CASUAL PHENOMENA.

NOTE OBSERVATIONS OF THE FOLLOWING:

THUNDER STORMS: Time of occurrence and direction of motion. DISTANT THUNDER, without visible lightning. TORNADOES: Time of occurrence width and direction of path, effects produced, and whether attended by electricity or hail. LIGHTNING AT A DISTANCE: Time of occurrence, direction from observer, whether zig-zag, forked or diffuse. Objects struck by lightning, as trees, buildings, &c. HAIL STORMS: Time of occurrence, direction, and width of path, size and quantity of stones, and amount of injury. AURORA BOREALIS: Time of appearance and disappearance, time of the visibility of arches, beams, and corona, their bearings and altitude in degrees, and whether there is a dark cloud below the arch. ZODIACAL LIGHT: Time, intensity, extent, &c. Time of occurrence, apparent bearing, altitude in degrees, &c., of METEORS, SHOOTING STARS, SOLAR and LUNAR HALOS, PARHELIA, PARASELENES, and MIRAGE. Time of *early* and *late* FROSTS, particularly first and last. DEPTH OF GROUND FROZEN, in feet and inches; disappearance of frost from the ground. Time of closing and opening of RIVERS, LAKES, CANALS, and STREAMS, and their extreme rise and fall. TEMPERATURE of the soil, and of wells and springs at least once each season. EARTHQUAKES: Time of occurrence, direction of impulse, number of shocks, and effects produced. HAZY OR SMOKY APPEARANCE OF THE ATMOSPHERE, SMOKE OF FOREST FIRES: Time of occurrence and intensity. HIGH WINDS, GALES, HURRICANES, unusually HEAVY RAINS, or remarkable changes in the TEMPERATURE between the regular hours of observation—date, time, and duration. Time of budding, leafing, blossoming, ripening, and fading of PLANTS, TREES, GRASSES, &c. Time of appearance, disappearance, migration, &c., of BIRDS, INSECTS, &c., CHARACTER OF SUNSET and SUNRISE, and other local signs of the weather of the coming day or season.

REMARKS.

September opened clear, warm and dry. The only rainfall of the month was on the 21st at 7.15 a.m. amount, inappreciable.

Agricultural interests were greatly injured by the very dry weather of this month.

First frost of the month fell on the 26th killing all the vegitation left by the dry weather.

Rappalannock river unusually low: nearly all smaller streams and springs are totally dry.

"Mast" plentiful in the forests of this section of Va. Indicative of a severe and early winter so say the local weather prophets.

NOTE.—When your blanks and envelopes are nearly exhausted please so state in the space beneath this note.

SUPPLIES NEEDED:

Please send _____

Very respectfully,

W. H. Ireland,

Voluntary Observer.

BAROMETER AND ATTACHED THERMOMETER. (Readings corrected and reduced.)

	7 A. M.		2 P. M.			9 P. M.		
	Ther.	Bar.	Ther.	Bar.	Ther.	Bar.	Ther.	Bar.
1					blank			
2								
3								
4								
5								
6								
7								
8								
9								
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25								
26								
27								
28								
29								
30								
31								
MEAN.								

Daily mean barometer ⅓(7+2+9)

Form No. 1001. REVISED 1887.

REVIEWED OFFICE CHIEF SIGNAL OFFICER

WAR DEPARTMENT.

SIGNAL SERVICE, U. S. ARMY.

VOLUNTARY OBSERVERS' METEOROLOGICAL RECORD.

Station Rappalannock, Va.

Month of September, 1887

NOTES.

This form provides for complete observations, but if it is not practicable for observers to take all the observations, one or more will be acceptable, taken daily at any hour that may be most convenient.

The daily mean temperature, dry bulb, is to be found by the formula ¼(7+2+9+9).

Fractions of degrees should be recorded in tenths, thus: 72.1, etc.

The daily mean barometer and relative humidity are to be found by the formula ⅓(7+2+9).

The monthly means are determined by dry bulb, is to be found by the formula means by the number of days.

Under the heading "Precipitation" should be noted the time of beginning and ending of the fall of rain or snow, and the true depth, in inches and hundredths, (expressed decimally,) of the fall of rain or melted snow; also the depth of snow, in inches. Rain to be indicated by R. and snow by S. When the amount of precipitation is too small to measure the fact should be indicated by a dash (—), and the word "Inappreciable." written under the head of "Remarks," and the dash and word connected by an asterisk (*) or other reference mark. Absence of precipitation will be indicated by the figure zero (0).

The state of weather, should be determined and recorded as follows, at each observation: Clear, when the sky is three-tenths, or less than three-tenths, covered with clouds; fair, when the sky is from four-tenths to seven-tenths (inclusive) covered; cloudy, when the sky is more than seven-tenths covered; light (or heavy) rain; light (or heavy) snow; sleeting, hailing, thunder-storm, foggy, misty, hazy, threatening, clearing, etc.

If any observation is not taken, write in the space the word "blank."

The blank spaces on the form for name of observer, place of observation, month during which the observations were made, etc., should always be carefully filled up.

SUMMARY for September, 1887

Address of observer Rappalannock, Va.

W. H. Ireland.

Highest barometer during the month	Blank
Lowest " " "	Blank
Mean " " "	Blank
Highest temperature " "	98°
Lowest " " "	34°
Mean " " "	75°.7
Mean humidity " " "	Blank
Prevailing wind	from the West.
Maximum velocity or force	5 miles per hour. 2.
Total rainfall or melted snow	Inappreciable.
No. of days on which 0.01 or more rain or melted snow fell	0
No. of days on which cloudiness averaged 8 or more on a scale of ten	2
Depth of snow, in inches, on ground at close of month	0
Total snow fall, in inches, during month	0
Thunder storms, dates of	Blank
Hail, "	Blank
Snow, "	Blank
Frost, "	26th heavy
Sleet, "	Blank
Aurora, "	Blank
Halos { Solar, "	24th 0.
Halos { Lunar, "	0.
Meteors, "	20th 2. 22nd 2. 26th 2.
Polar bands, "	Blank
Mirage, "	Blank ½
Winds followed by rain	2
" " clear or fair weather	3. 2. 4th
Elevation of surface of mercury in cistern of barometer above sea-level Blank feet.	
Correction for instrumental error of barometer used	Blank. Blank
Maker and No. of barometer used	Standard.
Kind of rain-gauge	
Height of rain-gauge above ground	6 inches.
Maker and No. of therm., exposed	J. Warren
" " " maximum	13130 J. Warren
" " " minimum	13145 Warren
" " " wet bulb	Blank.

OBSERVERS are specially requested to fill up this summary.