

Cloudy days.—The number of cloudy days, (other than those on which rain fell) averages as follows: In New England, 4; Middle Atlantic States, 2; South Atlantic States, 4.2; Gulf States, 2.4; Ohio valley and Tennessee, 2.5; Lower Lake region, 3; Upper Lake region, 1.6.

Rainy days.—The number of days during which rain fell is decidedly above the average for the month in all the districts except the Northwest: In New England the average number of days being 12.2; Middle Atlantic States, 18.2; South Atlantic States, 14.4; Gulf States, 12.4; Ohio valley and Tennessee, 9.8; Lower Lake region, 13.5; Upper Lake region, 13.5; the Northwest, 10.6.

In southeastern Indiana the greater portion of the rain fell during the first part of the month. The latter part is reported to have been very dry, and the crops suffering from drought.

Unusually heavy rains, and destructive floods resulting therefrom, have generally been mentioned under the head of storms.

The heaviest total rain-falls reported from the different States for the month are, at Gardiner, Me., 6.60 inches; Contoocookville, N. H., 6.10; Norwich, Vt., 4.10; Springfield, Mass., 9.38; Newport, R. I., 5.26; Colebrook, Conn., 14.39; New York city, 10.42; Trenton, N. J., 14.08; West Chester, Pa., 9.67; Milford, Del., 11.75; Woodlawn, Md., 11.81; Washington, D. C., 12.93; Hampton, Va., 14.41; Morgantown, W. Va., 5.58; Goldsboro', N. C., 11.45; Greenville, S. C., 7.80; Gainesville, Ga., 7.62; Punta Rassa, Fla., 12.14; Mobile, Ala., 7.07; Vicksburg, Miss., 8.85; Pt. Pleasant, La., 11.68; Denison, Texas, 9.30; Hot Springs, Ark., 2.60; Fort Gibson, I. T., 4.44; Cleveland, Tenn., 8.45; Newport Barracks, Ky., 3.73; Kenton, O., 7.92; Indianapolis, Ind., 3.66; Traverse City, Mich., 7.15; Escanaba, Mich., 12.06; Embarrass, Wis., 7.70; Sandwich, Ill., 5.40; Corning, Mo., 3.60; Rockford, Iowa, 7.60; Ft. Snelling, Minn., 8.82; Ft. Randall, D. T., 5.15; Norfolk, Neb., 16.10; Bellville, Kan., 7.90; Pike's Peak, Col., 3.52; Fort D. A. Russell, W. T., 9.00.

Snow.—On the summit of Pike's Peak, C. T., snow fell from the 11th to the 15th; 18th to the 23d; on the 25th and 27th.

Hail.—Hail fell upon sixteen days of the month on Pike's Peak; on the 3d at Fort Snelling, Minn.; 4th, Flushing, N. Y., Nebraska and Wyoming Territory; 5th, Ringgold, Ohio; 6th, McMinnville, Tenn.; 7th, Alabama, Virginia and Wyoming; 10th, Illinois and Virginia; 14th, South Carolina and Wyoming; 16th, Colorado, Wyoming, Ohio and New York; 18th, Indiana; 19th, Wyoming and Ohio; 20th, Minnesota; 21st, Pennsylvania, Michigan and Wyoming; 24th and 27th, Minnesota.

RELATIVE HUMIDITY.

The relative humidity averages, for the different districts, as follows: in New England, 77 per cent.; on the New Jersey coast, 86; in the Middle Atlantic States, 78; South Atlantic States, 76; Gulf States, 75; Ohio valley and Tennessee, 71; Lower Lake region, 73; Upper Lake region, 73; the Northwest, 68. It is above the average in all the districts, especially in the Middle States and Lower Lake region. For Denver, Col., and Santa Fé, N. M., the mean for the month is 47 per cent.

WINDS.

The prevailing winds for the month are shown by the arrows upon Chart No. II. They have been southerly at the majority of stations, and from the high pressure area toward the low. The effect of local influences will be seen at Boston, Pittsburgh, Lynchburg, Nashville, Memphis, Cincinnati, Marquette, &c. The highest wind-velocities, in miles per hour, have been mentioned in connection with the general storms, during the passage of which they occurred. The total movement of the air, independent of direction, averages,

for the stations in New England, 3,626 miles; New Jersey coast, 7,811; Middle Atlantic States, 4,368; South Atlantic States, 4,540; Gulf States, 4,119; Ohio Valley and Tennessee, 2,941; Lower Lake region, 4,985; Upper Lake region, 5,930; the Northwest, 5,138. The following are some of the greatest total movements, viz: Pike's Peak, 11,209 miles; San Francisco, 9,105; Atlantic City, N. J., 8,431; Long Branch, 8,399; Indianola, 7,784; Grand Haven, 6,875; Cheyenne, 6,382; Escanaba, 6,325. Of the least are given Montgomery, 2,683 miles; Louisville, 2,626; Memphis, 2,624; Morgantown, West Va., 2,580; Springfield, Mass., 2,575; Albany, 2,531; Vicksburg, 2,182; Nashville, 2,163; Augusta, 2,159; Knoxville, 2,145; Wytheville, Va., 2,049; Lynchburg, 2,045.

VERIFICATIONS.

Probabilities.—The usual comparison of the "Probabilities," issued tri-daily and covering twenty-four hours from the time of issue, with the conditions following the same, shows that the average verification, for all the districts predicted, is 91.14 per cent. The percentage is greatest for the Upper Lake region, (92.6 per cent.,) and least for New England, (89.4 per cent.) The wind direction predictions have been the most successful, viz: 96.73 per cent. verified; weather, 91.43; temperature, 91.09; barometer, 85.77. The omissions to predict average 0.32 per cent.

Cautionary Signals.—Twenty (20) Canadian stations were notified of the probable approach of storms during the month, but with what result is not known. Out of forty-nine (49) Cautionary Signals, ordered to be displayed at the Signal Service, United States Army, stations on the Lakes and the Atlantic coast, thirty-nine (39) were justified by subsequent dangerous winds either at the station or within a radius of one hundred miles of the same. Three (3) were ordered late. Seven (7) were not justified. Gales were reported to have occurred, for which Cautionary Signals were not ordered, at Wilmington, N. C., on the 2d; over Lake Michigan on the 5th; at Jacksonville, Fla., on the 6th; at Milwaukee on the 10th; over Lake Huron on the 11th; along the New Jersey and southern New England coasts on the 18th; over Lake Michigan on the 20th; along the middle Atlantic coast on the 23d and 24th; on the North Carolina coast during the 25th and 26th.

NAVIGATION.

Upon Chart No. III will be found a table giving the highest and lowest water-marks, with the dates on which they occurred, at the stations along the principal rivers. The Ohio fell almost continuously after the floods during the first part of the month. The Mississippi, at Cairo, had reached the "danger line" during July, but continued rising until the 7th, after which it fell continuously. At Memphis the "danger line" was reached on the 15th, twenty-seven miles below which point it overflowed on the 4th. At Helena it rose above the "danger line" during July, and to its maximum on the 21st instant. At Vicksburg its maximum, on the 24th, was within one inch of the "danger line" The Red river rose slowly and steadily until the 17th, after which it continued falling. The lower Missouri rose during the first week, but generally fell afterwards. Navigation was suspended on the 7th over the Des Moines Rapids at Keokuk, Ia., on account of low water.

TEMPERATURE OF THE WATER.

A table appears on Chart No. II giving the maximum and minimum temperatures of the water, at the bottom, at the different stations along the coast, lakes and rivers.

ATMOSPHERIC ELECTRICITY.

(1.) *Thunder-storms.*—These occurred in at least four States during every day of the month. On the 21st and 23d they were reported as the least frequent, and only from the Southwestern and Northwestern States. The dates upon which they occurred most frequently are the 4th, 5th, 6th, 10th, 13th, 16th and 19th.