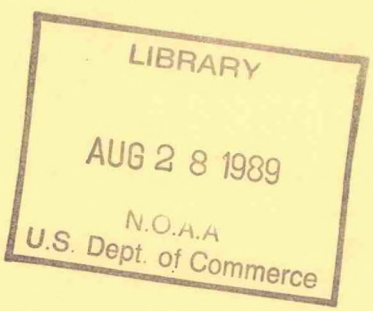
NOAA Western Region Computer Programs and Problems NWS WRCP NO. 58

DAILY CLIMATE SUMMARY FOR MAPSO

Joe L. Johnston



WSO Astoria, Oregon
August 1989

U.S. DEPARTMENT OF COMMERCE / National Oceanic and Atmospheric Administration / National Weather Service

PREFACE

This Western Region publication series is a subset of our Technical Memorandum series. This series will be devoted exclusively to the exchange of information on and documentation of computer programs and related subjects. This series was initiated because it did not seem appropriate to publish computer program papers as Technical Memoranda; yet, we wanted to share this type of information with all Western Region forecasters in a systematic way. Another reason was our concern that in the developing AFOS-era there would be unnecessary and wasteful duplication of effort in writing computer programs in National Weather Service (NWS). Documentation and exchange of ideas and programs envisioned in this series hopefully will reduce such duplication. We also believe that by publishing the programming work of our forecasters, we will stimulate others to use these programs or develop their own programs to take advantage of the computing capabilities AFOS makes available.

We solicit computer-oriented papers and computer programs from forecasters for us to publish in this series. Simple and short programs should not be prejudged as unsuitable.

The great potential of the AFOS-era is strongly related to local computer facilities permitting meteorologists to practice in a more scientific environment. It is our hope that this series will help in developing this potential into reality.

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1 Standardized Format for Computer Series. Revised January 1984. (PB85 109668)
2 AFOS Crop and Soil Information Report Programs. Kenneth B. Mielke, July 1979. (PB85 110419)
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26 Program to Computer Downwind Concentrations from a Toxic Spill. John R. Zimmerman, February 1981. (PB81 205296)
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28 AFOS Interactive Graphics. James R. Fors, Don Laurine, and Sandy MacDonald, April 1981. (PB85 110401)
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35 F-6 Monthly Climatic Summary Program For AFOS. Peter G. Mueller, May 1982. (PB85 109858)
36 Soaring Forecast Program. D.S. Toronto and G. R. Lussky, Revised March 1986. (PB86 173523/AS)
37 Program to Work Up Climatic Summary Weather Service Forms (F-6, F-52). Peter G. Mueller, August 1982. (PB85 109866)
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41 A Pilot Briefing Program for the Background Partition. Kenneth B. Mielke and Joe L. Johnston, March 1983. (PB85 109551)
42 AEV Local Verification for Aviation, Precipitation, and Temperature Programs: AV, REL, TEM. Timothy W. Barker, Revised September 1987. (PB88 115662/AS)
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44 Communications Software for Olympics Micromation Computer System. Glen Sampson, June 1984. (PB85 109510)
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48 Hurricane Plotting Program. Paul D. Tolleson, October 1984. (PB85 121432)
49 Hemispheric Spectral Wave Analysis (Waves 0 to 7). Mary F. Milkovich, August 1985. (PB86 108719/AS)
50 AOS Graphic to Grid Point Conversion and Departure from Normal Programs. Jeffrey L. Anderson and Mark A. Mathewson, August 1985. (PB85 248110/AS)
51 Sunrise/Sunset and Moonrise/Moonset. Glenn R. Lussky, January 1986 (Revised). (PB86 157229/AS)
52 Objective Contour Analysis Using the Surface of Least Bending (Spline Analysis). Les Colin, November 1985. (PB86 128675/AS)
53 DATACOL - AFOSPLOT Program. Donald P. Laurine and Timothy K. Helble, February 1986. (PB86 161866/AS)
54 Hemispheric Spectral Analysis Program. Craig C. Peterson, April 1986. (PB 183662/AS)
55 Convective Cross Section Analysis. Timothy W. Barker, June 1987. (PB87 204566)
56 SWELL Program. Craig C. Peterson, August 1987. (PB87 229795/AS)
57 Watchdog Program. William R. Schneider and Craig C. Peterson, October 1988. (PB89 122535/AS)

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WSO Astoria, Oregon

August 1989

UNITED STATES DEPARTMENT OF COMMERCE
Robert A. Mosbacher, Secretary

National Oceanic and Atmospheric Administration
William E. Evans, Administrator

National Weather Service
Elbert W. Friday, Jr., Director

This publication has been reviewed and is approved for publication by Scientific Services Division, Western Region

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Salt Lake City, Utah

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DAILY CLIMATE SUMMARY FOR MAPSO

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WSO Astoria, Oregon

I. INTRODUCTION

The Program CLI.EXE produces a Climatic Summary on an IBM-PC or compatible which is also using MAPSO for surface observations. Before MAPSO, some offices were using the F6 program and its associated SUMMARY.SV in AFOS to produce a Climatic Summary of the day for distribution on NOAA Weather Wire Service. (See Central Region Computer Program series #14, T. Schwein). These AFOS programs required a daily input of information at the AFOS dasher.

CLI.EXE uses existing MAPSO files for daily maximum, minimum, and precipitation information. Several other files containing daily normals, sunrise, sunset, etc., help produce a similar product, which is transmitted to AFOS or RTA via the ABT communication lines. This program will maintain record high and record low temperatures and the year they occurred. Those temperatures which have "EXCEEDED" or "TIED" records are annotated on the output.

The additional files containing normals, etc., can be produced by using the accompanying utility program CLISETUP.EXE, or by using the DOS text editor EDLIN. Either method can be used to edit these files; however, CLISETUP.EXE was written specifically to make the setup easier, and if mistakes are made CLISETUP.EXE can edit individual entries within these files.

II. METHODOLOGY AND SOFTWARE STRUCTURE

A. GENERAL

CLI.EXE can be run at any site. AFOS PIL, addressee, station name, and time zone adjustments are all controlled in the file CLIDAT.CLI. MAPSO data must be available in its proper location, and the utility files created locally for this program must reside on Drive C: within a subdirectory named CLI.

Below is a listing of these files, with examples found in Appendix A.

CDD .CLI	Normal daily cooling degree days
HDD .CLI	Normal daily heating degree days
RECH .CLI	Record daily high temperatures
MAXYR .CLI	The year the record high occurred
RECL .CLI	Record daily low temperatures
MINYR .CLI	The year the record low occurred
NMAX .CLI	Normal daily high temperatures
NMIN .CLI	Normal daily low temperatures
NRMT .CLI	Normal average temperatures
PCPN .CLI	Normal daily precipitation
SUNR .CLI	Daily sunrise times (standard time)
SUNS .CLI	Daily sunset times (standard time)

Additionally, the file named SEASON.CLI is needed, and contains three columns and twelve rows representing accumulative normals for HDD, CDD, and precipitation. Accumulative HDD must begin with the month of July and CDD and precipitation with December. By using the utility program CLISETUP.EXE, monthly normals automatically generate monthly accumulative normals for you.

See the SEASON.CLI example for Astoria, Oregon below:

2847,00,11.29 <--January HDD,CDD,PCPN

3438,00,19.10
4077,00,26.36
4599,00,30.96
4996,00,33.80
5248,00,36.23
158,07,37.27
301,14,38.83
500,14,41.94
875,14,48.15
1427,14,58.03
2106,14,69.60

As you can see, Astoria, Oregon is cool and wet with an annual precipitation of 69.60 inches, only 7 cooling degrees days exist in July and August. Total seasonal heating degree days by the end of June are 5248.

The last file required is CLIDAT.CLI. This file contains the AFOS PIL, addressee, time zone, a flag, and the name of the station as you want it to appear on the output.

Below is an example:

PDXCLIASTWESPST0WSO ASTORIA, OREGON

Broken down this is:

AFOS PIL = PDXCLIAST
Addressee = WES
Time zone = PST or PDT
Flag = 0 OR 1
Station name = WSO ASTORIA, OREGON

This file must be changed twice a year when the local time changes. A flag value of 1 adds one hour to the sunrise and sunset times. The time zone characters are written directly into the text of the message, and should correspond to the current local time. All of these values are easily created with CLISETUP.EXE.

COMMS.CLI contains the information for special configurations. Various installation information included in this file is baud rate, asynchronous port utilization, and RTS/CTS handshaking.

TOTALS.CLI is created and maintained by the program. This file contains the date and current monthly and annual totals for precipitation, snow, heating, and cooling degree days. Values within TOTALS.CLI are at the end of the month, year, and season years. The first time the program is run you will be prompted to answer several questions based on the initial date entered. As an example, when starting the program you will see:

TO RETRANSMIT THE CLI CREATED 0/0 (Based on 0/0 data) enter Y

DATE/TIME ENTRIES ARE FOR THE DATA DAY (Yesterday)

CAUTION!!! THE MAPSO MIDNIGHT COMMAND MUST HAVE BEEN COMPLETED FIRST BEFORE RUNNING CLI!

REMEMBER...INPUT IS YESTERDAY'S DATE! MONTH #?___

FOR WHAT DAY OF THE MONTH (should be yesterday)?___

IS THIS CORRECT? Y/N OR S(top) ___

Once you make this entry, the program checks to see if it has been run on this day, and whether the updating of records and precipitation totals are necessary. The next example is typical when first setting up the program.

CLI PROGRAM HAS NOT BEEN RUN FOR 0/ 0

EITHER START WITH THAT DAY OR UPDATE DATA FILES. A RETURN WILL ABORT THIS ROUTINE!

THIS IS A ROUTINE TO CREATE/UPDATE TOTALS.CLI.
TO ABORT THIS ROUTINE HIT RETURN.
****

YOU PROBABLY SHOULD NOT BE DOING THIS YOU SHOULD GO BACK AND RE-RUN THE DAY THAT WAS MISSED. BE SURE TO THEN SELECT (A) AND TRANSMIT TO AFOS

****

If you want to CREATE/EDIT this file enter (Y) ___

You should enter a Y as part of the initial setup of the CLI program. This is the place in the program where your actual monthly and annual precipitation, snow fall, heating and cooling degree day information is updated. These data are to be accumulative data up to but not including the date entered.

When you enter a Y you will see the following:

ENTER MONTH NUMBER? ___

FOR WHICH DAY? ___

The following are UP TO BUT NOT INCLUDING the above date!

Monthly total HDD? ___
Seasonal total HDD? ___
Monthly total CDD? ___
Seasonal total CDD? ___

*** This entry is if the MONTHLY SNOWFALL is ONLY a Trace.

ENTER (T) if a Trace (otherwise hit return)? ___

MONTHLY TOTAL SNOWFALL IN TENTHS? ___

SEASONAL TOTAL SNOWFALL IN TENTHS? ___

*** This entry is if the MONTHLY PRECIP is ONLY a Trace.

ENTER (T) if a Trace (otherwise hit return)? ___

MONTHLY TOTAL PRECIPITATION IN HUNDREDTHS? ___

SEASONAL TOTAL PRECIPITATION IN HUNDREDTHS? ___

Once you make these entries (using February 5 as an example) you will see:

TOTALS.CLI UPDATED! PROGRAM CAN BE RUN FOR 2/ 5

RESTART CLI

C:>

When you restart the CLI program, 2/5 is the day it will be looking for. In order for February 5 to be the data day, you naturally have to be somewhere into February 6. Therefore, the output message will be dated February 6 with some of the information marked "yesterday", etc. See an example output in Appendix B.

B. SOFTWARE STRUCTURE

CLI.EXE and CLISETUP.EXE were written in Microsoft QuickBASIC and compiled as stand-alone executable files. Subroutines were created within the main program code module. Files are opened and closed as quickly as possible with

extensive use of ON ERROR to flag the exact spot where problems might occur.

This error checking should be especially useful when first setting up the program. If one file is missing, the program CLI.EXE will stop and tell you the file name it tried to open. You can then go to the utility program CLISETUP.EXE and create this file. Initially, if the subdirectory CLI does not exist, the utility program will stop and tell you.

CLI.EXE is structured in such a way that a first check is made to see if the program has already been run for the date entered. Since it keeps track of record temperatures, this feature is very important. Each time the program is executed, the date is written into TOTALS.CLI.

Once the program determines the day is not being run a second time, the appropriate MAPSO file is opened and the high, low, snowfall, and precipitation is extracted.

All the data collection and file I/0 occur before any output is started. In fact, the user is prompted to enter the letter "A" to begin the output to AFOS/RTA. Only at the end of this section of the program is TOTALS.CLI updated.

The output to AFOS can be either at 1200 baud for normal use, or 300 baud when in dial backup. An option exists to indicate you are in dial backup; thereby configuring the Asynchronous port to 300 baud.

III. CAUTIONS AND RESTRICTIONS

The user of this program must realize that since there is no hardware signal control between the ABT and AFOS, the output logic assumes there is a listening AFOS/RTA system, (i.e. if the ABT is not coupled to an active AFOS/RTA system, the data transmission is lost).

When you start to enter data with CLISETUP, especially the main files with a year's worth of data, be aware that this process will take a substantial amount of time to finish. This is the (C)reate option. Once you have your data entered, you can always use the (E)dit option to clean up any mistakes.

Getting started can be a little tricky. The biggest problem will come in getting the right accumulative totals going. This entry is done from the main program. Remember, if you don't get started off right it can always be fixed. Read the setup and execution instructions.

If you are using CLI on an ABT, the serial port needs to be reinitialized before the ABT software is reloaded. The program COMI.COM on your ABT disk will accomplish this function; therefore, ABT users should run COMI after CLI.

IV. REFERENCES

Schwein, T., 1985 CRCP #14, AFOS applications program SUMMARY.SV as part of the F6.SV package producing the Daily Climate Summary.

APPENDIX A

File CDD.CLI

```
000,000,000,000,000,000,000,000,000,000,000,000
000,000,000,000,000,000,000,000,000,000,000,000
000,000,000,000,000,000,000,000,000,000,000,000
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000,000,000,000,000,000,000,000,000,000,000,000
000,000,000,000,000,000,000,000,000,000,000,000
000,000,000,000,000,000,000,000,000,000,000,000
```

File CLIDAT.CLI

```
PDXCLIASTWESPDT1ASTWSO ASTORIA OREGON
```

File SEASON.CLI

```
 2847 , 0 , 11.29
 3438 , 0 , 19.10
 4077 , 0 , 26.36
 4599 , 0 , 30.96
 4996 , 0 , 33.80
 5448 , 0 , 36.23
 158 , 7 , 37.27
 301 , 14 , 38.83
 500 , 14 , 41.94
 875 , 14 , 48.15
 1427 , 14 , 58.03
 2106 , 14 , 69.60
```

File TOTALS.CLI

```
12 5 1014642   0   10 T    0  15T T   17 2734
```

File HDD.CLI

```
024,022,021,019,015,010,006,004,005,009,016,020
024,022,021,019,015,010,006,004,005,009,016,021
024,022,021,019,015,010,006,004,005,009,016,021
024,022,021,019,015,010,006,004,005,010,016,021
024,022,021,019,014,010,006,004,005,010,017,021
024,022,021,019,014,010,006,004,005,010,017,021
024,021,021,019,014,010,006,004,006,010,017,021
024,021,021,019,014,009,005,004,006,010,017,021
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024,021,021,018,013,008,005,005,006,012,019,022
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024,020,020,016,012,008,005,005,007,013,020,022
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023,021,020,016,011,007,004,005,008,015,020,023
023,021,020,015,011,007,004,005,009,015,020,023
023,000,020,015,011,006,004,005,009,015,020,023
023,000,019,000,011,000,004,005,000,015,000,024
```

File MAXYR.CLI

```
981 , 954 , 981 , 987 , 971 , 970 , 967 , 974 , 972 , 988 , 969 , 958
981 , 962 , 986 , 987 , 971 , 970 , 972 , 967 , 972 , 980 , 970 , 958
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File MINYR.CLI

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File SUNR.CLI

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File SUNS.CLI

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ZCZC PDXCLIAST WES
TTAA00 KAST 231345
CLIMATIC SUMMARY FOR
NATIONAL WEATHER SERVICE WSO ASTORIA OREGON

   JUN 10  1989

 ...TEMPERATURE...

HIGH YESTERDAY... 61
 LOW YESTERDAY... 55
MEAN TEMP..... 58   DEPARTURE FROM NORMAL...    2

NORMAL HIGH FOR TODAY... 63
NORMAL  LOW FOR TODAY... 48
RECORD HIGH FOR TODAY...  73 SET IN 1986
RECORD  LOW FOR TODAY...  39 SET IN 1973

...DEGREE DAY DATA...

HEATING
YESTERDAY...    7 DEPARTURE...   -2
MONTH.....     39 DEPARTURE...  -49
SEASON..... 4943 DEPARTURE... -141

COOLING
YESTERDAY...    0 DEPARTURE...    0
MONTH.....      8 DEPARTURE...    8
SEASON.....     9 DEPARTURE...    9

...PRECIPITATION...

YESTERDAY..... 0
TOTAL FOR THE MONTH... T
NORMAL MONTH TO DATE..   0.81
TOTAL FOR THE YEAR....  30.18
NORMAL YEAR TO DATE...  34.61

SNOWFALL YESTERDAY... 0
SNOWFALL THIS MONTH.. 0
SNOWFALL THIS YEAR...   1.5

...WIND DATA IN MPH...

FASTEST 1-MIN WIND YESTERDAY... 13  FROM 330 DEGREES
PEAK WIND GUST YESTERDAY.....  18 FROM THE NW
AVERAGE WIND SPEED YESTERDAY... 9.2

SUNRISE TODAY...524 AM    PDT
SUNSET  TODAY...906 PM    PDT
SUNRISE TOMORROW...524 AM    PDT
SUNSET  TOMORROW...907 PM    PDT

END...
NNNN
```

CLI.EXE

PART A: PROGRAM INFORMATION AND INSTALLATION

PROGRAM NAME: CLI.EXE

PURPOSE: This program will automatically produce a climatic summary at any weather office using MAPSO. If MAPSO files are not present, it will prompt the user for input and can still be used to produce a summary. The intent of this program is to produce an output similar to the AFOS applications program SUMMARY.SV (CRCP #14 T. Schwein Dec 1985), but without the need for daily climate entries via the AFOS dasher.

PROGRAM INFORMATION:

Development Programmer:
Joe L. Johnston
Location: WSO Astoria
Phone: (503) 861-2722

Maintenance Programmer:
Joe L. Johnston
Location: WSO Astoria
Phone: (503) 861-2722

System: IBM-PC or Compatible
Language: Microsoft QuickBASIC
Compiler: Microsoft QuickBASIC version 4.0
Program Creation Dates: 7/2/1989
Running Time: 60 to 80 seconds
Disk Space: 105K total

PROGRAM REQUIREMENTS:

Files	Location	Comments
CLI .EXE	C:	Main program should reside on Drive C
TOTALS.CLI	C:\CLI	Created by CLT.EXE monthly/yearly data
RECL .CLI	C:\CLI	Record minimum temperatures
MINYR .CLI	C:\CLI	The year min records occurred
RECH .CLI	C:\CLI	Record maximum temperatures
MAXYR .CLI	C:\CLI	The year max records occurred
HDD .CLI	C:\CLI	Normal daily Heating Degree Days
CDD .CLI	C:\CLI	Normal daily Cooling Degree Days
NMAX .CLI	C:\CLI	Normal daily high temperatures
NMIN .CLI	C:\CLI	Normal daily low temperatures
NRMT .CLI	C:\CLI	Normal daily average temperatures
PCPN .CLI	C:\CLI	Normal daily precipitation
SUNR .CLI	C:\CLI	Daily sunrise in local standard time
SUNS .CLI	C:\CLI	Daily sunset in local standard time
SEASON.CLI	C:\CLI	Accumulative monthly HDD, CDD & PCPN
CLIDAT.CLI	C:\CLI	Contains AFOS addressing and time zone

Also needed are current MAPSO files

PROGRAM INSTALLATION:

A directory must be created on Drive C with the name CLI. The data files must be located within that directory. CLISETUP.EXE will automatically store these files in the CLI subdirectory for you, but the subdirectory must exist first. The main program module CLI.EXE and utility program CLISETUP.EXE can be called from any location, but it is best to locate and run the programs from Drive C.

All *.CLI data files must be created locally. One way to do this is to use the utility program CLISETUP.EXE. This is a "User Friendly" program that will assist you in setting up all the files necessary to run CLI.EXE.

These files can also be created with the DOS text editor EDLIN, using the insert function. Each EDLIN line number prompt can be used to keep track of which day of the month you are on, and each month of data is separated by commas.

The example below would be daily precipitation normals for the first two days of January through December:

38,32,26,20,11,9,5,3,7,14,27,36 <-- Day 1 Jan through Dec
38,31,25,19,11,9,5,3,7,15,28,36 <-- Day 2 Jan through Dec

CLISETUP will create these files in subdirectory CLI of drive C. CLISETUP can be used to make corrections to existing files, if the need arises.

Most entries for these data files are in whole numbers. A sunrise of 6:02 would be entered 602, a daily normal .24 for precipitation as 24. MAXYR.CLI and MINYR.CLI contain the year of occurrence of the record highs and record lows. Enter the last three digits of the year, e.g. 1989 is entered as 989.

SEASON.CLI contains three columns and twelve rows representing accumulative normals for HDD, CDD and PRECIPITATION. Accumulative HDD begins with the month of July, while the CDD and PRECIPITATION start with December. <u>These precipitation entries must be in hundredths of inches</u>. When you use the utility program and select the option for creating SEASON.CLI, only the monthly normals have to be entered. The software will properly generate the accumulation file for you.

Example of SEASON.CLI

2847,00,11.29
3438,00,19.10
4077,00,26.36
4599,00,30.96
4996,00,33.80
5248,00,36.23
158,07,37.27
301,14,38.83
500,14,41.94
875,14,48.15
1427,14,58.03
2106,14,69.60

The CDD normals begin to accumulate until July, and the total rainfall by the end of November is 58.03 inches. HDD totals 5248 for a normal year which is shown for the end of June in the file.

CLIDAT.CLI contains AFOS routine, time zone, and station name:

PDXCLIASTWESPST0ASTWSO ASTORIA OREGON

PDXCLIAST	=	AFOS storage location
WES	=	Routed to Western Region (Async routine)
PST0	=	Label PST zone and add 0 hours use PDT1 for Daylight time
AST	=	WMO origination station for the AFOS output
Stn Name	=	a 30 Character field, e.g., WSO ASTORIA, OREGON

PART B: PROGRAM EXECUTION AND ERROR CONDITIONS

PROGRAM NAME: CLI.EXE

PROGRAM EXECUTION:

Leave MAPSO by typing EXIT at the command line and hit ESC to get out of the ABT and Communication menus. At the DOS prompt, type CLI and hit return. Follow the same procedure for CLISETUP.

The following are examples of what you will see when running CLI:

```
TO RETRANSMIT THE CLI CREATED
(Based on 0/0 data) enter Y

DATE/TIME ENTRIES ARE FOR THE DATA DAY (Yesterday)
CAUTION!!!   THE MAPSO MIDNIGHT COMMAND MUST
HAVE BEEN COMPLETED FIRST BEFORE RUNNING CLI!

REMEMBER...INPUT IS YESTERDAY'S DATE!    MONTH #?__
FOR WHAT DAY OF THE MONTH (should be yesterday)?__
IS THIS CORRECT?  Y/N OR S(top) __
```

Once you make this entry, the program checks to see if it has been run on this day in order to maintain accurate records and precipitation totals. The first time you start CLI (providing you are not using an old TOTALS.CLI file), the following message will prompt you to generate a current TOTALS.CLI file:

```
CLI PROGRAM HAS NOT BEEN RUN FOR   0/  0

     EITHER START WITH THAT DAY OR
     UPDATE DATA FILES.  A RETURN
     WILL ABORT THIS ROUTINE!

THIS IS A ROUTINE TO CREATE/UPDATE TOTALS.CLI
   TO ABORT THIS ROUTINE HIT RETURN

************************************************
* YOU PROBABLY SHOULD NOT BE DOING THIS        *
* YOU SHOULD GO BACK AND RE-RUN THE DAY        *
* THAT WAS MISSED.  BE SURE TO THEN            *
* SELECT (A) AND TRANSMIT TO AFOS              *
************************************************

If you want to CREATE/EDIT this file enter (Y) __
```

Notice the warning message! This is here because during the normal running of the program an operator will occasionally enter the wrong date. Thus, a person is reminded to go back and run the date indicated. This message is just a little insurance to keep the data files current. Keeping accurate record high and low temperatures depends on running the program daily.

When running the program for the first time, you should enter a Y to input the following information:

ENTER MONTH NUMBER? __ (enter your starting month)
FOR WHICH DAY? __ (and starting day)

The following data is UP TO BUT NOT INCLUDING the above date!

Monthly total HDD? __
Seasonal total HDD? __
Monthly total CDD? __
Seasonal total CDD? __
*** This entry is if the MONTHLY SNOWFALL is ONLY a Trace
ENTER (T) if a Trace (otherwise hit return)? __
MONTHLY TOTAL SNOWFALL IN TENTHS? __
SEASONAL TOTAL SNOWFALL IN TENTHS? __
*** This entry is if the MONTHLY PRECIP is ONLY a Trace
ENTER (T) if a Trace (otherwise hit return)? __
MONTHLY TOTAL PRECIPITATION IN HUNDREDTHS? __
SEASONAL TOTAL PRECIPITATION IN HUNDREDTHS? __

Once you make these entries (for February 5 for example) you will see:

TOTALS.CLI UPDATED! PROGRAM CAN BE RUN FOR 2/ 5

RESTART CLI
C:>

THIS IS VERY IMPORTANT!!!! If you make a mistake entering data, restart the program with a fictitious date which is prior to the one you just entered; otherwise the program will try to run and you may cause some unwanted updating of the record high and low files. This fictitious date will restart the TOTALS.CLI update routine, so you can re-enter the correct starting date followed by your correct starting data.

ERROR CONDITIONS:

If this program finds missing or no MAPSO data the option will be given to enter your high, low, precipitation, and snowfall plus the year, and then continue on with the program as usual.

You will not be allowed to run the same day twice. If a future day is entered, the program will abort and tell you why.

If the CLIDAT.CLI file is missing, the program will abort.

Any problem with opening or reading any one of the 13 main data files will abort the program. A message will be generated on the screen alerting the operator which file was at fault.

When you select the "A" option to transmit the output to AFOS the program does not check for DTR or CTS from AFOS or RTA. It assumes AFOS or RTA is up and functioning. The operator will be alerted at the screen with the PIL and the addressee of the product.

No output is begun by the program until all file and data handling are completed successfully. Until the output is produced, the TOTALS.CLI file is not updated. At this point, however, it would be possible to have updated a record high or a record low temperature. In this case, it would be necessary to use the CLISETUP utility program to correct the appropriate files. Two files (RECH.CLI & MAXYR.CLI) are involved when changes occur in either record high or record low temperatures.

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