

New River Inlet, North Carolina: the crops in this vicinity were badly damaged by the heavy rainfall on the 9th.

The following is an extract from the "New York Herald," of June 11th:

CITY OF MEXICO, *via GALVESTON*, June 10, 1885.—Details of the terrible loss of life and destruction of property by the remarkable water-spouts near Lagos, in the state of Jalisco, and at Guanajuato, are still very meagre. All the dispatches thus far received estimate the loss of life in the Lagos district at over two hundred souls. The damage by the flood in the city of Guanajuato is now placed at \$300,000.

The "New York Journal of Commerce," of June 15th, contained the following:

CITY OF MEXICO, *via GALVESTON*, June 13.—Advices from Leon state that on the night of June 7th the Leon river rose and entered the eastern part of the city. Two persons were drowned, the Central railway track was washed out and the growing crops west of Leon were destroyed. The loss to property was small.

On the following night a tremendous water-spout broke a few miles above the town of Pason de Cuarenta, situated twenty miles from Lagos City. The flood was great and sudden, and practically annihilated Cuarenta. Thus far one hundred and seventy bodies have been recovered. Many bodies were washed several miles down the valley and are being discovered in the fields below the town. The search is now going on. Pason de Cuarenta had about eight hundred inhabitants before the flood.

Wilmington, North Carolina: the heavy rainfall during the night of the 9-10th flooded many basements and cellars in this city. The overflowing of a creek about one mile from the city caused a large washout on the New Berne road.

Fort Shaw, Montana: on the 13th Sun river rose rapidly; it continued to rise on the 14th, and on that date the town of Sun River, a few miles east of Fort Shaw, was flooded. Owing to the overflowed condition of the surrounding country travel was much impeded. On the 16th the first stage from Helena since the 12th arrived, and the driver reported that the roads were badly flooded and that many bridges had been washed away.

Keokuk, Iowa: from 2.10 to 3.10 p. m. on the 13th, more than two inches of rain fell. This was followed by a rise of ten feet in the Des Moines river. The town of Alexandria, Missouri, was flooded; also, an area of lowland about six miles in length by three miles in width.

Macon City, Macon county, Missouri: reports from the southern part of this county state that the heavy rainfall on the 19th resulted in the overflow of a large area of low lands, and at Bevier about two hundred feet of the Hannibal and Saint Joe railroad track were washed out.

Carlinville, Macoupin county, Illinois: the very heavy rains during the night of the 19-20th resulted in flooding the lowlands in this vicinity.

Saint Louis, Missouri, 21st: the very heavy rainfall of the night of the 19-20th caused a large amount of damage to growing crops, farm-houses and railroad embankments throughout "American Bottom," in Saint Clair and Madison counties, Illinois. Many villages were inundated and live stock in large numbers were drowned. At Collinsville, Madison county, and in that vicinity, a considerable territory was inundated and a number of dwellings and business houses were submerged to a more or less extent. At Belleville, Saint Clair county, the overflow of Richland creek caused a large amount of damage. More than one hundred families living along the creek had their dwellings flooded, and in some instances persons narrowly escaped drowning.

Pinckneyville, Perry county, Illinois: the heaviest fall of rain known for many years occurred during the early morning of the 20th, causing great damage to the growing crops; bridges and fencing throughout the county were washed away and considerable live stock drowned.

Jefferson City, Missouri: portions of the Callaway bottoms, opposite this city, were inundated on the 20th.

Duquoin, Perry county, Illinois: during the early morning of the 20th a remarkably heavy fall of rain occurred at this place, causing great damage to bridges and other property; the first floors of several dwellings were submerged.

Erie, Pennsylvania: the heavy rainfall (3.61 inches) which accompanied the storm during the night of the 21-22d, caused great damage by flooding cellars and washing out the sidewalks and streets. At the water-works an extensive landslide occurred, which damaged the machinery to the extent of \$2,000. The streams in the surrounding country overflowed and great damage was done to the crops.

Buffalo, New York: during the night of the 21-22d 3.28 inches of rain fell in five hours and thirty-five minutes. A large part of the northern section of the city was flooded and many families were compelled to leave their homes.

Chattanooga, Tennessee: a very heavy rainfall occurred between 2 and 5.15 a. m. on the 25th, about two inches having fallen in two hours and thirty minutes. The streets and sewers in this city were flooded and the roadways in the vicinity were badly washed.

Milwaukee, Wisconsin: a very heavy rainfall occurred from 7.30 to 8.45 p. m. on the 26th; a large number of washouts are reported from points along the railroads entering the city; considerable damage was done in this city by the flooding of cellars, etc.

Cauajoharie, Montgomery county, New York: the very heavy rainfall on the afternoon of the 28th caused considerable damage in this vicinity by washing away fencing, etc. At Sharon Springs, Schoharie county, the hop yards and fields of corn and wheat were entirely ruined.

Lyons, Wayne county, New York: the rainfall during the evening of the 28th is considered the heaviest that has occurred here for many years. In a few minutes the streets in the village were flooded and all streams in the vicinity overflowed.

VERIFICATIONS. INDICATIONS.

The detailed comparison of the tri-daily indications for June, 1885, with the telegraphic reports for the succeeding twenty-four hours, shows the general average percentage of verifications to be 87.69 per cent. The percentages for the four elements are: Weather, 88.06; direction of the wind, 88.51; temperature, 85.39; barometer, 90.98 per cent. By geographical districts, they are: For New England, 83.75; middle Atlantic states, 90.90; south Atlantic states, 85.81; eastern Gulf states, 88.22; western Gulf states, 87.59; lower lake region, 87.70; upper lake region, 85.83; Ohio valley and Tennessee, 87.00; upper Mississippi valley, 87.26; Missouri valley, 88.78; north Pacific coast region, 85.27; middle Pacific coast region, 89.29; south Pacific coast region, 94.35. There were two omissions to predict out of 3,567, or 0.06 per cent. Of the 3,565 predictions that have been made, sixty-three, or 1.77 per cent., are considered to have entirely failed; sixty-seven, or 1.88 per cent., were one-fourth verified; three hundred and fifty-three, or 9.90 per cent., were one-half verified; five hundred and ninety-six or 16.72 per cent., were three-fourths verified; 2,486, or 69.73 per cent., were fully verified, so far as can be ascertained from the tri-daily reports.

CAUTIONARY SIGNALS.

During June, 1885, one hundred and thirty-five cautionary signals were ordered. Of these, one hundred and nineteen, or 88.15 per cent., were justified by winds of twenty-five miles or more per hour, at or within one hundred miles of the station. Sixty-two cautionary off-shore signals were ordered, of which number, forty-four, or 70.97 per cent., were fully justified both as to direction and velocity; forty-eight, or 77.42 per cent., were justified as to direction; and fifty-two, or 83.87 per cent., were justified as to velocity. One hundred and ninety-seven signals of all kinds were ordered, one hundred and sixty-three, or 82.74 per cent., being fully justified. These do not include signals ordered at display stations where the velocity of the wind is only estimated. Of the above cautionary off-shore signals, twenty-six were changed from cautionary. Five signals were ordered late. In fifty-nine cases winds of twenty-five miles or more per hour were reported for which no signals were ordered.

Table of miscellaneous meteorological data for June, 1885—Signal Service observations.

Main data table with columns for Stations, Elevation above sea-level, Atmospheric pressure (in inches and hundredths), Temperature of the air (in degrees Fahrenheit), and Winds. The table is organized into regional sections: New England, Middle Atlantic states, South Atlantic states, Florida peninsula, Eastern Gulf states, Western Gulf states, Rio Grande valley, Tennessee, Ohio valley, Lower lake region, and Upper lake region. Each entry includes numerical data for various atmospheric and wind metrics.

Table of miscellaneous meteorological data for June, 1885—Signal Service observations—Continued.

Table with columns for Stations, Elevation above sea-level, Atmospheric pressure (in inches and hundredths), Temperature of the air (in degrees Fahrenheit), and Winds. The table lists various weather stations and their corresponding meteorological data for the month of June 1885.

RAILWAY WEATHER SIGNALS.

Professor P. H. Mell, jr., director of the "Alabama Weather Service," in his report for June, states:

The verification of prediction for the whole state was 98 per cent. for temperature and 97 per cent. for weather.

The following roads comprise this system: Western, of Alabama; Atlanta and West Point, of Georgia; South and North; Montgomery and Mobile; Mobile and Girard; Georgia Pacific; East Tennessee, Virginia and Georgia; Northeastern, of Georgia.

ATMOSPHERIC ELECTRICITY.

AURORAS.

Auroral displays were observed during June, as follows:

1st.—Marquette, Michigan: an aurora was observed from 11 to 11.20 p. m.

1st.—Escanaba, Michigan: faint aurora from 10.42 to 11.28 p. m.

1st.—Mountainville, New York.

1st.—Yutan, Nebraska.

2d.—Mountainville, New York.

3d.—Cambridge, Massachusetts: aurora suspected.

3d.—Mount Washington, New Hampshire: at 11 p. m. an auroral light, with occasional streamers, extended over 80° of horizon, and to an altitude of 15°; the display ended during the early morning of the 4th.

3d.—Eastport, Maine: a very faint auroral arch of 10° altitude was observed from 7.30 to 10 p. m.

4th.—Blackwell, North Carolina: "auroral light flashing up in the northwest at 8.10 p. m." A similar display was also observed on the 8th.

4th.—Ithaca, New York: a faint auroral arch was visible at 10 p. m.

5th.—Sussex, Wisconsin.

7th.—Yutan, Nebraska.

8th.—Eastport, Maine: a faint auroral light, of pale straw color, was observed from 9 p. m. until 1 a. m. of the 9th.

8th.—Readville, Massachusetts (Blue Hill observatory): aurora at 11.15 p. m.

8th and 11th.—Yutan, Nebraska.

13th.—Webster, Dakota.

13th.—Yutan, Nebraska.

15th.—Wellsborough, Pennsylvania.

16th.—Yutan, Nebraska.

18th.—Tiffin, Ohio.

19th.—Bangor, Maine.

22d.—Fort Bennett, Dakota: an aurora was observed from 10.25 to 10.55 p. m., consisting of columns of light; cloudiness partially obscured the display.

22d.—Westerville, Ohio.

23d.—Mountainville, New York.

23d.—Syracuse, New York.

24th.—Hudson, Michigan.

24th.—Manhattan, Kansas: quite a marked auroral display was observed at 9.20 p. m.; notwithstanding the moonlight, streamers, extending nearly to the North star, were visible.

24th.—Fort Bennett, Dakota: an aurora was visible from 10.58 to 11.20 p. m., consisting of an arch which spanned 45° of the horizon and extended to an altitude of 20°; from the arch several columns of pale light extended upward 45°.

24th.—Huron, Dakota: auroral beams were observed at intervals during the evening; a similar display was also observed during the evening of the 25th.

24th.—Fort Totten, Dakota: an auroral display was visible from 10 p. m. until daylight of the 25th; shooting beams of greenish color, with a motion from west to east, extended to the zenith from all parts of the northern sky; the display was most brilliant at 11.55 p. m.

24th.—Marquette, Michigan: an aurora was observed from 11 to 11.40 p. m.; streamers extended beyond the zenith. The display resembled that observed here on May 27th.

24th.—Alpena, Michigan: an aurora appeared at 8.50 p. m., consisting of a diffuse light on the northern horizon; at 10 p.

m. beams, having an apparent motion from east to west, shot towards the zenith; at 11.50 p. m. the beams faded away and the display disappeared at 12.40 a. m. on the 25th.

24th.—Escanaba, Michigan: a bright aurora appeared at 9.43 p. m.; the light rested upon a dark segment which extended to an altitude of 20°; beams rose to within 15° of the zenith, and occasional flashes of light, resembling lightning, were observed.

24th.—Oswego, New York: an auroral display, partly obscured by cloudiness, was observed from 10.30 p. m. until the early morning of the 25th.

24th.—Erie, Pennsylvania: an aurora was visible from 10.40 to 11.20 p. m., extending from northeast to northwest; streamers rose to an altitude of 45°.

24th.—Portland, Maine: a faint auroral display was observed from 10.30 p. m. until after midnight.

24th.—Mount Washington, New Hampshire: an aurora appeared at 9.22 p. m.; the display consisted of irregular streamers, of varying brilliancy, extending to the zenith.

24th.—Rochester, New York: a faint aurora was observed at 10.25 p. m., extending from northeast to northwest and to an altitude of 25°; the display consisted of a pale, yellow light; no streamers were visible.

24th.—Westerville, Ohio.

25th.—Gardiner, Maine: bright auroral beams were observed at 11.30 p. m., although the moon shone brightly at that hour.

25th.—Cambridge, Massachusetts: aurora suspected.

25th.—Westerville, Ohio.

25th.—Bismarck, Dakota: a faint aurora was observed at 1.15 a. m., covering 90° of the horizon and extending to an altitude of 45°

25th.—Fort Totten, Dakota: auroral light in the north at 11.55 p. m., with bright, shooting beams of yellow and green colors. At 1.20 a. m. on the 26th the display was still visible.

26th.—Fort Totten, Dakota: aurora from 10 p. m. until 1 a. m. of the 27th.

30th.—Westerville, Ohio.

THUNDER-STORMS.

Thunder-storms occurred in the various districts as follows:
New England.—1st, 4th, 5th, 7th, 8th, 9th, 14th, 16th, 17th, 22d, 23d, 24th, 26th to 30th.

Middle Atlantic states.—2d, 4th, 5th, 7th, 8th, 11th, 14th to 17th, 21st, 22d, 25th to 28th.

South Atlantic states.—3d, 5th, 7th to 13th, 15th to 30th.

Florida peninsula.—4th to 18th, 20th, 21st, 23d to 27th, 29th, 30th.

East Gulf states.—8th, 10th to 14th, 16th to 20th, 22d to 26th, 29th.

West Gulf states.—7th to 30th.

Rio Grande valley.—14th, 24th, 25th, 28th, 30th.

Tennessee.—3d to 16th, 20th, 21st, 22d, 25th, 26th, 27th, 29th.

Ohio valley.—2d to 8th, 11th to 16th, 19th, 20th, 21st, 26th, 27th, 28th.

Lower lake region.—3d to 8th, 12th to 16th, 20th to 23d, 26th, 27th, 28th.

Upper lake region.—1st to 4th, 6th, 7th, 11th to 15th, 18th to 21st, 26th, 27th, 28th.

Extreme northwest.—1st to 6th, 9th to 14th, 16th, 18th, 19th, 20th, 25th, 26th, 27th, 29th.

Upper Mississippi valley.—1st to 16th, 18th to 22d, 25th, 26th, 27th.

Missouri valley.—1st to 30th.

Northern slope.—1st to 5th, 8th, 10th to 14th, 17th to 20th, 22d to 30th.

Middle slope.—1st, 2d, 4th, 5th, 8th, 9th, 10th, 15th to 30th.

Southern slope.—3d, 4th, 7th to 11th, 13th to 18th, 22d, 23d, 24th, 26th to 30th.

Southern plateau.—2d to 5th, 14th, 17th, 18th, 21st to 24th, 26th to 30th.

Middle plateau.—4th, 5th, 9th, 13th, 14th, 19th to 23d, 25th, 29th, 30th.