given in Tables I and II. The geographical distribution of snowfall is shown on Chart VI. It will be seen that no snow of any consequence fell, except on the Sierra Nevada, in the Great Basin, Wyoming, Colorado, and the western and northern parts of Nebraska.

In Canada, Prof. R. F. Stupart reports snow as follows:

British Columbia: Alberni, first snow on the 22d; Kelowna, snow low down on the hills. Assiniboia: Regina, very little rain or snow; Swift Current, slight snowstorm on the 10th. Ontario, near the Georgian Bay, snow fell in most places during the last few days of the month but was soon melted; in several eastern districts snow fell on or about the 29th; Fort William, some snow on the 29th. Maritime Provinces: Light snow fell at the end of the month.

HAIL.

The following are the dates on which hail fell in the respective States:

Alabama, 11. Arizona, 7, 9, 24. Arkansas, 9. California, 1, 14, 21, 23. Colorado, 3, 10, 13, 15, 16, 26, 27, 29, 30. Georgia, 9, 19. Idaho, 14. Illinois, 28. Indian Territory, 10. Kentucky, 10. Louisiana, 9, 11. Maryland, 22. Michigan, 5, 6. Mississippi, 11. Missouri, 10. Montana, 12, 25. Nevada, 1, 5, 6, 7, 8, 9, 13. New York, 21, 29. Oregon, 12, 13, 21. Pennsylvania, 22. South Carolina, 10. South Dakota, 10. Tennessee, 10. Utah, 1, 7, 9, 13, 25. Virginia, 22. Washington, 12, 13, 21.

SLEET.

The following are the dates on which sleet fell in the respective States:

Arizona, 15, 25, 26. Colorado, 15, 16, 25, 26. Kansas, 25, 26, 27. Michigan, 10, 29. Minnesota, 9, 10, 11, 16. Montana, 25. Nebraska, 16, 26, 27. Nevada, 3, 13, 24. New Mexico, 16, 27, 28, 29. New York, 29, 30. North Dakota, 9, 11, 13, 14, 25. Ohio, 30. South Dakota, 8, 9, 10, 15, 26, 27. Texas, 27, 28. Utah, 7, 15, 16, 24, 25. Washington, 13.

WIND.

The *prevailing winds* for October, 1897, viz, those that were recorded most frequently, are shown in Table I for the regular Weather Bureau stations.

Maximum wind velocities are given in Table I, which also gives the altitudes of Weather Bureau anemometers above the ground. Maxima of 50 miles or more per hour were reported during this month as follows (maximum velocities are averages for five minutes; extreme velocities are gusts of shorter duration, and are not given in this table):

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
		Miles				*Miles*	
Atlantic City, N.J	24	50	n.	Kittyhawk, N.C	20	60	n.
Do	25	53	ne.	Do	24	60	ne.
Block Island, R.I	2	52	ne.	Do	25	54	nw.
Do	21	59	ne.	New York, N.Y	17	60	nw.
Fort Canby, Wash	19	70	se.	North Platte, Nebr	26	51	nw.
Do	20	68	se.	Pueblo, Colo	26	56	n.
Do	21	60	se.	Tatoosh Island, Wash.	21	54	s.
Do	22	60	e.	Do	22	55	e.
Do	23	76	se.	Do	23	50	e.
Hatteras, N.C	24	56	n.				

It will be seen by the table that the highest wind velocities observed during the month occurred at coast stations, except in two cases, viz: Pueblo, Colo., and North Platte, Nebr. The storm of which these winds were a special manifestation was rather widespread and severe. In Colorado and Wyoming business was generally suspended throughout the day, railroad trains moved with a great deal of uncertainty, snow was from 1 to 2 feet in depth and badly drifted, and street traffic in the larger cities was much impeded. The damage to telegraph and telephone wires in Denver alone is said to have been $25,000. The property loss elsewhere in the State of Colorado, where the storm seems to have been the most severe, was stated in the press dispatches to have been nearly $3,000,000.

The *resultant winds*, as deduced from the personal observations made at 8 a. m. and 8 p. m., are given in Table VIII. These latter resultants are also shown graphically on Chart IV, where the small figure attached to each arrow shows the number of hours that this resultant prevailed, on the assumption that each of the morning and evening observations represents one hour's duration of a uniform wind of average velocity. These figures indicate the relative extent to which winds from different directions counterbalanced each other.

ATMOSPHERIC ELECTRICITY.

Numerical statistics relative to auroras and thunderstorms are given in Table IX, which shows the number of stations from which meteorological reports were received, and the number of such stations reporting thunderstorms (T) and auroras (A) in each State and on each day of the month, respectively.

Thunderstorms.—The dates on which the number of reports of thunderstorms for the whole country were most numerous were: 10th, 145; 11th, 83; 12th, 56; 15th, 40.

Reports were most numerous from: Colorado, 46; Louisiana, 50; Nevada, 41; Texas, 45; Utah, 40.

Thunderstorm days were most numerous in: Colorado, 16; Louisiana and Utah, 12; Nevada, 13.

In Canada.—Thunderstorms were reported on the following dates: Halifax, 17; Father Point, 14; Ottawa, 8; Port Stanley, 7; Saugeen, 11, 16; Parry Sound, 5, 8, 11, 12, 20; Banff and Prince Albert, 1.

Auroras.—The evenings on which bright moonlight must have interfered with observations of faint auroras are assumed to be the four preceding and following the date of full moon, viz, from the 5th to the 13th, inclusive. On the remaining twenty-two days of this month 140 reports were received, or an average of about 6 per day. The dates on which the number of reports of auroras for the whole country especially exceeded this average were: 1st, 19; 27th, 43; 29th, 21.

Reports were most numerous from: Maine, 19; Nebraska, 20; New Hampshire, 15; North Dakota, 25.

The number of reports was a large percentage of the number of observers in: Maine, 136; New Hampshire, 107; North Dakota, 54.

In Canada.—Auroras were reported on the following dates: Halifax and Yarmouth, 1; Charlottetown, 27; Father Point, 1, 2, 19, 20, 25, 27, 29, 31; Quebec, 1, 2, 10, 17, 18, 27, 29; Montreal, 1; White River, 1, 30; Ottawa, 1, 29; Port Arthur, 28; Winnipeg, 27, 29; Minnedosa, 18, 29; Qu'Appelle, 27; Medicine Hat, 9, 27, 30; Swift Current, 15; Banff, 8, 18, 25; Prince Albert, 7; Battleford, 3, 23, 28.

SUNSHINE AND CLOUDINESS.

The quantity of sunshine, and therefore of heat, received by the atmosphere as a whole is very nearly constant from year to year, but the proportion received by the surface of the earth depends upon the absorption by the atmosphere, and varies largely with the distribution of cloudiness. The sunshine is now recorded automatically at 21 regular stations of the Weather Bureau by its photographic, and at 43 by its thermal effects; at one of these stations records are kept by both methods. The photographic record sheets show the apparent solar time, but the thermometric records show seventy-fifth meridian time; for convenience the results are all given in Table X for each hour of local mean time. In order to complete the record of the duration of cloudiness these