

undue alarm." The excess of snow in the mountains of the basin gave rise to a number of amateur prophesies and widespread public expectation of extreme high water, and the persistent denial by the Weather Bureau of this probability undoubtedly prevented the expenditure of large sums of money that would otherwise have been spent for protective measures.

Other floods during July were in all cases of little magnitude and without damage. The report on the June rises in the St. Louis district is again deferred.

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
<b>ATLANTIC DRAINAGE</b>					
Santee:	<i>Feet</i>			<i>Feet</i>	
Rimini, S. C. ....	12	20	25	13.3	July 23-24.
Ferguson, S. C. ....	12	23	28	12.6	July 26.
Saluda: Chappells, S. C. ....	14	19	19	14.0	July 19.
<b>MISSISSIPPI DRAINAGE</b>					
Mississippi:					
Vicksburg, Miss. ....	45	( <sup>1</sup> )	11	58.7	May 4.
Natchez, Miss. ....	46	( <sup>1</sup> )	10	56.5	May 1 and 4.
Angola, La. ....	45	( <sup>1</sup> )	13	57.5	May 15-17.
Baton Rouge, La. ....	35	( <sup>1</sup> )	14	47.8	May 15.
Donaldsonville, La. ....	28	( <sup>1</sup> )	8	37.1	May 15-17.
Illinois:					
Havana, Ill. ....	14	( <sup>1</sup> )	4	22.05	June 8.
Beardstown, Ill. ....	14	( <sup>1</sup> )	8	25.2	Apr. 26.
Fearl, Ill. ....	12	( <sup>1</sup> )	6	22.7	Apr. 26-27.
Missouri: Blair, Nebr. ....	16	( <sup>1</sup> )	3	16.8	June 26.
Osage: Osceola, Mo. ....	20	23	24	21.3	July 23.
Arkansas:					
Dodge City, Kans. ....	5	24	24	5.0	July 24.
Yancopin, Ark. ....	29	( <sup>1</sup> )	8	48.5	Apr. 20.
Cache: Patterson, Ark. ....	9	( <sup>1</sup> )	3	9.7	June 29-30.
Yazoo: Yazoo City, Miss. ....	25	( <sup>1</sup> )	12	37.4	May 5.
Sulphur: Ringo Crossing, Tex. ....	20	18	20	21.6	July 20.
<b>WEST GULF DRAINAGE</b>					
Trinity: Dallas, Tex. ....	25	16	17	28.6	July 17.
Rio Grande:					
San Benito, Tex. ....	23	( <sup>1</sup> )	( <sup>1</sup> )	24.6	June 25.
Brownsville, Tex. ....	18	( <sup>1</sup> )	( <sup>1</sup> )	18.4	June 23.
<b>PACIFIC DRAINAGE</b>					
Colorado: Parker, Ariz. ....	7	( <sup>1</sup> )	23	11.3	July 5 and 6.
Columbia:					
Marcus, Wash. ....	24	( <sup>1</sup> )	27	32.2	June 19-20.
Vancouver, Wash. ....	15	( <sup>1</sup> )	16	23.9	June 18-20.
Pend O'Reille: Newport, Wash. ....	16	( <sup>1</sup> )	13	23.7	June 22-23.
Williamette: Portland, Oreg. ....	15	( <sup>1</sup> )	14	23.0	June 19-20.

<sup>1</sup> Continued from last month.

<sup>2</sup> Below flood stage at 8 a. m., July 1, 1927.

### MEAN LAKE LEVELS DURING JULY, 1927

By UNITED STATES LAKE SURVEY

[Detroit, Mich., August 4, 1927]

The following data are reported in the "Notice to Mariners" of the above date:

Data	Lakes <sup>1</sup>			
	Superior	Michigan and Huron	Erie	Ontario
Mean level during July, 1927:				
Above mean sea level at New York.....	<i>Feet</i> 602.69	<i>Feet</i> 579.55	<i>Feet</i> 572.16	<i>Feet</i> 246.01
Above or below—				
Mean stage of June, 1927.....	+0.36	+0.12	-0.04	-0.10
Mean stage of July, 1926.....	+1.83	+1.01	+0.96	+0.81
Average stage for July last 10 years.....	+0.62	-0.84	-0.32	-0.34
Highest recorded July stage.....	-1.13	-4.03	-2.25	-2.71
Lowest recorded July stage.....	+1.83	+1.01	+1.04	+1.42
Average departure (since 1860) of the July level from the June level.....	+0.21	+0.07	-0.04	-0.04

<sup>1</sup> Lake St. Clair's level: July, 1927, 574.99 feet.

### EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, JULY, 1927

By J. B. KINCER

*General summary.*—Higher temperatures in Central and Northern States the first part of the month promoted better growth of warm-weather crops and mostly dry conditions, or only light to moderate showers, permitted generally good advance of field operations. Several days of abnormally warm weather east of the Great Plains were of especial benefit to the corn crop, but were rather unfavorable for winter grains in some central-northern districts. Rain was needed in northern areas from the upper Mississippi Valley eastward and locally elsewhere. In the Southeast drier weather favored cultivation, but in parts of the western Gulf area rather frequent showers hindered outdoor operations and there were some complaints of grassy fields. Moisture was still deficient from the upper Mississippi Valley eastward during the second decade, but the weather was favorable for harvesting and threshing in the grain area during most of the period.

During the latter part of the second decade rather widespread showers were timely and beneficial in most sections and the temperatures were favorable for rapid advance of most crops, with moisture conditions generally satisfactory, except for rather limited areas. Dry, sunny weather was again desired in the Southeast, but the warmer weather was especially favorable in the Northeast. In far western States more moisture was needed in some portions, but, in general, conditions were favorable. Rather cool weather during the last decade retarded the growth of warm-weather crops somewhat, but showers were helpful in previously dry sections, although at the close of the month it had again become droughty in the Lake region.

*Small grains.*—Winter wheat harvest made generally excellent advance during the first decade with cutting advancing at the close of the period north to Pennsylvania, southern Michigan, and northern Nebraska. Threshing advanced satisfactorily in the southern portion of the belt. Showers made conditions somewhat less favorable for cutting winter wheat during the second decade, but progress was mostly good and threshing made generally satisfactory advance. There was also some interruption to threshing during the last decade, but harvest was largely completed, except in the later districts. In the Spring Wheat Belt weather conditions continued favorable during the first decade and the crop made rapid advance, but rain was needed in some parts of North Dakota and Montana. Early spring wheat was heading to the northern part of the belt with stands and color satisfactory; there were reports of black rust, but no indications of general serious damage. The weather continued generally favorable during the remainder of the month and good advance was reported. There was some local cutting by the close of the month and the crop was filling and ripening very satisfactorily. Except for extensive reports of black stem rust in southern Minnesota, this disease was not widespread and much of the crop at the close of the month was believed to be too far advanced for material harm.

*Corn.*—Corn made better advance during the first decade and cultivation was favored the first part of the month by mostly fair weather. Progress of the crop was fair to very good in most portions of the belt, though

cool weather the middle of the period was detrimental for best growth. Rain was needed in most of Iowa and would have been beneficial over considerable portions of the trans-Mississippi States. Numerous showers and generally favorable temperature conditions were helpful for corn during the second decade, though moisture was insufficient in some interior valley sections and locally in the Great Plains. In Iowa progress was mostly fair to good with the early crop in the western third tasseling at about the normal date, and advance was very good to excellent in the Great Plains and lower Missouri Valley. During the last decade temperatures were rather too low for best growth of corn from the Ohio and central Mississippi Valleys northward, but the crop made fair to good progress generally. Showers were helpful in many parts of the belt and, while rain was needed in more or less limited areas, there was no widespread need of soil moisture. While corn showed material improvement during the month it was still late and uneven at the close with indications that some of the late crop could make only fodder.

**Cotton.**—Temperatures in the Cotton Belt were rather moderate, except that nights in the eastern portion were rather too cool for best growth during the first decade. Moisture was generally favorable, except that further rains in the East were unfavorable with complaints of grassy fields and rank growth in some places. Progress of the crop ranged from fair to excellent in the Carolinas and fair to very good in the central portion. Fair to excellent progress was noted in western areas, but there were complaints of increased weevil activity, shedding, and poor fruiting locally.

During the second decade mostly moderate temperatures and rainfall prevailed, and in the Atlantic Coast States the growth of cotton was very good to excellent, but weevil activity increased generally and cultivation was hindered locally. In the central portion progress was satisfactory and in the northwestern section very good advance was made. Progress and condition were

mostly fair to very good in the Southwest, though there was some complaint of rank growth and grassy fields; fruiting was progressing well and picking advanced favorably in the South. Conditions continued moderate and favorable the latter part of the month and in the East good to excellent growth was made, although there were complaints of increased weevil activity; while this condition was noted also in central sections, generally fair to excellent advance was made. Progress in the Northwest depended generally on insect infestation, but in the Southwest the weather was mostly favorable, though the condition and advance of the crop was spotted and averaged only fairly good. Picking progressed well the latter part of the month in the South.

**Ranges, pastures, and livestock.**—Pastures in the East continued in mostly good to excellent condition throughout the month, although there were some local complaints of dryness in the middle Atlantic area and in the Lake region. Ranges continued dry in southern New Mexico and some areas of the Great Basin, and locally elsewhere. Outside of the local dry areas, ranges were in mostly satisfactory condition in much of the great western grazing area and livestock were good to excellent generally. Showers were detrimental to haying locally and there was some damage to cut hay and alfalfa, but this work, in general, was favored by good weather.

**Miscellaneous crops.**—Potatoes were in mostly satisfactory condition during the month, except that more moisture was needed in the Lake region at the close. Truck crops were favored generally and were doing well. Tobacco did well in the Southeast with curing advancing; there were some complaints of irregular advance in Kentucky, due to dryness, but elsewhere the crop progressed satisfactorily. Sugar cane made good to excellent advance and sugar beets did well generally. There were complaints of heavy drop of apples in some northeastern sections the first part of the month and the condition of fruit in general was rather poor in central and central-northern areas. Citrus fruits did well in Florida.

WEATHER ON THE ATLANTIC AND PACIFIC OCEANS

NORTH ATLANTIC OCEAN

By F. A. YOUNG

As shown on the Pilot Chart, July is normally the quietest month over the North Atlantic Ocean, and the current month is no exception to the general rule. According to reports received up to date, the greatest number of gales occurred in the 5° square between the forty-fifth and fiftieth parallels and the fifteenth and twentieth meridians, where they were observed on four days. The region west of the thirty-fifth meridian was apparently free from heavy weather, with the exception of one day with moderate gales over the mid-western section of the steamer lanes, and disturbances of a local nature in southern waters that are described in the notes at the end of this article. Up to the present writing, September 1, 21 storm reports for July have been received, and of these only four show a maximum force of wind as high as 9. Due to the rarity of cyclonic disturbances no charts were drawn.

Fog was unusually prevalent over the greater part of the ocean, and especially off the coast of New England and over the Grand Banks, where it was observed on 23 and 20 days, respectively; it was reported on from 8 to 11 days over the middle section of the steamer lanes, and from 1 to 8 days off the coast of Europe.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level, 8 a. m. (75th meridian), North Atlantic Ocean, July, 1927

Stations	Average pressure	Departure <sup>1</sup>	Highest	Date	Lowest	Date
	Inches	Inch	Inches		Inches	
Belle Isle, Newfoundland.....	29.94	+0.07	30.36	22d....	29.42	6th.
Halifax, Nova Scotia.....	30.05	+0.13	30.36	22d....	29.68	4th.
Nantucket.....	30.01	+0.03	30.24	21st <sup>2</sup> ..	29.72	3d.
Hatteras.....	30.05	+0.03	30.20	6th <sup>2</sup> ..	29.90	2d.
Key West.....	30.05	+0.04	30.14	11th <sup>2</sup> ..	29.96	1st.
New Orleans.....	30.05	+0.05	30.16	28th....	29.92	2d.
Swan Island.....	29.91	-0.01	29.98	27th....	29.82	14th.
Turks Island.....	30.10	+0.09	30.18	26th <sup>1</sup> ..	29.98	18th.
Bermuda.....	30.25	+0.14	30.40	10th <sup>1</sup> ..	29.78	1st.
Horta, Azores.....	30.23	-0.04	30.48	10th....	29.96	18th.
Lerwick, Shetland Islands.....	29.88	+0.08	30.29	16th....	29.40	28th.
Valencia, Ireland.....	29.86	-0.12	30.33	15th....	29.49	27th.
London.....	29.89	-0.09	30.23	19th....	29.33	1st.

<sup>1</sup> From normals shown on Hydrographic Office Pilot Chart based on observations at Greenwich mean noon, or 7 a. m., 75th meridian.  
<sup>2</sup> And on other dates.

On the 2d a disturbance of moderate intensity was central near 46° N., 30° W.; this moved slowly eastward, and on the 6th the center was off the west coast of Ireland. During this period, moderate gales were reported by vessels near the center of the low, which was of limited extent.