11,251; Breckenridge, 10.153; Cheyenne, 10,017; Cleveland, 10,175; Lexington, 10,158; miles, and at Augusta, 2,600; Charleston, 1,936; Lynchburg, 3,140; Salt Lake City, 2.915.

Highest winds.—The maximum velocities exceeding 45 miles per hour were reported as follows: Boston, 45; Colorado Springs, 47; Davenport, 1st, southwest, 60; Denver, 46; Dodge City, 48; Duluth, 48; Erie, 9th to 11th, southwest, 56; Grand Haven, 48; Keokuk, 50; Long Branch, 6th, northwest, 58; Lexington, 48; Milwaukee, 48; Mount Washington, 132; New York, 9th, west, 48; Malone, 50; Evanston, 49; Omaha, 45; Port Huron, 58; Rochester, 48; St. Louis, 48; Sandy Hook, 9th, west, 60; Squan Beach, 9th, west, 60; Springfield, 45; Toledo, 9th, and 10th, west, 52; Washington, 45.

WATER TEMPERATURES.

The monthly maximum and minimum temperatures of water in river and harbors are given in a table on Chart No. II. A minimum of 31° or 33° has been reported at Buffalo, Chicago, Cleveland, Detroit, Duluth, Grand Haven, Keokuk, Leavenworth, Milwaukee, Pittsburgh, Portland, Me., Toledo and Wood's Hole. The maximum temperatures have been at Charleston, Galveston and Jacksonville 68, Mobile 63, Montgomery 62, St. Mark's 69, Shreveport 60

NAVIGATION.

Depth of water in rivers.—A table on Chart No. III gives the highest and lowest readings of the river gauges during the month, from which it will be seen that at the end of the month the Red river was thirteen feet higher than at the beginning. The upper Mississippi fell during the first half of the month from three to five feet, and subsequently remained about stationary. The Ohio was lowest from the 9th to the 13th, and subsequently rose, especially in consequence of the warm weather and rains, from the 18th to the 25th, after which date the flood-wave passed down the river, giving maximum readings on the 29th at Cincinnati and Louisville, and then passing down the lower Mississippi, gave maximum readings slightly above the "danger line" at Cairo on the 31st, and Memphis and Vicksburg in February

Ice in rivers and harbors.—The reports of ice in harbors and rivers are as follows: Buffalo, 20th, ice; January 21st, frozen up; 31st, but little ice remains. Detroit on the 11th, 12th, 13th, 22nd, 25th, 26th, 28th 30th, floating ice. Philadelphia, 13th, river frozen, 16th ice broken up. Albany, 2nd, river open. Davenport, 12th, 13th, 14th, 19th, 20, 21st, 22d, to 27th, 29th, 30th, 31st, floating ice. La Crosse, river frozen during the month, ice from one to two inches thick. Fort Niagara, N. Y., river nearly full of floating ice, 22nd and 26th. Madison Barracks, Sacketts Harbor, NY., bay full of drifting ice, 6th. Afton, Iowa, on 31st, pond ice, fourteen inches thick. Plattsmouth, Neb., on the 9th, ice cleared out of west channels, on the 11th, west channel closed, east channel partly clear; 18th, west channel clear, 22nd to 31st, heavy floating ice. Cooperstown, N. Y., Otsego Lake closed 13th, for the second time. North Hammond, N. Y., 21st, St. Lawrence frozen, 28th, river clear. Trenton, N. J., 14th, Delaware river closed, 19th, opened again. West Charlotte, Vt., 22nd and 29th, Lake Champlain partly closed, anchor ice in lake every day. Lunenburg, Vt., pond ice twenty inches thick. Bloomfield, Wis., 10th, Geneva Lake frozen over the second time and permanently. Middletown, Conn., Connecticut river opened 3rd and closed the 8th. Rockford, Ill., Rockford river frozen over 11th.

VERIFICATION OF "PROBABILITIES" AND CAUTIONARY SIGNALS.

(1) *Probabilities.*—A comparison of the published Probabilities with the weather following shows that the average percentage of verifications was, for January, for all the districts of the United States, 89.5 per cent.

(2) *Cautionary Signals.*—Of 132 Cautionary Signals that have been made during the month at the United States stations 113 were verified and 19 not verified by wind velocities of 25 miles at or near the stations; 71 cases are reported of brisk winds for which signals were not previously reported.