PART E

ABSTRACTING AND RECORDING

SUPPLEMENTARY DATA

CHAPTER 17

MONTHLY CLIMATOLOGICAL SUMMARY – FORM 63–2320

17.1 GENERAL. The Monthly Climatological Summary, Form 63–2320, shall be prepared from information recorded on Form 63–2322. The main body of the form contains space for recording daily values, as well as monthly totals and means. The bottom of the form contains space for the preparation of the Climatological Message.

17.1.1 All stations which complete Section IV (Summary for the Climatological Day Ending 0600 UTC) of Form 63–2322 shall record daily values in Columns 2 to 24 of Form 63–2320, and complete items A to M of the Climatological Message.

17.1.2 Stations collocated with an automatic station which is routed through CODCON to report in Hourly and Synoptic code formats shall use autostation data to supplement the data from manned observations as required to complete Form 63–2320. When automatic station data are used to complete Form 63–2320 it shall be noted in column 38.

17.1.2.1 Autostation data may be obtained and used as follows:

Data	Source	Form 63–2320 Application
MSL pressure	Synoptic or Hourly CODCON output	Columns 13–16
Vapour pressure	Dewcel input to CODCON, converted to dew–point, then to vapour pressure according to para. 17.2.12.1	Columns 17–20
Station pressure	Synoptic CODCON output	Columns 21–24

Amendment n° 14
June 1996

17.1.2.2 Instructions on the use of automatic station data for deriving maximum and minimum temperatures and rainfall are given in para. 10.4.4.4./13.3.4.4, 10.4.5.4/13.3.6.4, and 10.4.8 to 10.4.8.3.1/13.3.10 to 13.3.10.3.1 respectively.

17.1.3 Columns 26 to 38 are provided for the convenience of those stations which may wish to summarize, for their own use, the occurrence of "days with" or other items or notes from Form 63–2322.

17.1.4 Form 63–2320 shall be prepared in duplicate. The procedures regarding legibility, missing data and corrections, as specified for Form 63–2322, shall be followed. The station name, province, month and year shall be printed in full. Form 63–2320 shall be forwarded promptly at the end of each month to AES Downsview unless special forwarding instructions are issued to the station by the AES Regional Headquarters. In this case, Forms 63–2320 shall be relayed to AES Downsview by the Region.

17.1.5 An electronically reproduced paper copy of 63–2320 may be used for station and AES Headquarters copies.

17.2 ENTRIES ON FORM 63–2320

17.2.1 Column 1 – Date. No entry is required. The preprinted date corresponds to the date entered in Column 44 of Form 63–2322.

17.2.2 Column 2 – Maximum. Enter the maximum temperature in degrees and tenths Celsius. This temperature is obtained from Column 45 of Form 63–2322 of the same date. At the bottom of Column 2 enter the sum of the values recorded during the month, and determine their mean to the nearest tenth of a degree Celsius.

17.2.3 Column 3 – Minimum. Enter the minimum temperature in degrees and tenths Celsius. This temperature is obtained from Column 46 of Form 63–2322 of the same date. At the bottom of Column 3 enter the sum of the values recorded during the month, and determine their mean to the nearest tenth of a degree Celsius.

17.2.4 Column 4 – $(T_x + T_n)$. Enter the sum of the daily maximum and minimum temperatures recorded in Columns 2 and 3 for the same date. At the bottom of Column 4, enter the sum of the means recorded at the bottom of Columns 2 and 3.

17.2.5 Column 5 – Mean Temperature. Enter the calculated mean temperature for the day in degrees and tenths Celsius. This is the sum of the maximum and minimum temperatures for the day (Column 4) divided by two. At the end of the month, divide the "sum" of the means entered near the bottom of column 4 by two to obtain the mean temperature, and record it to the nearest tenth of a degree at the bottom of Column 5.

Amendment n° 13
October 1994

17.2.6 Column 6 – Heating Degree–Days. The entry required in column 6 is computed as follows:

(a) When the daily mean temperature (Column 5) is more than 18.0, no entry is required, (leave blank).

(b) When the daily mean temperature (Column 5) is 18.0, enter 0.

(c) When the daily mean temperature (Column 5) is less than 18.0, enter the difference (to the nearest tenth) between 18.0 and the daily mean temperature.

(d) At the bottom of column 6 enter the sum (to the tenth) of the values recorded during the month.

Note: When the daily mean temperature is less than 18.0 C, the number of heating degree–days is equivalent to the difference between the mean temperature for that day and 18.0. Heating degree days are used extensively in estimating fuel consumption and in specifying the nominal heat load of a building in winter.

17.2.7 Column 7 – Cooling Degree–Days. The entry required in column 7 is computed as follows:

(a) When the daily mean temperature (Column 5) is less than 18.0, no entry is required, (leave blank).

(b) When the daily mean temperature (Column 5) is 18.0, enter 0.

(c) When the daily mean temperature (Column 5) is more than 18.0, enter the difference (to the nearest tenth) between the daily mean temperature and 18.0.

(d) At the bottom of column 7 enter the sum (to the tenth) of the values recorded during the month.

17.2.8 Column 8 – Rainfall. Enter the daily rainfall value as recorded in Column 53 of Form 63–2322, but enter "0.0" for none.

17.2.8.1 At the bottom of column 8, enter the total monthly rainfall in millimetres and tenths. Enter "0.0" for none. Enter "TR" for trace.

17.2.9 Column 9 – Snowfall. Enter the daily snowfall value as recorded in Column 54 of Form 63–2322, but enter "0.0" for none.

17.2.9.1 At the bottom of column 9, enter the total monthly snowfall in centimetres and tenths. Enter "0.0" for none. Enter "TR" for trace.

Amendment n° 13
October 1994

17.2.10 Column 10 – Snowfall Water Equivalent. Enter the daily value (24–hour sum) as recorded at the bottom of Column 10 of Form 63–2322, but enter "0.0" for none.

17.2.10.1 At the bottom of column 10, enter the total monthly snowfall water equivalent in millimetres and tenths. Enter "0.0" for none. Enter "TR" for trace.

17.2.11 Column 11 – Total Precipitation. Enter the total precipitation for the day as recorded in Column 55 of Form 63–2322, but enter "0.0" for none.

17.2.11.1 At the bottom of column 11, enter the total precipitation for the month in millimetres and tenths. Enter "0.0" for none. Enter "TR" for trace.

17.2.12 Column 12. Depth of Snow on Ground. Enter the value for the depth of snow on the ground as recorded in column 56 of Form 63–2322, using "0" for none and "TR" for trace.

Note: In columns 8 to 12, whenever there are five or more consecutive days on which there is no rainfall or snowfall, or no snow on the ground, the method of data entry may be modified as follows. Make the appropriate "zero" entry on the first and last day without precipitation or snow on the ground, and using a ruler, draw a vertical arrow between these two days.

17.2.13 Columns 13 to 16. Sea Level Pressure. In each heading of Columns 13 to 16 enter the local standard time of the 1st, 2nd, 3rd, and 4th main Synoptic observations of the day. The local standard times of the synoptic hours for the various time zones are listed below.

Time zone	1st Synoptic	2nd Synoptic	3rd Synoptic	4th Synoptic
NST	0230	0830	1430	2030
AST	0200	0800	1400	2000
EST	0100	0700	1300	1900
CST	0000	0600	1200	1800
MST	0500	1100	1700	2300
PST	0400	1000	1600	2200

17.2.13.1 Columns 13 to 16 – Enter the appropriate sea level pressures in hectopascals and tenths. The values will be found in line 22 of Form 63–2322. Examples of entries: 1015.5, 996.8. At collocated automatic stations when a manual observation is not available for a synoptic hour, select the appropriate sea level pressure from the CODCON processed synoptic or hourly message of the automatic station. The values of the previous example would appear in code as 155 and 968 and are recorded in full in columns 13 to 16 as 1015.5 and 996.8. At the end of the month, total the entries recorded in each of Columns 13, 14, 15 and 16 and calculate their means to the nearest tenth of a hectopascal. Enter these values at the bottom of Columns 13 to 16 and in the appropriate boxes in Column 39. Compute the sum of the entries in Column 39, and calculate the mean to the nearest tenth of a hectopascal. Enter these values at the bottom of Column 39.

17.2.13.1.1 In some instances at collocated automatic weather stations, the mean sea level pressure may not be available in a given synoptic or hourly message from the autostation due to a code conversion computer malfunction. In such a case, the following method should be used to calculate mean sea level pressure. (Line references refer to Form 63–2322).

(a) On lines 15 and 16, calculate the mean temperature using screen and /or autostation temperatures.

(b) Obtain the pressure value from the autostation input message for the appropriate hour and enter it on line 18.

(c) Enter the removal correction for the autostation on line 19.

(d) Calculate and enter the station pressure on line 20. (Note. Line 17 is not used.)

(e) Find the appropriate value from the table for the reduction of station pressure to sea level for the station and enter it on line 21.

(f) Sea level pressure is found by adding the values on lines 20 and 21, and this sum is entered on line 22. This value may now be transferred as appropriate to one of columns 13 to 16 of the Monthly Climatological Summary.

Amend. No. 9
Sept 1987

17.2.14 *Columns 17 to 20 – Vapour Pressure. In the headings enter the local standard times to correspond with the entries in the headings of Columns 13 to 16.

17.2.14.1 Columns 17 to 20: Enter the vapour pressure in hectopascals and tenths for each main synoptic hour of the month. The vapour pressure shall be obtained from "Conversion Table – Vapour Pressure with Respect to Dew–Point", para. 17.3. Obtain the vapour pressure as follows:

(a) From Column 35 on Form 63–2322, select the appropriate dew–point in degrees and tenths Celsius.

(b) Refer the dew–point to the nearest listed dew–point in the Conversion Table to obtain the vapour pressure.

(c) Record the vapour pressure.

(d) At collocated automatic stations when a manned observation is not available for a synoptic hour, select the appropriate dew–point in degrees and tenths from the input message of the automatic station, then follow steps (b) and (c) above. (The content and format of the input message is detailed in "User's Guide – Automatic Weather Station Reports.")

*The term Vapour Pressure is used in meteorology almost exclusively to denote the partial pressure of water vapour in the atmosphere.

Examples:

Dew–Point at time of observation: 19.3 = Vapour Pressure 22.7 hPa
Dew–Point at time of observation: 19.7 = Vapour Pressure 22.7 hPa
Dew–Point at time of observation: –5.5 = Vapour Pressure 4.1 hPa

17.2.14.2 When the air temperature is colder than –37°C and the dew–point temperature is not available, it shall be assumed that the vapour pressure is 0.1 hectopascal.

17.2.14.3 At the end of the month, total the entries in each of the Columns 17, 18, 19 and 20 and calculate their means to the nearest hectopascal and tenth. Enter these values at the bottom of Columns 17, 18, 19 and 20 and in the appropriate boxes in Column 40. Compute the sum of the entries in Column 40 and calculate the mean to the nearest hectopascal and tenth. Enter this value at the bottom of Column 40.

17.2.15 Columns 21 to 24. Station Pressure. In each heading of Columns 21 to 24 enter the local standard time of the 1st, 2nd, 3rd, and 4th main Synoptic observations of the day. (Same as those times entered in the headings of Columns 13 to 16).

17.2.15.1 *Columns 21 to 24 – Enter the appropriate station pressures in hectopascals and tenths. The values will be found on Line 20 of Form 63–2322. Examples of entries; 1005.5, 986.8. At collocated automatic stations when a manned observation is not available for a synoptic hour, select the appropriate station pressure from the CODCON processed Synoptic code message. The values of the previous example would appear in code as 30055 and 39868 and are recorded in full in columns 21 to 24 as 1005.5 and 986.8. At the end of the month, total the entries recorded in each of Columns 21, 22, 23 and 24 and calculate their means to the nearest tenth of a hectopascal. Enter these values at the bottom of Columns 21 to 24 and in the appropriate boxes in Column 41. Compute the sum of the entries in Column 41, and calculate the mean to the nearest tenth of a hectopascal. Enter this value at the bottom of Column 41.

Note: Station pressure may also be derived from the input message of an automatic station, but then the removal correction, when applicable, must be added to the pressure value. Removal corrections for specific stations may be obtained from AES Downsview.

17.2.16 Columns 39, 40 and 41: Refer to para. 17.2.13.1, para. 17.2.14.3 and para. 17.2.15.1 respectively.

*When the station pressure and the sea level pressure are the same, entries are not required in Columns 21 to 24. However the station pressure (Item M) must be included in the CLIMAT message, para. 17.4.13.

17.3

CONVERSION TABLE
VAPOUR PRESSURE WITH RESPECT TO DEW POINT

Dew Point °C	Vapour Pressure hPa & tenths	Dew Point °C	Vapour Pressure hPa & tenths	Dew Point °C	Vapour Pressure hPa & tenths	Dew Point °C	Vapour Pressure hPa & tenths
39.5	71.8	29.5	41.2	19.5	22.7	9.5	11.9
39.0	69.9	29.0	40.1	19.0	22.0	9.0	11.5
38.5	68.1	28.5	38.9	18.5	21.3	8.5	11.1
38.0	66.3	28.0	37.8	18.0	20.6	8.0	10.7
37.5	64.5	27.5	36.7	17.5	20.0	7.5	10.4
37.0	62.8	27.0	35.6	17.0	19.4	7.0	10.0
36.5	61.1	26.5	34.6	16.5	18.8	6.5	9.7
36.0	59.4	26.0	33.6	16.0	18.2	6.0	9.3
35.5	57.8	25.5	32.6	15.5	17.6	5.5	9.0
35.0	56.2	25.0	31.7	15.0	17.0	5.0	8.7
34.5	54.7	24.5	30.7	14.5	16.5	4.5	8.4
34.0	53.2	24.0	29.8	14.0	16.0	4.0	8.1
33.5	51.7	23.5	28.9	13.5	15.5	3.5	7.8
33.0	50.3	23.0	28.1	13.0	15.0	3.0	7.6
32.5	48.9	22.5	27.2	12.5	14.5	2.5	7.3
32.0	47.6	22.0	26.4	12.0	14.0	2.0	7.1
31.5	46.2	21.5	25.6	11.5	13.6	1.5	6.8
31.0	44.9	21.0	24.9	11.0	13.1	1.0	6.6
30.5	43.7	20.5	24.1	10.5	12.7	0.5	6.3
30.0	42.4	20.0	23.4	10.0	12.3	0.0	6.1

Dew point °C	Vapour Pressure hPa & tenths	Dew Point °C	Vapour Pressure hPa & tenths	Dew Point °C	Vapour Pressure hPa & tenths	Dew Point °C	Vapour Pressure hPa & tenths	Dew Point °C	Vapour Pressure hPa & tenths
- 0.5	5.9	-10.5	2.8	-20.5	1.2	-30.5	0.5	-40.5	0.2
- 1.0	5.7	-11.0	2.6	-21.0	1.2	-31.0	0.5	-41.0	0.2
- 1.5	5.5	-11.5	2.5	-21.5	1.1	-31.5	0.4	-41.5	0.2
- 2.0	5.3	-12.0	2.4	-22.0	1.1	-32.0	0.4	-42.0	0.2
- 2.5	5.1	-12.5	2.3	-22.5	1.0	-32.5	0.4		
- 3.0	4.9	-13.0	2.3	-23.0	1.0	-33.0	0.4	-42.5	
- 3.5	4.7	-13.5	2.2	-23.5	0.9	-33.5	0.4	AND	0.1
- 4.0	4.5	-14.0	2.1	-24.0	0.9	-34.0	0.3	LOWER	
- 4.5	4.4	-14.5	2.0	-24.5	0.8	-34.5	0.3		
- 5.0	4.2	-15.0	1.9	-25.0	0.8	-35.0	0.3		
- 5.5	4.1	-15.5	1.8	-25.5	0.8	-35.5	0.3		
- 6.0	3.9	-16.0	1.8	-26.0	0.7	-36.0	0.3		
- 6.5	3.8	-16.5	1.7	-26.5	0.7	-36.5	0.3		
- 7.0	3.6	-17.0	1.6	-27.0	0.7	-37.0	0.3		
- 7.5	3.5	-17.5	1.6	-27.5	0.6	-37.5	0.2		
- 8.0	3.3	-18.0	1.5	-28.0	0.6	-38.0	0.2		
- 8.5	3.2	-18.5	1.4	-28.5	0.6	-38.5	0.2		
- 9.0	3.1	-19.0	1.4	-29.0	0.6	-39.0	0.2		
- 9.5	3.0	-19.5	1.3	-29.5	0.5	-39.5	0.2		
-10.0	2.9	-20.0	1.3	-30.0	0.5	-40.0	0.2		

17.4 PREPARATION OF THE MONTHLY CLIMAT MESSAGE

17.4.1 Station Number. In the space provided, enter the 5–figure international index number that is used for Synoptic reports; refer to para. 12.2.3. If a station does not have a 5–figure international index number, enter the 3–letter station identifier.

17.4.2 Monthly Mean Temperature – (A). To the right of identifier 'A' enter the monthly mean temperature in degrees and tenths as obtained from the bottom of Column 5. Negative temperatures shall be preceded by a minus sign. A mean temperature of exactly zero shall be entered as 0.0.

17.4.3 Highest Temperature – (B). Select the highest daily maximum temperature recorded in Column 2 and enter it in degrees and tenths to the right of identifier 'B'. Negative temperatures shall be preceded by a minus sign. A maximum temperature of exactly zero shall be entered as 0.0.

17.4.4 Lowest Temperature – (C). Select the lowest daily minimum temperature recorded in Column 3 and enter it in degrees and tenths to the right of identifier 'C'. Negative temperatures shall be preceded by a minus sign. A minimum temperature of exactly zero shall be entered as 0.0.

17.4.5 Snowfall – (D). To the right of identifier 'D' enter the total monthly snowfall in centimetres and tenths as obtained from the bottom of Column 9. Enter 0.0 for none, and enter TR for a trace amount.

17.4.6 Total Precipitation – (E). To the right of identifier 'E' enter the total monthly precipitation in millimetres and tenths as obtained from the bottom of Column 11. Enter 0.0 for none, and enter TR for a trace amount.

17.4.7 Depth of Snow on Ground – (F). The depth of snow on the ground in whole centimetres as reported in Column 56, Form 63–2322, on the last day of the month shall be entered to the right of identifier 'F'. An entry of 0 shall be made for none, including during the summer months.

17.4.8 Days With 1.0 mm or More of Precipitation – (G). Count the number of entries in Column 11 which show the total precipitation for the day as 1.0 mm or more. Enter this number to the right of identifier 'G'. Enter 0 for none.

Amend. No. 9
Sept. 1987

17.4.9 Bright Sunshine – (H). If equipped with a sunshine recorder, enter to the right of identifier 'H' the amount of bright sunshine for the month to the nearest tenth of an hour. See Form 63–2307 for this value. Enter 0.0 for none. At stations not equipped with a sunshine recorder, NIL shall be entered for "H".

17.4.10 Heating Degree–Days – (J). To the right of identifier 'J' enter the total monthly heating degree–days as obtained from the bottom of Column 6. Enter 0.0 for no heating degree–days.

17.4.11 Mean Sea Level Pressure – (K). To the right of identifier 'K' enter the monthly mean sea level pressure to the nearest tenth of a hectopascal, as recorded at the bottom of Column 39.

17.4.12 Mean Vapour Pressure – (L). To the right of identifier 'L' enter the mean vapour pressure for the month as obtained from the bottom of column 40.

17.4.13. Mean Station Pressure – (M). To the right of identifier 'M' enter the monthly mean station pressure to the nearest tenth of a hectopascal, as recorded at the bottom of Column 41 or at the bottom of Column 39 if Sea Level Pressure and Station Pressure are identical.

17.4.14 Additional Instructions – Enter MISG in the appropriate box when any of the following occurs:

Item	Identifier	Enter MISG if:
Mean Temperature	A	More than 5 daily maximum and/or minimum temperatures missing.
Highest Temperature	B	One or more daily maximum temperatures missing.*
Lowest Temperature	C	One or more daily minimum temperatures missing.*
Snowfall	D	Snowfall not measured for one day or more.
Total Precipitation	E	Total precipitation for one day or more is missing.
Depth of Snow on Ground	F	Snow on ground, but all observations for last day of month are missing.
Days with 1.0 mm or more Precipitation	G	Total precipitation for one day or more is missing.
Bright Sunshine	H	Sunshine Recorder inoperative for any one complete day or more.
Heating Degree–Days	J	Heating degree–days for one day or more missing.
Mean Sea Level Pressure	K	More than 5 pressures are missing.
Mean Vapour Pressure	L	More than 5 Vapour pressures are missing.
Mean Station Pressure	M	More than 5 Station pressures are missing.

*When it appears from the regular observations that the extreme would obviously not be among the missing data, then the extreme of the recorded values shall be included in the climatological message.

17.4.14.1 Every climatological message shall always include an entry for each group from A to M inclusive.

17.4.15 Typical Entries – Form 63–2320

Environment Canada / Environnement Canada
Atmospheric Environment Service / Service de l'environnement atmosphérique

MONTHLY CLIMATOLOGICAL SUMMARY

STATION: HILLTOP | PROVINCE: ONTARIO | MONTH: APRIL | YEAR: 1986

DATE (1)	TEMPERATURE: °C Max T_x (2)	°C Min T_n (3)	T_x+T_n (4)	Mean $T_m = \frac{T_x+T_n}{2}$ (5)	°C Heating Degree Days 18 − T_m (6)	°C Cooling Degree Days T_m − 18 (7)	PRECIPITATION: Rainfall mm & tenths (8)	Snowfall cm & tenths (9)	Snowfall Water equivalent mm & tenths (10)	Total Precipitation mm & tenths (11)	Depth of Snow on Ground whole cm (12)	SEA LEVEL PRESSURE: First Synoptic Hour 0100 EST (13)	Second Synoptic Hour 0700 EST (14)	Third Synoptic Hour 1300 EST (15)	Fourth Synoptic Hour 1900 EST (16)	VAPOUR PRESSURE: First Synoptic Hour 0100 EST (17)	Second Synoptic Hour 0700 EST (18)	Third Synoptic Hour 1300 EST (19)	Fourth Synoptic Hour 1900 EST (20)	STATION PRESSURE: First Synoptic Hour 0100 EST (21)	Second Synoptic Hour 0700 EST (22)	Third Synoptic Hour 1300 EST (23)	Fourth Synoptic Hour 1900 EST (24)	DATE (25)
1	-1.2	-10.4	-11.6	-5.8	23.8		0.0	TR	TR	TR	0	1023.5	1021.3	1017.7	1015.8	4.2	4.0	4.0	3.9	1013.5	1011.3	1007.7	1005.8	1
2	6.1	-5.2	0.9	0.5	17.5		0.0	0.0	0.0	0.0	0	1016.1	1019.1	1020.8	1022.9	4.8	5.4	5.9	5.9	1006.1	1009.1	1010.8	1012.9	2
3	10.0	-2.5	7.5	3.8	14.2		0.0	0.0	0.0	0.0	0	1022.5	1020.6	1015.9	1012.6	6.1	6.6	6.9	6.9	1012.5	1010.6	1005.9	1002.6	3
4	11.2	-0.4	10.8	5.4	12.6		0.0	0.0	0.0	0.0	0	1022.2	1013.6	1011.5	1009.0	7.2	7.5	7.2	7.2	1012.2	1003.6	1001.5	999.0	4
5	12.3	1.1	13.4	6.7	11.3		TR	0.0	0.0	TR	0	1009.0	1008.2	1005.1	1003.3	7.5	7.2	7.2	6.9	994.0	998.2	995.1	993.3	5
6	7.4	-2.6	4.8	2.4	15.6		0.6	2.4	2.2	2.8	0	1002.7	1004.1	1006.9	1011.5	6.6	6.6	6.4	5.9	992.7	994.1	996.9	1001.5	6
7	-1.8	-5.0	-6.8	-3.4	21.4		0.0	4.4	4.0	4.0	1	1013.8	1015.5	1015.2	1016.5	5.2	4.8	4.4	4.4	1003.8	1005.5	1005.2	1006.5	7
8	-2.8	-7.5	-10.3	-5.2	23.2			0.8	0.8	0.8	3	1016.1	1016.8	1018.1	1020.5	4.6	4.6	4.8	5.0	1006.1	1006.8	1008.1	1010.5	8
9	2.4	-8.0	-5.6	-2.8	20.8			TR	TR	TR	3	1020.9	1021.0	1018.8	1018.0	5.4	5.6	5.9	5.9	1010.9	1011.0	1008.8	1008.0	9
10	7.2	-2.8	4.4	2.2	15.8			0.0	0.0	0.0	TR	1016.3	1016.4	1014.3	1014.2	6.4	6.9	7.2	7.8	1006.3	1006.4	1004.3	1004.2	10
11	13.3	2.8	16.1	8.1	9.9						0	1013.0	1015.0	1015.7	1017.1	8.1	8.7	9.1	9.4	1003.0	1005.0	1005.7	1007.1	11
12	15.9	0.0	15.9	8.0	10.0						0	1016.8	1016.2	1013.5	1012.4	9.8	10.2	10.6	11.0	1006.8	1006.2	1003.5	1002.4	12
13	17.1	3.0	20.1	10.1	7.9						0	1012.8	1014.7	1012.5	1004.4	11.4	12.3	13.2	14.2	1002.8	1004.7	1002.5	999.4	13
14	18.6	2.5	21.1	10.6	7.4		0.0			0.0	0	1010.3	1008.6	1002.4	998.1	14.8	15.3	15.3	14.2	1000.3	998.6	992.4	988.1	14
15	15.2	4.4	19.6	9.8	8.2		0.6			0.6	0	991.5	990.0	989.0	994.0	13.7	12.7	12.7	12.3	981.5	980.0	979.0	984.0	15
16	8.4	-1.4	7.0	3.5	14.5		0.7			0.7	0	998.2	1003.9	1008.5	1015.2	10.2	9.4	9.1	9.1	988.2	993.9	998.5	1005.2	16
17	9.0	-2.2	6.8	3.4	14.6		0.0			0.0	0	1014.8	1011.9	1006.1	1003.0	9.4	9.4	9.8	9.8	1004.8	1001.9	996.1	993.0	17
18	12.7	-1.5	11.2	5.6	12.4			0.0	0.0	0.0	0	1001.0	1001.6	1002.3	1004.7	10.2	10.6	10.6	10.2	991.0	991.6	992.3	994.7	18
19	6.5	-1.0	5.5	2.8	15.2			TR	TR	TR	0	1008.3	1014.0	1016.5	1021.5	8.7	8.1	7.8	7.5	998.3	1004.0	1006.5	1011.5	19
20	2.1	-5.0	-2.9	-1.5	19.5			0.2	0.2	0.2	0	1023.1	1025.3	1025.2	1025.6	6.4	6.1	5.9	5.4	1013.1	1015.3	1015.2	1015.6	20
21	3.4	-2.5	0.9	0.5	17.5			0.4	0.3	0.3	TR	1024.2	1023.8	1022.6	1022.6	5.6	5.9	6.1	5.9	1014.2	1013.8	1012.6	1012.6	21
22	8.3	-3.4	4.9	2.5	15.5			0.0	0.0	0.0	0	1021.4	1020.6	1017.1	1013.9	6.4	6.6	6.9	7.2	1011.4	1010.6	1007.1	1003.9	22
23	17.4	-1.5	15.9	8.0	10.0						0	1010.5	1007.9	1005.9	1006.1	8.1	9.1	9.8	11.4	1000.5	997.9	995.9	996.1	23
24	17.4	3.0	20.4	10.2	7.8						0	1008.7	1010.1	1010.3	1011.8	12.3	13.7	15.3	15.9	998.7	1000.1	1000.3	1001.8	24
25	18.6	2.9	21.5	10.8	7.2						0	1013.3	1013.2	1011.7	1011.3	16.4	17.0	17.7	17.7	1003.3	1003.2	1001.7	1001.3	25
26	24.0	12.0	36.0	18.0	0	0					0	1011.4	1009.4	1007.9	1009.1	17.0	16.4	15.9	15.3	1001.4	999.4	997.9	999.1	26
27	25.1	15.2	40.3	20.2		2.2					0	1011.5	1012.8	1018.1	1023.5	14.8	14.2	13.7	12.7	1001.5	1002.8	1008.1	1013.5	27
28	11.3	2.4	13.7	6.9	11.1						0	1028.3	1032.0	1031.3	1031.5	12.3	11.8	11.4	11.0	1018.3	1022.0	1021.3	1021.5	28
29	12.9	2.0	14.9	7.5	10.5						0	1029.7	1025.8	1018.9	1011.9	9.8	9.1	8.1	8.1	1019.7	1015.8	1008.9	1001.9	29
30	18.9	4.0	22.9	11.5	6.5		0.0	0.0	0.0	0.0	0	1011.1	1008.5	1002.2	998.7	8.4	8.7	9.1	9.1	1001.1	998.5	992.2	988.7	30
31																								31
	326.9	-7.6			381.9	2.2	1.9	8.2	7.5	9.4		30423.0	30421.9	30382.0	30385.7	271.8	274.5	278.0	277.2	30123.0	30121.9	30081.8	30085.7	SUM
	10.9	-0.3	10.6	5.3								1014.1	1014.1	1012.7	1012.9	9.1	9.2	9.3	9.2	1004.1	1004.1	1002.7	1002.9	MEAN

DAYS WITH: Thunderstorm (26)	Freezing Precipitation (27)	Hail (28)	Fog, Ice Fog (29)	Smoke, Haze (30)	Blowing Dust, Sand (31)	Blowing Snow (32)	WIND: 28 knots or more (33)	34 knots or more (34)	PEAK WIND SPEED: Direction (35)	Speed (36)	Time (37)	NOTES (38)

NOTE: Columns 26-38 are provided as a convenience for stations to fulfill a local or regional requirement.

CLIMATOLOGICAL MESSAGE

	Block and Station Number	Temperature: Mean degrees & tenths (mean 5)	Highest degrees & tenths (2)	Lowest degrees & tenths (3)	Snowfall cm & tenths (sum 9)	Total Precipitation mm & tenths (sum 11)	Depth of Snow on Ground whole cm (122 obs for last day) (12)	Days with 1.0 mm or more Precipitation (11)	Bright Sunshine hours & tenths (Form 63-2307)	Heating Degree-Days degrees & tenths (sum 6)	Mean Sea Level Pressure hectopascals and tenths (mean 39)	Mean Vapour Pressure hectopascals and tenths (mean 40)	Mean Station Pressure hectopascals and tenths (mean 41)
ATTN CCAS	71999	A 5.3	B 25.1	C -10.4	D 8.2	E 9.4	F 0	G 2	H 247.9	J 381.9	K 1013.5	L 9.2	M 1003.5

CALCULATION OF MEANS

	Sea level pressure	Vapour pressure	Station pressure
Mean of first synoptic hour	1014.1	9.1	1004.1
Mean of second synoptic hour	1014.1	9.2	1004.1
Mean of third synoptic hour	1012.7	9.3	1002.7
Mean of fourth synoptic hour	1012.9	9.2	1002.9
SUM	4053.8	36.8	4013.8
MEAN	1013.5	9.2	1003.5

0063-2320 (1-86)

17.5 TRANSMISSION OF THE CLIMAT MESSAGE. To meet international requirements and the needs of private industry and other agencies, and to prepare climatological maps and charts, it is essential that monthly CLIMAT messages be available at AES Downsview by the first working day of the month. Therefore, all stations shall transmit this message over regular communications channels as soon as possible after the end of the month, but in no event later than the first working day of the month. In this case a working day is defined as any day other than a Saturday, Sunday, or a statutory holiday.

17.5.1 The CLIMAT message shall be transmitted as a numbered message to the address specified by the appropriate Regional Headquarters.

17.5.1.1 Examples of the text of CLIMAT messages are given below:

(a) 71843 A 4.1 B 13.2 C –18.4 D 15.2 E 23.6 F 0
G 9 H 148.6 J 412.4 K 1013.3 L 6.9 M 1003.3

(b) YSN A 9.2 B 22.1 C 0.4 D 0.0 E 32.2 F 0
G 13 H NIL J 254.4 K 1006.2 L 10.3 M 996.2

Note: Example (b) illustrates a climatological message from a station which does not have a sunshine recorder or a 5–figure international index number.