CGS	19310565032042049300N127800W011470MB	025	020	45
15797CGS	19291061140012049400N127600W056	025		46
15797CGS	19091267183149749200N127700W033400MB	025	016	47
15798GS	19300574005956049063N12836W033480MB	02542MS	N 17	48
15798GS	19130773025539149027N128008W033530MB	02551MS	N072	49
15798GS	19170874213612649113N128403W033470MB	025	N 17	50

APPENDIX 5
PUNCHED CARD FORMAT

<i>Card column</i>	<i>Field*</i>
1-3	Data source (appendix 3)
4	Blank
5-6	First two digits of year
7-12	Date (UT/GMT)
13-19	Origin time (UT/GMT)
20-25	Geographic latitude
26-32	Geographic longitude
33-35	Focal depth (km)
36-38	Body-wave (MB) average value
39-40	"MB"
41-43	Isoseismal map
44	Intensity (appendix 1)
45	Diastrophism code
46	Tsunami code
47	Seiche code
48	Volcanism code
49	Nontectonic code
50	Waves generated code
51-53	Flinn-Engdahl geographic region number (appendix 2)
54-55	Surface-wave (MS) average value
56-57	"MS"
58	Component Z or H (not used at present)

*Refer to Tape Format (appendix 4) for description of Field and Codes.

APPENDIX 5 (Cont.)

<i>Column</i>	<i>Field</i>
59	Cultural effects
60	Blank
61-63	Other magnitude
64-66	Authority
67	Special event designator
68	Depth control designator
69-71	Number of <i>P</i> and/or <i>P'</i> arrivals used in hypocenter solution or quality indicator(s)
72	Authority/quality indicators
73-75	Local magnitude
76-77	Scale
78-80	Authority

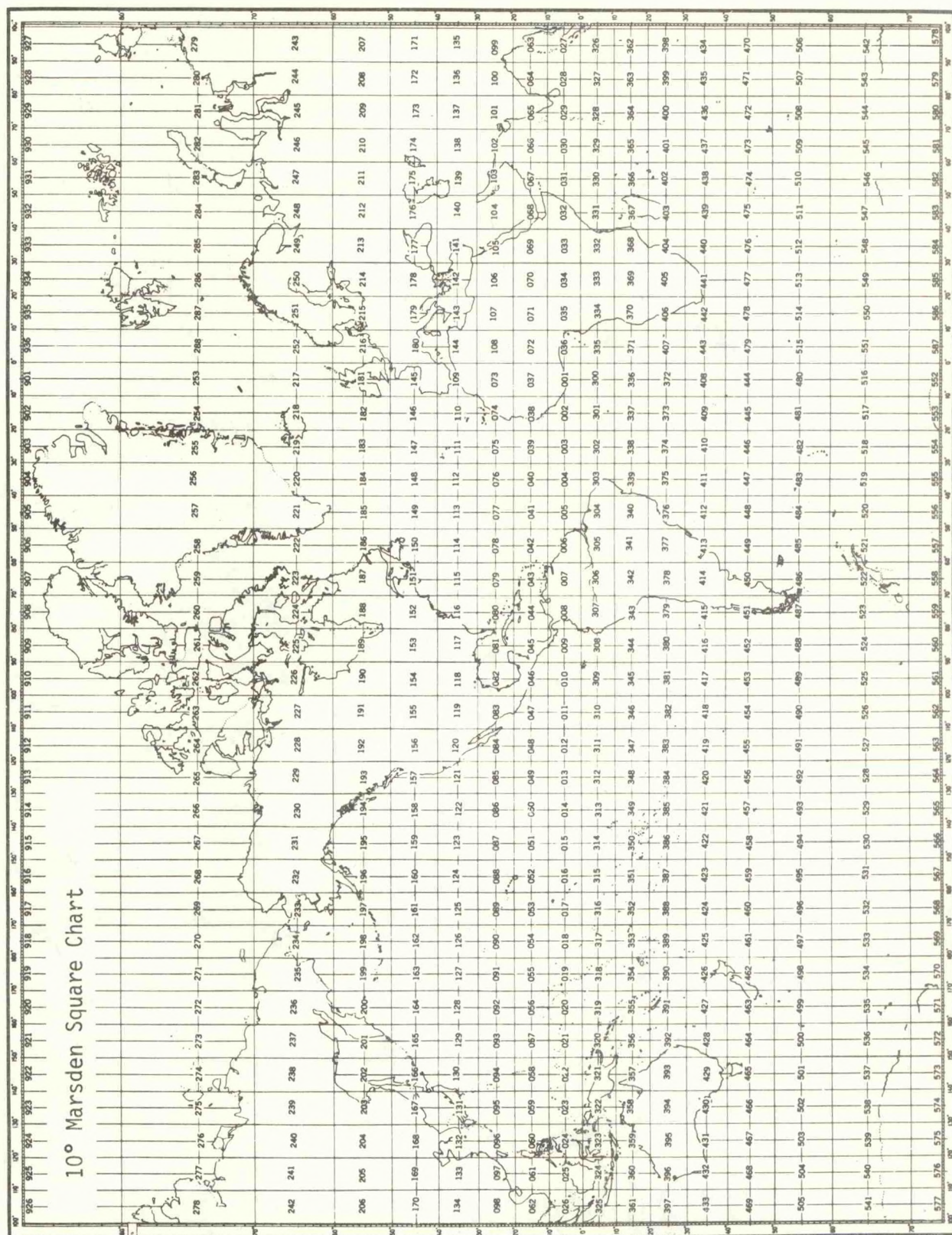
APPENDIX 6

PRINTOUT FORMAT

<i>Field</i>	<i>Description*</i>
SOURCE	Data source (appendix 3).
YEAR, MO, DA	Date (UT/GMT).
HR, MN, SEC	Origin time (UT/GMT). Letter or symbol following time is quality and code for time and coordinates (all position 77 of tape format).
LAT, LONG	Geographic latitude and longitude.
DEPTH	A, G, D, or N following value designates depth control factor.
MAGNITUDES	Body- and surface- (SURF.) wave values as determined by PDE programs. Authority for other magnitudes and local magnitudes according to "Source Codes" (appendix 3).
INT MAP	Intensity (isoseismal) map published.
INT MAX	Maximum intensity (appendix 1).
PHENOM DTSVNO	Associated phenomena: Diastrophism, Tsunami, Seiche, Volcanism, Nontectonic, and Waves Generated.
RN	Flinn-Engdahl geographic region number (appendix 2).
CE	Cultural effects.
Q/S	Quality/number of stations.
MAR DG	Marsden (10°) square and 1° subsquare number (appendix 7).
DIST	On radius searches, the distance in km between the earthquake location and the designated point.

*See Tape Format (appendix 4) for explanation of codes.

APPENDIX 7. MARSDEN SQUARE CHARTS



10 MARSDEN SQUARE CHART

