

INSTRUCTIONS FOR W. B. FORM 1009

1. Observations should be taken at a regular hour each day, preferably between 5 p. m. and 8 p. m., since normally the thermometers then register the highest and lowest temperature for the day. Observations should be taken at approximately the same time during the entire year. If you have been instructed to measure the precipitation in the morning, or if it is necessary for any reason that you read the thermometers in the morning, an evening temperature observation should also be taken. If thermometers are read twice daily, they should be set only at the evening observation. Temperatures entered on this form will then be for the 24 hours ending at time of evening observations, while the precipitation will be for the 24 hours ending at time of morning observations. The time (or times) of the observations should be entered in the heading on the form. W. B. Form 1011 "Official Weather Observer's Record" may be used to record the observations as they are taken. If Form 1011 is used the data should be promptly copied into Form 1009. Form 1011 may be retained by the observer. Additional instructions may be found in Circular B & C, and other special circulars as issued, and they should be studied carefully by every observer.

2. Begin a new form on the first of every month. Fill in the heading completely. Standard of time in use should be shown by the letters E, C, M, or P for Eastern, Central, Mountain, or Pacific. If your report is prepared in Daylight Saving time, the letter D should be entered just after the letters E, C, M, or P, as ED, CD, MD, or PD. Enter the temperature at time of observation and precipitation beginnings and endings for the last day of the preceding month in the space provided just above the line for the first of the month.

3. The following order should be followed in making temperature observations: (a) Read minimum thermometer and record the reading; (b) read maximum thermometer and record the reading; (c) set the maximum thermometer; (d) set the minimum thermometer.

4. MINIMUM TEMPERATURE.—The minimum thermometer is read while in the "set" position. The reading is taken from the upper or right-hand end of the small index. It should be read before the maximum thermometer, so that the index in the minimum will not be jarred or disturbed before the reading is made.

5. MAXIMUM TEMPERATURE.—To obtain the maximum temperature, slowly lower the maximum thermometer to a vertical position, with the bulb down. Then read the temperature shown by the top of the mercury column. The thermometer bulb should not be touched.

6. CURRENT TEMPERATURE AT TIME OF OBSERVATION.—The current temperature may be obtained at any time by reading the end of the alcohol column in the minimum thermometer without disturbing the instrument. This temperature may also be obtained from the maximum thermometer at observation time after it has been whirled, while it is still in a vertical position.

7. SETTING THE THERMOMETERS.—After both maximum and minimum temperatures have been obtained, the maximum thermometer is set by whirling it in a clockwise direction until the reading is the same as that shown by the end of the alcohol column in the minimum thermometer. It should then be returned to its nearly horizontal position, with the bulb end slightly elevated. The minimum thermometer is set by raising the bulb end sufficiently to allow the small index to slide to the end of the alcohol column and then lowering the thermometer to a nearly horizontal position. After setting, the temperatures shown by the respective thermometers should agree within one degree; a greater difference should be reported to the Section Center.

8. RECORDING THE TEMPERATURES.—Enter maximum temperature, minimum temperature, and temperature at time of observation in the proper column to the nearest whole degree. Enter on line for date of observation. If the temperature is below zero, place a minus sign in front of the reading.

9. PRECIPITATION, TIMES OF BEGINNING AND ENDING.—Beginnings and endings must always be entered on the calendar date(s) on which they actually occur. Show the hours during which precipitation fell by drawing a solid horizontal line through the hour columns for the period of actual observed occurrence. If the beginnings and endings were not observed, draw a wavy line through the hours of probable occurrence. This is a vital part of the record and should be kept as complete and accurate as possible.

10. PRECIPITATION, 24-HOUR TOTAL ENDING AT OBSERVATION.—Record in the column headed "Rain, Melted Snow, etc.," the total depth of rain or the water resulting from melted hail, sleet, or snow for the preceding 24 hours, regardless of whether it fell on the day of observation or after observation time on the preceding day. The amount should always be entered on the date(s) of measurement. Every entry of measurable precipitation should be recorded to two decimal places and the decimal point should be carefully entered in its proper place. If the amount is .05 (five hundredths) it should be entered as .05, if it is .50 (fifty hundredths) it should be entered as .50, and if it is one inch and sixty hundredths as 1.60. When no precipitation falls during the 24-hour observational period, a "0" (zero) should be entered so there will be no doubt as to whether any precipitation fell.

11. MEASURING LIQUID PRECIPITATION.—It is not necessary to remove the measuring tube to make a measurement. Insert a dry measuring stick into the measuring tube. Permit the stick to rest on the bottom of the tube for 2 or 3 seconds. Withdraw the stick and read the depth of precipitation at the upper limit of the wet portion of the stick. This amount should be entered on the date of measurement. The gage is so constructed that the depth of water in the measuring tube is mag-

nified ten times by allowing it to collect in the smaller tube. The measuring stick supplied with the gage is graduated in such a manner that its smallest division represents .01 inch of actual precipitation. The measuring tube should be emptied and replaced in the large can after the measurement has been noted. If the measuring tube of the gage is full (this equals 2 inches of precipitation), carefully remove it from the overflow container and empty it. Pour the overflow into the measuring tube, measure it, and add the value to the 2 inches emptied from the tube. If, in removing the full measuring tube, some water is spilled into the overflow container, measure the amount remaining in the tube before measuring the amount of the overflow. The total precipitation is then the sum of the individual measurements. When measurement is completed, empty the measuring tube and reassemble the gage.

12. MEASURING FROZEN PRECIPITATION.—When frozen precipitation is likely to fall, remove the funnel and inner tube of the rain gage and leave only the large can exposed. Melt the catch of snow or ice by the following method. Pour a measured quantity of warm water into the overflow container of the gage to melt the collected snow or ice. Pour the entire contents into the measuring tube. Measure the water as outlined above. To obtain the water equivalent of the precipitation, subtract the amount of water used to melt the solid precipitation from the total measurement. This water equivalent should be entered in the "Rain, Melted Snow, etc.," column. The receiver of the gage makes a very convenient funnel for this operation.

If solid precipitation falls when the funnel and tube have not been removed and it is thought the gage has caught only a portion of the fall, it will provide a more accurate measurement to discard the questionable amount in the gage and then to proceed as follows: Select a place where the new fall is as little disturbed as possible, cut out a section by sinking the inverted overflow can through the frozen precipitation and cover the mouth by slipping a sheet of tin or thin board under it. Be careful to include only the precipitation that fell during the preceding 24 hours. This section should then be melted as indicated above and measured to obtain the water equivalent.

13. NEW SNOWFALL, SLEET, OR HAIL, 24-HOUR FALL.—Measure the depth of new snow, sleet, or hail which has fallen during the preceding 24 hours only. Separate falls which melt during the 24-hour period are to be added together. Enter the total amount in inches and tenths in the column headed "24-hr. amounts, Snow, Sleet, Hail." Where drifting occurs, measurements should be made at several points where drifting is least and the average of these should be entered. If frozen precipitation melts as it falls, enter the amount as "T" (trace) with a note "Melted as it fell." If the total unmelted fall measures less than half the distance from the end of the measuring stick to the first etched mark, the amount should be entered as "T" (trace). If there is an entry in this column there must be an entry for the same date in the "Rain, Melted Snow, etc.," column to show the water equivalent.

14. TOTAL SNOW, SLEET, HAIL, ICE DEPTH ON GROUND AT OBSERVATION.—The average depth remaining on the ground at time of observation in the vicinity of the station should be entered to the nearest inch (no decimals or fractions to be used) in the column headed "At obsn. Snow, Sleet, Hail, Ice on ground." This measurement should be made by taking the average of the depths at three or more places least affected by drifting. This depth includes any new fall accumulated on top of older snow, sleet, ice, or hail. An entry should be made each day in this space as long as snow, sleet, or ice remains on the ground. As soon as the covering has melted, it is not necessary to enter "0" each day, after it has once been entered. Enter "T" for less than one-half inch.

15. WEATHER.—Under "Weather" enter an "X" in the proper space for each type or types that occur during the calendar day midnight to midnight. A brief explanation of the six types carried in this block follows:

Fog: Minute water droplets suspended in the air.

Sleet: Transparent, hard pellets of ice. Temperature is usually below freezing when sleet occurs.

Glaze: (Freezing rain or freezing drizzle). Rain or drizzle that falls in liquid form but freezes to the exposed surfaces of the ground, or to unheated objects, forming a smooth coating of ice.

Thunder: Thunder heard at the station, whether or not rain fell.

Hail: Ice balls which usually fall during thunderstorms, when the temperature is considerably above freezing.

High winds: Winds resulting in damage to vegetation, buildings, or other property.

16. In the next column, headed "Important weather conditions not included in 'Weather Block,'" additional information, such as times and intensity, may be given about any of the items checked in the weather block, or any other information about weather happenings.

17. Under "Remarks," write a brief report of any unusual weather conditions, such as prolonged dry or wet periods, severe storms, etc. Deaths and damage due to weather should be noted. Also record here the dates of "killing freeze" in the spring and fall. A "freeze" may or may not be accompanied by an actual deposit of frost. A "killing freeze" is a freezing condition capable of having widely destructive effects on staple vegetation, usually accompanied by temperatures observed in the instrument shelter below 32° F. Under arid or windy conditions, frost does not always form with killing freeze temperatures, and a heavy frost is not always an indication of a killing freeze.

18. Enter station, month, year, and your name on the bottom of the form. Enter name of your post office, only if it is different from the name of your station.

19. Sums, averages, and extremes need not be entered by the observer.

20. Always forward promptly the original and one copy of your monthly report to the Section Center after the close of each month, unless instructed otherwise.

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
 RECORD OF CLIMATOLOGICAL OBSERVATIONS

 Station Your station County Your county State Your state Month Sample, 1950
 Time of observation (local time) if once daily 6 P; if at different times, temperature _____, precipitation _____; Standard time in use E

Date	TEMPERATURE °F		At obsn.	PRECIPITATION		WEATHER (CALENDAR DAY)							REMARKS			
	24 hrs. ending at observation			Draw a straight line (—) through hours precipitation was observed, and a wavy line (~~) through hours precip. probably occurred unobserved.	24-hr. amounts		At obsn.	Mark 'X' for all types occurring each day								
	Max.	Min.			Rain, Melted snow, etc. (ins. & hundredths)	Snow, Sleet, Hail (ins. & tenths)		Snow, Sleet, Hail, ice on ground (inches)	Fog	Sleet	Glaze	Thunder		Hail	High wind	
			82	A.M. 1 2 3 4 5 6 7 8 9 10 11 P.M. 1 2 3 4 5 6 7 8 9 10 11												
1	93	61	81			.01										
2	101	57	86			.24										
3	97	67	82			2.03	.5	0				X	X	X		
4	100	71	87			0										
5	88	63	79			.08										
6	84	59	75			0										
7	81	49	72			0										
8	79	53	71			.27										
9	74	47	64			0										
10	69	38	60			0										
11	63	34	55			0										
12	58	46	54			T										
13	63	50	57			.07										
14	59	45	53			.22										
15	54	43	45			.15									X	
16	49	26	32			0										
17	34	15	19			T	T	T								
18	23	0	5			T	T	0								
19	8	-9	-5			0										
20	-4	-18	-8			0										
21	0	-10	0			0										
22	19	0	11			0										
23	28	8	25			.66	7.5	7	X						X	Blowing snow
24	32	22	30			.45	4.8	10								
25	44	27	41			0		8								
26	47	26	43			.03	.3	6								
27	53	34	46			0		3								
28	58	38	49			0		T								
29	52	33	35			.02		0								
30	49	28	43			.12										
31	57	42	51			0										
Sum																
Avg.																
Extremes																

Observer Your name
 Post Office _____
 List forms or supplies needed Carbon paper
 Station Your station Month Sample, 1950

RECORD OF CLIMATOLOGICAL OBSERVATIONS

Station Acadia Natl. Park County Hancock State Maine Month January 19 52
 Time of observation (local time) if once daily 4:00 PM; if at different times, temperature _____, precipitation _____; Standard time in use E.S.T.

Date	TEMPERATURE °F		At obsn.	PRECIPITATION																								WEATHER (CALENDAR DAY)							REMARKS			
	24 hrs. ending at observation			Draw a straight line (—) through hours precipitation was observed, and a wavy line (~~~~) through hours precip. probably occurred unobserved.	24-hr. amounts		At obsn. Snow, Sleet, Hail, Ice on ground (inches)	Mark 'X' for all types occurring each day							Important weather conditions not included in 'Weather' block.																							
	Max.	Min.			Rain, Melted snow, etc. (ins. & hundredths)	Snow, Sleet, Hail (ins. & tenths)		Fog	Sleet	Glaze	Thunder	Hail	High wind																									
														A.M. NOON P.M.																								
				1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	9	10	11													
1	46	29	45																																		Cloudy	
2	49	33	33																																	Clear		
3	35	18	18																																	Partly cloudy	Clear after 2:45 PM	
4	25	14	19																																	Clear		
5	35	0	31																																	Overcast	Heavy wet snowstorm	
6	33	17	23																																	Partly cloudy		
7	24	13	20																																	Overcast		
8	23	18	21																																	Partly cloudy		
9	27	11	20																																	Partly cloudy		
10	27	10	26																																	Cloudy		
11	31	18	28																																	Clear		
12	37	9	31																																	Clear		
13	39	26	34																																	Partly cloudy		
14	33	26	29																																	Overcast	Heavy wet snow	
15	45	27	43																																	Overcast		
16	57	33	33																																	Clear	Rain Melting snow	
17	34	19	31																																	Clear		
18	49	20	39																																	Partly cloudy		
19	40	22	23																																	Clear		
20	48	14	45																																	Overcast		
21	46	16	17																																	Clear		
22	21	5	19																																	Partly cloudy		
23	50		42																																	Overcast		
24	43	18	19																																	Partly cloudy	Min. thermometer out of order on 23rd	
25	21	4	17																																	Overcast		
26	47	7	45																																	Overcast	Snow turned to rain 10 AM	
27	49	39	42																																	Overcast		
28	32	30	32																																	Overcast		
29	42	-6	10																																	Partly cloudy	Rain turning to snow	
30	12	-1	8																																	Clear		
31	26	-6	24																																			
Sum	1126	483																																				
Avg.	36.32	16.10																																				
Extremes	57°	-6°																																				

Observer Acadia National Park Post Office Bar Harbor Maine

Sum 8.36 31.5 19

Greatest 1.54 7.5 19

List forms or supplies needed _____

Station Acadia National Park Month Jan 19 52

U. S. DEPARTMENT OF COMMERCE, METLIER BOEYD

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

RECORD OF CLIMATOLOGICAL OBSERVATIONS

Station Acadia N.P. County Hancock State Maine Month March, 19 52
Time of observation (local time) if once daily 4:00 P.M.; if at different times, temperature _____, precipitation _____; Standard time in use EST

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RECORD OF CLIMATOLOGICAL OBSERVATIONS

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

RECORD OF CLIMATOLOGICAL OBSERVATIONS

Station Acadia National Park County Hancock State Maine Month May, 1952
Time of observation (local time) if once daily _____; if at different times, temperature _____, precipitation _____; Standard time in use _____

Time of observation (local time) if once daily _____; If at different times, temperature _____, precipitation _____; Standard time in use _____

[illegible]

U. S. DEPARTMENT OF COMMERCE, MARITIME DIVISION

U. S. DEPARTMENT OF COMMERCE WEATHER BUREAU

Station Agassiz Natl. H.-A. County Hancock State Maine Month June, 19 52
Time of observation (local time) if once daily _____; if at different times, temperature _____, precipitation _____; Standard time in use _____

List forms or supplies needed

Station

Month

19

AS LOWEN 1003

RECORD OF CLIMATOLOGICAL OBSERVATIONS

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU

RECORD OF CLIMATOLOGICAL OBSERVATIONS

Station ACADIA, VATH BRK County HANCOCK State MAINE Month JULY, 19 52
Time of observation (local time) if once daily 4⁵⁵; if at different times, temperature _____, precipitation _____; Standard time is use EST

[illegible]

RECORD OF CLIMATOLOGICAL OBSERVATIONS

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