(Form H.)

☞ To be filled up and sent on the first of each month, in an envelope addressed to "The Chief Signal Officer, U. S. Army, Washington, D. C."

# WAR DEPARTMENT, SIGNAL SERVICE U. S. ARMY,

**DIVISION OF TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGRICULTURE.**

265 368 351

## VOLUNTARY OBSERVER'S METEOROLOGICAL RECORD for the month of Oct., 1879.

*Place of Observation:* Dacoville, *County of* Pulaski Co, *State of* Virginia

*Latitude* 37; *Longitude* 80; *Height of ground above the Sea,* 1800 *feet.*

*Name and Post-Office address of Observer:* Elmira Drake Slemker Dacoville

| Day of Month. | Thermometer in the open air. 7 A.M. | 2 P.M. | 9 P.M. | Mean. | Rain and Snow. Time of beginning of rain or snow. | Time of ending of rain or snow. | Total amount of rain and melted snow, in inches. | Average depth of snow-fall, in inches. | Clouds. 7 A.M. Upper Clouds. Kind and amount. | Direction moving from. | Lower Clouds. Kind and amount. | Direction moving from. | 2 P.M. Upper Clouds. Kind and amount. | Direction moving from. | Lower Clouds. Kind and amount. | Direction moving from. | 9 P.M. Upper Clouds. Kind and amount. | Direction moving from. | Lower Clouds. Kind and amount. | Direction moving from. | Auroras. | Winds. 7 A.M. Direction. | Force. | 2 P.M. Direction. | Force. | 9 P.M. Direction. | Force. | Day of Month. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 75 | 79 | 60 | | dry | clear | | | | | | | | | | | | | | | | | | | | | 1 |
| 2 | 48 | 86 | 63 | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 3 | 52 | 87 | 70 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 4 | 61 | 86 | 64 | | | | | | 6 | 8 | 9 | | | | | | | | | | | | | | | | 4 |
| 5 | 60 | 84 | 64 | | rain | 5 a.m. | .50 | | 8 | 10 | 10 | | | | | | | | | | | | | | | | 5 |
| 6 | 55 | 82 | 65 | | | | | | fog | 8 | 8 | | | | | | | | | | | | | | | | 6 |
| 7 | 62 | 80 | 70 | | | | | | fog | 8 | 8 | | | | | | | | | | | | | | | | 7 |
| 8 | 67 | 80 | 70 | | rain | | .10 | | 10 | 10 | 10 | | | | | | | | | | | | | | | | 8 |
| 9 | 62 | 82 | 65 | | rain | | | | fog | | | | | | | | | | | | | | | | | | 9 |
| 10 | 57 | 85 | 72 | | | | | | | 8 | 10 | | | | | | | | | | | | | | | | 10 |
| 11 | 66 | 78 | 67 | | rain | | .10 | | 10 | 8 | 8 | | | | | | | | | | | | | | | | 11 |
| 12 | 60 | 76 | 62 | | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 13 | 52 | 81 | 59 | | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 14 | 58 | 82 | 63 | | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 15 | 52 | 80 | 62 | | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 16 | 50 | 78 | 60 | | rain | | .30 | | 5 | 5 | 5 | | | | | | | | | | | | | | | | 16 |
| 17 | 69 | 78 | 65 | | rain | | | | 10 | 10 | 10 | | | | | | | | | | | | | | | | 17 |
| 18 | 60 | 76 | 68 | | rain | | | | 10 | 10 | 10 | | | | | | | | | | | | | | | | 18 |
| 19 | 52 | 68 | 53 | | rain | | | | 10 | | | | | | | | | | | | | | | | | | 19 |
| 20 | 52 | 58 | 45 | | rain | | | | | | 10 | | | | | | | | | | | | | | | | 20 |
| 21 | 48 | 52 | 52 | | rain | | .14 | | 10 | 10 | 10 | | | | | | | | | | | | | | | | 21 |
| 22 | 53 | 69 | 65 | | rain | | | | 8 | 8 | | | | | | | | | | | | | | | | | 22 |
| 23 | 52 | 68 | 52 | | | | | | | | | | | | | | | | | | | | | | | | 23 |
| 24 | 32 | 60 | 39 | | | | | | | | | | | | | | | | | | | | | | | | 24 |
| 25 | 28 | 46 | 31 | | | | | | | | | | | | | | | | | | | | | | | | 25 |
| 26 | 31 | 52 | 32 | | | | | | | | | | | | | | | | | | | | | | | | 26 |
| 27 | 32 | 54 | 44 | | | | | | | | | | | | | | | | | | | | | | | | 27 |
| 28 | 32 | 56 | 48 | | | | | | | | | | | | | | | | | | | | | | | | 28 |
| 29 | 32 | 60 | 48 | | | | | | | | | | | | | | | | | | | | | | | | 29 |
| 30 | 51 | 61 | 48 | | | | | | | | | | | | | | | | | | | | | | | | 30 |
| 31 | 40 | 45 | 41 | | | | | | | | | | | | | | | | | | | | | | | | 31 |
| Sums. | 1587 | 2189 | 1773 | | | | 5.10 | | | | | | | | | | | | | | | | | | | | Sums. |
| Means. | 51.2 | 70.6 | 57.2 | 59.0 | | | | | | | | | | | | | | | | | | | | | | | Means. |

THE OBJECT of these observations is to enable the Chief Signal Officer, U. S. Army, to prepare a series of maps to illustrate the face of the sky, &c., over the United States for each day in the year, and thus to study the rise, progress, and course of American storms. Observers will be supplied with full directions for using all the instruments, on application to the Chief Signal Officer, Washington, D. C.

## EXPLANATION OF THE ABOVE COLUMNS.

### THERMOMETER IN THE OPEN AIR.

This is intended for the register of the thermometer and temperature of the air. The daily mean is to be found by the formula $\frac{1}{4}(7+2+9+9)$. Fractions of degrees should be recorded in tenths, thus 72°.1, &c.

### RAIN AND SNOW.

Under this head are entered the time of beginning and ending of the fall of rain or snow, and the true depth, in inches and hundredths, of the fall of rain or melted snow; also the depth of the snow. Rain to be indicated by R and snow by S. When there is no rain or snow, mark 0. Amount of rain or melted snow should be recorded in inches, tenths, and hundredths, thus: 1.25, 6.03, 0.01, &c. If the measuring tube or stick gives figures 2, 5, or 10 times larger than the true depth, then these figures should be properly reduced before entering in the above columns.

### CLOUDS.

Under this general head are entered three daily observations on the aspect of the sky, &c.: 1st. The "Amount of cloudiness," designated by figures, 10 being entire cloudiness; 5 half cloudiness; 0 entire clearness; and intermediate numbers in proportion. 2d. The direction *from* which the clouds move, distinguishing between the upper and lower strata of clouds. This observation is important, as the course of the *clouds* is generally different from that of the *surface wind*, which is given in another column. 3d. The "Velocity," or rate of motion, 10 being the highest, and 0 apparent rest. 4th. The description or "Kind of clouds," to be entered by means of the following abbreviations: *S.*=Stratus; *Cu.*=Cumulus; *C.*=Cirrus; *N.*=Nimbus; *C. s.*=Cirro-stratus; *Cu. s.*=Cumulo-stratus; *C. cu.*=Cirro-cumulus.

### AURORAS.

Auroras should be looked for every night, and if possible several times. The detailed description should be given on the next page, but in this column should be entered the words *Aurora* when one is visible; *None* when clear enough to see that no aurora is present; *Obscured* when the sky is covered so as to hide aurora; *Blank* when no observation was made and nothing is positively known.

### WINDS.

This is for the record of the direction *from* which the wind is blowing, and its force. The direction is to be entered in eight points of the compass: N., N.E., E., S.E., S., S.W., W., N.W., and if practicable the intermediate half points. The force is to be estimated and registered by figures from 1 to 10, as in the first column of the following table. The figures in the last column, expressing the number of miles per hour, are *not to be used* in the register. A little practice will enable Observers to make use of the figures in the first column, corresponding to light, gentle, fresh, strong, &c., with accuracy, and it is very important that such should be the case to make the record reliable. Observers having anemometers should, in addition to these estimates, also record the velocities given by the instrumental record; they should also add the total daily and monthly movement given by the anemometer dials.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 0. Calm. | | | | | | | |
| 1. Very light breeze, | varies between | 1 | and | 2 | miles per hour. | | |
| 2. Gentle breeze, | " | " | 3 | " | 5 | " | " |
| 3. Fresh breeze, | " | " | 6 | " | 14 | " | " |
| 4. Strong wind, | " | " | 15 | " | 29 | " | " |
| 5. High wind, | " | " | 30 | " | 39 | " | " |
| 6. Gale, | " | " | 40 | " | 59 | " | " |
| 7. Strong gale, | " | " | 60 | " | 69 | " | " |
| 8. Violent gale, | " | " | 70 | " | 79 | " | " |
| 9. Hurricane, | " | " | 80 | " | 99 | " | " |
| 10. Most violent hurricane, | " | from | 100 | upward. | | | |