ing motion towards a point slightly north of east and was accompanied by a sound similar to that produced by the wind in passing through a pine forest. Its mean height was about fifteen feet; color similar to that of the surrounding clouds, a dark leaden hue. No peculiar conditions of the surrounding atmosphere were apparent during its existence. Phenomenon lasted forty-five minutes.

*High Tides.*—Punta Rassa, Fla., 23d, very high; water over one foot deep under office building.

## 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. III. Owing to breakage of instrument, observations at Marquette were discontinued from the 14th to the 26th, inclusive. The report from Chincoteague failed to appear in time for publication.

## ATMOSPHERIC ELECTRICITY.

*Auroras.*—The most important display that occurred during the month was that of the 23d which was reported by numerous intervening stations from Osewgo westward to Helena, Mont. and southward to Ft. Madison, Ia. At many of the stations reporting, the display was brilliant, beginning early in the evening and lasting until after midnight. The display of the 9th was observed at the following stations: Ft. Bennett, 4 a. m.; Huron, Dak., 5 a. m.; La Crosse, early morning; Clinton, Ia., 1.30 a. m.; Dubuque, 12.30 to 2.30 a. m.; Riley, Ill., 4 10 a. m.; Springfield, Ill., 5.30 a. m.; Milwaukee, early morning. The following stations report the display of the 17th: Clear Creek, Neb.; St. Vincent, Minn. and New Corydon, Ind. The display of the 26th was reported from Ft. Shaw, Mont., Deadwood, Dak., and Northfield, Minn. Other displays have been reported from the following stations: Ft. Shaw, Mont., 22d, from 8 to 11 p. m., Deadwood, Dak., 27th, 9 p. m.; St. Vincent, Minn., 20th, 7 p. m.; Moorehead, Minn., 10th, 5 to 5.30 a. m.; Embarrass, Wis., 19th, p. m.; New Corydon, Ind., 20th, 2 a. m.; Vevay, Ind., 12th, 8. a. m., 13th, p. m.; Port Huron, Mich., 22d, 8.40 to 9.15 p. m.; Oswego, 2d, 7.45 to 8.15 p. m., 16th, 11.30 p. m., to midnight; Newport, R. I., 16th, 11 p. m., to a. m., of 17th; Auburn, N. H., 10th; Dexter, Me., 14th; Gardiner, Me., 27th, 11.30 p. m., to 3.30 a. m., of 28th.

*Thunder Storms.*—They were reported in the various districts as follows: New England, 9th, 15; Middle Atlantic states, 8th, 9th; South Atlantic states, 9th, 30th; East Gulf states, 2d, 6th, 8th, 11th, 12th, 20th, 30th; West Gulf states, 1st, 7th, 8th to 11th, 18th, 21st, 30th; Ohio valley and Tennessee, 8th, 9th, 16th, 17th, 18th, 30th; Lower Lake region, 5th, 14th; Upper Lake region, 16th, 30th; extreme Northwest, Ft. Stevenson, 13th, 17th; Upper Mississippi valley, 7th, 8th, 10th, 11th, 18th, 30th; Missouri valley, 7th, 10th, 11th, 17th, 18th; Southern slope, 1st, 2d, 10th, 11th; Middle slope, 10th, 11th, 17th; Southern plateau, Camp Thomas, Ariz., 9th; North Pacific coast region, Roseburg, 17th; Middle Pacific coast region, Red Bluff, 15th.

*Zodiacal Light.*—Nashville, Tenn., 2d, 13th, 14th, 19th, 20th, 25th, 26th, 27th, 28th, 29th; Chattanooga, 14th; Cresco, Ia., 19th; Cambridge, Mass., 11th, 14th, 15th, 20th, 25th, 26th; Somerset, Mass., 22d, 24th, 25th; Clear Creek, Neb., 18th to 24th; Wytheville, Va., 13th; New Corydon, Ind., 2d, 4th, 21st, 22d, 23d, 25th, 27th to 30th.

## OPTICAL PHENOMENA.

*Lunar halos* have been observed in the various districts on the following dates: New England 3d to 7th, 9th, 10th, 11th, 29th, 30th; Middle Atlantic states, 2d, 5th, 6th, 7th, 20th, 27th, 28th, 29th; South Atlantic states, 1st to 3d, 5th, 23d, 28th, 30th; East Gulf states, 1st to 5th, 9th, 28th; West Gulf states, 1st to 4th, 6th, 12th, 13th, 14th, 28th, 30th; Rio Grande valley, 2d, 3d, 13th; Ohio valley and Tennessee, 1st to 6th, 9th, 11th, 16th, 25th, 29th, 30th; Lower Lake region, 1st, 2d, 6th, 7th, 25th, 28th, 29th, 30th; Upper Lake region, 1st, 4th to 6th, 10th, 28th, 29th; extreme Northwest, 5th, 6th, 8th, 27th; Upper Mississippi valley, 1st, 4th, 5th, 6th, 9th, 10th, 18th, 27th, 28th, 29th; Missouri valley, 2d, 5th, 6th, 28th, 29th; Northern slope, 1st, 5th, 9th, 10th, 13th, 26th, 29th, 30th; Middle slope, 1st, 6th, 8th, 28th; Southern slope, 3d, 4th, 28th; Southern plateau, 2d, 3d, 5th, 6th, 27th; Middle plateau, 2d, 5th, 17th, 27th, 30th; Northern plateau, 8th, 14th, 26th, 29th, 30th; North Pacific coast region, 1st, 2d, 13th, 26th; Middle Pacific coast region, 5th, 26th, 29th; South Pacific coast region, 4th, 5th, 26th, 28th, 30th.

*Solar halos* have been observed in the various districts on the following dates: New England, 5th, 7th, 10th, 11th, 21st, 22d, 23d; Middle Atlantic states, 10th, 22d, 28th, 29th; East Gulf states, 10th, 14th, 29th; West Gulf states, Little Rock, 6th; Ohio valley and Tennessee, 6th, 8th to 11th, 17th, 22d to 25th, 29th; Lower Lake region, 6th, 9th, 10th, 11th, 23d, 25th; Upper Lake region, 13th, 20th, 21st, 26th; extreme Northwest, 15th to 18th, 23d; Upper Mississippi