Users Guide for

ASOS Daily and Monthly Summary Messages

Table of Contents

ACRONYMS

| | |
|---|---|
| AFOS | Automation of Field Operations and Services |
| ASOS | Automated Surface Observing System |
| DSM | Daily Summary Message |
| LST | Local Standard Time |
| METAR | Aviation Routine Weather Report |
| MOS | Model Output Statistics |
| MPH | Miles Per Hour |
| MSM | Monthly Summary Message |
| NWS | National Weather Service |
| OID | Operator Interface Device |
| PLCD | Preliminary Local Climatological Data |
| SPECI | Aviation Selected Special Weather Report |
| UTC | Universal Time Coordinated |

## 1.0  **Introduction**

   Daily Summary Messages (DSM) and Monthly Summary Messages (MSM) will be available starting with Automated Surface Observing System (ASOS) Acquisition Control Unit software version 2.6.  These new products are coded messages; they will be used with Aviation Routine Weather Reports (METAR) and Aviation Selected Special Weather Report(SPECI) at commissioned ASOS sites to create the Preliminary Local Climatological Data (PLCD) for the site.  They will also be used to support National Weather Service (NWS) public services, daily and monthly climate messages, aviation services, statistical forecast guidance, public forecast verification, and the creation of various Climate Analysis Center products.

   This document summarizes DSMs and MSMs and describes how to read and decode the messages (Chapters 2 and 3).  Important Operator Interface Device (OID) screens (Chapter 5) such as the Site Physical Characteristics and External Communications screens are discussed and examples given.  The Site Physical Characteristics screen (section 5.1) is used to program ASOS to generate and set communication transmission times for DSMs, intermediate DSMs, and MSMs.  The External Communications Screen (section 5.2) displays the telephone number(s) that ASOS dials to transmit these messages, the AWIPS LDAD and address they will be sent to, and the product identifier.  In addition to these screens, examples of the Daily Summary Product and Message, and Monthly Summary Product and Message are given.

## 2.0  **Daily Summary Messages**

Primary and intermediate DSMs will use the same general message format, described below.  The primary DSM makes accommodations for all the necessary data to be transmitted to complete the PLCD for the day.  Data are also provided for the national forecast verification program for disseminated Model Output Statistics (MOS) guidance.  Intermediate messages are used to help produce the local climatological products prior to the end of the day, as well as other routine public service products.

In these messages, missing data are indicated by an "M," data beyond the capability of ASOS (i.e., no sensor or algorithm) are designated by an "N," data not yet observed or computed for the day are indicated by a dash "-" (intermediate message only), and estimated data are annotated appropriately. A blank space separates the alphanumeric station identifier (YYYY), daily summary code (DS), and correction (COR); it also is used to separate multiple estimated parameters.

## 2.1  **Primary DSM**

### PRIMARY DAILY SUMMARY MESSAGE

YYYY DS (COR) DaDa/MoMo SnTxTxTxtime/SnTnTnTntime//SnMMM/SnNNN//
SLPmmtime/PPPP/$P_1$PPP/$P_2$PPP/$P_3$PPP/$P_4$PPP/$P_5$PPP/$P_6$PPP/$P_7$PPP/
$P_8$PPP/$P_9$PPP/$P_{10}$PPP/$P_{11}$PPP/$P_{12}$PPP/$P_{13}$PPP/$P_{14}$PPP/$P_{15}$PPP/
$P_{16}$PPP/$P_{17}$PPP/$P_{18}$PPP/$P_{19}$PPP/$P_{20}$PPP/$P_{21}$PPP/$P_{22}$PPP/$P_{23}$PPP/
$P_{24}$PPP/FaFaFa/ddffftttt/DDFFFTTTT/WWWWW/SSSSpSpSp/SwSwSw/DDD/
CsCsCmCm/(Remarks)

Explanation of Daily Summary Message Text:

YYYY        Alphanumeric station identifier, 3 or 4 characters

DS          Daily Summary Code

(COR)       Correction.  The parentheses indicate that it is not routinely
            transmitted.

DaDa        Day of the month (01-31)

MoMo        Month of the year (01-12)

Sn          Sign indicating whether the value is negative (-) or positive
            (blank).

TxTxTx      Maximum temperature for the calendar day (midnight to midnight,
            local standard time [LST]), reported in whole degrees
            Fahrenheit.

| time | Time of occurrence (for maximum temperature, minimum temperature, and minimum sea-level pressure) reported in hours and minutes, LST, using a 24-hour clock. |

TnTnTn      Minimum temperature for the calendar day (midnight to midnight, LST) reported in whole degrees Fahrenheit.

MMM[1]      On the same calendar day, the maximum temperature, from 7 a.m. to 7 p.m. LST.  The temperature shall be reported in whole degrees Fahrenheit.  (It is used for MOS forecast verification.)

NNN[1]      Nighttime minimum temperature, from 19:00 LST previous calendar day to 08:00 LST current calendar day, reported in whole degrees Fahrenheit.  (It is used for MOS forecast verification.)

SLPmm       Minimum sea-level pressure for the day, reported to the nearest .01 inches of Hg.

PPPP        Total water equivalent precipitation for the day (midnight-to-midnight, LST).  Value shall be reported in hundredths of an inch.

$P_nPPP$    Hourly precipitation amount for each hour of the observing day (n ranges from 1 to 24) reported in  hundredths of a inch.  For example, $P_2PPP$ is the amount from 01:00 through 01:59 LST.

FaFaFa      Average 2-minute wind speed for the day, reported in tenths of miles per hour (mph).

dd          Direction of the 2-minute fastest wind speed, reported in tens of degrees.

fff         Speed of the 2-minute fastest wind speed, reported in mph.

tttt        Time of the 2-minute fastest wind speed, reported in hours and minutes (LST) using a 24-hour clock.

DD          Direction of the day's peak wind, reported in tens of degrees.

FFF         Speed of the day's peak wind, reported in mph.

TTTT        Time of the day's peak wind, reported in hours and minutes (LST) using a 24-hour clock.

_____
 **1 -  These values are entered between double slants (//) to indicate they are not calendar day statistics.**

            Note:  A DSM cannot end with "N."  If "N" is the appropriate value for any of the following and no remark is given, TTTT will be the last reported variable.

WWWWW       Weather occurrence symbols.  Codes 1, 2, 3, 4, 5, 7, 8, 9, and X

are currently available.  (1 is fog, 2 is fog reducing
visibility to 1/4 mile or less, 3 is thunder, 4 is ice pellets,
5 is hail, 7 is duststorm or sandstorm reducing visibility to
1/4 mile or less, 8 is smoke or haze, 9 is blowing snow, and X
is tornado.)  Weather occurrences that may be automated are 1,
2, 3, and 8.  If no significant weather (1, 2, 3, 4, 5, 7, 8, 9,
or X) is encoded for the day, an "N" is encoded in the message.

SSS            Minutes of sunshine, reported in whole minutes (**when available
               or if augmentation is available**).

SpSpSp         Percentage of sunshine observed, to the nearest whole percent
               (**when available or augmented**).  It is found by comparing SSS to
               maximum minutes of sunshine possible at the ASOS location.

SwSwSw         Total amount, unmelted, of solid precipitation (snowfall or ice
               pellets) that fell in the 24-hour period ending at midnight LST,
               reported in tenths of an inch (**when available or augmented**).

DDD            Depth of snow, ice pellets, or ice on the ground at a designated
               observation time, reported in whole inches (**when available or
               augmented**).

CsCs           Average daily sky cover from sunrise to sunset, in tenths of sky
               cover (**when available or augmented**).

CmCm           Average daily sky cover, midnight to midnight LST, in tenths of
               sky cover (**when available or augmented**).

(Remarks)      See table below for remarks used to indicate that estimated data
               are used.  Parentheses indicate that this field is transmitted
               only when estimated data are contained in the summary message.

   **TABLE:  REMARKS INDICATING ESTIMATED DATA IN THE DSM**

              Remark            Definition

               ET     - Estimated Temperature
               Epr    - Estimated Pressure
               EP     - Estimated Precipitation
               EW     - Estimated Wind
               ES     - Estimated Sunshine
               ESw    - Estimated Snowfall
               ESd    - Estimated Snow Depth
               EC     - Estimated Sky Cover

     ASOS encodes the DSMs to the fullest extent for which data exist.  After
the last data field is encoded, the remainder of the DSM is truncated.  It
should be noted that a value of "N" is not considered significant and will not
appear in the message.  However, if estimated data are included in the summary
message, a remark is included in the message.

     In an effort to keep the number of characters transmitted to a minimum,
these messages will not be generated in fixed-field format.  Please note that

a minimum of two digits is encoded for the temperature, excluding the Sn character (e.g., -2°F = -02,
0°F = 00, 99°F = 99, and 105°F = 105).  The minimum sea-level pressure will always have three digits encoded (e.g., 29.99 = 999).  Precipitation amounts will be encoded as:  "0" (non-occurrence), "T" (trace), or the observed amount (e.g., 0.01 of an inch = 01, 1.11 inches = 111, 23.11 inches = 2311).  Wind speeds are encoded in at least two digits.  Wind direction is encoded in two digits.  All times are entered in four digits, based on a 24-hour clock (e.g., 0023 LST = 0023, 2045 LST = 2045).  The number of days, or dates of occurrence, are encoded as two digits (e.g., 01 or 31).  The minutes of sunshine have at least one digit encoded (e.g., 0, 9, 54, 245).  The percentage of possible sunshine is either two or three digits (e.g., 00, 09, 100).

Based on the initial operating capabilities of ASOS, the text portion of the message from a site where augmentation is not available will be limited to:

YYYY DS (COR) DaDa/MoMo SnTxTxTx**time**/SnTnTnTn**time**
//SnMMM/SnNNN//SLPmm**time**/PPPP/$P_1$PPP/$P_2$PPP/$P_3$PPP/$P_4$PPP/
$P_5$PPP/$P_6$PPP/$P_7$PPP/$P_8$PPP/$P_9$PPP/$P_{10}$PPP/$P_{11}$PPP/$P_{12}$PPP/
$P_{13}$PPP/$P_{14}$PPP/$P_{15}$PPP/$P_{16}$PPP/$P_{17}$PPP/$P_{18}$PPP/$P_{19}$PPP/
$P_{20}$PPP/$P_{21}$PPP/$P_{22}$PPP/$P_{23}$PPP/$P_{24}$PPP/FaFaFa/
ddffftttt/DDFFFTTTT/WWWWW/(Remarks)

**EXAMPLE 1:**

XYZ1 DS 01/12 1151642/-020431//115/-10//9901644/1069/
0/0/0/0/0/0/0/0/T/01/05/04/T/300/400/50/200/
100/01/02/02/03/01/T/256/31451627/32571623/2

For the station identified as "XYZ1," the primary DSM for December 1 shows that this station reported a daily maximum of 115°F, which occurred at 4:42 p.m. (1642) LST, and a minimum of -2°F occurred at 4:31 a.m. (0431) LST.  The maximum temperature observed on the 1st from 7 a.m. through 7 p.m. (1900) LST was 115°F; the minimum temperature observed from 7 p.m. on November 30 through 8 a.m. LST on December 1 was -10°F.  (The last two values are encoded between double slants to indicate that they are not calendar day statistics.)  A minimum sea-level pressure of 29.90 (in. of Hg) occurred at 4:44 p.m. (1644) LST, and the precipitation for the day (liquid equivalent) was 10.69 inches.  The hourly precipitation (liquid equivalent) for each hour during the day is presented in the table below.  The station had an average 2-minute wind speed of 25.6 mph, a fastest 2-minute wind from 310 degrees at 45 mph was observed at 1627 LST, a peak wind was from 320 degrees at 57 mph at 1623 LST, and fog reducing visibility to 1/4 mile or less was detected by ASOS.  Since no additional daily summary data exist from this site, the message encoding ends with the weather occurrence data field (WWWWW).

As new sensors are developed and commissioned, or if aug-mentation

occurs, the DSM will be expanded to accommodate the data.  The daily summary product will show the hourly incremental precipitation values shown.  The precipitation at "0059" corresponds to the amount that fell from minute 00:00 to 00:59.

**TABLE:  24-HOUR PRECIPITATION (LIQUID EQUIVALENT)**

| Hour | Precipitation (inches) |
|------|------------------------|
| 0059 | 0.00 |
| 0159 | 0.00 |
| 0259 | 0.00 |
| 0359 | 0.00 |
| 0459 | 0.00 |
| 0559 | 0.00 |
| 0659 | 0.00 |
| 0759 | 0.00 |
| 0859 | Trace |
| 0959 | 0.01 |
| 1059 | 0.05 |
| 1159 | 0.04 |
| 1259 | Trace |
| 1359 | 3.00 |
| 1459 | 4.00 |
| 1559 | 0.50 |
| 1659 | 2.00 |
| 1759 | 1.00 |
| 1859 | 0.01 |
| 1959 | 0.02 |
| 2059 | 0.02 |
| 2159 | 0.03 |
| 2259 | 0.01 |
| 2359 | Trace |

**EXAMPLE 2:**

XYZ1 DS COR 12/03 781759/560611//78/55//9821751/M/M/M/M/M/
M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/101/18161602/
20221215/13/N/0/0/1008/ET

In this example, a corrected primary DSM was transmitted for March 12.
The maximum temperature was 78°F at 1759 LST and the minimum temperature
was 56°F at 0611 LST.  The maximum temperature from 0700 through 1900
LST was 78°F, while the minimum temperature observed from 1900 LST on
the 11th through 0800 LST on the 12th was 55°F.  The minimum sea-level
pressure was 29.82 (in. of Hg) at 1751 LST.  The daily precipitation
amount is missing, along with the hourly precipitation amounts for the
day.  The average 2-minute wind speed was 10.1 mph.  The fastest 2-
minute wind was from 180 degrees, at 16 mph, which occurred at 1602 LST.
The peak wind was from 200 degrees at 22 mph at 1215 LST.  The weather
included fog and thunderstorm(s).  An "N" is encoded for the minutes of
sunshine since this ASOS site does not have the capability to observe
this element.  A zero is encoded in the fields of snowfall and snow
depth, through augmentation, signifying that these parameters did not

6

occur.  The average daily sky cover (sunrise to sunset) is ten-tenths, and the average daily sky cover (midnight to midnight) is eight-tenths. The remark "ET" indicates that the temperature data are estimated.

In this example, if the average daily sky cover amounts, snowfall, and snow depth were not included through augmentation, the primary DSM would have been:

XYZ1 DS COR 12/03 781759/560611//78/55//9821751/M/M/M/M/M/M/
M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/101/18161602/
20221215/13/ET

Likewise, if a sunshine sensor were commissioned at the site, and 500 minutes of sunshine were observed this day (i.e., 82% of the possible sunshine), the primary DSM would have been:

XYZ1 DS COR 12/03 781759/560611//78/55//9821751/M/M/M/M/M/M/
M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/M/101/18161602/
20221215/13/50082/ET

Each day, ASOS transmits the primary DSM for the previous day, at the time scheduled in the Site Physical Characteristics Screen (see section 5.1.1).  The operator has 4 days to make any corrections.  At the end of the fourth day, at 0030 LST, the correction to the primary DSM will be transmitted if any changes have been made.

If the primary DSM is not transmitted at its scheduled time, ASOS will attempt to transmit it one hour after the scheduled time; if that transmission is not successful, ASOS will attempt another transmission 2 hours after the scheduled time.

The primary DSM will be retained on-site, in ASOS's short-term storage, for a minimum of 10 days from the time it was last transmitted.  Therefore, a corrected summary message must also be retained for 10 days.

## 2.2  **Intermediate Daily Summary Message**

In addition to the primary DSM discussed in section 2.1, ASOS sites will have the capability to transmit DSMs at three additional "intermediate" times during the day.  At these times, the DSM, as updated so far for the day, will be transmitted.  The three additional, optional, transmission times will be programmable by the ASOS site's system manager (see section 5.1.2).  The system manager should check to ensure that transmissions do not conflict with policy guidelines from NWS Headquarters or the NWS regions.

The format for the intermediate DSM is shown below.  It is essentially the same as the primary DSM.  The only differences are the addition of the message valid time (ZZZZ), the removal of the COR for corrected reports, removal of the percentage of sunshine possible (SpSpSp), and the removal of the average daily sky cover information (CsCsCmCm).  Through ASOS, it is not necessary to generate corrected intermediate DSMs.

**INTERMEDIATE DAILY SUMMARY MESSAGE**

YYYY DS ZZZZ DaDa/MoMo SnTxTxTx**time**/SnTnTnTn**time**//SnMMM/SnNNN//
SLPmm**time**/PPPP/$P_1$PPP/$P_2$PPP/$P_3$PPP/$P_4$PPP/$P_5$PPP/$P_6$PPP/
$P_7$PPP/$P_8$PPP/$P_9$PPP/$P_{10}$PPP/$P_{11}$PPP/$P_{12}$PPP/$P_{13}$PPP/$P_{14}$PPP/
$P_{15}$PPP/$P_{16}$PPP/$P_{17}$PPP/$P_{18}$PPP/$P_{19}$PPP/$P_{20}$PPP/$P_{21}$PPP/$P_{22}$PPP/
$P_{23}$PPP/$P_{24}$PPP/FaFaFa/ddffftttt/DDFFFTTTT/WWWWW/
SSS/SwSwSw/DDD/(Remarks)

Based on the initial operating capabilities of ASOS, the text portion of the message will be limited to:

YYYY DS ZZZZ DaDa/MoMo SnTxTxTx**time**/SnTnTnTn**time**//SnMMM/SnNNN//
SLPmm**time**/PPPP/$P_1$PPP/$P_2$PPP/$P_3$PPP/$P_4$PPP/$P_5$PPP/$P_6$PPP/
$P_7$PPP/$P_8$PPP/$P_9$PPP/$P_{10}$PPP/$P_{11}$PPP/$P_{12}$PPP/$P_{13}$PPP/$P_{14}$PPP/
$P_{15}$PPP/$P_{16}$PPP/$P_{17}$PPP/$P_{18}$PPP/$P_{19}$PPP/$P_{20}$PPP/$P_{21}$PPP/$P_{22}$PPP/
$P_{23}$PPP/$P_{24}$PPP/FaFaFa/ddffftttt/DDFFFTTTT/WWWWW/(Remarks)

The following example shows how the primary and intermediate DSMs could be used.

**EXAMPLE 3:**

Let's say it is March 2 at midnight LST.  At 0015 LST, the primary DSM for March 1 has been programmed to be transmitted.  The system manager has also programmed ASOS to transmit intermediate DSMs at 0610, 1715, and 2210 LST.  At these times on March 2, intermediate DSMs will also be transmitted based on the daily summary information calculated so far for the day.  (These intermediate messages would be used to support NWS public services.)  At 0015 LST on March 3, the completed primary DSM for March 2 will be transmitted.

The message transmitted at 0610 LST is shown below.  Notice that the valid time (0600 LST) is encoded prior to the day/month (i.e., 02/03).  Since ASOS updates the entire daily summary product every hour, on the hour, a message transmitted at 0610 LST will contain only data that are in the 0600 LST update of the daily summary product.

```
XYZ1 DS 0600 02/03 610111/560534//82/56//9820251/
01/0/0/T/01/T/T/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/121/
18150312/20210545/1/N/0/0/ET
```

In this example, an intermediate daily summary was transmitted at 0610 LST for March 2.  It includes data from midnight to 6 a.m. LST.  The maximum temperature so far for the day was 61°F at 0111 LST and the minimum temperature was 56°F at 0534 LST.  The maximum temperature for March 1 from 0700 through 1900 LST was 82°F.  The minimum temperature from March 1 at 1900 LST through March 2 at the 0600 update time was 56°F.  The minimum sea-level pressure was 29.82 (in. of Hg) at 0251 LST.  The daily precipitation amount, so far for the day, was 0.01 of an inch.  The hourly precipitation amounts for the hours from 0000 LST through 0600 LST were:  0, 0, Trace, 0.01, Trace, and Trace.  The dashes indicate that the data in these fields are yet to be observed.  The average 2-minute wind speed so far this day has been 12.1 mph.  The fastest 2-minute wind was from 180 degrees, at 15 mph, which occurred at 0312 LST.  The peak wind, was from 200 degrees at 21 mph at 0545 LST.  The weather so far includes fog.  An "N" is encoded for the minutes of sunshine since ASOS does not have the capability to observe this element.  A zero is encoded in the fields of snowfall and snow depth, through augmentation, signifying that these parameters did not occur.  The remark "ET" indicates that the temperature data are estimated.

It should be noted that it is not necessary to retransmit or send corrected intermediate DSMs transmitted by an ASOS site.  Only the most current intermediate message is retained in ASOS's memory.  This means that unlike primary DSMs, which can be retransmitted 1 or 2 hours after the scheduled transmission time, the intermediate DSMs cannot.

## 3.0  Monthly Summary Message

The following is a description of the MSM that will be generated by ASOS. It will be used to help generate the PLCD for the month and for other purposes.

YYYY MS (COR) MoMo SnTxTxTx-DxDxDxDxDxDx/SnTnTnTn-DnDnDnDnDnDn/
$\overline{SnTxTxTx}$/$Sn\overline{TnTnTn}$/$Sn\overline{TTT}$/$Dx_{32}Dx_{32}Dx_{90}Dx_{90}Dn_{32}Dn_{32}Dn_{00}Dn_{00}$/HHHH/
CCCC/$\overline{XXXXX}$/$\overline{SLP}$/SLPmmDmDm**time**(+)/SPLnnDnDn**time**(+)/MpMpMpMpMp/
$Pd_{01}Pd_{01}Pd_{10}Pd_{10}Pd_{50}Pd_{50}Pd_{100}Pd_{100}$/PmPmPmPmDpDpDpDp(+)/$P_5$PPDDTTTT/
$P_{10}$PPPDDTTTT/$P_{15}$PPPDDTTTT/$P_{20}$PPPDDTTTT/$P_{30}$PPPDDTTTT/$P_{45}$PPPDDTTTT/
$P_{60}$PPPDDTTTT/$P_{80}$PPPDDTTTT/$P_{100}$PPPDDTTTT/$P_{120}$PPPDDTTTT/$P_{150}$PPPDDTTTT/
$P_{180}$PPPDDTTTT/SSSSSpSpSp/SmSmSmDsDsDsDs(+)/SgSgSgSgDmDm(+)/
McMcMpcMpcMcdMcd/(Remarks)

Explanation of MSM Text:

YYYY          Alphanumeric station identifier, 3 or 4 characters

MS            Monthly Summary code

(COR)         Correction.  The parentheses indicate that it is not routinely
              transmitted.

MoMo        Month of the year (01-12)

Sn            Sign indicating whether the value is negative (-) or positive
              (blank).

TxTxTx        Maximum temperature observed during the month, reported in whole
              degrees Fahrenheit.

-             Indicator that date information follows and that
              up to three dates may be encoded.

DxDx          Date(s) of occurrence of TxTxTx (01-31).

TnTnTn        Minimum temperature observed during the month, reported in whole
              degrees Fahrenheit.

DnDn          Date(s) of occurrence of TnTnTn (01-31).

$\overline{TxTxTx}$        Average daily maximum temperature, reported to the nearest 0.1
              degree Fahrenheit.

$\overline{TnTnTn}$        Average daily minimum temperature, reported to the nearest 0.1
              degree Fahrenheit.

$\overline{TTT}$          Average monthly temperature, reported to the nearest 0.1 degree
              Fahrenheit.

$Dx_{32}Dx_{32}$  Number of days with a maximum temperature of less than or equal to 32°F (encoded as two digits).

$Dx_{90}Dx_{90}$  Number of days with a maximum temperature greater than or equal to 90°F, or 70°F in NWS Alaska Region (encoded as two digits).

$Dn_{32}Dn_{32}$  Number of days with a minimum temperature less than or equal to 32°F (encoded as two digits).

$Dn_{00}Dn_{00}$  Number of days with a minimum temperature of less than or equal to 0 degrees Fahrenheit (encoded as two digits).

HHHH  Monthly total of heating degree days.

CCCC  Monthly total of cooling degree days.

$\overline{XXXXX}$  Monthly mean station pressure, reported to the nearest 0.005 inch of Hg.

$\overline{SLP}$  Monthly mean sea-level pressure, reported to the nearest 0.01 inch of Hg.

SLPmm  Monthly maximum sea-level pressure, reported to the nearest 0.01 inch of Hg.

DmDm  Date of occurrence of SLPmm (01-31).

time  Time of occurrence of SLPmm, reported in hours and minutes (LST) using a 24-hour clock.

(+)  "+" indicates last of several occurrences.  The parentheses indicate that this field is not routinely transmitted.

SLPnn  Monthly minimum sea-level pressure, to the nearest 0.01 inch of Hg.

time  Time of occurrence of SLPnn, reported in hours and minutes (LST) using a 24-hour clock.

DnDn  Date of occurrence of SLPnn (01-31).

MpMpMpMpMp  Monthly total precipitation (water equivalent), reported to the nearest 0.01 inch.

$Pd_{01}Pd_{01}$  Number of days with precipitation greater than or equal to 0.01 inch.

$Pd_{10}Pd_{10}$  Number of days with precipitation greater than or equal to 0.10 inch.

$Pd_{50}Pd_{50}$  Number of days with precipitation greater than or equal to 0.50 inch.

$Pd_{100}Pd_{100}$      Number of days with precipitation greater than or equal to 1
                inch.

$PmPmPmPm$      Greatest precipitation in 24 hours (water equivalent) reported to
                the nearest 0.01 inch.

$DpDpDpDp$      Date(s) of occurrence of PmPmPmPm (01-31).

$P_5PP$          Short-duration precipitation (5-minute maximum),     reported to
                the nearest 0.01 inch.

DD              Date on which the short-duration precipitation ended (01-31).

TTTT            Time of the ending of the specified short-duration precipitation,
                reported in hours and minutes (LST) using a 24-hour clock.

$P_{10}PPP$       Short-duration precipitation (10-minute maximum), reported to
                the nearest 0.01 inch.

$P_{15}PPP$       Short-duration precipitation (15-minute maximum), reported to
                the nearest 0.01 inch.

$P_{20}PPP$       Short-duration precipitation (20-minute maximum), reported to
                the nearest 0.01 inch.

$P_{30}PPP$       Short-duration precipitation (30-minute maximum), reported to
                the nearest 0.01 inch.

$P_{45}PPP$       Short-duration precipitation (45-minute maximum), reported to the
                nearest 0.01 inch.

$P_{60}PPP$       Short-duration precipitation (60-minute maximum), reported to the
                nearest 0.01 inch.

$P_{80}PPP$       Short-duration precipitation (80-minute maximum), reported to the
                nearest 0.01 inch.

$P_{100}PPP$      Short-duration precipitation (100-minute maximum), reported to
                the nearest 0.01 inch.

$P_{120}PPP$      Short-duration precipitation (120-minute maximum), reported to the
                nearest 0.01 inch.

$P_{150}PPP$      Short-duration precipitation (150-minute maximum),  reported to
                the nearest 0.01 inch.

$P_{180}PPP$      Short-duration precipitation (180-minute maximum),  reported to
                the nearest 0.01 inch.

SSSS            Hours of sunshine, reported to the nearest 0.1 hour.

$SpSpSp$        Percentage of sunshine observed, to the nearest whole percent.

SmSmSm        Greatest snowfall in 24 hours, to the nearest 0.1 inch.

DsDsDsDs      Date(s) of occurrence of the greatest snowfall SmSmSm (01-31).

SgSgSgSg      Greatest snow depth during the month, reported to the nearest
              whole inch.

DmDm          Date of occurrence of the greatest snow depth SgSgSg (01-31).

McMc          Number of clear days (00-31).

MpcMpc        Number of partly cloudy days (00-31).

McdMcd        Number of cloudy days (00-31).

(Remarks)     See table below for remarks used to indicate estimated data.
              Parentheses indicate that this field is transmitted only when
              estimated data are contained in the summary message.

**TABLE:  REMARKS INDICATING ESTIMATED DATA IN THE MSM**

            Remark              Definition

              ET      - Estimated Temperature
              EPr     - Estimated Pressure
              EP      - Estimated Precipitation
              ES      - Estimated Sunshine
              ESw     - Estimated Snowfall
              ESd     - Estimated Snow Depth
              EC      - Estimated Sky Cover

     ASOS encodes the MSM to the fullest extent for which data exist from the
site.  Since it is important to keep the impact on communication loading to a
minimum, the MSM, like the DSM, will not be generated in fixed-field format.

     Based on the initial operating capabilities of ASOS, the text portion of
the message from a site where augmentation is not available will be limited
to:

YYYY MS (COR) MoMo SnTxTxTx-DxDxDxDxDxDx/SnTnTnTn-DnDnDnDnDnDn/
SnT̄xT̄xT̄x/SnT̄nT̄nT̄n/SnT̄T̄T̄/Dx$_{32}$Dx$_{32}$Dx$_{90}$Dx$_{90}$Dn$_{32}$Dn$_{32}$Dn$_{00}$Dn$_{00}$/HHHH/
CCCC/X̄X̄X̄X̄X̄/S̄L̄P̄/SLPmmDmDm**time**(+)/SPLnnDnDn**time**(+)/MpMpMpMpMp/
Pd$_{01}$Pd$_{01}$Pd$_{10}$Pd$_{10}$Pd$_{50}$Pd$_{50}$Pd$_{100}$Pd$_{100}$/PmPmPmPmDpDpDpDp(+)/P$_5$PPDDTTTT/
P$_{10}$PPPDDTTTT/P$_{15}$PPPDDTTTT/P$_{20}$PPPDDTTTT/P$_{30}$PPPDDTTTT/P$_{45}$PPPDDTTTT/
P$_{60}$PPPDDTTTT/P$_{80}$PPPDDTTTT/P$_{100}$PPPDDTTTT/P$_{120}$PPPDDTTTT/
P$_{150}$PPPDDTTTT/P$_{180}$PPPDDTTTT/(Remarks)

**EXAMPLE 4:**

XYZ1 MS 03 93-010217/-02-2930/823/521/672/02070502/200/321/
30010/016/030161732+/992280008/2621/10080503/6272728/
75270021/135270026/169271311/184271316/254271326/300271341/
302271356/310271416/312271436/322271456/323271526/
325271556

 Station Location: **XYZ1**
 Monthly Summary: **MS**
 Month: **03 (March)**
 Monthly Maximum Temperature: **93°F**
  Dates of Occurrence: **1, 2, and 17**
 Monthly Minimum Temperature: **-2°F**
   Dates of Occurrence: **29 and 30**
 Average Daily Maximum Temperature for the Month: **82.3°F**
 Average Daily Minimum Temperature for the Month: **52.1°F**
 Monthly Average Temperature: **67.2°F**

 Number of Days With Maximum Temperature 32°F and Below: **02**
 Number of Days With Maximum Temperature 90°F and Above: **07**
 Number of Days With Minimum Temperature 32°F and Below: **05**
 Number of Days With Minimum Temperature 0°F and Below: **02**

 Monthly Total Heating Degree Days: **200**
 Monthly Total Cooling Degree Days: **321**

 Average Station Pressure: **30.010 inches of mercury**
 Average Sea-Level Pressure: **30.16 inches of mercury**
 Greatest Sea-Level Pressure: **30.30 inches of mercury**
  Date of Occurrence: **16 at 1732 LST**
   (this was the last of several occurrences for the month)
 Lowest Sea-Level Pressure: **29.92 inches of mercury**
   Date of Occurrence: **28 at 0008 LST**

 Total Monthly Precipitation, water equivalent: **26.21 inches**
Number of Days With Precipitation ≥ 0.01 inch: **10**
 Number of Days With Precipitation ≥ 0.10 inch: **08**
 Number of Days With Precipitation ≥ 0.50 inch: **05**
 Number of Days With Precipitation ≥ 1.00 inch: **03**

 The greatest 24-hour precipitation: **6.27 inches**
  Date(s) of occurrence: **27 and 28.**

The short-duration precipitation values are displayed below:

| Observation Period | Precip. Amount | Duration Date | Period Ending Time (LST) |
|--------------------|----------------|---------------|--------------------------|
| 5 min   | 0.75 in | 27 | 0021 |
| 10 min  | 1.35 in | 27 | 0026 |
| 15 min  | 1.69 in | 27 | 1311 |
| 20 min  | 1.84 in | 27 | 1316 |
| 30 min  | 2.54 in | 27 | 1326 |
| 45 min  | 3.00 in | 27 | 1341 |
| 60 min  | 3.02 in | 27 | 1356 |
| 80 min  | 3.10 in | 27 | 1416 |
| 100 min | 3.12 in | 27 | 1436 |
| 120 min | 3.22 in | 27 | 1456 |
| 150 min | 3.23 in | 27 | 1526 |
| 180 min | 3.25 in | 27 | 1556 |

**EXAMPLE 5:**

If the monthly summary product in EXAMPLE 4 had been augmented for the greatest snow depth observed during the month (63 inches), along with its associated date (25), the monthly summary code would have appeared as:

XYZ1 MS 03 93-010217/-02-2930/823/521/672/02070502/200/321/
30010/016/030161732+/992280008/2621/10080503/6272728/
75270021/135270026/169271311/184271316/254271326/300271341/
302271356/310271416/312271436/322271456/323271526/
325271556/N/N/6325

**EXAMPLE 6:**

Let's say that ASOS has been equipped with a sunshine sensor. During the month of March, 265.2 hours of sunshine (71 percent) were observed. Augmentation occurred for snowfall, snow depth, and the number of clear, partly cloudy, and cloudy days. All temperature information was estimated (ET). The MSM shown in EXAMPLE 4 would be changed to:

 XYZ1 MS 03 93-010217/-02-2930/823/521/672/02070502/200/321/
30010/016/030161732+/992280008/2621/10080503/6272728/
75270021/135270026/169271311/184271316/254271326/300271341/
302271356/310271416/312271436/322271456/323271526/
325271556/265271/0/0/021910/ET

 The augmented portion of the message is explained below.

 Hours of sunshine: **265.2**
 Percent of possible sunshine: **71**

 Greatest snowfall in 24 hours: **0**
 (Since zero is entered because of no occurrances, no date is encoded.)

15

Greatest snow depth:  **0**
(Since zero is entered, a date of occurrence is not encoded.)

Number of clear days:  **02**
Number of partly cloudy days:  **19**
Number of cloudy days:  **10**

Remark for estimated temperature data:  **ET**

EXAMPLE 6 represents the maximum amount of data that can be reported from an augmented ASOS site.

ASOS transmits the MSM for the previous month on the first day of the following month, at the scheduled time entered by the system manager.  The operator has 4 days to make any corrections.  At the end of the fourth day, at 0040 LST, the corrected MSM will be transmitted if any changes have been made.

If the MSM is not transmitted at its scheduled time, ASOS will attempt to transmit it one hour after the scheduled time; if that transmission is not successful, ASOS will attempt another transmission two hours after the scheduled time.

The MSM will be retained on-site, in ASOS's short-term storage, for a minimum of 10 days from the time of its last transmission.  No intermediate MSMs are transmitted from an ASOS site.


4.0  **Communication Backup**

To maximize the amount of data that can be received by the National Climatic Data Center for archival, ASOS will retransmit those primary DSMs and MSMs that were not initially transmitted at their scheduled times (see sections 5.1.1 and 5.1.3).  ASOS will try to retransmit one hour later; if this fails it will try again two hours after the originally scheduled time. There is no redial for intermediate DSMs after their scheduled transmission times.

The daily (primary and intermediate) and monthly summary messages are available through the remote user's port via the direct command mode of operation.  This allows remote users to obtain these messages instead of extracting the entire daily summary products and monthly summary products as developed by ASOS.

5.0  **Important OID Screens**

    This chapter illustrates the ASOS OID display screens that users will
find helpful.  They are used for setting ASOS to generate DSMs and MSMs,
schedule their transmissions, identify their product identification names,
change their  routing address, and display information and products.

    The Site Physical Characteristics Screen (section 5.1)
indicates whether primary DSMs, intermediate DSMs, and/or MSMs are
generated and transmitted from the ASOS site.  It also shows the time of
transmission, which can be edited at the technician and system manager
user levels.

    The External Communications Screen (section 5.2) displays the telephone
number(s) that ASOS could dial to transmit the DSM/MSMs, the routing
address, and the product identifier.  The screen can be edited by the
technician and system manager user levels.

    The Daily Summary Product (section 5.3) shows the data that ASOS uses to
create a DSM.

    The Daily Summary Message (section 5.4) shows the messages that have
been generated and/or transmitted.  It also contains the partial DSM
from midnight to the last completed hour for the present day.  If the
present time is 7:15 a.m. LST, the partial DSM is from midnight to 7
a.m.

    The Monthly Summary Product (section 5.5) shows the data that ASOS uses
to create an MSM.

    Monthly Summary Message (section 5.6) shows an MSM.  It was generated
with information from 10/1 to 10/27.

## 5.1  ASOS Site Physical Characteristics Screen

### 5.1.1  Generate Primary DSMs and Transmit

In the Site Physical Characteristics screen below, the DSMs are generated if
"YES" is placed to the right of "DSM GENERATED:."  The primary DSM will be
transmitted at the time highlighted, i.e., 07:00:00 Coordinated Universal Time
(UTC).  If, instead, "--:--:-- UTC" is substituted, primary DSMs are created
but not transmitted.

The screen can be viewed from all user levels except the air traffic control
specialist; only the electronics technician and system manager are permitted
to edit the screen.

```
08:10:49 10/28/97 1310Z                        STERLING #4

 ┌──────────────────────────────────────────────────────────────────────────┐
 │STATION                                                                     │
 │   NAME:                   STERLING #4                                       │
 │   IDENTIFIER:             ST2         DATE:                    10/28/97     │
 │   COMMISSIONED:           COMM        TIME:                    13:10:39 UTC │
 │   ATTENDED:               YES         UTC TO LST OFFSET:       -5           │
 │   OPEN 24 HOURS:          YES         METAR SWITCH DATE:       07/01/96 UTC │
 │   OPENING TIME:                       METAR SWITCH TIME:       07:45:00 UTC │
 │   CLOSING TIME:                       DSM GENERATED:           YES          │
 │   ELEVATION:              277   FEET  PRIMARY DSM XMIT TIME:   05:15:00 UTC │
 │                                       INTERMED DSM XMIT TIMES: 12:15:00 UTC │
 │FIELD ELEVATION:           260   FEET                           18:15:00 UTC │
 │PRESSURE SENSOR ELEVATION: 283   FEET                           00:15:00 UTC │
 │                                       MSM GENERATED:           YES          │
 │OBS HOURLY REPORT TIME:    50          MSM XMIT TIME:           09:00:00 UTC │
 │OBS EDIT TIME:              5:00                                PHYSICAL     │
 │OBS HOURLY TRANSMIT TIME:  55:00                          ┌──────┬─────┬───┐ │
 │SHEF HOURLY TRANSMIT TIME:  0                             │PRINT │     │   │ │
 │LATITUDE:                  38.58N                         ├──────┼─────┼───┤ │
 │LONGITUDE:                 77.29W                         │      │CHANG│   │ │
 │MAG DECLINATION:           9W                             ├──────┼─────┼───┤ │
 │                                                          │EXIT  │BACK │   │ │
 └──────────────────────────────────────────────────────────────────────────┘
```
Site Physical Characteristics Screen
From the 1-Minute Screen press the following commands to arrive at this screen: REVUE-SITE-PHYS

Section 5.4 contains examples of primary and intermediate DSMs.

## 5.1.2 **Generate Intermediate DSMs and Transmit**

ASOS v2.6 allows up to three intermediate DSMs to be generated and transmitted.  DSM is updated once each hour at HH+00. The screen below shows that three intermediate DSM transmission times have been entered:  12:15:00, 18:15:00, and 00:15:00 UTC.  These values are changed by editing the page and entering different times.  Intermediate messages are updated once an hour but are transmitted only at the time(s) entered.

```
08:10:49 10/28/97 1310Z                        STERLING #4
┌─────────────────────────────────────────────────────────────────────┐
│STATION                                                                │
│   NAME:                    STERLING #4                                 │
│   IDENTIFIER:              ST2         DATE:                10/28/97   │
│   COMMISSIONED:            COMM        TIME:                13:10:39 UTC│
│   ATTENDED:                YES         UTC TO LST OFFSET:   -5         │
│   OPEN 24 HOURS:           YES         METAR SWITCH DATE:   07/01/96 UTC│
│   OPENING TIME:                        METAR SWITCH TIME:   07:45:00 UTC│
│   CLOSING TIME:                        DSM GENERATED:       YES        │
│   ELEVATION:               277   FEET  PRIMARY DSM XMIT TIME:  05:15:00 UTC│
│                                        INTERMED DSM XMIT TIMES: 12:15:00 UTC│
│FIELD ELEVATION:            260   FEET                       18:15:00 UTC│
│PRESSURE SENSOR ELEVATION: 283   FEET                       00:15:00 UTC│
│                                        MSM GENERATED:       YES        │
│OBS HOURLY REPORT TIME:     50          MSM XMIT TIME:       09:00:00 UTC│
│OBS EDIT TIME:               5:00                        PHYSICAL       │
│OBS HOURLY TRANSMIT TIME:   55:00                                       │
│SHEF HOURLY TRANSMIT TIME:  0                   ┌──────┬─────┬───┬───┐  │
│LATITUDE:                   38.58N              │PRINT │     │   │   │  │
│LONGITUDE:                  77.29W              ├──────┼─────┼───┼───┤  │
│MAG DECLINATION:            9W                  │      │CHANG│   │   │  │
│                                               ├──────┼─────┼───┼───┤  │
│                                               │EXIT  │BACK │   │   │  │
└─────────────────────────────────────────────────────────────────────┘
```
Site Physical Characteristics Screen
From the 1-Minute Screen press the following commands to arrive at this screen: REVUE-SITE-PHYS

Section 5.4 gives an example of a primary DSM and the last intermediate DSM transmitted.

## 5.1.3 **Generate MSMs and Transmit**

In the screen below, the MSMs are generated if "YES" is entered by an electronics technician or system manager next to "MSM GENERATED."  The MSM will be transmitted at the time indicated next to "MSM XMIT TIME."  The value must be in UTC.  If, instead, "--:--:-- UTC" is substituted, MSMs are created but not transmitted.

ASOS v2.6 does not allow the creation and transmission of intermediate MSMs.

```
08:10:49 10/28/97 1310Z                          STERLING #4
┌──────────────────────────────────────────────────────────────────┐
│STATION                                                             │
│   NAME:                 STERLING #4                                │
│   IDENTIFIER:           ST2       DATE:                 10/28/97   │
│   COMMISSIONED:         COMM      TIME:                 13:10:39 UTC│
│   ATTENDED:             YES       UTC TO LST OFFSET:    -5         │
│   OPEN 24 HOURS:        YES       METAR SWITCH DATE:    07/01/96 UTC│
│   OPENING TIME:                   METAR SWITCH TIME:    07:45:00 UTC│
│   CLOSING TIME:                   DSM GENERATED:        YES        │
│   ELEVATION:            277  FEET PRIMARY DSM XMIT TIME: 05:15:00 UTC│
│                                   INTERMED DSM XMIT TIMES: 12:15:00 UTC│
│FIELD ELEVATION:         260  FEET                       18:15:00 UTC│
│PRESSURE SENSOR ELEVATION: 283  FEET                     00:15:00 UTC│
│                                   MSM GENERATED:        YES        │
│OBS HOURLY REPORT TIME:  50        MSM XMIT TIME:        07:00:00 UTC│
│OBS EDIT TIME:            5:00                    PHYSICAL          │
│OBS HOURLY TRANSMIT TIME: 55:00          ┌──────┬──────┬──────┐     │
│SHEF HOURLY TRANSMIT TIME: 0             │PRINT │      │      │     │
│LATITUDE:                38.58N          ├──────┼──────┼──────┤     │
│LONGITUDE:               77.29W          │      │CHANG │      │     │
│MAG DECLINATION:         9W              ├──────┼──────┼──────┤     │
│                                         │EXIT  │BACK  │      │     │
└──────────────────────────────────────────────────────────────────┘
```

Site Physical Characteristics Screen
From the 1-Minute Screen press the following commands to arrive at this screen: REVUE-SITE-PHYS

An example of an MSM generated by ASOS is found in section 5.6.

## 5.2  **ASOS External Communications Screen**

The External Communications Screen displays the DSM/MSM product identification.  An ASOS electronics technician or system manager can edit the information on the screen.

The DSM/MSMs are sent to the same telephone numbers as the METAR/SPECIs and correspond to the numbers associated with the three stations below.  These are the primary dial-out or backup phone numbers.  Once received, the DSM or MSM is sent to the address indicated.  "000" causes the product to remain in the receiving station.  "ALL" causes the product to be sent to all sites.  The product identification can be edited, as well.

```
12:05:15 01/28/98 1305Z                                   STERLING #4
 _____
|                                                                      |
|   STATION ID (XXX):       ST2        WMO IDENTIFIER:       KST2       |
|   FORECAST OFFICE (CCC): ITB         PRODUCT ID (NNN):     MTR        |
|   METAR/SPECI ADDRESS:   ALL         15-MIN SHEF ID (NNN): RRX        |
|   DSM/MSM ADDRESS:       000/000     1-HOUR SHEF ID (NNN): RRY        |
|   15-MIN SHEF ADDRESS:               DSM/MSM PRODUCT ID:   DSM / MSM  |
|   1-HOUR SHEF ADDRESS:               ADAS:                            |
|   STATION IDS/PHONE NUMBERS            ASOS ADDRESS:       100        |
|      STATION 1:                        ADAS TIMEOUT (SEC): 360        |
|                       XXXXXXXXXXX    TCCC:                            |
|      STATION 2:                        TCCC ADDRESS:       100        |
|                       XXXXXXXXXXX    AOMC:                            |
|      STATION 3:                        PRIMARY PHONE NO:   XXXXXXXXXXX |
|                       XXXXXXXXXXX    SECONDARY PHONE NO: XXXXXXXXXXX   |
|   MESSAGE FORMAT TYPE:    I          AOMC 1200 BAUD:    NO            |
|   PARITY SELECTION:     NONE                         EXTERNAL         |
|   REPLY REQUEST:        NO           _____       |
|   BUSY ATTEMPT TIME:    1           |PRINT|     |     |     |         |
|   SEND REPLY TIME(SECS): 001        |_____|_____|_____|_____|         |
|   RECV REPLY TIME(MINS): 2          |     |CHANG|     |     |         |
|   BACKUP FOR ADAS:      NO          |_____|_____|_____|_____|         |
|                                     |EXIT |BACK |     |     |         |
|_____|
```

External Communication Screen (Phone Numbers Were Blanked Out For Security)
From the 1-Minute Screen: REVUE-SITE-CONFG-EXTRN

## 5.3 **Daily Summary Product**

The daily summary product screen consists of three pages and is used to generate a DSM and intermediate DSM.

```
┌──────────────────────────────────────────────────────────────────┐
│                  DAILY SUMMARY FOR 10/27/97                        │
│                                                                    │
│24 HR MAX TEMP (F):         58     LATEST DAY MAX TEMP  (0700-1900 LST):58│
│24 HR MAX TEMP TIME (LST): 1324    LATEST NIGHT MIN TEMP(1900-0800 LST):45│
│24 HR MIN TEMP (F):         42                                      │
│24 HR MIN TEMP TIME (LST): 2358    SKY COVER MID-MID (TENTHS):      │
│24 HR AVG TEMP (F):         50     SKY COVER SR-SS    (TENTHS):     │
│DEPART FROM NORMAL:         -1                                      │
│                                   TOTAL SUNSHINE (MINUTES):   M     │
│HEATING DEGREE DAYS:        15     TOTAL SUNSHINE (HOURS):     M     │
│COOLING DEGREE DAYS:        0      PERCENT POSSIBLE SUNSHINE:  M     │
│                                   CHARACTER OF SUNRISE:            │
│PEAK WIND SPEED (MPH):      31     CHARACTER OF SUNSET:             │
│PEAK WIND DIR (DEG):        330    WEATHER (CODE):                  │
│PEAK WIND TIME (LST):      1324                        ┌─DAILY DATA─┐│
│FASTEST 2MIN SPEED (MPH):   24                         │           ││
│FASTEST 2MIN DIR (DEG):     320                        │PRINT│PAGE │PREV ││
│FASTEST 2MIN TIME (LST):   1414                        │     │     │    ││
│AVERAGE WIND SPEED (MPH):  9.2                         │     │     │DATE ││
│                                                       │     │     │    ││
│                                                       │EXIT │BACK │NEXT ││
└──────────────────────────────────────────────────────────────────┘
```

Page 1 of the Daily Summary Product Screen
From the 1-Minute Screen Press: REVUE-DAILY

```
┌──────────────────────────────────────────────────────────────────┐
│              DAILY PRECIPITATION SUMMARY FOR 10/27/97              │
│                                                                    │
│24 HR PRECIPITATION (IN):   0.02                                    │
│24 HR SNOWFALL      (IN):                                           │
│SNOW DEPTH          (IN):   M                                       │
│                                                                    │
│HOURLY INCREMENTAL PRECIPITATION VALUES (IN):                       │
│0059  0.01               1259  T                                    │
│0159  0.00               1359  T                                    │
│0259  0.00               1459  T                                    │
│0359  0.00               1559  T                                    │
│0459  0.00               1659  T                                    │
│0559  0.00               1759  0.00                                 │
│0659  0.00               1859  0.00                                 │
│0759  0.00               1959  0.00      ┌─DAILY DATA─┐             │
│0859  0.00               2059  0.00      │           │             │
│0959  0.00               2159  0.00      │PRINT│PAGE │PREV │         │
│1059  0.00               2259  0.00      │     │     │    │         │
│1159  0.01               2359  0.00      │     │     │DATE │         │
│                                         │     │     │    │         │
│                                         │EXIT │BACK │NEXT │         │
└──────────────────────────────────────────────────────────────────┘
```

Page 2 of the Daily Summary Product Screen
From the 1-Minute Screen Press: REVUE-DAILY-PAGE

```
08:13:55 10/28/97 1313Z                              STERLING #4
_____
|                  DAILY PRESSURE SUMMARY FOR 10/27/97                      |
|                                                                           |
| HOURLY STATION PRESSURE VALUES:                                           |
|                                                                           |
| 0556Z  29.320                                                             |
| 1156Z  29.265                                                             |
| 1756Z  29.350                                                             |
| 2356Z  29.480                                                             |
|                                                                           |
| AVERAGE STATION PRESSURE:     29.355                                      |
|                                                                           |
| MINIMUM SEA LEVEL PRESSURE:   29.53                                       |
| TIME OF OCCURRENCE:           0556                                        |
|                                                                           |
|                                              DAILY DATA                   |
|                                         _____               |
|                                        |PRINT|PAGE | PREV |               |
|                                        |_____|_____|_____|               |
|                                        |     |     | DATE |               |
|                                        |_____|_____|_____|               |
|                                        |EXIT |BACK |NEXT  |               |
|_____|_____|_____|_____|_____|
```

Page 3 of the Daily Summary Product Screen
From the 1-Minute Screen Press: REVUE-DAILY-PAGE-PAGE


## 5.4  **Daily Summary Message**

The following screen displays a DSM and two intermediate DSMs.

```
08:14:28 10/28/97 1314Z                              STERLING #4
_____
| 10/27/97 23:59:34  KST2 DS 27/10 581324/ 422358// 58/M//9530556/02/01/00/00 |
| /00/00/00/00/00/00/00/00/01/T/T/T/T/00/00/00/00/00/00/00/09/32241414/       |
| 33311324/- FIBI                                                            |
| 10/28/97 06:59:34  KST2 DS 0700 28/10 420006/ 360659// 58/ 36//9880003/00/ |
| 00/00/00/00/00/00/00/00/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/13/31210354/30300353  |
| /-/NN/N/N/NN/ET FIBI                                                       |
| 10/28/97 07:59:34  KST2 DS 0800 28/10 420006/ 360720//M/ 36//9880003/00/00/ |
| 00/00/00/00/00/00/00/00/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/13/31210354/30300353/- |
|                                              DAILY SUMMARY                 |
|                                         _____               |
|                                        |PRINT|     | PREV |               |
|                                        |_____|_____|_____|               |
|                                        |     |     |      |               |
|                                        |_____|_____|_____|               |
|                                        |EXIT |BACK |NEXT  |               |
|_____|_____|_____|_____|_____|
```

Daily Summary Message
From the 1-Minute Screen Press: REVUE-RPT-DSM

A primary DSM was generated on 10/28/97 at 23:59:34 LST.

An intermediate DSM was created 10/28/97 at 06:59:34 LST.
According to the Site Physical Characteristics Screen, this
message was transmitted at 12:15:00 UTC (7:15 a.m. LST).  The
values were calculated to the nearest whole hour.  It should be
noted that even if several intermediate DSMs were transmitted
daily, only the latest one would appear.

The last message shown is an intermediate DSM that generated at
07:59:34 a.m. but not transmitted.  Intermediate DSMs are
transmitted only if they appear in the Site Physical
Characteristics Screen.

At the end of the day, only the primary DSM for that day is
stored and remains in the file.