

CASUAL PHENOMENA

THUNDER STORMS—Time of occurrence and direction of motion. 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 zigzag, 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 formation of arch, beams, and corona, and whether there is a dark cloud below the arch. Direction and time of occurrence of METEORS, SHOOTING STARS, SOLAR AND LUNAR HALOS, PARHELIA, and PARASELENES. 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 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—Time of occurrence and intensity. HIGH WINDS, GALES, HURRICANES, UNUSUALLY HEAVY RAINS, or remarkable CHANGES IN TEMPERATURE between the regular hours of observation, viz: 7 A. M., 2 P. M., and 9 P. M.; date, time, and duration.

- June 1. Cloudy
2. Cloudy
3. " Am. Clear Am.
5. Rain
6. Clear - few clouds in the NW & W. at evening
7. 1st week very wet 29.85 in. - mean 74.9°
9. Grapes (or oak leaf) brydgesia in bloom
10. Dacca fig - linden, & smoke tree blossoming
11. Pinks of China in bloom.
12. East at daybreak - showers to 1 P.M.
13. Elder in bloom
15. Sprinkle at 2 P.M. 2d week favorable mean 69.9°
16. Rain last night - clouds to near sunset
17. Drifting fog - cloud in the W. at sunset
18. Sprinkle last night, and near M.
20. Catnip in bloom
21. Harvest begun
22. Warm, with good breeze
23. " - 3rd week favorable mean 74.7°
24. Scotch mires & asplenium mires.
25. Very warm
26. "
27. Plowing road, & Virginia Creeper (Hempst. flower) in bloom -
28. Sprinkle at 5 P.M.
29. Clouds in various directions about sunset - total rain at 9 P.M.
30. Heavy rain in the night - some showers the fore day - mean 81.1°



the ground; 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 in gauge should be recorded in inches, tenths, and hundredths, thus: 1.23, 0.03, 0.01, &c.

CLOUDS.

0. Calm.
1. Very light breeze, varies between 1 and 2 miles per hour.
2. Gentle breeze