

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
MISSISSIPPI DRAINAGE					
Allegheny:	<i>Feet</i>			<i>Feet</i>	
Lock No. 5, Freeport, Pa.....	24	18	18	24.5	Nov. 18.
Lock No. 4, Natrona, Pa.....	24	29	29	24.2	Nov. 20.
MISSISSIPPI DRAINAGE					
Tuscarawas: Gnadenbutten, Ohio.....	9	29		10.4	Nov. 30.
Wabash: Lafayette, Ind.....	11	30		15.3	Do.
Tippecanoe: Norway, Ind.....	6	15	15	6.0	Nov. 15.
		25	26	6.0	Nov. 25-26.
		29	(²)	6.5	Nov. 29.
Illinois:					
Morris, Ill.....	13	29	(²)	14.5	Nov. 30.
Peru, Ill.....	14	18	23	14.2	Nov. 19.
		29	(²)	17.7	Nov. 30.
Henry, Ill.....	10	30	(²)	10.4	Do.
Peoria, Ill.....	16	29	(²)		
Meramec:					
Pacific, Mo.....	11	9	11	13.9	Nov. 10.
Valley Park, Mo.....	14	9	9	14.0	Nov. 9.
Bourbeuse: Union, Mo.....	12	10	10	12.9	Nov. 10.
Black: Corning, Ark.....	11	17	24	11.8	Nov. 10-21.
PACIFIC DRAINAGE					
Columbia: Vancouver, Wash.....	15	26	(²)	16.3	Nov. 20.
Willamette:					
Oregon City, Oreg.....	12	27	27	12.0	Nov. 27.
Portland, Oreg.....	15	26	(²)	17.5	Nov. 29.
Santiam: Jefferson, Oreg.....	10	25	26	15.0	Nov. 25.
		28	29	13.0	Nov. 29.

¹ Estimated.

² Continued into December.

MEAN LAKE LEVELS DURING NOVEMBER, 1927

By UNITED STATES LAKE SURVEY

[Detroit, Mich., December 3, 1927]

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

Data	Lakes ¹			
	Superior	Michigan and Huron	Erie	Ontario
Mean level during November, 1927:				
Above mean sea level at New York.....	<i>Feet</i> 602.54	<i>Feet</i> 578.91	<i>Feet</i> 571.11	<i>Feet</i> 244.85
Above or below—				
Mean stage of October, 1927.....	-0.19	-0.19	-0.21	-0.14
Mean stage of November, 1926.....	+0.85	+0.65	-0.36	-0.39
Average stage for November, last 10 years.....	+0.48	-0.68	-0.53	-0.44
Highest recorded November stage.....	-0.97	-4.01	-2.56	-2.97
Lowest recorded November stage.....	+1.48	+1.23	+0.66	+1.44
Average departure (since 1860) of the November level from the October level.....	-0.16	-0.26	-0.26	-0.24

¹ Lake St. Clair's level: In November, 1927, 573.78 feet.

EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, NOVEMBER, 1927

By J. B. KINCHER

General summary.—Except in the flooded areas of the Northeast and in some other sections where moisture was needed, the first part of the month was generally favorable and farm work made satisfactory advance. It was still too dry in the Southeast and quite generally in the western portions of the Great Plains, including much of Texas and adjoining sections. In the Ohio, middle Mississippi, and lower Missouri Valleys the first general killing frost and freezing weather of the season occurred on November 6, considerably later than the average. Droughty conditions continued in the Southeast until the latter part of the second decade, when rainfall over southern sections, especially from eastern

Texas and Arkansas eastward, was very beneficial in conditioning the soil and for winter grain crops. There was some damage to tender vegetation by frost in the northern portions of the Gulf States, but harm was not extensive, as crops had mostly matured.

Outside operations were retarded by heavy rains in the Northeast and work was practically at a standstill in the Central-Northern States between the Lake region and the Rocky Mountains because of cold and snow. During the last decade frequent rains or muddy fields were unfavorable for outdoor work in the upper Mississippi Valley and from the Ohio River northward and northeastward. The mildness and abundant moisture, however, caused rapid growth of winter crops and generally good condition was noted. Moisture was still needed in the Southeast, rather badly in places, while in the Southwest, including the western Great Plains, the drought was unrelieved with precipitation badly needed.

Small grains.—During the first decade light to moderate precipitation benefited winter wheat over much of the interior valleys and continued satisfactory progress was reported. It was still too droughty, however, in the extreme western portion of the belt and in much of the Southwest, particularly western Kansas and some adjoining sections. During the second decade light to moderate rainfall was beneficial for winter wheat in Oklahoma, but, in general, moisture was still needed and the crop made mostly poor progress in the Southwest. In other portions conditions were generally favorable and wheat made satisfactory advance, but in the Southeast the soil continued too dry for winter grains. Growth of winter wheat was checked in the interior valleys by cool weather the latter part of the decade.

The mild, moist conditions which prevailed quite generally throughout Central and Northern States from the eastern Great Plains eastward during the last decade made splendid growing conditions for wheat and other fall crops and satisfactory advance was reported. It was still too dry, however, in western portions of the Great Plains, particularly in western Kansas and some adjoining districts, and poor progress was made.

Corn.—Weather conditions during the first decade were generally favorable for drying out the corn crop and husking made good progress in the upper Ohio Valley, in Missouri, and quite generally in the Great Plains States, while considerable was accomplished in other portions of the belt. Husking was delayed by rains during the second decade in much of the Mississippi Valley, but in western portions of the Corn Belt and in the area from the upper Ohio Valley eastward good progress was made in this work.

During the last decade in the more eastern States from Pennsylvania and West Virginia northward, and also in the area lying north of the Ohio River, as well as in much of the upper Mississippi Valley, frequent showers or thawing weather made corn fields too soft for operations and husking made slow progress. Elsewhere good advance was reported under favorable weather conditions, especially in the Great Plains and Southwest, where the weather was unusually favorable.

Cotton.—Very favorable conditions for picking and ginning cotton continued throughout most of the first decade. Practically all upland cotton had been harvested in Tennessee, while in Arkansas killing frost stopped growth but caused bolls to open rapidly. Good progress was reported in Oklahoma, and ideal weather in Texas was very favorable for gathering the cotton remaining in the fields. During the second decade frequent rains interrupted pick-

ing in central sections, but elsewhere in the belt where harvest had not been completed the weather was favorable and good progress was made. The mild, dry weather during the last decade made conditions excellent for field work, and picking the remaining cotton crop made good advance. Practically all cotton had been picked in eastern Oklahoma, with a little top crop still being harvested in the lower Rio Grande Valley of Texas.

Miscellaneous crops.—Continued absence of sufficient rainfall in southern sections made conditions very unfavorable for pastures and they were generally poor. Ranges continued mostly good to excellent in the great western grazing areas, but lack of adequate moisture was

detrimental in parts of the Southwest, particularly in southeastern New Mexico and western Texas. Livestock continued in fine shape generally, with only a little housing and feeding necessary.

Dry weather was very unfavorable for truck in the Southeast, with poor progress reported. Conditions in Louisiana were excellent for sugar cane, with quality reported high generally. Tobacco was casing well in Wisconsin at the close of the month, but stripping was awaiting colder weather. Citrus trees were wilting in Florida the latter part, and fruit was coloring slowly, due to warmth; cool weather was favorable in California, with rapid coloring reported.

WEATHER ON THE ATLANTIC AND PACIFIC OCEANS

NORTH ATLANTIC OCEAN

By F. A. YOUNG

Taking the ocean as a whole, the number of days with unfavorable conditions was fully equal to, if not in excess of, the normal for November. Not only were the steamer lanes swept by frequent storms but disturbances were also encountered in southern waters.

Fog was reported on from seven to eight days over the Grand Banks and off the coast of Nova Scotia, and on from one to three days in European waters, while the middle section of the steamer lanes was comparatively clear. An unusual report of fog in southern waters was rendered by the Dutch S. S. *Waalwijk*, en route from Bahia to Las Palmas. On the 9th, while near the twenty-fifth parallel, between the twenty-fifth and thirtieth meridians, the ship encountered an intermittent and very wet fog.

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

	Average pressure	Departure ¹	Highest	Date	Lowest	Date
	Inches	Inch	Inches		Inches	
Belle Isle, Newfoundland.....	29.98	+0.10	30.42	2d ²	29.32	30th.
Halifax, Nova Scotia.....	30.15	+0.15	30.78	14th.....	29.40	6th.
Nantucket.....	30.11	+0.02	30.71	14th.....	29.16	4th.
Hatteras.....	30.19	+0.07	30.52	13th.....	29.58	3d.
Key West.....	30.08	+0.05	30.28	22d.....	29.52	3d.
New Orleans.....	30.16	+0.05	30.42	20th.....	29.90	16th.
Cape Gracias, Honduras.....	29.85	-0.05	29.94	23d.....	29.76	23th.
Turks Island.....	30.02	+0.01	30.12	10th ²	29.82	3d.
Bermuda.....	30.23	+0.15	30.44	13th ²	29.48	4th.
Horta, Azores.....	30.20	+0.10	30.50	11th.....	29.62	7th.
Lerwick, Shetland Islands.....	29.82	+0.12	30.42	30th.....	29.10	5th.
Valencia, Ireland.....	29.96	+0.07	30.57	29th.....	29.43	6th.
London.....	29.96	+0.02	30.50	26th.....	29.30	7th.

¹ From normals shown on Hydrographic Office Pilot Chart, based on observations at Greenwich mean noon, or 7 a. m., 75th meridian.

² And on other dates.

Charts VIII and IX show the conditions on the 1st and 2d, respectively, and give an idea of the progress of the extensive and severe disturbance that covered a large area of the ocean on October 31, as shown by Chart XI for that month. Charts VIII and IX also show the positions on the 1st and 2d of the disturbance that moved northeastward along the American coast during

the early days of the month. This disturbance reached its greatest intensity on the 4th, when central near Nantucket, the storm area on that day extending from the thirtieth to forty-fifth parallel, west of the sixtieth meridian.

On the 5th a shallow depression was central near 32° N., 42° W. This moved slowly eastward, increasing in intensity. On the 8th the center was not far from Lisbon and moderate to strong gales prevailed in the vicinity of Madeira; it then passed into the Mediterranean, gradually filling in.

From the 5th to 10th there was also a disturbance over the eastern section of the northern steamer lanes. On the 7th and 8th the storm area extended as far west as the thirtieth meridian, while on the 9th and 10th the heavy weather was confined to the region east of the fifteenth meridian.

On the 10th there was a fairly severe disturbance off the coast of Nova Scotia that moved rapidly northeastward. From the 11th to 14th moderate weather prevailed over the ocean as a whole.

On the 15th a Low was off the south coast of Greenland that afterwards developed into a severe disturbance as it moved eastward, with gales over the middle section of the steamer lanes. From the 20th to 22d the center of this Low was near the English Channel; it then recurved sharply toward the north, and on the 24th was in the vicinity of Iceland.

On the 17th and 18th gales occurred along the American coast between Hatteras and New York.

On the 20th comparatively low pressure developed over the region between Porto Rico and the east coast of Cuba. Light winds were reported from that vicinity, but the force of the wind increased with a rising barometer and by the 23d reached a force of 7, with barometric readings well over 30 inches.

On the 24th and 25th the middle section of the steamer lanes was swept by strong gales that subsided as the accompanying Low moved eastward. The center of this Low on the 26th was near Iceland.

On the 26th a northerly gale prevailed in the western part of the Mediterranean, as shown by storm report from the British S. S. *Bloomfield*.

From the 27th to 30th there ensued another period of stormy weather over the eastern section of the steamer lanes, and on the 29th the northeast trades were stronger than usual, reaching a force of 7.