

## MEAN LAKE LEVELS DURING AUGUST, 1928

BY UNITED STATES LAKE SURVEY

[Detroit, Mich., September 5, 1928]

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
	Feet	Feet	Feet	Feet
Mean level during August, 1928:				
Above mean sea level at New York.....	603.02	580.50	572.59	246.64
Above or below—				
Mean stage of July, 1928.....	+0.15	+0.09	-0.12	-0.09
Mean stage of August, 1927.....	+0.26	+1.02	+0.58	+0.87
Average stage for August, last 10 years.....	+0.83	+0.44	+0.44	+0.74
Highest recorded August stage.....	-0.91	-3.01	-1.52	-1.62
Lowest recorded August stage.....	+2.00	+2.06	+1.51	+2.29
Average departure (since 1860) of the August level from the July level.....	+0.11	-0.55	-0.17	-0.30

<sup>1</sup> Lake St. Clair's level: In August, 1928, 575.51 feet.

## EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, AUGUST, 1928

By J. B. KINCER

*General summary.*—During the first decade of August dry, warm weather throughout the Northwestern States was ideal for harvesting and threshing and these activities made rapid progress, while seasonal farm work, in general, advanced well practically everywhere west of the Appalachian Mountains. Except in the East and Southeast, very little rain occurred and larger and more numerous areas were needing moisture than at any time during the current growing season. The principal sections needing rain were the lower Ohio and adjoining parts of the Mississippi Valley, the more northwestern States, and the north-central and southern Great Plains. Considerable damage resulted to crops over rather extensive areas from New Jersey and eastern Pennsylvania southward where high winds and excessive rainfall blew down considerable corn, washed fields, flooded lowlands, and whipped much fruit from trees.

During the second decade the heavy to excessive rains in the same area, following those of the previous period, did heavy damage to crops. These conditions extended from the east Gulf coast northward to southeastern Pennsylvania and New Jersey, but along the immediate coast the weather was not so unfavorable and the rains did not extend a great distance inland. In the Northeast the warm, sunshiny weather was favorable and in the Ohio Valley showers were helpful, although some parts were still dry, but in western Texas and Oklahoma drought continued; other parts of the Southwest had beneficial rains. In the Northwest and generally west of the Rocky Mountains, the warm, mostly fair, and sunny weather made conditions ideal for harvest, and irrigated crops did well, although unirrigated were badly in need of moisture.

During the last decade moderate to rather generous rain in much of the Ohio Valley was beneficial for late crops, and showers in the Southwest were helpful. There was too much moisture in portions of the Atlantic Coast States which caused further damage to crops and dry, sunny weather was much needed. It continued dry in the west Gulf area and in the Pacific Northwest, but showers were of some benefit in the Northwestern States east of the Rocky Mountains.

*Small grains.*—During the first decade the warm, dry weather, except in the more eastern States, made un-

sually favorable conditions for harvesting and threshing in the late grain districts. Spring wheat harvest was well along in North Dakota and threshing was advancing in the southern portions of the belt; in north-central sections, where it had been too wet, fair, warm, sunshiny weather dried out much grain in shock. Many oats were threshed during the period and buckwheat did well, while the weather was favorable for rice and sorghum crops.

During the second decade unusually favorable weather in the late grain districts promoted good advance of harvesting and threshing. Most grains had been harvested in the spring wheat region and threshing was progressing. Considerable plowing was accomplished in the interior valleys, though this work was somewhat retarded by dry soil in the north-central Great Plains and in parts of the Ohio Valley. Threshing oats and barley progressed satisfactorily and flax did well; rice harvest was begun in Louisiana, while grain sorghums were favored in the Southwest.

At the close of the month wheat harvest had been practically completed and threshing was well along, though there was considerable interruption by rain in parts of the upper Mississippi Valley. Rains in the eastern Wheat Belt were beneficial in conditioning the soil for plowing, but only fair progress was reported from the western belt. Grain sorghums were mostly headed in the Southwest and flax was ripening rapidly in the northern Great Plains; conditions continued favorable for rice and harvest progressed well in Louisiana.

*Corn.*—During the first decade progress and condition of corn were mostly fair to excellent in the main producing sections, with much of the crop in roasting ears. Growth and condition were satisfactory in the Ohio Valley, and fair to excellent advance was made in Iowa, where about a third of the crop was in the roasting-ear stage. Corn made rapid advance in the Great Plains, but moisture was needed in parts; progress in the South varied from poor to good, while much was reported down in the Atlantic coast section. Rapid growth was indicated from the Great Lakes to the Rocky Mountains.

During the second decade the weather was not quite so favorable and progress varied from fair to excellent, with moisture needed in the Ohio Valley, where the crop was firing locally. In Iowa progress and condition were fair to very good, with nearly all in or past the roasting-ear stage. In parts of the Great Plains hot dry weather caused some damage; much was in hard roasting ears in Kansas, and the early crop had matured in Oklahoma. Late corn was poor in the drier areas of Texas, while in the East much was beaten down by heavy rain and wind; the crop was doing well from the Great Lakes to Montana.

During the last decade corn continued to make fair to very good progress, though there was some rather severe storm damage in localities of the upper Mississippi Valley. In the Ohio Valley rains were beneficial and in Missouri progress continued excellent. In Iowa advance was fair and the state of the crop ranged from roasting ears to well dented and nearly safe from frost. Drought in parts of the Great Plains seriously damaged corn; the crop showed deterioration in parts of Kansas and was affected to some extent in Oklahoma by dryness. There was some further damage by heavy rains in the Atlantic coast area, but otherwise good progress was noted.

*Cotton.*—During the first decade there was some damage to cotton in the eastern portions of the belt. In the Carolinas moderate damage was reported, but otherwise progress was fair to good, while in Georgia

heavy rains were harmful in the southeast, with open cotton whipped out and shedding increasing; picking made slow advance. In the central part of the belt progress was fair to very good, while in Louisiana advance was poor, due to shedding; in Arkansas it was very good, as the warm, dry weather was favorable. In Oklahoma progress was very good and the general condition ranged from fair to very good. In Texas progress was mostly satisfactory, but condition was poor in the drier lower coast and southwest; elsewhere plants were fruiting fairly well and picking made good advance in the south.

During the second decade considerable damage resulted from the storm in the Carolinas and Georgia, and the continued wetness was favorable for weevil activity. In the central part of the belt progress varied widely, ranging from deterioration to good, with shedding reported locally. In Louisiana cotton deteriorated badly in places, but in Arkansas progress was very good and plants were blooming and bolls forming rapidly in most parts. In Oklahoma warmth and sunshine were favorable, though considerable shedding was noted and the general condition was spotted. In Texas advance was also spotted, ranging from poor to very good; the condition of the crop was poor in the drier sections and fair to good elsewhere.

During the last decade less rainfall and moderately high temperatures gave some improvement in the Southeast, especially in Georgia, where progress was fair, but condition still poor to only fair, with continued shedding.

## WEATHER ON THE ATLANTIC AND PACIFIC OCEANS

### NORTH ATLANTIC OCEAN

By F. A. YOUNG

The weather over the North Atlantic during August presented few unusual features over the extratropical regions where approximately normal conditions prevailed.

There were two tropical disturbances during the month; the first was in the vicinity of Turks Island on the morning of the 5th and following the usual northwesterly path, struck the southeast coast of Florida on the 7th. On the 5th and 6th this disturbance was of a comparatively moderate nature, but on the 7th winds of hurricane force were reported by vessels near the center. The disturbance continued in its northwestward course until near the thirtieth parallel and eighty-third meridian on the 9th, when it began to recurve, and moving over the land, passed out to sea near the Virginia Capes on the morning of the 12th, with moderate to strong gales along the coast between Hatteras and New York.

The second disturbance was central near Jamaica on the 11th, and on that day strong easterly gales were encountered in the northerly quadrants as shown on Chart XII, and also by the report from the American S. S. *Bogota* in table. This disturbance decreased in intensity as it moved in a north-northwesterly direction, and was accompanied by comparatively moderate winds on the three succeeding days. On the 13th the center was off the southwest coast of Florida and on the 14th near Apalachicola. From this point it began to recurve slightly toward the east and gradually filled in as it moved over the land.

Charts VIII to XIII cover the period from the 7th to 12th inclusive, and it will be noticed that observations were being made in extreme northern waters, in the vicinity of Greenland. These reports were taken on board the U. S. Coast Guard cutter *Marion*, in command of Lieut. Commander E. H. Smith, engaged in making an investigation of the ice conditions in that region.

In the Carolinas growth was mostly fair, while in the central belt advance varied from poor to very good, with continued complaints of shedding. Opening was rapid in Louisiana, while in Arkansas progress was good in the north, but the crop deteriorated or made only fair advance in the south. In Oklahoma progress was rather poor, with plants fruiting only fairly well and much shedding. In Texas advance was spotted, ranging from poor to very good; hot dry weather in much of the south and sections of the central area caused considerable shedding and premature opening.

*Miscellaneous crops.*—Pastures and meadows were mostly good in practically all sections east of the Mississippi River, although they needed rain in parts of the Ohio Valley toward the close of the month. Moisture was needed in some parts of the Great Plains area, but in the more northern sections and in the upper Rocky Mountain region they were good to excellent. Ranges were generally dry in most sections west of the divide, but livestock held up well.

Except for some local complaints of blight and dryness, potatoes did well generally. Truck suffered from too much moisture in the Atlantic Coast States, but good advance was made generally, except that unirrigated crops needed rain in the West. Tobacco was favored generally and sugar cane made excellent advance. Citrus fruits were damaged in Florida by the storm, but were doing well elsewhere, while deciduous fruits made satisfactory progress.

Fog was reported on 23 days in the waters adjacent to the American coast, between the fortieth and forty-fifth parallels; from 9 to 10 days over the Grand Banks, and from 1 to 3 days over the middle section of the steamer lanes.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level, 8 a. m. (seventy-fifth meridian), North Atlantic Ocean, August, 1928

Stations	Average pressure	Departure <sup>1</sup>	Highest	Date	Lowest	Date
	<i>Inches</i>	<i>Inch</i>	<i>Inches</i>		<i>Inches</i>	
Julianehaab, Greenland.....	29.89	(?)	30.38	24th.....	29.32	31st.
Belle Isle, Newfoundland.....	29.94	+0.05	30.42	24th.....	29.24	31st.
Halifax, Nova Scotia.....	30.06	+0.05	30.35	26th.....	29.78	31st.
Nantucket.....	30.04	+0.04	30.30	27th.....	29.68	19th.
Hatteras.....	30.07	+0.03	30.24	27th.....	29.84	12th. <sup>3</sup>
Key West.....	30.00	+0.02	30.06	2d.....	29.82	13th.
New Orleans.....	30.02	+0.05	30.10	1st <sup>2</sup> .....	29.82	10th.
Cape Gracias, Nicaragua.....	29.90	0.00	29.96	11th.....	29.86	15th. <sup>3</sup>
Turks Island.....	30.05	+0.05	30.10	2d <sup>3</sup> .....	29.96	5th.
Bermuda.....	30.17	+0.08	30.30	1st.....	30.04	15th. <sup>3</sup>
Horta, Azores.....	30.15	-0.05	30.32	20th.....	29.82	29th.
Lerwick, Shetland Islands.....	29.82	+0.02	30.19	2d <sup>3</sup> .....	29.35	8th.
Valencia, Ireland.....	29.86	-0.06	30.24	16th.....	29.41	12th.
London.....	29.96	-0.02	30.22	31st.....	29.68	12th.

<sup>1</sup> From normals shown on Hydrographic Office Pilot Charts, based on observations at Greenwich mean noon, or 7 a. m. seventy-fifth meridian.

<sup>2</sup> No normal available.

<sup>3</sup> And on other dates.

From the 1st to 4th Newfoundland was covered by an area of low pressure, although moderate weather prevailed in that vicinity as well as over the entire ocean. From the 5th to 8th a disturbance of limited extent was over the eastern section of the steamer lanes, while favorable conditions prevailed elsewhere, with the exception of the tropical disturbance previously referred to.

Charts XII and XIII show the conditions on the 11th and 12th with a well-developed low about 10° west of the Azores on the former date, and one off the European coast on the latter. The European low remained nearly stationary during the next 24 hours, and then moved northeastward, decreasing in intensity.