

from Santiago de Cuba, and on the 15th, on the Bahama Banks; it therefore evidently passed somewhat more slowly in this portion of its course than is indicated by the first rough sketch of its track as given in chart No. I, and if the newspaper accounts that have been received are reliable, according to which the hurricane wind, both at Santiago de Cuba and the Bahamas, veered from NE. to SE., it must be considered that the track of the centre lay further westward than that here given. In its passage along the South Atlantic coast, and especially on the 16th, 17th and 18th, very heavy easterly gales prevailed from Cape Hatteras to Cape Cod. The schooner, "Addie Fuller," Captain James Jorgenson, from Brunswick, Ga., to Boston, encountered the storm while north of Cape Hatteras, and, as her barometer has been well compared and reliable, it is worth noting that the lowest pressure recorded was 29.40 about 2 p. m. of the 17th, with a southerly gale of force 8, on a scale of 10. The position of the schooner was probably 100 miles east of the track of the centre of the hurricane. The SW. and NW. winds that succeeded the hurricane, were less violent and of shorter duration at stations in Virginia than in North Carolina. The anemometers at Wilmington and Cape Lookout were disabled at the height of the storm, after recording respectively N. 60 and SW. 73 miles. Other records of high velocities are as follows: The observer at Hampton, Va., reports lowest barometer (29.10 reduced to Signal Service standard) occurred at 1:20 p. m. of the 17th, the wind veering from NE. to SE., and by 4 p. m. to S.; at Washington, D. C., the records of the central office show that the lowest barometer was 29.15 about 4:35 p. m., during a period of calm which lasted from 4:50 to 5:50 p. m., after which the wind, which had been steady from the E., shifted to the W; the maximum wind velocity was W. 36 miles. The lowest pressures were: Smithville, 29.24; Wilmington, 29.32; Cape Lookout, 29.46.

No. VIII.—While No. VII was passing northward over the Middle States on the 17th, an area of high pressure was apparently advancing southward, reaching Oregon on the 18th, and the barometer was low at the Rocky Mountain stations and from Texas to Manitoba. The oval area of lowest pressure was, on the afternoon of the 19th, on the eastern border of Dakota, whence it extended slowly southeastward to southern Illinois on the 20th at 11 p. m.; while remaining nearly stationary there and in Tennessee and Kentucky during the 21st and 22nd, it extended westward, but eventually on the 23rd was divided into two ill-defined portions, of which the western one vanished, while the eastern one moved slowly eastward and disappeared off the middle Atlantic coast on the 24th. NE. winds, cloud and rain prevailed over the Lower Lakes, Middle Atlantic States and Upper Ohio valley, during the greater part of the time from the 20th to the 24th. Wind velocities exceeding 25 miles were rarely reported, and were essentially local in their severity.

Nos. IX and X.—Low pressure No. IX was preceded by a decided fall in the barometer in Manitoba and Dakota, where its origin may apparently be placed. At 4:35 p. m. of the 24th, it was central in Iowa, and at 11 p. m. extended as a trough from Indian Territory to Lake Superior. After this date, the northern extremity of the trough moved eastward over the St. Lawrence valley, and by 7:35 a. m. of the 16th, the central depression had fallen to 29.50, with a larger area of cloud and rain, which increased still more during the day, and was especially persistent over the Lower Lake region, where rain continued until the 27th, while the central lowest pressure remained almost stationary in the St. Lawrence valley. Brisk and high SW. and NW. winds were reported on the 26th and 27th from the middle Atlantic coast and the Lower Lakes. At 7:35 a. m. of the 27th, the progress of depression No. X begins to be apparent in Manitoba, whence it moved east-southeastward over Lake Superior, and was, on the afternoon of the 28th, north of Lake Huron, while No. IX was probably over the Gulf of St. Lawrence. The very slow progress of No. X at this point, was accompanied by continued rain and brisk or high SW. winds until noon of the 29th over the Lower Lakes. The map of the 29th, 4:35 p. m., shows that at that time a very large area of low pressure must have existed in British America on the south and east of James' Bay, the southern end of which extended southward until on the morning of the 30th, the barometer was below 30.00 everywhere east of Lake Superior, Indiana and Georgia. This extended depression was accompanied by the formation of a large area of high barometer between the Mississippi and the Rocky Mountains.

TEMPERATURE OF THE AIR.

The general distribution of the temperature of the air is shown by the isotherms on chart No. II, from which it will appear that normal temperatures have been reported from the Middle and South Atlantic States, but that everywhere else the average is low, and especially so from New England and the St. Lawrence valley westward to the Missouri valley. These low temperatures may be especially attributed to the prevalence of cloudy and rainy weather, except in Minnesota, where northerly winds and higher pressures have prevailed somewhat more than usual.

Maximum and Minimum Temperatures have been as follows: *at northern stations*—Eastport, 69°, 44°; Portland, Me., 84°, 45°; Burlington, 84°, 39°; Malone, 82°, 43°; Albany, 90°, 44°; Oswego, 78°, 44°; Rochester, 78°, 40°; Buffalo, 75°, 43°; Erie, 77°, 45°; Cleveland, 78°, 40°; Toledo, 76°, 41°; Detroit, 77°, 39°; Port Huron, 75°, 38°; Alpena, 70°, 36°; Grand Haven, 76°, 42°; Chicago, 78°, 37°; Milwaukee, 77°, 32°; Escanaba, 74°, 36°; Marquette, 76°, 36°; Duluth, 75°, 34°; St. Paul, 76°, 36°; Yankton, 82°, 26°; Fort Sully, 86°, 25°; Breckenridge, 76°, 24°; Bismarck, 78°, 10°; Pembina, 75°, 27°; Virginia City, 78°, 31°; Portland, Or., 90°, 44°; *at southern stations*: Key West, 93°, 77°; Jacksonville, 97°, 56°; Savannah, 96°, 55°; St. Marks, 93°, 59°; Montgomery, 95°, 52°; Mobile, 92°, 55°; New Orleans, 91°, 69°; Vicksburg, 94°, 52°; Shreveport, 95°, 52°; Corsicana, 99°, 51°; Galveston, 94°, 62°; Indianola, 93°.

67°; Fort Yuma, 107°, 67°; San Diego, 82°, 54°; Baton Rouge 102° on the 26th; the Army Surgeon states that this is the highest temperature of the year. *At high stations:* Mt. Washington, 58°, 21°; Cheyenne, 86°, 27°; Denver, 90°, 32°; Pike's Peak, 51°, 6°; Santa Fe, 82°, 38°.

Ranges of temperature.—The largest ranges of temperature for the month have occurred at the following stations: North Platte, 73°; Bismarck, 68°; Dodge City, 65°; Fort Sully, 61°; Cheyenne, 59°; Denver, 58°; Yankton, 56°; Fort Gibson, 55°; Breckenridge, 52°; Cairo, 50°. The smallest ranges are noted as follows: Key West, 16°; Eastport, 25°; Indianola, 26°; Cape Hatteras and Wood's Holl, 27°.

Frost and ice have been reported as follows: On the 2nd, in Iowa, Minn., Wis.; 3d and 5th, N. Y.; 6th N. Y., Mass., Conn., Penn., Utah; 10th, Iowa, Me.; 11th, Me.; 13th, Me., N. Y.; 14th, Miss.; 15th, Mich. Minn.; 16th, Ill., Mich., N. Y., Ohio; 19th, Wy. Ter.; 21st, Dak.; 22d, Va., Me.; 23d and 25th, Wis.; 26th Wis., Ind., Mo., Minn.; 27th, Mass., Mich., Iowa, Wis., Ind., Ohio, N. C.; 28th, Va., W. Va., Wis., Md., N. C., S. C.; 29th, Wis., Iowa, Kan., Neb., Dak., S. C.; 30th, Wis., Iowa, Kan., Mo., Neb., Minn., Tenn., Ark. Col., Dak., Ohio, Ind.

PRECIPITATION.

The general distribution of rain and melted snow is shown upon chart No. III, from which it will be seen that the areas of largest precipitation have included the greater part of the Lower Lake Region and Atlantic States, as also a portion of the Northwest. The excess in the Atlantic States fell to a large degree during the passage of the hurricane No. VII of the 16, 17; that in the Lower Lake Region fell as long continued light rains from the 22nd to 30th, and as heavy rains on the 17th and 18th; that in the Northwest fell especially during the 5th to 9th, during the formation of low pressure No. V. Deficiencies of rain, fall are reported from the Eastern and Western Gulf States, in which regions the rain-fall has been less than two inches as compared with an average of five inches; in the same states during September, 1875, a very large excess was reported, but during September, 1873, a slight excess was reported, especially near the coast, and in September, 1874, an excess in the Western Gulf, but a deficiency in the Eastern Gulf States. On comparing Chart No. III with similar ones for 1873 and 74, a slight similarity is noticed in the distribution of the rain, in that the regions of greatest fall are along the Atlantic coast and in the Southwest and Northwest, with regions of light rain-fall between.

Largest Monthly Rain-falls.—The following stations report large total rain-falls: Cape Henry, Va., 14.90 inches; Capeville, Va., 10.70; Mt. Washington, N. H., 14.89; Cape Lookout, N. C., 14.09; Kitty Hawk, N. C., 13.79; Goldsboro, N. C., 12.62; Cape Hatteras, N. C., 11.69; Charleston, S. C., 11.26; Washington, D. C., 10.81; Baltimore, Md., 10.52; Fallston, Md., 12.95; New Market, Md., 10.64; Dover, Del., 12.46; West Chester, Pa., 12.33; Tarantum, Pa., 12.00; Carlisle, Pa., 11.34; Keokuk, Iowa, 11.08.

Smallest Monthly Rain-falls.—Stations reporting less than four-tenths of an inch are the following: Cheyenne, Wy. Ter., Yuma and Stanwix, A. Ter., and Campo, Cal., 0.00 inch.; San Diego, Cal., 0.03; Cambridge, Tex., 0.05; San Jose, Cal., 0.10; Fort Wallace, Kan., 0.15; Murphy, N. C., 0.20; New Orleans, La., and Florence, A. Ter., 0.26; Brookhaven, Miss., 0.28; South Puebla, Col., 0.31; Alpena, Mich., 0.36; Mesquite, Tex., 0.37; San Francisco, Cal., 0.38.

Heavy Rain-storms.—Heavy rains are reported as follows: On the 1st, in Pike County, Penn., and at Port Jervis, N. Y., extinguishing the forest fires reported in last review; 1st, heavy rain-storm at St. Louis; 5th, at Keytesville, Chariton county, Mo., accompanied by hail and high winds; 6th, at Dubuque, Iowa, with thunder and lightning; 8th, at Des Moines and Dubuque, Iowa.

Snow-fall.—The first snow of the season is reported on the 27th at Tivoli, N. Y., and on the 28th seen lying on the summit of the Catskill. A few flakes of snow fell at McMinville, Tenn., on the 30th; Marquette, 29th; Mt. Washington, 9th, 26th, 27th; Pike's Peak, 4th, 15th, 16th, 17th, 18th, 27th, 28th; on Baldy Mountains, fifteen miles from Santa Fé, 19th, 24th.

Hail on the 1st, 18th, 29th at Fort Union, N. M.; 2nd, Quitman, Ga.; 3rd, Fort Bridger, Wyoming Ter., and Virginia City, M. T.; 6th, Fort Hartsuff and North Platte, Neb.; 8th, De Soto, Neb.; 15th, Spartanburg, S. C., "stones varying in size from that of a cherry to a goose egg;" 18th and 27th, Genoa, Neb.; 23rd, Independence, Ia.; 27th, Fall River, Mass., and Madison Barracks, N. Y.; 29th, Fort Niagara, N. Y.; 30th, Purdy, Tenn.; 29th and 30th, Cleveland and Davenport,; 26th, Detroit and Escanaba; Pike's Peak, 1st, 16th, 17th, 26th, 27th, 28th.

Cloudy Days.—The number of days on which the cloudiness has equalled eight on a scale of 10, as reported by voluntary observers, averages as follows: South Atlantic States, 2-7; Middle States, 14; New England, 8-18; Lower Lakes, 15; Upper Lakes, 12; Ohio Valley, 9-19; Northwest, 5-12; Southwest, 1-3.

Rainy Days.—The number of days in which rain fell, as recorded at Signal Service stations, is—South Atlantic States, 7-12; Middle Atlantic States, 14-17; East Atlantic States, 11-15; Lower Lakes, 19-21; Upper Lakes, 10-16; Upper Mississippi valley, 12-16; Lower Missouri valley, 9-13; Southwest, 3-6.

Droughts.—The drought that prevailed in New England and the greater part of the Middle States during August ended with the rains of the first week in September. The deficiency in the Southwest is not generally reported as assuming the severity of a drought; a scarcity of water is reported from Corsicana.

Floods or Freshets—probably due to local rains, although not always so stated by the observer. On