Sandy Hook, 8,216; Punta Rassa, 8,117; Milwaukee, 8,064; Sandusky, 8,010; Wood's Holl, 7,953. The *smallest* are: La Mesilla, 1,138; Lynchburg, 1,523; Red Bluff, 1,777; Augusta, 1,966; Des Moines, 2,219; Mobile, 2,305; Olympia, 2,378; Morgantown, 2,653.

Local Storms.—West Randolph, Vt., on the 12th, violent hail-storm, with wind and heavy rain, width, 1½ miles; stones as big as butternuts; over 2,000 lights of glass destroyed. Versailles, Ohio, on the 12th, very destructive hail-storm, seriously injuring tobacco and other crops. 18th, violent tornado, 14 miles SW. of Fargo, Dak.; track two miles wide, extending across the southern part of Cass county; one man killed, three severely injured, many houses blown down. August 24th, violent local storm one mile wide and seven miles long, swept over Great Neck, Little Neck and Creedmoor, Long Island, damaging many buildings and injuring crops. In addition to the damage done by the cyclone at and near Brownsville, 12th and 13th, the following are reported: San Diego, Tex., many buildings unroofed; at Collins and Banquete, railway bridges damaged; Goliad, Tex., great damage to buildings. Ft. Mojave, Ariz., 22nd, most violent storm, barracks blown down, four men killed and five wounded.

Waterspouts.—Near Hat Creek, Wy., on the 29th, 2 p. m., moved from N. to S. for ten minutes in a zig-zag course. Red Canon, Dak., during night of 28th, destroying telegraph line for eleven miles.

Sand-storms.—Tuscon, Ariz., 3rd; Florence, Ariz., 9th; Winnemucca, Nev., 4th, 10th, 23rd, 28th.

VERIFICATIONS.

Indications.—The detailed comparison of the tri-daily indications for August, with the telegraphic reports for the succeeding twenty-four hours, shows the general percentage of verifications to be 84.8 per cent. The percentages for the four elements are: Weather, 91.0; Direction of the Wind, 78.1; Temperature, 86.8; Barometer, 82.7 per cent. By geographical districts they are: for New England, 86.0; Middle States, 86.7; South Atlantic States, 99.4; Eastern Gulf States, 84.9; Western Gulf States, 89.2; Lower Lake region, 87.1; Upper Lake region, 84.6; Tennessee and the Ohio valley, 85.0; Upper Mississippi valley, 77.4; Lower Missouri valley, 76.0; Northern Pacific coast region, 87.5; Central Pacific coast region, 100.0; Southern Pacific coast region, 94.6. There were 35 omissions to predict out of 3,813, or 0.92 per cent. Of the 3,778 predictions that have been made, 144, or 3.81 per cent. are considered to have entirely failed; 117, or 3.10 per cent. were one-fourth verified; 449, or 11.88 per cent. were one-half verified; 469, or 12.42 per cent. were three-fourths verified; 2,599, or 68.79 per cent., were fully verified, so far as can be ascertained from the tri-daily reports.

Cautionary Signals—115 Cautionary Signals were displayed during the month, of which 87, or 75.7 per cent., were justified by winds of 25 miles per hour or over at, or within a radius of 100 miles of, the station. 9 Off-shore Signals were displayed, of which 6 or 66.7 per cent, were fully justified, and 9 or 100 per cent. justified as to direction. Three of the Off-Shore were changed from Cautionary. 124 Signals of both kinds were displayed, of which 93 or 75 per cent, were fully justified. 64 cases of winds of 25 miles and over per hour, from scattered stations, were reported, for which signals had not been ordered. The above does not include signals ordered for 49 display stations, where the velocity is only estimated.

NAVIGATION.

In the table on the right-hand side of chart No. III are given the highest and lowest stages of water, as recorded on the Signal Service river gauges, during August, 1880. The rivers have continued *low* throughout the month, and, except the Ohio and its tributaries, have gradually fallen. The highest waters in the Ohio, Tennessee and Monongahela occurred between the 21st and 28th.

High Tides.—Kittyhawk, 25th, 26th and 27th, unusually high tides, tremendous swell from the east. Galveston, 12th and 13th, very high.

Low Tides.—Cedar Keys, 29th.

TEMPERATURE OF WATER.

The temperature of water, as observed in rivers and harbors at Signal Service Stations, with the average depth at which observations were taken, is given in the table on the left hand side of chart No. II. At the following stations observations were not made on the dates indicated: Cleveland, 23rd to 29th, inclusive; Detroit, 4th to 10th; Key West, 15th to 31st; Milwaukee, 2nd to 11th; New London, 1st to 8th; Norfolk, 14th to 20th; Wilmington, 3rd to 8th; San Francisco, on the 1st.

The following were received too late to appear in the table. Punta Rassa, maximum, 89°; minimum, 78°; average depth, 13 feet. Cedar Keys, 87°, 74° and 14 feet.

ATMOSPHERIC ELECTRICITY.

Thunder-storms have been reported in too great numbers to permit their enumeration in detail, they have occurred, with greatest frequency, as follows: *Georgia:* 23rd to 25th. *Illinois:* on 23rd, 27th and 31st. *Indiana:* on 2nd, 10th, 20th, 28th to 30th. *Iowa:* 1st, 16th, 17th, 19th, 23rd, 26th and 27th. *Kansas:* 1st, 2nd, 4th, 20th, 24th, 25th, 27th to 31st. *Louisiana:* 8th and 13th. *Maine:* 21st. *Maryland:* 25th and 29th. *Massachusetts:* 12th, 21st, 25th and 29th. *Michigan:* 1st, 9th,