

temperatures were the lowest on record at: Key West, 69; Lander, 29; Pysht, 37; Fort Canby, 44; Olympia, 35.

The greatest daily range of temperature and the extreme monthly range are given for each of the regular Weather Bureau stations in Table I, which also gives data from which may be computed the extreme monthly ranges for each station. The largest values among the greatest daily ranges were: Carson City and Baker City, 46; Idaho Falls and Tucson, 45; Havre and Port Crescent, 44. The smallest values were: Port Eads, 8; Galveston, 13; Hatteras, 14; Key West, 17. Among the extreme monthly ranges the largest values were: Tucson, 68; Fresno, 62; Idaho Falls, 60. The smallest values were: Port Eads, 11; Galveston, 18; Corpus Christi, 20; Key West, 21.

The accumulated monthly departures from normal temperatures from January 1 to the end of the current month are given in the second column of the following table, and the average departures are given in the third column, for comparison with the departures of current conditions of vegetation from the normal conditions.

Districts.	Accumulated departures.		Districts.	Accumulated departures.	
	Total.	Average.		Total.	Average.
Upper Lakes	+ 1.5	+ 0.2	New England.....	- 1.7	- 0.3
North Dakota	+ 7.8	+ 1.3	Middle Atlantic.....	- 0.7	- 1.6
Missouri Valley	+ 2.6	+ 0.4	South Atlantic.....	-16.7	- 2.8
Northern plateau.....	+ 8.5	+ 1.4	Florida Peninsula.....	-11.7	- 3.0
North Pacific.....	+ 0.4	+ 0.1	East Gulf.....	-18.4	- 3.1
			West Gulf.....	-16.4	- 2.7
			Ohio Valley and Tenn.....	-13.5	- 2.2
			Lower Lakes.....	- 4.8	- 0.8
			Upper Mississippi.....	- 2.2	- 0.4
			Northern slope.....	- 5.9	- 1.0
			Middle slope.....	- 4.3	- 0.7
			Southern slope (Abilene).....	-15.5	- 2.6
			Southern plateau.....	- 5.0	- 0.8
			Middle plateau.....	- 6.6	- 1.1
			Middle Pacific.....	- 1.3	- 0.2
			South Pacific.....	- 1.9	- 0.3

MOISTURE.

The quantity of moisture in the atmosphere at any time may be expressed by means of the weight contained in a cubic foot of air, or by the tension or pressure of the vapor, or by the temperature of the dew-point. The mean dew-points for each station of the Weather Bureau, as deduced from observations made at 8 a. m. and 8 p. m., daily, are given in Table I.

The rate of evaporation from a special surface of water on muslin at any moment determines the temperature of the wet-bulb thermometer. An evaporimeter may be made to record the quantity of water evaporated from a similar surface during any interval of time. This, therefore, would sum up or integrate the effect of those influences that determine the temperature as given by the wet bulb; from this evaporation the average humidity of the air during any given interval of time may be deduced.

The sensible temperature experienced by the human body and attributed to the atmosphere depends not merely upon the temperature of the air, but equally upon the dryness and the wind, and is apparently the same as the temperature of the wet-bulb thermometer as obtained by the whirling apparatus used in the shaded shelter. The temperature of the wet-bulb thermometer and its depression below the dry bulb are the fundamental data for all investigations into the relation between human physiology and the atmosphere. In order to present a monthly summary of the atmospheric conditions from a hygienic and physiological point of view, Table VIII has been prepared, showing the maximum, minimum, and mean readings of the wet-bulb thermometer at 8 a. m. and 8 p. m., seventy-fifth meridian time.

PRECIPITATION.

[In inches and hundredths.]

The distribution of precipitation for the current month, as determined by reports from about 2,500 stations, is exhibited on Chart III. The numerical details are given in Tables I, II, and III. The precipitation was heaviest, 3 to 13 inches, in the central and southern portion of the country, but least, averaging less than 0.5, on the Rocky Mountain slope and Pacific coast.

The diurnal variation is shown by Table XII, which gives the total precipitation for each hour of seventy-fifth meridian time, as deduced from self-registering gauges kept at about 43 regular stations of the Weather Bureau; of these 37 are float gauges and 6 are weighing gauges.

The normal precipitation for each month is approximately shown in the Atlas of Weather Bureau Bulletin C, entitled "Rainfall and Snow of the United States, compiled to the end of 1891, with annual, seasonal, monthly, and other charts."

The current departures from the normal precipitation are given in Table I, which shows that precipitation was in excess in the Gulf States, the northern and middle slopes, and especially the southern Atlantic slope; it was deficient throughout the Pacific States, the northern plateau region, upper Mississippi Valley, Lake region, Ohio Valley, and Atlantic States. The large departures from the monthly normal were: Excesses: Abilene, 5.7; Little Rock, 4.7; New Orleans, 3.0. Deficits: Dubuque, 4.0; Indianapolis, 3.6; Grand Haven and Sydney, 3.4; Davenport, 3.2; Galveston, Wilmington, and Detroit, 3.1.

The average departure for each district is also given in Table I. By dividing these by the respective normals the following corresponding percentages are obtained (precipitation is in excess when the percentages of the normal exceeds 100).

Above the normal: East Gulf, 115; west Gulf, 129; North Dakota, 122; Missouri Valley, 102; northern slope, 135; middle slope, 123; Abilene (southern slope), 311.

Normal: Southern Pacific, 0.

Below the normal: New England, 68; middle Atlantic, 72; south Atlantic, 75; Florida Peninsula, 80; Ohio Valley and Tennessee, 75; lower Lake, 38; upper Lake, 60; upper Mississippi, 69; southern plateau, 60; middle plateau, 55; northern plateau, 32; north Pacific, 41; middle Pacific, 3.

The total accumulated monthly departures from normal precipitation from January 1 to the end of the current month are given in the second column of the following table; the third column gives the ratio of the current accumulated precipitation to its normal value.

Districts.	Accumulated departures.	Accumulated precipitation.	Districts.	Accumulated departures.	Accumulated precipitation.
South Atlantic.....	+ 0.90	103	New England.....	- 4.10	81
North Dakota.....	+ 1.00	110	Middle Atlantic.....	- 1.50	93
Northern slope.....	+ 0.90	111	Florida Peninsula.....	- 0.70	96
Abilene (Southern slope).....	+ 1.20	108	East Gulf.....	- 0.20	98
Southern plateau.....	+ 0.20	105	West Gulf.....	- 2.80	88
			Ohio Valley and Tenn.....	- 7.30	71
			Lower Lakes.....	- 6.10	66
			Upper Lakes.....	- 4.10	74
			Upper Mississippi.....	- 6.60	63
			Missouri Valley.....	- 3.90	77
			Middle slope.....	- 2.20	81
			Middle plateau.....	- 0.60	92
			Northern plateau.....	- 3.10	70
			North Pacific.....	- 0.30	99
			Middle Pacific.....	- 2.20	88
			South Pacific.....	- 2.20	80

The years of greatest and least precipitation for June are given in the REVIEW for June, 1894. The precipitation for the current month was the greatest on record at: Abilene, 8.40; Pueblo, 2.09; Rapid City, 6.22. It was the least on record at:

Albany, 1.72; Harrisburg, 1.66; Sault Ste. Marie, 0.93; Alpena, 1.38; Detroit, 0.55; Toledo, 1.24; Indianapolis, 1.49; San Diego, 0.00; Fresno, 0.00; San Francisco, 0.00; Sacramento, 0.00; Red Bluff, 0.00; Eureka, 0.06; Walla Walla, 0.04; Olympia, 0.05; Astoria, 0.71; Port Angeles, 0.19.

Details as to excessive precipitation are given in Tables XIII and XIV.

The total snowfall at each station is given in Table II.

HAIL.

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

Alabama, 18. Arkansas, 17, 26. California, 15. Colorado, 1, 2, 4, 10, 11, 18, 21, 24, 26 to 30. Connecticut, 3, 23, 25. Delaware, 24. Georgia, 6, 11, 16, 25. Idaho, 2, 7, 14, 15, 16. Illinois, 1, 23, 24, 25, 27. Indiana, 1, 12, 23, 25, 26. Iowa, 2, 9, 12, 14, 17, 23, 24, 25. Kansas, 2, 12, 17, 22, 23, 25, 27. Kentucky, 4, 26. Louisiana, 26. Maine, 10. Maryland, 5, 13, 24, 27. Massachusetts, 14, 29. Michigan, 11, 25. Minnesota, 1, 2, 3, 9, 12, 16, 19, 20, 21, 23, 24, 25, 29. Missouri, 3, 4, 12, 14, 17, 22 to 26, 28. Montana, 14, 16, 17, 18, 24. Nebraska, 1, 2, 4, 7, 8, 11, 12, 13, 15, 16, 17, 20, 23, 24, 27, 28. Nevada, 1, 6, 27, 28, 29. New Hampshire, 3, 4, 23. New Jersey, 1, 2, 24, 29. New Mexico, 1, 7, 12, 13, 19, 21, 23, 26, 27, 28, 30. New York, 13, 14, 24, 26, 27, 29. North Carolina, 16, 25. North Dakota, 11, 12, 14, 16, 17, 19, 22, 23, 25, 27. Ohio, 4, 14, 22, 24, 25. Oklahoma, 25. Pennsylvania, 13, 14, 24, 26. South Carolina, 14. South Dakota, 6, 7, 8, 12, 15, 20, 22. Tennessee, 11, 15, 25. Texas, 2, 15, 16, 18, 25, 29. Utah, 2, 8, 27, 29. Vermont, 2, 13. Virginia, 29. Washington, 13, 15, 16. West Virginia, 13. Wisconsin, 5, 12, 17, 19, 21, 23, 25. Wyoming, 1, 2, 6.

SLEET.

The dates on which sleet was reported were: Colorado, 2. Montana, 6, 7. Nevada, 1.

WIND.

The prevailing winds for June, 1895, viz, those which were recorded most frequently, are shown in Table I for the regular Weather Bureau stations.

The resultant winds, as deduced from the personal observations made at 8 a. m. and 8 p. m., are given in Table IX. These latter resultants are also shown graphically on Chart II, 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.

Maximum wind velocities of 50 miles or more per hour were reported at regular stations of the Weather Bureau 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.
Abilene, Tex.....	25	52	ne.	El Paso, Tex.....	19	51	ne.
Amarillo, Tex.....	1	54	s.	Huron, S. Dak.....	15	55	se.
Do.....	2	72	s.	Jacksonville, Fla.....	5	60	se.
Do.....	13	52	n.	Sioux City, Iowa.....	25	52	n.
Do.....	21	50	e.	Winnemucca, Nev.....	14	54	w.
Chattanooga, Tenn.....	13	60	w.				

LOCAL STORMS.

Destructive or severe local storms were reported as follows:

1st.—Near Mount Blanco, Tex., thunderstorm, 2 horses killed by lightning. Faribault, Sunrise City, and Rice Lake, Minn., windstorms. Zumbrota, Minn., and Colby, Kans., thunderstorms. Ewing, Nebr., hailstorm.

2d.—Morrisville, Vt., windstorm. Bethlehem, N. H., hailstorm. Shaft, Pa., Cumberland and Millville, N. J., and Alpena, Mich., thunderstorms. Struble, Iowa, and Lakin, Kans., windstorms. Beaver City, Nebr., rainstorm.

3d.—Bristol, Conn., hailstorm. Fords Ferry, Ky., thunderstorm. Fayetteville, Ill., and Waco, Nebr., windstorms.

4th.—Charlotte, N. Y., windstorm. Greensboro, Ala., Chattanooga and Hixon, Tenn., Cincinnati, Cedarville, Shenandoah, and Tiffin, Ohio, and St. Charles, Mo., thunderstorms. Cardington, Columbus, Springfield, South Charleston, Mansfield, and Upper Sandusky, Ohio, Brownstown, Ind., and Bellaire, Mich., windstorms.

5th.—Newark, N. J., thunderstorm. Grahams Forge, Va., windstorm.

6th.—Northville, Vt., hailstorm. Summit, S. Dak., windstorm; one person killed. Bradley, S. Dak., windstorm. Hope, N. Dak., thunderstorm; man killed by lightning.

7th.—Tampa, Fla., thunderstorm.

9th.—Perry, Okla., windstorm; one person injured. Minneapolis, Minn., and Topeka, Kans., thunderstorms.

11th.—Poulan, Sylvester, and Isabella, Ga., hailstorms. South Pittsburg, Tenn., thunderstorm. Near Sycamore, Ill., windstorm; man killed.

12th.—Caughdenoy, N. Y., thunderstorm. Hardaway, Ga., windstorm. Chattanooga, Tenn., Martin Springs, Tex., and Guthrie, Okla., thunderstorms. Lewisburg, Tenn., hailstorm. Duluth, Minn., and Butzville, N. Dak., thunderstorms. Fergus Falls, Minn., Larrabee, Iowa, Fargo, N. Dak., Chamberlain, and Fulton, S. Dak., and Beaver City, Nebr., hailstorms. Winside, Nebr., windstorm.

13th.—Homestead, Pa., thunderstorm. Near Newport News, Va., thunderstorm; man killed by lightning.

14th.—Gallia Co., Ohio, hailstorm. Miles City, Mont., thunderstorm.

15th.—Basic City, Va., thunderstorm. Near Columbia, S. C., windstorm. Lake Charles, La., rainstorm. Near Crowley, La., thunderstorm; man killed by lightning. Abilene, Tex., hailstorm. Ada, Minn., thunderstorm; boy and stock killed by lightning.

16th.—Little Rock, Ark., and Rapid City, S. Dak., thunderstorms. Near Sutherland, Nebr., tornado; heavy hail and one person killed by lightning. North Platte, Nebr., thunderstorm; stock killed by lightning.

17th.—Mobile, Ala., Little Rock, Ark., Kansas City, Holden, Moberly, Mo., and Neola, Iowa, thunderstorms. Wallace, Nebr., thunderstorm; one person killed by lightning. Lamonte and Warrensburg, Mo., Villisca and Dow City, Iowa, Hartford, Kans., and Stella, Nebr., windstorms.

19th.—Near Hutchinson, Minn., thunderstorm; one person killed by lightning. Nicollet County, Minn., hailstorm.

20th.—Crookston, Minn., and Beaver City, Nebr., hailstorms.

21st.—Yazoo City, Miss., windstorm. Savannah, Tenn., thunderstorm. Galveston, Tex., thunderstorm; one person killed and two injured by lightning. Stevens Point, Wis., thunderstorm. Colorado Springs, Colo., thunderstorm; child killed by lightning. Near Gallinas Spring, N. Mex., hailstorm.

22d.—Newbern, N. C., thunderstorm. Monks Corners, S. C., thunderstorm; one person killed by lightning. Near Ridgeway, S. C., thunderstorm; one person killed by lightning. Near Society Hill, S. C., thunderstorm; two persons killed by lightning. Nelson County, N. Dak., and Greenwood, S. Dak., hailstorms.

23d.—Stratford, N. H., Middlebury, Conn., Charlotteburg, N. J., Unionville, Mo., Des Moines, Iowa, and Fontanelle, Nebr., thunderstorms. Hancock County, Iowa, Hokah, Quincy, St. Charles, and Mazeppa, Minn., hailstorms.

24th.—Cambridge, Mass., Hightstown and Cranbury Sta-