VERIFICATION OF "PROBABILITIES" AND CAUTIONARY SIGNALS.

A critical comparison of the published "Probabilities" with the following reports show that, on the average for all the districts of the United States, 92.18 per cent. of the predictions have been verified. During the month 188 Cautionary Signals have been displayed at the several ports on the Lakes and Atlantic coast, of which 75 per cent. have been fully justified by the occurrence of dangerous winds. Reports have been received from various sources showing that vessels were retained in port by the display of the signals, thereby avoiding the dangers of the violent gales during the latter portion of the month. Storm warnings were forwarded to the Canadian stations for storms of the 10th, 14th, 17th, 23d, 25th, 26th, 28th and 29th.

ATMOSPHERIC ELECTRICITY.

(1) *Thunder Storms.*—These have been more numerous for the month than has occurred generally in the areas of low barometer; those particularly reported are as follows: At Detroit, Mich., on the 1st; Bloomfield, Wis., 2d; Louisville and Benersville, Ky., Indianapolis and Fort Wayne, Ind., Memphis, Tenn., Marion, Westerville, Kenton, Bethel, Carthagena, Jacksonburg, Ringgold and Olive Furnace, Ohio, Brownsville and Canonsburg, Penn. and Alta Vista, Va., 3d; Smithville, Tenn., 3d, 13th and 26th; Wilsonville, Ala and Point Pleasant, La., 4th, 18th and 23d; Montgomery, Ala., 4th and 18th; Mobile, Ala., 6th and 7th; Charleston, S. C., 7th and 21st; Austin, Texas, 8th, 23d and 28th; Corsicana, Texas, 8th, 28th and 29th; Cairo, Ill. and Nashville, Tenn., 13th; Forsyth, Ga., Asheville, N. C., Greenville and Spartansburg, S. C., 19th; Wytheville, Va., 20th; Goldsboro', Wilmington and Smithville, N. C. and Shreveport, La., 23d; Afton, Iowa, Atchison, Kan. and Rolla, Mo., 25th; Belmont Farm, Texas 27th.

(2) *Auroras.*—The most brilliant displays occurred on the 18th, 21st and 22d, being generally observed at the northern stations from Maine to the upper Mississippi river. In detail they have been seen as follows: At Escanaba, Mich., on the 1st; North Argyle, N. Y., Carthegena, Ohio, and Lunenburgh, Vt., 2d; Buffalo, N. Y., 5th; Troy, N. Y., 6th; Detroit, Mich., 7th; Corsicana, Texas, and Eastport, Me., 8th; Rockford, Iowa, 12th; Winchester, Ky., 15th; Corsicana, Texas, 17th; Omaha, Neb., Dodge City and Burlingame, Kan., 18th; Mt. Forest, Can., Fall River, Springfield and Boston, Mass., Detroit, Alpena, Port Huron, Marquette and Escanaba, Mich., New Germantown, N. J., Stapleton and Malone, N. Y., Duluth, Minn., Barlington, Vt., and La Crosse, Wis., 21st; Waltham, Springfield and Boston, Mass., North Argyle, N. Y., Woodstock and Lunenburgh, Vt., and Utica, Wis., 22d; Nora Springs, Iowa, 25th; Gardiner and Eastport, Me., and Springfield, Mass., 29th; Boston, Mass., 30th.

OPTICAL PHENOMENA.

(1) *Solar Halos* were observed in Connecticut on the 7th; Delaware, 3d and 13th; Illinois, 2d, 12th, 18th, 19th, 20th, 22d, 25th, 27th, 28th and 30th; Indiana, 10th; Iowa, 10th, 15th, 21st and 28th; Kentucky, 8th, 24th and 29th; Louisiana, 27th; Maine, 9th and 20th; Minnesota, 16th, 19th, 20th, 23d and 26th; Nebraska, 13th and 19th; New Hampshire, 5th, 9th, 13th, 20th and 28th; New Jersey, 7th; New York, 3d, 6th, 7th, 9th, 13th, 18th and 19th; Ohio, 2d, 5th, 9th, 12th, 18th, 24th and 29th; Pennsylvania, 3d, 7th and 30th; Tennessee, 13th; Vermont, 18th; Virginia, 13th, 22d and 30th.

(2) *Lunar Halos* were observed in Alabama on the 3d; Canada, 13th; Connecticut, 7th and 9th; Illinois, 7th, 8th, 10th, 11th and 21st; Indiana, 5th, 10th, 11th, 12th and 25th; Iowa, 4th, 6th, 7th, 8th, 10th, 11th, 12th and 13th; Kentucky, 6th, 8th and 15th; Louisiana, 8th; Maine, 9th; Maryland, 6th and 13th; Massachusetts, 3d, 7th, 9th and 12th; Michigan, 8th, 10th, 12th, 13th and 14th; Minnesota, 9th; Missouri, 7th; Nebraska, 7th, 11th, 12th, 13th and 17th; New Hampshire, 9th; New Jersey, 8th, 9th, 10th, 12th, 14th and 17th; New York, 7th, 9th, 11th, 12th, 15th, 18th and 20th; North Carolina, 13th and 14th; Ohio, 6th, 7th, 11th and 12th; Pennsylvania, 6th and 9th; Texas, 14th; Vermont, 9th, 13th and 14th; Virginia, 13th, 14th and 15th.