

tion that each of the morning and evening observations represents one hour's duration of a uniform wind of average velocity. These figures indicate the relative extent to which winds from different directions counterbalanced each other.

HIGH WINDS.

Maximum wind velocities of 50 miles or more per hour were reported during this month at regular stations of the Weather Bureau as follows (maximum velocities are averages for five minutes; extreme velocities are gusts of shorter duration, and are not given in this table):

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
		<i>Miles</i>				<i>Miles</i>	
Cincinnati, Ohio	1	50	nw.	Omaha, Nebr	15	50	no.
Cleveland, Ohio	10	58	w.	Port Huron, Mich	8	52	n.
Milwaukee, Wis	9	52	w.	St. Paul, Minn	4	60	nw.
New York, N. Y	9	50	nw.	Winnemucca, Nev	30	50	w.

ATMOSPHERIC ELECTRICITY.

Numerical statistics relative to auroras and thunderstorms are given in Table X, which shows the number of stations from which meteorological reports were received, and the number of such stations reporting thunderstorms (T) and auroras (A) in each State and on each day of the month, respectively.

Thunderstorms.—The dates on which reports of thunderstorms for the whole country were most numerous were: 9th, 239; 10th, 230; 13th, 208; 14th, 235; 15th, 208; 16th, 216; 22d, 224.

Thunderstorm reports were most numerous in: Michigan, 229; Missouri, 270; North Carolina, 221; Ohio, 284.

Thunderstorms were most frequent in: Colorado, 26 days; Florida and New Mexico, 31; Louisiana, 28; Mississippi and Missouri, 25.

Auroras.—The evenings on which bright moonlight must have interfered with observations of faint auroras are assumed to be the four preceding and following the date of full moon, viz, from the 18th to the 26th, inclusive. On the remaining twenty-two days of this month 216 reports were re-

ceived, or an average of about 10 per day. The date on which the number of reports especially exceeded this average were: 1st, 30; 6th, 73; 9th, 25.

Auroras were reported by a large percentage of observers, as follows: North Dakota, 82; Montana, 62; Minnesota, 43; Michigan, 18.

Auroras were reported most frequently in: North Dakota, 14 days; Minnesota, Montana, and Wisconsin, 11; Michigan, 7.

CANADIAN REPORTS.

Thunderstorms were reported as follows: St. Johns, 3d; Halifax, 19th; Yarmouth, 9th, 10th, 19th; Charlottetown, 4th, 5th; Chatham and Father Point, 9th; Quebec, 4th, 7th, 16th; Montreal, 9th, 16th, 23d; Rockliffe, 6th, 29th; Toronto, 5th, 6th, 10th, 12th, 23d. Ottawa, 9th, 16th; Port Stanley, 1st, 2d, 6th, 8th to 12th, 16th, 23d, 26th; Saugeen, 5th, 8th, 18th, 23d, 30th; Parry Sound, 5th, 8th, 15th, 23d, 26th, 29th, 30th; Port Arthur, 14th, 20th, 25th; Winnipeg, 2d, 21st; Minnedosa, 1st, 2d, 3d, 5th, 7th, 9th, 11th; Qu'Appelle, 8th, 10th, 19th, 20th; Medicine Hat, 2d, 9th, 12th, 13th; Swift Current, 2d, 9th, 11th, 16th, 20th; Calgary, 19th; Prince Albert, 7th, 8th, 18th, 19th.

Auroras were reported as follows: Sydney, 1st, 6th, 29th; Halifax, 1st; Yarmouth, 1st, 17th, 19th; Charlottetown, 1st, 6th, 29th; Father Point, 2d, 4th, 12th, 13th, 14th, 17th, 19th; Quebec, 1st, 2d, 4th, 7th, 9th, 17th, 20th, 24th, 29th; Montreal, 9th, 17th; Rockliffe, 7th, 8th; Toronto, 17th; Parry Sound, 6th; Port Arthur, 7th; Winnipeg, 9th, 12th, 13th, 17th, 19th, 26th, 27th; Minnedosa, 6th, 9th, 12th, 13th, 19th; Qu'Appelle, 1st; Medicine Hat, 16th, 19th; Calgary, 6th; Prince Albert, 1st, 6th, 8th, 10th, 18th, 21st, 25th.

INLAND NAVIGATION.

The *extreme and average stages of water* in the rivers for the current month are given in Table VIII, from which it appears that the Ohio, at Evansville, Ind., was 0.5 above the danger line on the 6th. The only other river that approached danger was the Wabash, at Mount Carmel, Ill., on the 1st. No special reports of damage were made in either of these cases, and, in general, the rivers maintained their usual summer stage.

CLIMATE AND CROP SERVICE.

By JAMES BERRY, Chief of Climate and Crop Service Division.

The following extracts relating to the general weather conditions in the several States and Territories are taken from the monthly reports of the respective services.

Snowfall and rainfall are expressed in inches.

Alabama.—The mean temperature was 82.2°, or 3.3° above normal; the highest was 106°, at Thomasville on the 1st, and the lowest, 50°, at Newburgh on the 28th. The average precipitation was 2.30, or 1.71 below normal; the greatest monthly amount, 9.22, occurred at Daphne, and the least, 0.40, at Scottsboro. The drought which had its beginning during the second decade of July over the central and northern portions of the State has continued practically unbroken during the present month. The effect of the weather on growing crops has been very unfavorable, cutting short the prospective yield of all very materially. All large streams are very low, and the smaller creeks, in many instances, are entirely dry. There is complaint of scarcity of water for stock from the central and western portions of the State.

Arkansas.—The mean temperature was 82.6°, or 4.5° above normal; the highest was 112°, at Malvern on the 6th, and the lowest, 48°, at Camden and Keesees Ferry on the 29th. The average precipitation was 2.32, or 0.90 below normal; the greatest monthly amount, 5.75, occurred at Marvell, and the least, 0.50, at Fulton. The drought that prevailed during July was not generally broken until August 18 and 19. This prolonged dry weather, together with the abnormal heat, did great damage to cotton and corn, the former being almost a total failure

on the uplands and generally a poor crop on the lowlands. Corn is a very poor crop. The rains during the latter part of the month were beneficial to minor crops and pastures and enabled farmers to begin stubble breaking, and many began sowing rye and oats for winter pasture.

California.—The mean temperature was 73.8°, or 0.1° above normal; the highest was 125°, at Volcano Springs, and the lowest, 26°, at Bodie on the 3d. The average precipitation was 0.32, or 0.29 above normal; the greatest monthly amount, 1.83, occurred at Bodie, while none fell at various places.

Colorado.—The mean temperature was 66.0°, or 1.0° above normal; the highest was 107°, at Lamar on the 9th and 10th, and the lowest, 26°, at Cameron Pass on the 23d. The average precipitation was 1.68, or about normal; the greatest monthly amount, 4.96, occurred at Thon, and the least, 0.27, at Saguache.

Florida.—The mean temperature was 82.0°, or 0.2° above normal; the highest was 100°, at McClenny on the 18th, and the lowest, 58°, at Emerson on the 30th. The average precipitation was 5.81, or 1.93 below normal; the greatest monthly amount, 14.57, occurred at Manatee, and the least, "trace," at Carrabelle. High temperatures and absence of well distributed rains during the first two decades caused a rapid deterioration of nearly all crops, but markedly so of cotton and corn, while minor crops were by no means exempt from injury.

Idaho.—The mean temperature was 66.3°; the highest was 103°, at Payette on the 23d, and the lowest, 28°, at Chesterfield on the 5th. The average precipitation was 0.87; the greatest monthly amount, 2.18, oc-