

INSTRUCTIONS FOR W. B. FORM 612-14

Section A.—TAKING THE OBSERVATIONS

1. *Reading the Thermometers.* Read the minimum temperature first, before either thermometer is touched. The minimum temperature is the reading of the right-hand end of the index. Next, slowly lower the maximum thermometer to the vertical position. The maximum temperature is the reading of the top of the mercury column. After both the minimum and maximum temperatures have been read, whirl the maximum thermometer until the reading is the same as the reading of the top of the alcohol column in the minimum thermometer. They should then agree within one degree. A greater difference should be reported in "Remarks" on the Form 612-14. Set the minimum thermometer by raising the bulb to allow the index to slide to the top of the alcohol column. Return both thermometers to the nearly horizontal position.

You may read your thermometers as many times a day as you wish but they must not be reset except at the time you have written at the heading of your form. Similarly, you may measure the precipitation as frequently as you wish but the rain gage must not be emptied except at your regular time of measurement.

2. *Measuring Liquid Precipitation.* Insert the measuring stick into the measuring tube. After two or three seconds, withdraw the stick. The amount of precipitation is the upper limit of the wet portion of the stick. If the measuring tube is full, it will measure 2.00 inches. Carefully empty the tube. Then pour some or all of the water from the overflow can into the tube and measure the amount poured. The total precipitation for the day will be the total of the individual measurements. Be sure the overflow can and tube are both empty after you have completed your measurement.

3. *Measuring Frozen Precipitation.* When snow, sleet, or hail is likely to occur, remove the funnel and measuring tube from the overflow can. Melt the snow, sleet, or hail by pouring a measured amount of warm water into the can. After the precipitation has all melted, measure the contents of the can the same as you measure liquid precipitation. Subtract the amount of water you poured into the can. The result is the total precipitation (melted) for the day.

a. *Measuring Snowfall.* Measure the depth of the new snow in several places and average the measurements.

b. *Measuring Snow and Ice on the Ground.* The snow or ice depth is the average of several measurements taken where the snow has not drifted.

Section B.—ENTERING THE DATA

1. *Filling in the Heading of the Form.*

- a. Write in the name of your station.
- b. Write in the name of your county and State.
- c. Write in the month and year.
- d. Write in the time that you usually read your thermometers and the time that you usually measure the precipitation. Show whether you use Eastern, Central, Mountain, or Pacific standard time or, if you are on daylight saving time, enter a "D" after Eastern, Central, Mountain, or Pacific, whichever is appropriate.

2. *Filling in the Columns of the Form.* Temperatures, rainfall, snowfall, and snow depths should be entered on the lines corresponding to the dates on which the measurements were made. For temperature readings below zero, use a minus sign (—) preceding the temperature values. The period of time during which precipitation occurred, and the weather types should be indicated on the lines corresponding to the actual dates of occurrence.

a. *Maximum Temperature Column.* Write in the temperature indicated by the top of the mercury column of the maximum thermometer after it has been slowly lowered to the vertical position. The maximum temperature should not be lower than the "temperature at observation" recorded on the previous day.

b. *Minimum Temperature Column.* Write in the temperature indicated by the right-hand end of the index in the minimum thermometer. It should not be higher than the "temperature at observation" on the previous day.

c. *Temperature at "Time of Observation" Column.* Write in the temperature indicated by the top of the alcohol column in the minimum thermometer. This temperature may also be obtained by reading the top of the mercury column of the maximum thermometer after it has been whirled but *while* it is still in the vertical position. The "temperature at observation" will never be higher than the maximum temperature nor lower than the minimum for the same day.

d. *"Duration of Precipitation" Blocks.* Draw a straight line (—) through the hours when precipitation was known to have occurred, and a wavy line (~) through the hours when precipitation probably occurred unobserved. These lines should be on the date-lines of occurrence.

e. *Rain, Melted Snow, etc., Column.* Write in the 24-hour amounts of rain, drizzle, or the water resulting from melted snow, sleet, hail, etc., which fell since the previous day's observation. This amount should be recorded on the date of measurement even though some or all of the precipitation may have fallen on the previous day after that day's observation. The amount should

be recorded to the nearest .01 inch. Write in "T" for a trace, and "O" when no precipitation occurred.

f. *Snow, Sleet, and Hail Column.* Write in the depth of the new snow, sleet, or hail which fell since the previous day's observation. Record the depth of the new snow to the nearest .1 inch. Write "T" for an amount too small to measure.

g. *Snow, Sleet, Hail, Ice on Ground Column.* Write in the depth of the snow or ice on the ground at the time of observation to the nearest inch. If the depth was less than half inch or if the snow was only in patches, write in "T" for trace.

h. *"Weather" Columns.* Indicate with the letter "X" the days on which fog, sleet, glare, thunder, hail, or damaging wind occurred.

i. *Time of Observation if Different from the Above.* The column headed "Time of Observation" if different from the Above" is to be used only when for some reason it has been impossible to take the observation at the proper time (or within one hour of the proper time). On such days the actual time of the observation should be entered in this column. In the event the time refers to the precipitation only, the time entry should be circled.

j. *Remarks.* In this column describe other important or unusual weather facts that occurred on the calendar day.

3. *Filling in the Bottom of the Form.* Sign your name and write in the name of your Post Office, your station, and the month and year. List any supplies you need.

4. *Before Mailing your Form.*

a. Inspect your report to see that the information needed at the top and bottom is entered completely.

b. Check your daily temperature entries. All temperatures should have been entered on the dates you made the readings. The "temperature at observation" for any day should not be *higher* than the maximum temperature nor *lower* than the minimum temperature for that day nor for the following day. Check your precipitation entries. Do you have an amount in the "rain, melted snow" column for every day on which some form of precipitation was measured? Remember, the precipitation may have fallen at any time after the previous measurement. There should be an entry in the "snowfall" column if snow, sleet, or hail fell since the previous observation. There should be an entry in the "snow-on-the-ground" column if snow, sleet, hail, or ice remains on the ground at the time of observation.

d. Always mail the original and one carbon copy of your report promptly after the end of the month to the Weather Records Processing Center unless you have other instructions.

Section C.—DEFINITIONS OF TERMS USED

1. *Maximum Temperature.* The highest temperature during the 24-hour period ending at the time of observation.

2. *Minimum Temperature.* The lowest temperature during the 24-hour period ending at the time of observation.

3. *Temperature at Observation.* The temperature at the time the thermometers are read.

4. *Duration of Precipitation.* The time during which rain, snow, or other form of precipitation was occurring.

5. *Some Liquid Forms of Precipitation.*

a. *Rain.* Precipitation which reaches the ground as drops of water.

b. *Drizzle.* Precipitation which falls from low clouds and as very small and numerous droplets which seem to float in the air and which cause poor visibility.

6. *Some Frozen Forms of Precipitation.*

a. *Snow.* Precipitation which falls as flakes or ice crystals.

b. *Sleet.* Precipitation which falls as hard grains of ice. They may be white or transparent. They bounce but seldom burst when they fall on a hard surface.

c. *Hail.* Precipitation which falls as balls or irregular lumps of ice. They range in size from smaller than peas to larger than baseballs. They are associated with thunderstorm activity.

d. *Snow Pellets.* Snow that falls as round or conical white grains. They are crisp and easily compressible. They bounce and often burst when they fall on hard ground.

e. *Snow Grains.* Snow grains resemble snow pellets but are much smaller. They do not noticeably bounce and burst when they fall on hard ground.

f. *Glaze.* A coating of smooth ice formed by the freezing of rain or drizzle on outdoor objects.

g. *Rime.* A coating of white granular ice formed on outdoor objects by the freezing of fog particles or fine drizzle.

7. *Fog.* Very small water droplets that float in the air and reduce visibility.

8. *Thunder.* Thunder heard at your station whether accompanied by precipitation or not.

9. *Damaging Winds.* Strong winds that damage vegetation, buildings, or other property.

Complete instructions for cooperative observers are in Instructions for Climatological Observers, Circular E.

17-0571-322

RECORD OF CLIMATOLOGICAL OBSERVATIONS

Time of observation (local time) if once daily 5:00 PM

Standard time EST

APRIL 19 60

Station BAR HARBOR

County HANSECK

State MAINE

Observer [Signature]

Post Office [Signature]

Sum 1550 1024

Avg 51.7 34.1

Ex 1

17-0571-322

TEMPERATURE		PRECIPITATION		WEATHER (CALENDAR DAY)		Important weather conditions not included in 'Weather' block; remarks, etc.	
24 hrs. ending at observation	At obs.	Draw a straight line (—) through hours precipitation was observed, and a wavy line (~~~~) through hours precip. probably occurred unobserved.	24-hr. amounts	At obs.	Mark 'X' for all types occurring each day	Time of obs. if different from the above	
Max.	Min.		Rain, melted snow, etc. (ins. & hundredths)	Snow, sleet, hail, ice on and on (ins. & hundredths)	Fog	Thunder	
1 52 34 35			.26	S			S-SPOTTED SNOW ON GROUND
2 44 30 40							CLEAR
3 41 25 37							PT. CLOUDY IN PM
4 53 36 48			.80				Rain
5 50 34 45			1.44				Rain
6 48 34 44			T				PT. CLOUDY
7 45 29 35							FOUR
8 45 24 42							RAIN
9 42 36 40			.15				RAIN
10 45 33 41			.03				RAIN
11 40 25 37							RAIN
12 56 35 45			.18				PT. CLOUDY with rain
13 47 41 47							RAIN
14 47 32 39			T				RAIN
15 68 34 65			0.5				RAIN
16 65 31 50							RAIN
17 50 34 42							RAIN
18 57 41 50							RAIN
19 53 39 51							RAIN
20 52 32 49							RAIN
21 49 38 42							RAIN
22 43 36 38							RAIN
23 43 31 40							RAIN
24 52 39 49							RAIN
25 53 38 53							RAIN
26 62 37 58							RAIN
27 58 32 43							RAIN
28 60 40 59							RAIN
29 62 41 58							RAIN
30 66 39 62							RAIN
31							RAIN
Sum 1550 1024			4.03				RAIN
Avg 51.7 34.1							RAIN
Ex 1							RAIN

Handwritten notes and data on the left side of the page, including station information and various measurements.

RECORD OF CLIMATOLOGICAL OBSERVATIONS

TEMPERATURE		PRECIPITATION		WEATHER (CALENDAR DAY)		At obs.		24-hr. amounts		At obs.		Mark 'X' for all types occurring each day		Time of Obs.		Important weather conditions not included in "Remarks" such as, etc.	
Max	Min	54 hr ending at	54 hr ending at	54 hr ending at	54 hr ending at	54 hr ending at	54 hr ending at	54 hr ending at	54 hr ending at	54 hr ending at	54 hr ending at	54 hr ending at	54 hr ending at	54 hr ending at	54 hr ending at	54 hr ending at	54 hr ending at
63	39	43															
51	39	50															
63	32	62															
79	44	69															
76	43	72															
76	40	67															
71	49	50															
56	44	54															
56	50	64															
63	41	67															
64	46	48															
60	45	54															
56	46	51															
61	44	59															
65	46	48															
60	45	54															
69	44	66															
68	48	59															
75	43	73															
74	42	68															
68	42	59															
59	46	56															
57	46	54															
51	46	58															
63	51	63															
67	46	67															
64	46	69															
72	45	67															
78	47	74															
75	56	68															
69	46	51															
Sum	2041	1388															
Avg	65.8	44.8															
Ex- treme																	

[illegible]

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