

# ETA-BASED MOS GUIDANCE - THE 0000/1200 UTC ALPHANUMERIC MESSAGES

by

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## 1. INTRODUCTION

This document describes the format and contents of the Eta MOS alphanumeric messages generated during the 0000 and 1200 UTC forecast cycles. These messages contain forecasts of the max/min temperature; time-specific surface temperature and dew point; total sky cover; surface wind direction and wind speed; probability of precipitation (PoP) for 6- and 12-h periods; categories of quantitative precipitation for 6- and 12-h periods; probability of thunderstorms and conditional probability of severe thunderstorms for 6- and 12-h periods; conditional probability of precipitation type (freezing, snow, or liquid) and a corresponding category; and categories of snowfall amount, ceiling height, visibility, and obstruction to vision. Guidance is provided for projections of 6 to 72 hours for most weather elements. Note that a particular element line (see Sections 3 - 20) is not included in the message when all of the forecasts in that line are unavailable. The contents of this document reflect changes made to the original Eta MOS message implemented in the spring of 2002. The new message is scheduled for implementation in February 2004. Note that not all elements described here will be available at that time; guidance for precipitation type, visibility, and obstruction to vision will be implemented later in 2004. Technical Procedures Bulletin No. 486 which described the original Eta MOS message is now obsolete.

## 2. MESSAGE HEADING

|                |                          |                                |                                |                             |  |  |  |             |          |  |  |  |  |          |  |  |  |  |  |  |  |
|----------------|--------------------------|--------------------------------|--------------------------------|-----------------------------|--|--|--|-------------|----------|--|--|--|--|----------|--|--|--|--|--|--|--|
| <b>KDCA</b>    | <b>ETA MOS GUIDANCE</b>  | <b>12/05/2003</b>              | <b>0000 UTC</b>                |                             |  |  |  |             |          |  |  |  |  |          |  |  |  |  |  |  |  |
| <b>DT /DEC</b> | <b>5</b>                 | <b>/DEC</b>                    | <b>6</b>                       |                             |  |  |  | <b>/DEC</b> | <b>7</b> |  |  |  |  | <b>/</b> |  |  |  |  |  |  |  |
| <b>HR</b>      | <b>06 09 12 15 18 21</b> | <b>00 03 06 09 12 15 18 21</b> | <b>00 03 06 09 12 15 18 21</b> | <b>00 03 06 09 12 18 00</b> |  |  |  |             |          |  |  |  |  |          |  |  |  |  |  |  |  |

The message heading shown above (see Figs. 1 and 2 also) identifies the station for which the guidance is valid, the forecast cycle, and the day and hour for which the forecasts are valid. In this example, the message is valid for Washington, D.C. (KDCA). All stations are identified by the ICAO four-character identifier.

The "ETA MOS GUIDANCE" appearing on the same line as the station call letters identifies the message contents. The date of the forecast cycle during which the message is issued follows this information. The form of mm/dd/yyyy where mm is the month (1 through 12), dd is the day (1 through 31), and yyyy is the four-digit year is used. The forecast cycle is identified by the standard 0000 or 1200 UTC. In this example, the MOS guidance for KDCA was issued from the 0000 UTC forecast cycle of the Eta model on December 5, 2003.

The DT and HR lines denote the date and hour at which the forecasts are valid. The DT line indicates the day of the month. Note that the month is denoted by the standard three or four letter abbreviation. For temperature, dew point, sky cover, wind direction and speed, precipitation type, ceiling height, visibility, and obstruction to vision, the date and hour denote the specific time that the forecasts are valid. These forecasts are valid every 3 hours until 60 hours after initial time and then every 6 hours until 72 hours after initial time. For PoP, quantitative precipitation, thunderstorms, severe weather, and snowfall amount, the time indicates the end of the period over which the forecasts are valid. For the max/min temperature, the date group

gives only the approximate ending time of the daytime and nighttime periods for which the max and min temperature guidance, respectively, are valid.

### 3. X/N - MAXIMUM/MINIMUM TEMPERATURE

| KDCA    | ETA MOS GUIDANCE |    |    |    |    |      |    |    |    |    |    |    |    |    |    | 12/05/2003 |    | 0000 UTC |    |    |    |    |    |    |    |    |  |  |  |  |
|---------|------------------|----|----|----|----|------|----|----|----|----|----|----|----|----|----|------------|----|----------|----|----|----|----|----|----|----|----|--|--|--|--|
| DT /DEC | 5                |    |    |    |    | /DEC |    |    |    |    | 6  |    |    |    |    | /DEC       |    |          |    |    | 7  |    |    |    |    | /  |  |  |  |  |
| HR      | 06               | 09 | 12 | 15 | 18 | 21   | 00 | 03 | 06 | 09 | 12 | 15 | 18 | 21 | 00 | 03         | 06 | 09       | 12 | 18 | 00 | 06 | 09 | 12 | 18 | 00 |  |  |  |  |
| X/N     |                  |    |    |    |    | 36   |    |    |    |    | 32 |    |    |    |    | 34         |    |          |    |    | 26 |    |    |    |    | 44 |  |  |  |  |

The max/min surface temperature forecasts are displayed for projections of 24, 36, 48, 60, and 72 hours after the initial data time (0000 or 1200 UTC). Although the forecasts are presented at consecutive 12-h intervals, each forecast is actually valid for a daytime or nighttime period. For the Eta-based MOS guidance, daytime is defined as 7 a.m. to 7 p.m. Local Standard Time (LST). Nighttime is defined as 7 p.m. to 8 a.m. LST. Thus, the valid date in the appropriate column of the DT and HR lines must be converted by the forecaster to his/her local date. This local date then denotes the appropriate daytime or nighttime for the max or min temperature forecast. For the 0000 UTC forecast cycle, the temperatures are shown in max/min (X/N) order and are valid for today's max, tonight's min, tomorrow's max, tomorrow night's min, and the day after tomorrow's max. For the 1200 UTC cycle, the temperatures are shown in min/max (N/X) order and are valid for tonight's min, tomorrow's max, tomorrow night's min, the day after tomorrow's max, and the night after tomorrow night's min. Each temperature forecast is presented to the nearest whole degree Fahrenheit, and three characters are allowed. A missing forecast is indicated by a 999.

### 4. TMP - SURFACE TEMPERATURE

| KDCA    | ETA MOS GUIDANCE |    |    |    |    |      |    |    |    |    |    |    |    |    |    | 12/05/2003 |    | 0000 UTC |    |    |    |    |    |    |    |    |  |  |  |  |  |
|---------|------------------|----|----|----|----|------|----|----|----|----|----|----|----|----|----|------------|----|----------|----|----|----|----|----|----|----|----|--|--|--|--|--|
| DT /DEC | 5                |    |    |    |    | /DEC |    |    |    |    | 6  |    |    |    |    | /DEC       |    |          |    |    | 7  |    |    |    |    | /  |  |  |  |  |  |
| HR      | 06               | 09 | 12 | 15 | 18 | 21   | 00 | 03 | 06 | 09 | 12 | 15 | 18 | 21 | 00 | 03         | 06 | 09       | 12 | 18 | 00 | 06 | 09 | 12 | 18 | 00 |  |  |  |  |  |
| ...     |                  |    |    |    |    |      |    |    |    |    |    |    |    |    |    |            |    |          |    |    |    |    |    |    |    |    |  |  |  |  |  |
| TMP     | 34               | 34 | 34 | 35 | 35 | 35   | 35 | 36 | 37 | 36 | 34 | 32 | 32 | 31 | 30 | 30         | 29 | 28       | 27 | 42 | 38 |    |    |    |    |    |  |  |  |  |  |

Time-specific 2-m temperature forecasts are valid every 3 hours from 6 to 60 hours, and then every 6 hours to 72 hours after 0000 and 1200 UTC. These forecasts are valid at 0600, 0900, ..., 2100, 0000 UTC, and so forth. Each temperature forecast is presented to the nearest whole degree Fahrenheit; a missing forecast is indicated by a 999. Note that only three characters are available for the temperature forecasts. Thus, two consecutive forecasts of 100 degrees or more or of -10 degrees or less appear with no spaces between them.

### 5. DPT - SURFACE DEW POINT

| KDCA    | ETA MOS GUIDANCE |    |    |    |    |      |    |    |    |    |    |    |    |    |    | 12/05/2003 |    | 0000 UTC |    |    |    |    |    |    |    |    |  |  |  |  |  |
|---------|------------------|----|----|----|----|------|----|----|----|----|----|----|----|----|----|------------|----|----------|----|----|----|----|----|----|----|----|--|--|--|--|--|
| DT /DEC | 5                |    |    |    |    | /DEC |    |    |    |    | 6  |    |    |    |    | /DEC       |    |          |    |    | 7  |    |    |    |    | /  |  |  |  |  |  |
| HR      | 06               | 09 | 12 | 15 | 18 | 21   | 00 | 03 | 06 | 09 | 12 | 15 | 18 | 21 | 00 | 03         | 06 | 09       | 12 | 18 | 00 | 06 | 09 | 12 | 18 | 00 |  |  |  |  |  |
| ...     |                  |    |    |    |    |      |    |    |    |    |    |    |    |    |    |            |    |          |    |    |    |    |    |    |    |    |  |  |  |  |  |
| DPT     | 25               | 27 | 29 | 33 | 35 | 35   | 35 | 36 | 37 | 36 | 32 | 29 | 28 | 26 | 23 | 22         | 20 | 19       | 18 | 23 | 22 |    |    |    |    |    |  |  |  |  |  |

Time-specific 2-m dew point forecasts are valid every 3 hours from 6 to 60 hours, and then every 6 hours to 72 hours after 0000 and 1200 UTC. These forecasts are valid at 0600, 0900, ..., 2100, 0000 UTC, and so forth. Each dew point forecast is presented to the nearest whole degree Fahrenheit; a missing forecast is indicated by a 999. Three characters are available for the dew

point forecasts so that two consecutive forecasts of -10 degrees or less appear with no spaces between them.

## 6. CLD - TOTAL SKY COVER CATEGORIES

| KDCA | ETA MOS GUIDANCE |    |    |    | 12/05/2003 |    |    |    | 0000 UTC |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------|------------------|----|----|----|------------|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|
| DT   | /DEC 5           |    |    |    | /DEC 6     |    |    |    | /DEC 7   |    |    |    | /  |    |    |    |    |    |    |    |    |    |
| HR   | 06               | 09 | 12 | 15 | 18         | 21 | 00 | 03 | 06       | 09 | 12 | 15 | 18 | 21 | 00 | 03 | 06 | 09 | 12 | 18 | 00 |    |
|      | ...              |    |    |    |            |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |    |
| CLD  | OV               | OV | OV | OV | OV         | OV | OV | OV | OV       | OV | OV | OV | OV | OV | OV | OV | OV | BK | BK | SC | FW | CL |

Forecast categories of total sky cover (see the following table) are available in plain language for projections at 3-h intervals from 6 to 60 hours, and then every 6 hours to 72 hours after the initial data times (0000 and 1200 UTC). All forecasts are valid for specific times (i.e., 0600, 0900, 1200, and so forth). Two characters identify the category (CL - clear; FW - few; SC - scattered; BK - broken; OV - overcast); a missing forecast is denoted by "XX".

### Total Sky Cover Categories

- CL - clear;
- FW - > 0 to 2 octas of total sky cover;
- SC - > 2 to 4 octas of total sky cover;
- BK - > 4 to < 8 octas of total sky cover;
- OV - 8 octas of total sky cover or totally obscured.

The categorical guidance is prepared by using probability forecasts of the same categories.

## 7. WDR - SURFACE WIND DIRECTION / WSP - SURFACE WIND SPEED

| KDCA | ETA MOS GUIDANCE |    |    |    | 12/05/2003 |    |    |    | 0000 UTC |    |    |    |    |    |    |    |    |    |    |    |    |
|------|------------------|----|----|----|------------|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|
| DT   | /DEC 5           |    |    |    | /DEC 6     |    |    |    | /DEC 7   |    |    |    | /  |    |    |    |    |    |    |    |    |
| HR   | 06               | 09 | 12 | 15 | 18         | 21 | 00 | 03 | 06       | 09 | 12 | 15 | 18 | 21 | 00 | 03 | 06 | 09 | 12 | 18 | 00 |
|      | ...              |    |    |    |            |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |
| WDR  | 05               | 04 | 04 | 03 | 02         | 02 | 01 | 36 | 36       | 35 | 34 | 34 | 33 | 34 | 34 | 33 | 33 | 33 | 33 | 32 | 33 |
| WSP  | 08               | 12 | 16 | 13 | 11         | 13 | 14 | 14 | 13       | 13 | 15 | 15 | 15 | 19 | 20 | 21 | 20 | 19 | 18 | 19 | 14 |

Surface wind direction (WDR) and speed (WSP) forecasts are given at 3-h intervals for projections of 6 to 60 hours, and then every 6 hours to 72 hours after the initial data times (0000 and 1200 UTC). These are forecasts of the 10-m winds (a 2-minute average) at specific times throughout each day (i.e., 0600, 0900, 1200 UTC, and so forth). The wind direction is given in tens of degrees and varies from 01 (10 degrees) to 36 (360 degrees). The normal meteorological convention for specifying wind direction is followed. The wind speed is given in knots; the maximum speed allowed in the message is 98 knots. For both direction and speed, missing forecasts are denoted by 99. A calm wind is indicated by a wind direction and speed of 00.

## 8. P06 - PROBABILITY OF PRECIPITATION IN A 6-H PERIOD

| KDCA | ETA MOS GUIDANCE |    |     |    | 12/05/2003 |    |    |    | 0000 UTC |    |    |    |    |    |    |    |    |    |    |    |    |
|------|------------------|----|-----|----|------------|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|----|----|
| DT   | /DEC 5           |    |     |    | /DEC 6     |    |    |    | /DEC 7   |    |    |    | /  |    |    |    |    |    |    |    |    |
| HR   | 06               | 09 | 12  | 15 | 18         | 21 | 00 | 03 | 06       | 09 | 12 | 15 | 18 | 21 | 00 | 03 | 06 | 09 | 12 | 18 | 00 |
|      | ...              |    |     |    |            |    |    |    |          |    |    |    |    |    |    |    |    |    |    |    |    |
| P06  |                  |    | 100 |    | 93         |    | 63 |    | 85       |    | 74 |    | 55 |    | 38 |    | 6  |    | 4  | 0  | 0  |

The P06 forecasts are for the probability of 0.01 inches or more of liquid-equivalent precipitation (PoP) occurring during a 6-h period. The 6-h PoP's are valid for intervals of 6-12, 12-18, 18-24, 24-30, 30-36, 36-42, 42-48, 48-54, 54-60, 60-66, and 66-72 hours after the initial data times (0000 and 1200 UTC). In the message, the forecast values are displayed under the ending time of the 6-h period. The probability is given to the nearest percent. Values range from 0 to 100%. A missing forecast value is indicated by 999.

**9. P12 - PROBABILITY OF PRECIPITATION IN A 12-H PERIOD**

| KDCA | ETA MOS GUIDANCE |    |    |    |    |        |    |    |    |    | 12/05/2003 0000 UTC |    |    |    |    |    |    |    |    |    |    |
|------|------------------|----|----|----|----|--------|----|----|----|----|---------------------|----|----|----|----|----|----|----|----|----|----|
| DT   | /DEC 5           |    |    |    |    | /DEC 6 |    |    |    |    | /DEC 7              |    |    |    |    | /  |    |    |    |    |    |
| HR   | 06               | 09 | 12 | 15 | 18 | 21     | 00 | 03 | 06 | 09 | 12                  | 15 | 18 | 21 | 00 | 03 | 06 | 09 | 12 | 18 | 00 |
| P12  |                  |    |    |    |    |        |    |    |    |    |                     |    |    |    |    |    |    |    |    |    |    |
|      |                  |    |    |    |    |        |    |    |    |    | ...                 |    |    |    |    |    |    |    |    |    |    |
|      |                  |    |    |    |    |        |    |    |    |    |                     |    |    |    |    |    |    |    |    |    |    |

The P12 forecasts are for the probability of 0.01 inches or more of liquid-equivalent precipitation (PoP) occurring during a 12-h period. For nearly all stations, the 12-h PoP's are valid for intervals of 12-24, 24-36, 36-48, 48-60, and 60-72 hours after the initial data times (0000 and 1200 UTC). For stations in Hawaii, however, the 12-h PoP's are valid for intervals of 6-18, 18-30, 30-42, 42-54, and 54-66 hours after 0000 and 1200 UTC. In the message, the forecast values are displayed under the ending time of the 12-h period. The probability is given to the nearest percent. Values range from 0 to 100%. A missing forecast value is indicated by 999.

**10. Q06 - QUANTITATIVE PRECIPITATION AMOUNT IN A 6-H PERIOD**

| KDCA | ETA MOS GUIDANCE |    |    |    |    |        |    |    |    |    | 12/05/2003 0000 UTC |    |    |    |    |    |    |    |    |    |    |
|------|------------------|----|----|----|----|--------|----|----|----|----|---------------------|----|----|----|----|----|----|----|----|----|----|
| DT   | /DEC 5           |    |    |    |    | /DEC 6 |    |    |    |    | /DEC 7              |    |    |    |    | /  |    |    |    |    |    |
| HR   | 06               | 09 | 12 | 15 | 18 | 21     | 00 | 03 | 06 | 09 | 12                  | 15 | 18 | 21 | 00 | 03 | 06 | 09 | 12 | 18 | 00 |
| Q06  |                  |    |    |    |    |        |    |    |    |    |                     |    |    |    |    |    |    |    |    |    |    |
|      |                  |    |    |    |    |        |    |    |    |    | ...                 |    |    |    |    |    |    |    |    |    |    |
|      |                  |    |    |    |    |        |    |    |    |    |                     |    |    |    |    |    |    |    |    |    |    |

Guidance for liquid-equivalent precipitation amount (QPF) accumulated during a 6-h period is presented in categorical form on the line designated Q06. These forecasts are available for projections of 6-12, 12-18, 18-24, 24-30, 30-36, 36-42, 42-48, 48-54, 54-60, 60-66, and 66-72 hours after the initial data time (0000 and 1200 UTC). The forecasts are displayed beneath the hour indicating the end of the 6-h period. The Q06 guidance is a categorical forecast of liquid-equivalent precipitation equaling or exceeding certain specified amounts in the 6-h periods. The categories are as follows:

- Q06 Categories  
 0 = no precipitation expected;  
 1 = 0.01 - 0.09 inches;  
 2 = 0.10 - 0.24 inches;  
 3 = 0.25 - 0.49 inches;  
 4 = 0.50 - 0.99 inches;  
 5 = ≥ 1.00 inches.

Missing forecasts are denoted by 9. The categorical guidance is prepared by using probability forecasts of the same categories.

**11. Q12 - QUANTITATIVE PRECIPITATION AMOUNT IN A 12-H PERIOD**

| KDCA | ETA MOS GUIDANCE |    |    |    |        |    |    |    |        |    |    |    | 12/05/2003 0000 UTC |    |    |    |    |    |    |    |    |  |  |  |
|------|------------------|----|----|----|--------|----|----|----|--------|----|----|----|---------------------|----|----|----|----|----|----|----|----|--|--|--|
| DT   | /DEC 5           |    |    |    | /DEC 6 |    |    |    | /DEC 7 |    |    |    | /                   |    |    |    |    |    |    |    |    |  |  |  |
| HR   | 06               | 09 | 12 | 15 | 18     | 21 | 00 | 03 | 06     | 09 | 12 | 15 | 18                  | 21 | 00 | 03 | 06 | 09 | 12 | 18 | 00 |  |  |  |
| Q12  |                  |    |    |    | 3      |    |    |    | 3      |    |    |    | 1                   |    |    |    | 0  |    |    |    | 0  |  |  |  |

Guidance for liquid-equivalent precipitation amount (QPF) accumulated during a 12-h period is presented in categorical form on the line designated Q12. These forecasts are available for projections of 12-24, 24-36, 36-48, 48-60, and 60-72 hours after the initial data time (0000 and 1200 UTC). For stations in Hawaii, however, the 12-h QPF's are valid for intervals of 6-18, 18-30, 30-42, 42-54, and 54-66 hours after 0000 and 1200 UTC. The forecasts are displayed beneath the hour indicating the end of the 12-h period. The Q12 guidance is a categorical forecast of liquid-equivalent precipitation equaling or exceeding certain specified amounts in the 12-h periods. The categories are as follows:

- Q12 Categories  
 0 = no precipitation expected;  
 1 = 0.01 - 0.09 inches;  
 2 = 0.10 - 0.24 inches;  
 3 = 0.25 - 0.49 inches;  
 4 = 0.50 - 0.99 inches;  
 5 = 1.00 - 1.99 inches;  
 6 =  $\geq$  2.00 inches.

Missing forecasts are denoted by 9. The categorical guidance is prepared by using probability forecasts of the same categories.

**12. T06 - PROBABILITY OF THUNDERSTORMS/CONDITIONAL PROBABILITY OF SEVERE THUNDERSTORMS IN A 6-H PERIOD**

| KDCA | ETA MOS GUIDANCE |    |    |    |        |    |    |    |        |    |    |    | 12/05/2003 0000 UTC |    |    |    |      |    |    |    |      |  |  |  |      |  |  |  |      |  |  |  |      |  |  |  |      |  |  |  |
|------|------------------|----|----|----|--------|----|----|----|--------|----|----|----|---------------------|----|----|----|------|----|----|----|------|--|--|--|------|--|--|--|------|--|--|--|------|--|--|--|------|--|--|--|
| DT   | /DEC 5           |    |    |    | /DEC 6 |    |    |    | /DEC 7 |    |    |    | /                   |    |    |    |      |    |    |    |      |  |  |  |      |  |  |  |      |  |  |  |      |  |  |  |      |  |  |  |
| HR   | 06               | 09 | 12 | 15 | 18     | 21 | 00 | 03 | 06     | 09 | 12 | 15 | 18                  | 21 | 00 | 03 | 06   | 09 | 12 | 18 | 00   |  |  |  |      |  |  |  |      |  |  |  |      |  |  |  |      |  |  |  |
| T06  | 1/ 0             |    |    |    | 1/ 0   |    |    |    | 1/11   |    |    |    | 3/ 0                |    |    |    | 3/ 0 |    |    |    | 1/ 1 |  |  |  | 1/ 7 |  |  |  | 0/ 0 |  |  |  | 0/ 0 |  |  |  | 0/13 |  |  |  |

The T06 line represents forecasts for the probability of thunderstorms (to the left of the diagonal) and the conditional probability of severe thunderstorms (to the right of the diagonal) occurring during a 6-h period. The 6-h probability forecasts are valid for intervals of 6-12, 12-18, 18-24, 24-30, 30-36, 36-42, 42-48, 48-54, 54-60, and 66-72 hours after the initial data times (0000 and 1200 UTC). Because of the line width, the 60-66 h forecast is not available. In the message, the pair of forecast values is displayed under the ending time of the 6-h period. The thunderstorm probability is given to the nearest whole percent. Values range from 0 to 100%. A missing forecast value is indicated by 999. The conditional severe thunderstorm probability is given to the nearest whole percent. Values range from 0 to 98%. A missing forecast value is given by 99. Both the thunderstorm and conditional severe storm probabilities are available year-round for stations in the contiguous U.S. Note that these probabilities represent the likelihood of the event within a box approximately 47 km on a side and containing the station specified. Forecasts are unavailable for stations in Alaska, Hawaii, or Puerto Rico because reports from the National Lightning Detection Network used to define the thunderstorm predictand were unavailable for locations in those areas.

**13. T12 - PROBABILITY OF THUNDERSTORMS/CONDITIONAL PROBABILITY OF SEVERE THUNDERSTORMS IN A 12-H PERIOD**

| KDCA | ETA MOS GUIDANCE |    |    |    |        |    |    |    |        |    |    |    |      |    |    |    | 12/05/2003 | 0000 UTC |    |    |      |  |  |  |
|------|------------------|----|----|----|--------|----|----|----|--------|----|----|----|------|----|----|----|------------|----------|----|----|------|--|--|--|
| DT   | /DEC 5           |    |    |    | /DEC 6 |    |    |    | /DEC 7 |    |    |    | /    |    |    |    |            |          |    |    |      |  |  |  |
| HR   | 06               | 09 | 12 | 15 | 18     | 21 | 00 | 03 | 06     | 09 | 12 | 15 | 18   | 21 | 00 | 03 | 06         | 09       | 12 | 18 | 00   |  |  |  |
| T12  |                  |    |    |    | 1/ 0   |    |    |    | 5/11   |    |    |    | 3/ 1 |    |    |    | 1/ 7       |          |    |    | 0/ 0 |  |  |  |

The T12 line represents forecasts for the probability of thunderstorms (to the left of the diagonal) and the conditional probability of severe thunderstorms (to the right of the diagonal) occurring during a 12-h period. The 12-h probability forecasts are valid for intervals of 6-18, 18-30, 30-42, 42-54, and 54-66 hours after the initial data times (0000 and 1200 UTC). In the message, the pair of forecast values is displayed under the ending time of the 12-h period. The thunderstorm probability is given to the nearest whole percent. Values range from 0 to 100%. A missing forecast value is indicated by 999. The conditional severe thunderstorm probability is given to the nearest whole percent. Values range from 0 to 98%. A missing forecast value is given by 99. Both the thunderstorm and conditional severe storm probabilities are available year-round for stations in the contiguous U.S. Note that these probabilities represent the likelihood of the event within a box approximately 47 km on a side and containing the station specified. Forecasts are unavailable for stations in Alaska, Hawaii, or Puerto Rico because reports from the National Lightning Detection Network used to define the thunderstorm predictand were unavailable for locations in those areas.

**14. POZ - PROBABILITY OF FREEZING PRECIPITATION (CONDITIONAL)**

| KDCA | ETA MOS GUIDANCE |    |    |    |        |    |    |    |        |    |    |    |    |    |    |    | 12/05/2003 | 0000 UTC |    |    |    |
|------|------------------|----|----|----|--------|----|----|----|--------|----|----|----|----|----|----|----|------------|----------|----|----|----|
| DT   | /DEC 5           |    |    |    | /DEC 6 |    |    |    | /DEC 7 |    |    |    | /  |    |    |    |            |          |    |    |    |
| HR   | 06               | 09 | 12 | 15 | 18     | 21 | 00 | 03 | 06     | 09 | 12 | 15 | 18 | 21 | 00 | 03 | 06         | 09       | 12 | 18 | 00 |
| POZ  | 19               | 22 | 24 | 13 | 16     | 19 | 22 | 19 | 14     | 3  | 2  | 0  | 0  | 1  | 7  | 0  | 1          | 0        | 0  | 3  | 3  |

Conditional probability of freezing precipitation (given that precipitation is occurring) forecasts are available for specific times every 3 hours from 6 to 60 hours and then every 6 hours to 72 hours after 0000 and 1200 UTC. Freezing precipitation is defined as the occurrence of freezing rain or drizzle, ice pellets (sleet), or any mixture of freezing rain, drizzle, or ice pellets with other precipitation types. The probabilities are given to the nearest whole percent, and values range from 0 to 100%. Missing values are indicated by 999. These probabilities are used in producing the categorical TYP forecast described in Section 16. The POZ guidance is transmitted only during the period of September 1 - May 31. Because of the rarity of the freezing rain event, some stations do not have forecast equations for the POZ category for some projections, and the forecast will be missing. Forecasts are not available for stations in southern Florida, Hawaii, the Caribbean Islands, and most of California, where freezing rain and snow rarely occur. For these sites, the POZ line is not in the message at any time of the year.

**15. POS - PROBABILITY OF SNOW (CONDITIONAL)**

| KDCA | ETA MOS GUIDANCE |    |    |    |        |    |    |    |        |    |    |    |    |    |    |    | 12/05/2003 | 0000 UTC |    |    |    |  |
|------|------------------|----|----|----|--------|----|----|----|--------|----|----|----|----|----|----|----|------------|----------|----|----|----|--|
| DT   | /DEC 5           |    |    |    | /DEC 6 |    |    |    | /DEC 7 |    |    |    | /  |    |    |    |            |          |    |    |    |  |
| HR   | 06               | 09 | 12 | 15 | 18     | 21 | 00 | 03 | 06     | 09 | 12 | 15 | 18 | 21 | 00 | 03 | 06         | 09       | 12 | 18 | 00 |  |
|      | ...              |    |    |    |        |    |    |    |        |    |    |    |    |    |    |    |            |          |    |    |    |  |

**POS 13 16 18 14 13 11 10 12 24 37 47 55 63 61 72 72 75 91 80 87 63**

Conditional probability of snow (given that precipitation is occurring) forecasts are available for specific times every 3 hours from 6 to 60 hours and then every 6 hours to 72 hours after 0000 and 1200 UTC. Snow is defined as the occurrence of a pure snow event, that is, snow, snow showers, snow grains, or snow pellets or any combination of those elements. Snow mixed with rain is considered a liquid precipitation event. The probabilities are given to the nearest whole percent, and values range from 0 to 100%. Missing values are indicated by 999. These probabilities are used in producing the categorical TYP forecast described in Section 16. The POS guidance is transmitted only during the period of September 1 - May 31. Although the conditional probability of liquid precipitation is not given in the message, the probability can be inferred since the sum of the probabilities of freezing precipitation, snow, and liquid precipitation is 100%. Forecasts are not available for stations in southern Florida, Hawaii, the Caribbean Islands, and most of California, where freezing rain and snow rarely occur. For these sites, the POS line is not in the message at any time of the year.

**16. TYP - PRECIPITATION TYPE FORECASTS (CONDITIONAL)**

|                |                         |           |           |             |                   |           |           |           |                 |             |           |           |           |           |           |           |           |           |           |           |           |
|----------------|-------------------------|-----------|-----------|-------------|-------------------|-----------|-----------|-----------|-----------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>KDCA</b>    | <b>ETA MOS GUIDANCE</b> |           |           |             | <b>12/05/2003</b> |           |           |           | <b>0000 UTC</b> |             |           |           |           |           |           |           |           |           |           |           |           |
| <b>DT /DEC</b> | <b>5</b>                |           |           | <b>/DEC</b> |                   |           | <b>6</b>  |           |                 | <b>/DEC</b> |           |           | <b>7</b>  |           |           | <b>/</b>  |           |           |           |           |           |
| <b>HR</b>      | <b>06</b>               | <b>09</b> | <b>12</b> | <b>15</b>   | <b>18</b>         | <b>21</b> | <b>00</b> | <b>03</b> | <b>06</b>       | <b>09</b>   | <b>12</b> | <b>15</b> | <b>18</b> | <b>21</b> | <b>00</b> | <b>03</b> | <b>06</b> | <b>09</b> | <b>12</b> | <b>18</b> | <b>00</b> |
| <b>TYP</b>     | <b>R</b>                | <b>R</b>  | <b>R</b>  | <b>R</b>    | <b>R</b>          | <b>R</b>  | <b>R</b>  | <b>R</b>  | <b>R</b>        | <b>R</b>    | <b>S</b>  | <b>S</b>  | <b>S</b>  | <b>S</b>  | <b>S</b>  | <b>S</b>  | <b>S</b>  | <b>S</b>  | <b>S</b>  | <b>S</b>  | <b>S</b>  |

The TYP line represents forecasts of precipitation type (provided precipitation occurs) for specific times every 3 hours from 6 to 60 hours, and then every 6 hours to 72 hours after the initial hour of 0000 or 1200 UTC. The forecast is indicated by one character where "Z" represents freezing precipitation (freezing rain, freezing drizzle, ice pellets (sleet), or any report of these elements mixed with other precipitation types), "S" represents snow (snow, snow grains, snow pellets, or snow showers), and "R" represents liquid precipitation (rain, drizzle, or a mixture of rain or drizzle with snow). A missing forecast is denoted by "X". The precipitation type guidance is transmitted only during the period of September 1 - May 31. Forecasts are not available for stations in southern Florida, Hawaii, the Caribbean Islands, and most of California, where freezing rain and snow rarely occur. For these sites, the TYP line is not in the message at any time of the year.

**17. SNW - SNOWFALL AMOUNT CATEGORICAL FORECAST**

|                |                         |           |           |             |                   |           |           |           |                 |             |           |           |           |           |           |           |           |           |           |           |           |
|----------------|-------------------------|-----------|-----------|-------------|-------------------|-----------|-----------|-----------|-----------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| <b>KDCA</b>    | <b>ETA MOS GUIDANCE</b> |           |           |             | <b>12/05/2003</b> |           |           |           | <b>0000 UTC</b> |             |           |           |           |           |           |           |           |           |           |           |           |
| <b>DT /DEC</b> | <b>5</b>                |           |           | <b>/DEC</b> |                   |           | <b>6</b>  |           |                 | <b>/DEC</b> |           |           | <b>7</b>  |           |           | <b>/</b>  |           |           |           |           |           |
| <b>HR</b>      | <b>06</b>               | <b>09</b> | <b>12</b> | <b>15</b>   | <b>18</b>         | <b>21</b> | <b>00</b> | <b>03</b> | <b>06</b>       | <b>09</b>   | <b>12</b> | <b>15</b> | <b>18</b> | <b>21</b> | <b>00</b> | <b>03</b> | <b>06</b> | <b>09</b> | <b>12</b> | <b>18</b> | <b>00</b> |
| <b>SNW</b>     |                         |           |           |             |                   |           |           |           |                 |             |           | <b>2</b>  |           |           | <b>1</b>  |           |           |           |           |           |           |

Categorical forecasts of snowfall amount are available in the message for 24-h periods ending approximately 36 and 60 hours after 0000 UTC and approximately 24, 48, and 72 hours after 1200 UTC. Since observations from the cooperative observer network are used to define the event, the valid times are approximations. The categories are denoted as follows:

- Snowfall Amount Categories  
 0 = no snow or a trace expected;  
 1 = > a trace to < 2 inches expected;  
 2 = 2 to < 4 inches;  
 4 = ≥ 4 to < 6 inches;

6 =  $\geq$  6 to < 8 inches;  
 8 =  $\geq$  8 inches.

A missing forecast is denoted by 9. The categorical guidance is prepared by using probability forecasts of the same categories. Forecasts are disseminated only for the period of September 1 - May 31. Forecasts are not available for stations in southern Florida, Hawaii, the Carribean Islands, and most of California, where snow rarely occurs. For these sites, the SNW line is not in the message at any time of the year.

**18. CIG - CEILING HEIGHT CATEGORICAL FORECASTS**

| KDCA    | ETA MOS GUIDANCE |    |    |    |    |        |    |    |    |    |        |    |    |    |    | 12/05/2003 0000 UTC |    |    |    |    |    |   |
|---------|------------------|----|----|----|----|--------|----|----|----|----|--------|----|----|----|----|---------------------|----|----|----|----|----|---|
| DT /DEC | 5                |    |    |    |    | /DEC 6 |    |    |    |    | /DEC 7 |    |    |    |    | /                   |    |    |    |    |    |   |
| HR      | 06               | 09 | 12 | 15 | 18 | 21     | 00 | 03 | 06 | 09 | 12     | 15 | 18 | 21 | 00 | 03                  | 06 | 09 | 12 | 18 | 00 |   |
| CIG     | 5                | 4  | 4  | 3  | 3  | 2      | 2  | 2  | 2  | 3  | 3      | 4  | 4  | 4  | 5  | 6                   | 7  | 7  | 7  | 8  | 8  | 8 |

Forecasts of eight categories of ceiling height (see the following table) are available for specific times valid every 3 hours from 6 to 60 hours and then every 6 hours to 72 hours after 0000 and 1200 UTC. The forecasts are displayed beneath the time of the day for which they are valid. Values of 1 through 8 are allowed for the categorical guidance; a value of 9 denotes a missing forecast. The categories are as follows:

- Ceiling Height Categories
- 1 = ceiling height of < 200 feet;
  - 2 = ceiling height of 200 - 400 feet;
  - 3 = ceiling height of 500 - 900 feet;
  - 4 = ceiling height of 1000 - 1900 feet;
  - 5 = ceiling height of 2000 - 3000 feet;
  - 6 = ceiling height of 3100 - 6500 feet;
  - 7 = ceiling height of 6600 - 12,000 feet;
  - 8 = ceiling height of > 12,000 feet or unlimited ceiling.

The categorical guidance is prepared by using probability forecasts of the same categories.

**19. VIS - VISIBILITY CATEGORICAL FORECASTS**

| KDCA    | ETA MOS GUIDANCE |    |    |    |    |        |    |    |    |    |        |    |    |    |    | 12/05/2003 0000 UTC |    |    |    |    |    |   |
|---------|------------------|----|----|----|----|--------|----|----|----|----|--------|----|----|----|----|---------------------|----|----|----|----|----|---|
| DT /DEC | 5                |    |    |    |    | /DEC 6 |    |    |    |    | /DEC 7 |    |    |    |    | /                   |    |    |    |    |    |   |
| HR      | 06               | 09 | 12 | 15 | 18 | 21     | 00 | 03 | 06 | 09 | 12     | 15 | 18 | 21 | 00 | 03                  | 06 | 09 | 12 | 18 | 00 |   |
| VIS     | 6                | 7  | 5  | 4  | 4  | 4      | 5  | 5  | 5  | 5  | 7      | 5  | 7  | 7  | 7  | 7                   | 7  | 7  | 7  | 7  | 7  | 7 |

Forecasts of seven categories of visibility (see the following table) are available for specific times valid every 3 hours from 6 to 60 hours and then every 6 hours to 72 hours after 0000 and 1200 UTC. The forecasts are displayed beneath the time of the day for which they are valid. Values of 1 through 7 are allowed for the categorical guidance; a value of 9 denotes a missing forecast. The categories are as follows:

- Visibility Categories
- 1 = visibility of < 1/2 mi;
  - 2 = visibility of 1/2 - < 1 mi;
  - 3 = visibility of 1 to < 2 mi;
  - 4 = visibility of 2 to < 3 mi;



5 = visibility of 3 to 5 mi;  
 6 = visibility of 6 mi;  
 7 = visibility of > 6 mi.

The categorical guidance is prepared by using probability forecasts of the same categories.

**20. OBV - OBSTRUCTION TO VISION CATEGORICAL FORECASTS**

| KDCA    | ETA MOS GUIDANCE |    |    |    |    | 12/05/2003 |    |    |    |    | 0000 UTC |    |    |    |    |    |    |    |    |    |    |
|---------|------------------|----|----|----|----|------------|----|----|----|----|----------|----|----|----|----|----|----|----|----|----|----|
| DT /DEC | 5                |    |    |    |    | /DEC 6     |    |    |    |    | /DEC 7   |    |    |    |    | /  |    |    |    |    |    |
| HR      | 06               | 09 | 12 | 15 | 18 | 21         | 00 | 03 | 06 | 09 | 12       | 15 | 18 | 21 | 00 | 03 | 06 | 09 | 12 | 18 | 00 |
| OBV     | N                | N  | BR | BR | BR | BR         | BR | BR | BR | BR | N        | BR | N  | N  | N  | N  | N  | N  | N  | N  | N  |

Forecasts of five categories of obstruction to vision (see the following table) are available for specific times valid every 3 hours from 6 to 60 hours and then every 6 hours to 72 hours after 0000 and 1200 UTC. The forecasts are displayed in plain language beneath the time of the day for which they are valid. The categories are denoted by the letters "N", "HZ", "BR", "FG", and "BL"; a value of "X" denotes a missing forecast. The categories are as follows:

- Obstruction to Vision Categories  
 N = none of the following;  
 HZ = haze, smoke, dust;  
 BR = mist (fog with visibility  $\geq$  5/8 mi);  
 FG = fog or ground fog (visibility < 5/8 mi);  
 BL = blowing dust, sand, snow.

The categorical guidance is prepared by using probability forecasts of the same categories. In the equation development, cases of fog or mist were not stratified by the occurrence of precipitation. Thus, a forecast of fog can be coincidental with a forecast of precipitation. Lower visibilities caused exclusively by precipitation occurrence are not indicated by the obstruction to vision guidance.

**21. AVAILABILITY**

The 0000 and 1200 UTC Eta MOS guidance will be available at approximately 0300 and 1500 UTC, respectively, in 10 alphanumeric messages transmitted to NWS AWIPS and Family of Services (FOS) circuits: six containing guidance for stations in the contiguous U.S., Puerto Rico, and the Virgin Islands; three containing guidance for Alaskan sites; and one containing guidance for stations in Hawaii. The following two-line WMO headers are used:

- WMO Header - Region  
 FOPA40 KWNO - Pacific Region  
 METPA1
- FOUS44 KWNO - Northeast U.S.  
 METNE1
- FOUS45 KWNO - Southeast U.S.  
 METSE1
- FOUS46 KWNO - North Central U.S.  
 METNC1

FOUS47 KWNO - South Central U.S.  
 METSC1

FOUS48 KWNO - Rocky Mountain Region (CONUS)  
 METRM1

FOUS49 KWNO - West Coast Region (CONUS)  
 METWC1

FOAK47 KWNO - Southeast Alaska (Juneau)  
 METAJK

FOAK48 KWNO - Central Alaska (Anchorage)  
 METAF1

FOAK49 KWNO - Northern Alaska (Fairbanks)  
 METAF2

## 22. STATION LIST

The Eta MOS guidance will be available for approximately 1543 stations. The guidance is transmitted in the 10 bulletins described in Section 21.

The user may check the following home pages for the station lists and corresponding WMO headers:

<http://www.nws.noaa.gov/mdl/synop/stadrg.htm>

| KDCA    | ETA MOS GUIDANCE |    |     |    |    |      |    |    |     |    |    |      |    |    |     |      |    |     |    |    | 12/05/2003 |    | 0000 UTC |    |      |   |  |  |  |    |  |  |  |  |  |    |
|---------|------------------|----|-----|----|----|------|----|----|-----|----|----|------|----|----|-----|------|----|-----|----|----|------------|----|----------|----|------|---|--|--|--|----|--|--|--|--|--|----|
| DT /DEC | 5                |    |     |    |    | /DEC |    |    |     |    | 6  |      |    |    |     | /DEC |    |     |    |    | 7          |    |          |    |      | / |  |  |  |    |  |  |  |  |  |    |
| HR      | 06               | 09 | 12  | 15 | 18 | 21   | 00 | 03 | 06  | 09 | 12 | 15   | 18 | 21 | 00  | 03   | 06 | 09  | 12 | 18 | 00         |    |          |    |      |   |  |  |  |    |  |  |  |  |  |    |
| X/N     |                  |    |     |    |    |      | 36 |    |     |    |    |      |    |    | 32  |      |    |     |    |    |            | 34 |          |    |      |   |  |  |  | 26 |  |  |  |  |  | 44 |
| TMP     | 34               | 34 | 34  | 35 | 35 | 35   | 35 | 35 | 36  | 37 | 36 | 34   | 32 | 32 | 31  | 30   | 30 | 29  | 28 | 27 | 42         | 38 |          |    |      |   |  |  |  |    |  |  |  |  |  |    |
| DPT     | 25               | 27 | 29  | 33 | 35 | 35   | 35 | 36 | 37  | 36 | 32 | 29   | 28 | 26 | 23  | 22   | 20 | 19  | 18 | 23 | 22         |    |          |    |      |   |  |  |  |    |  |  |  |  |  |    |
| CLD     | OV               | OV | OV  | OV | OV | OV   | OV | OV | OV  | OV | OV | OV   | OV | OV | OV  | OV   | OV | BK  | BK | SC | FW         | CL |          |    |      |   |  |  |  |    |  |  |  |  |  |    |
| WDR     | 05               | 04 | 04  | 03 | 02 | 02   | 02 | 01 | 36  | 36 | 35 | 34   | 34 | 33 | 34  | 34   | 33 | 33  | 33 | 32 | 33         |    |          |    |      |   |  |  |  |    |  |  |  |  |  |    |
| WSP     | 08               | 12 | 16  | 13 | 11 | 13   | 14 | 14 | 13  | 13 | 15 | 15   | 15 | 19 | 20  | 21   | 20 | 19  | 18 | 19 | 14         |    |          |    |      |   |  |  |  |    |  |  |  |  |  |    |
| P06     |                  |    | 100 |    |    | 93   |    |    | 63  |    |    | 85   |    |    | 74  |      |    | 55  |    |    | 38         | 6  | 4        | 0  | 0    |   |  |  |  |    |  |  |  |  |  |    |
| P12     |                  |    |     |    |    |      |    |    | 100 |    |    |      |    |    | 88  |      |    |     |    |    | 64         |    |          | 15 | 0    |   |  |  |  |    |  |  |  |  |  |    |
| Q06     |                  |    | 4   |    |    | 3    |    |    | 3   |    |    | 3    |    |    | 2   |      |    | 1   |    |    | 0          |    | 0        | 0  | 0    |   |  |  |  |    |  |  |  |  |  |    |
| Q12     |                  |    |     |    |    |      |    |    | 3   |    |    | 3    |    |    |     |      |    | 1   |    |    |            |    | 0        | 0  |      |   |  |  |  |    |  |  |  |  |  |    |
| T06     |                  |    | 1/0 |    |    | 1/11 |    |    | 3/0 |    |    | 3/0  |    |    | 1/1 |      |    | 1/7 |    |    | 0/0        |    | 0/0      |    | 0/13 |   |  |  |  |    |  |  |  |  |  |    |
| T12     |                  |    |     |    |    |      |    |    | 1/0 |    |    | 5/11 |    |    | 3/1 |      |    | 1/7 |    |    |            |    | 0/0      |    |      |   |  |  |  |    |  |  |  |  |  |    |
| POZ     | 19               | 22 | 24  | 13 | 16 | 19   | 22 | 19 | 14  | 3  | 2  | 0    | 0  | 1  | 7   | 0    | 1  | 0   | 0  | 3  | 3          |    |          |    |      |   |  |  |  |    |  |  |  |  |  |    |
| POS     | 13               | 16 | 18  | 14 | 13 | 11   | 10 | 12 | 24  | 37 | 47 | 55   | 63 | 61 | 72  | 72   | 75 | 91  | 80 | 87 | 63         |    |          |    |      |   |  |  |  |    |  |  |  |  |  |    |
| TYP     | R                | R  | R   | R  | R  | R    | R  | R  | R   | R  | R  | S    | S  | S  | S   | S    | S  | S   | S  | S  | S          | S  | S        | S  |      |   |  |  |  |    |  |  |  |  |  |    |
| SNW     |                  |    |     |    |    |      |    |    |     |    |    |      | 2  |    |     |      |    |     |    |    |            |    | 1        |    |      |   |  |  |  |    |  |  |  |  |  |    |
| CIG     | 5                | 4  | 4   | 3  | 3  | 2    | 2  | 2  | 3   | 3  | 4  | 4    | 4  | 5  | 6   | 7    | 7  | 7   | 7  | 8  | 8          | 8  |          |    |      |   |  |  |  |    |  |  |  |  |  |    |
| VIS     | 6                | 7  | 5   | 4  | 4  | 4    | 5  | 5  | 5   | 5  | 7  | 5    | 7  | 7  | 7   | 7    | 7  | 7   | 7  | 7  | 7          | 7  |          |    |      |   |  |  |  |    |  |  |  |  |  |    |
| OBV     | N                | N  | BR  | BR | BR | BR   | BR | BR | BR  | BR | BR | N    | BR | N  | N   | N    | N  | N   | N  | N  | N          | N  | N        |    |      |   |  |  |  |    |  |  |  |  |  |    |

Figure 1. Sample 0000 UTC message.

| KDCA |      | ETA   |      | MOS |      | GUIDANCE |      | 12/05/2003 |      | 1200 |      | UTC |      |    |      |      |      |    |      |    |      |   |
|------|------|-------|------|-----|------|----------|------|------------|------|------|------|-----|------|----|------|------|------|----|------|----|------|---|
| DT   | /DEC | 5/DEC |      | 6   |      |          |      |            |      | /DEC |      | 7   |      |    |      | /DEC |      | 8  |      |    |      |   |
| HR   | 18   | 21    | 00   | 03  | 06   | 09       | 12   | 15         | 18   | 21   | 00   | 03  | 06   | 09 | 12   | 15   | 18   | 21 | 00   | 06 | 12   |   |
| N/X  |      |       |      |     |      |          | 31   |            |      |      | 33   |     |      | 26 |      |      | 35   |    |      | 26 |      |   |
| TMP  | 36   | 36    | 36   | 35  | 34   | 34       | 33   | 31         | 31   | 30   | 30   | 30  | 29   | 28 | 28   | 31   | 34   | 34 | 32   | 29 | 28   |   |
| DPT  | 35   | 35    | 33   | 33  | 33   | 32       | 29   | 27         | 25   | 23   | 21   | 20  | 19   | 18 | 17   | 18   | 18   | 18 | 19   | 19 | 19   |   |
| CLD  | OV   | OV    | OV   | OV  | OV   | OV       | OV   | OV         | OV   | OV   | OV   | OV  | OV   | SC | SC   | FW   | FW   | CL | CL   | CL | CL   |   |
| WDR  | 04   | 02    | 01   | 01  | 36   | 35       | 35   | 34         | 33   | 33   | 33   | 33  | 33   | 33 | 33   | 33   | 32   | 32 | 33   | 33 | 33   |   |
| WSP  | 13   | 14    | 15   | 15  | 14   | 14       | 16   | 17         | 18   | 19   | 18   | 19  | 18   | 17 | 17   | 17   | 18   | 16 | 13   | 10 | 08   |   |
| P06  |      |       | 62   |     | 78   |          | 87   |            | 58   |      | 17   |     | 3    |    | 1    |      | 0    |    | 0    | 0  | 0    |   |
| P12  |      |       |      |     |      |          | 87   |            |      |      | 58   |     |      |    | 7    |      |      |    | 0    |    | 0    |   |
| Q06  |      |       | 2    |     | 2    |          | 3    |            | 1    |      | 0    |     | 0    |    | 0    |      | 0    |    | 0    | 0  | 0    |   |
| Q12  |      |       |      |     |      |          | 2    |            |      |      | 1    |     |      |    | 0    |      |      |    | 0    |    | 0    |   |
| T06  |      |       | 3/ 8 |     | 2/ 0 |          | 2/ 0 |            | 0/ 0 |      | 1/ 3 |     | 1/ 0 |    | 0/ 0 |      | 0/ 0 |    | 0/13 |    | 0/ 0 |   |
| T12  |      |       |      |     | 3/ 8 |          |      |            | 4/ 0 |      |      |     | 1/ 3 |    |      |      | 0/ 0 |    |      |    | 0/13 |   |
| POZ  | 10   | 19    | 23   | 22  | 15   | 13       | 7    | 1          | 1    | 2    | 3    | 0   | 4    | 0  | 0    | 0    | 4    | 4  | 9    | 7  | 4    |   |
| POS  | 0    | 5     | 9    | 13  | 29   | 32       | 48   | 69         | 68   | 72   | 74   | 87  | 75   | 88 | 86   | 91   | 79   | 79 | 59   | 31 | 34   |   |
| TYP  | R    | R     | R    | R   | R    | R        | S    | S          | S    | S    | S    | S   | S    | S  | S    | S    | S    | S  | S    | S  | R    | R |
| SNW  |      |       |      |     |      |          | 4    |            |      |      |      |     |      |    | 0    |      |      |    |      |    | 0    |   |
| CIG  | 3    | 2     | 2    | 2   | 2    | 3        | 3    | 4          | 5    | 6    | 6    | 7   | 7    | 8  | 8    | 8    | 8    | 8  | 8    | 8  | 8    | 8 |
| VIS  | 5    | 5     | 5    | 5   | 4    | 5        | 7    | 7          | 7    | 7    | 7    | 7   | 7    | 7  | 7    | 7    | 7    | 7  | 7    | 7  | 7    | 7 |
| OBV  | BR   | BR    | BR   | BR  | BR   | BR       | BR   | N          | N    | N    | N    | N   | N    | N  | N    | N    | N    | N  | N    | N  | N    | N |

Figure 2. Sample 1200 UTC message.