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. The temperature of the wet-bulb thermometer as obtained by the whirling apparatus used in the shaded shelter corresponds to the temperature felt by persons standing in the shade of trees or houses, exposed to a natural breeze of at least 6 miles per hour. 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 month of April, 1895, 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 for the current month was heaviest, 6 to 12 inches, on the immediate coasts of Washington and Oregon. Local rains of from 8 to 14 inches occurred in the interior of Georgia, North and South Carolina. Rainfall was least in Arizona, New Mexico, southern California, southern Nevada, Utah, and western Colorado, and averaged less than 0.5 over the greater part of the Rocky Mountain plateau region.

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 3 are weighing gauges.

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

As compared with the normal for April the precipitation for the current month was in excess throughout the Atlantic States; and in western Washington and in the Upper Missouri Valley. Elsewhere it was generally deficient. The large departures from the monthly normals were: Excesses, Neah Bay, 6.0; Tatoosh Island, 4.9; Raleigh, 5.4; Lander, 3.8; Tampa, 3.5. Deficits: Shreveport, 5.3; Vicksburg, 5.2; Columbia, Mo., 4.2; Fort Smith, 4.1.

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

Above the normal: New England, 128; middle Atlantic, 145; south Atlantic, 151; Florida Peninsula, 193; North Dakota, 124; northern slope, 120; north Pacific, 141.

Below the normal: east Gulf, 80; west Gulf, 30; Ohio Valley and Tennessee, 70; Lower Lake, 79; Upper Lake, 66; Upper Mississippi, 62; Missouri Valley, 62; middle slope, 35; Abilene (southern slope), 52; southern plateau, 00; middle plateau, 47; northern plateau, 58; middle Pacific, 49; south Pacific, 39.

The *years of greatest and least precipitation* are given in the REVIEW for April, 1894. The precipitation for the current month was the greatest on record at Northfield, 4.60; Block Island, 6.15; Narragansett Pier, 6.61; Raleigh, 7.95; Columbia, S. C., 5.91; Titusville, 4.50; Pensacola, 7.16; Lander, 5.71. It was the least on record at Cleveland, 1.38; Parkersburg, 1.32; Dubuque, 0.49; Davenport, 0.32; Topeka, 0.93; Kansas City, 1.19; Columbia, Mo., 1.04; Springfield, Mo., 1.10; Fort Smith, 1.41; Shreveport, 0.24; Santa Fe, 0.01; Yuma, 0.00; Red Bluff, 0.34; Salt Lake City, 0.73; Idaho Falls, 0.39.

The *total accumulated monthly departures* from normal precipitation from the beginning of the year 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.
	Inches.	*Per ct.*		*Inches.*	*Per ct.*
New England	— 3.00	61	South Atlantic	+ 2.40	113
Middle Atlantic	— 0.30	97	Florida peninsula	+ 1.40	114
East Gulf	— 2.20	90	Northern slope	+ 0.70	121
West Gulf	— 5.30	64			
Ohio Valley and Tenn.	— 4.80	72			
Lower Lakes	— 3.10	70			
Upper Lakes	— 2.50	71			
North Dakota	— 0.40	89			
Upper Mississippi	— 3.80	57			
Missouri Valley	— 2.40	68			
Middle slope	— 1.50	71			
Southern slope (Abilene)	— 2.10	74			
Southern plateau	— 0.70	68			
Middle plateau	— 0.50	91			
Northern plateau	— 2.40	68			
North Pacific	— 2.00	98			
Middle Pacific	— 1.90	89			
South Pacific	— 2.00	88			

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

SLEET.

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

California, 4. Colorado, 1, 5, 6, 14, 15, 20. Connecticut, 3, 6. Georgia, 3. Idaho, 4, 13, 16. Illinois, 1. Iowa, 1. Kansas, 1, 5, 6, 15. Massachusetts, 1. Michigan, 1. Minnesota, 10, 11.

Missouri, 6. Montana, 14. Nebraska, 6, 7. Nevada, 26 to 29. New Hampshire, 1. New Jersey, 2. New Mexico, 21. New York, 1, 15. North Dakota, 10. Ohio, 2, 15. Oklahoma, 5. Oregon, 16. Rhode Island, 2, 3. South Carolina, 2. South Dakota, 1, 6. Tennessee, 14. Utah, 29. West Virginia, 14. Wisconsin, 1, 10, 11.

SUNSHINE AND CLOUDINESS.

The sunshine is now recorded automatically at 18 regular stations of the Weather Bureau by its photographic, and at 26 by its thermal effects. The results are given in Table XI for each hour of local, not seventy-fifth meridian, time. The cloudiness is determined by numerous personal observations at all stations during the daytime, and is given in the column of "average cloudiness" in Table I; its complement or clear sky is given in the last column of Table XI.

COMPARISON OF SUNSHINE AND CLEAR SKY.

The sunshine registers give the *duration* of direct sunshine whence the percentage of possible sunshine is derived; the observer's personal estimates give the percentage of *area* of clear sky. It should not be assumed that these numbers should agree, and for comparative purposes they have been brought together, side by side, in the following table, from which it appears that, in general, the instrumental record of percentages of duration of sunshine is almost always larger than the observer's personal estimates of percentages of area of clear sky; the average excess for April, 1895, is 9 per cent for photographic records, and 12 per cent for thermometric records.

Difference between instrumental and personal observations of sunshine.

Photographic stations.	Instrumental.	Personal.	Difference.	Thermometric stations.	Instrumental.	Personal.	Difference.
Tucson, Ariz.	92	77	15	Key West, Fla.	83	69	14
Galveston, Tex.	81	81	0	Vicksburg, Miss.	81	78	3
Santa Fe, N. Mex.	80	66	14	San Francisco, Cal.	78	60	18
Salt Lake City, Utah*.	75	61	14	Salt Lake City, Utah*.	75	61	14
Denver, Colo.	69	55	14	Columbus, Ohio.	72	45	27
Dodge City, Kans.	67	61	6	St. Louis, Mo.	71	56	15
Helena, Mont.	67	60	7	Atlanta, Ga.	70	48	22
Cincinnati, Ohio.	63	51	12	Norfolk, Va.	69	67	2
Memphis, Tenn.	62	56	6	Baltimore, Md.	68	48	20
Spokane, Wash.	62	31	31	Chicago, Ill.	68	56	12
Kansas City, Mo.	60	51	9	Detroit, Mich.	67	56	11
Savannah, Ga.	60	54	6	Marquette, Mich.	67	39	28
Cleveland, Ohio.	59	51	8	New Orleans, La.	65	64	1
Portland, Oreg.*	57	45	12	Des Moines, Iowa.	62	50	12
San Diego, Cal.	57	58	− 1	Louisville, Ky.	61	48	13
Eastport, Me.	54	38	16	Portland, Me.	61	38	23
Washington, D. C.	52	44	8	Rochester, N. Y.	61	55	6
Bismarck, N. Dak.	43	51	− 8	Little Rock, Ark.	60	51	9
				Philadelphia, Pa.	58	41	17
				Portland, Oreg.*	57	45	12
				Buffalo, N. Y.	52	42	10
				Boston, Mass.	50	36	14
				New Haven, Conn.	50	46	4
				New York, N. Y.	49	41	8
				Seattle, Wash.	45	31	14
				Wilmington, N. C.	43	48	− 5

* Records kept by both registers.

WIND.

The *prevailing winds* for April, 1895, viz, those that were recorded most frequently at Weather Bureau stations, are shown in Table I.

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.
		Miles				*Miles*	
Abilene, Tex.	5	56	nw.	Fort Canby, Wash.	13	60	s.
Amarillo, Tex.	5	84	nw.	Do	14	71	se.
Do	6	68	nw.	Do	15	66	se.
Do	7	60	n.	Do	17	60	se.
Do	15	68	nw.	Hatteras, N. C.	8	51	n.
Cheyenne, Wyo.	6	60	nw.	Huron, S. Dak.	5	51	nw.
Dodge City, Kans.	5	54	n.	Do	14	56	se.
Do	6	50	nw.	Idaho Falls, Idaho	14	52	s.
Do	15	64	nw.	Kittyhawk, N. C.	8	52	se.
Duluth, Minn.	21	54	nw.	Moorhead, Minn.	14	55	se.
Eastport, Me.	14	56	ne.	Nantucket, Mass.	9	50	sw.
Do	15	60	e.	New York, N. Y.	9	50	se.
El Paso, Tex.	5	78	w.	North Platte, Nebr.	6	53	nw.
Do	14	51	sw.	Pierre, S. Dak.	26	50	ne.
Fort Canby, Wash.	1	54	se.	Rapid City, S. Dak.	6	52	nw.
Do	2	72	s.	Sioux City, Iowa	28	60	nw.
Do	3	60	s.	Walla Walla, Wash.	1	50	sw.
Do	9	71	se.	Williston, N. Dak.	5	50	nw.
Do	10	60	se.				

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, in connection with the isobars based on the same system of simultaneous observation; 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 wind of average velocity; these figures (or the ratio between them and the total number of observations in this month) indicate the extent to which winds from different directions counterbalanced each other.

LOCAL STORMS.

Destructive or severe local storms were reported as follows:

1st.—Louisville, Ky., thunderstorm; stock killed by lightning. Boone County, Ky., Stamford, Nebr., Pendleton, Oreg., and over eastern portions of Washington, windstorms.

2d.—Tampa, Fla., thunderstorm. Melbourne, Fla., windstorm.

5th.—Abilene, El Paso, Sulphur Springs, Bluff Dale, Fort Bliss, and Waco, Tex., and Gila, N. Mex., windstorms. Winnsboro, Tex., windstorm; 1 person killed and several injured. Amarillo, Tex., snowstorm. Chilton, Tex., hailstorm. Meade and Garden City, Kans., snowstorms. Over the southern portion of Stanton County, Kans., windstorm; cattle killed. Buffalo, Okla., snowstorm; cattle killed. Manhattan, Kans., and Madrid, Iowa, thunderstorms.

6th.—Dodge City, Kans., snowstorm; cattle killed. Deer Trail, Colo., snowstorm.

8th.—Washington, N. J., thunderstorm.

9th.—New Brunswick, Newton, and Junction, N. J., thunderstorms. Philadelphia, Pa., thunderstorm; 2 children killed by lightning. Seattle and Stillaguamish, Wash., thunderstorms. Pullman, Wash., windstorm.

10th.—Portland, Me., thunderstorm.