

SEVERE LOCAL HAIL AND WIND STORMS, JANUARY, 1926

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A more complete statement will appear in the Annual Report of the Chief of Bureau]

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
Kraemer, La.....	4	7.40 a. m.	150	3	\$3,000	Small tornado.....	One home demolished and others slightly damaged; five persons injured. Path 170 yards long.	Official, U. S. Weather Bureau. Times-Picayune (New Orleans, La.).
Marquette, Mich.....	6					Wind and snow.....	Several persons injured on slippery sidewalks. No damage to property reported.	Official, U. S. Weather Bureau.
New York City, N. Y.....	9			4		do.....	The deaths reported occurred in automobile accidents due to storm. Several persons injured.	New York Telegram (N. Y.).
Sandy Hook, N. J., and vicinity.	9			4		Gale.....	Four barges wrecked on rocks at Highland Beach, others driven shore.	Official, U. S. Weather Bureau.
Taylor, Tex. (vicinity of).....	16	P. m.				Probably a tornado.	A number of farm buildings demolished and others damaged; some livestock killed.	Taylor Daily Press (Tex.).
Ablene, Tex. and vicinity.....	20-22					Glaze.....	Considerable damage to poles and wires.....	Official, U. S. Weather Bureau.
Ludington, Mich.....	23					High winds.....	Vessels on Lake Michigan suffer perilous experiences.	Do.
Ohio.....	27-28					Wind and snow.....	Some damage to buildings in northern portions; traffic generally disorganized; much suffering from cold.	Press (Binghamton, N. Y.).
Alpena, Mich.....	28					do.....	A few telephone lines reported down and some trees uprooted.	Do.
Beachmont, Mass., and vicinity.	28					Strong wind.....	Fifty-five electric light poles blown down; traffic blocked.	Do.
New York State.....	28					Wind and snow.....	Traffic delayed; much distress from cold.....	Sun (Norwich, N. Y.); Press (Binghamton, N. Y.).
Port Huron, Mich.....	29					do.....	Train service suspended. No property damage reported.	Official, U. S. Weather Bureau.
San Francisco, Calif.....	29					Wind.....	Roofs of three buildings damaged by falling of six-story scaffold. Several persons narrowly escape injuries.	Chronicle (San Francisco, Calif.).
Miami, Fla., and vicinity.....	29-30					Thunderstorm.....	Telephone and light service interrupted; lowlands flooded causing 50 per cent or more loss of tomato crop in farm districts north and south of city.	Official, U. S. Weather Bureau.

551.515 (73)

STORMS AND WEATHER WARNINGS

WASHINGTON FORECAST DISTRICT

On the afternoon of the 7th, advices were disseminated for strong east and southeast winds between Pensacola and Tampa in connection with a disturbance developing over the northeast Gulf of Mexico. On the evening of that day storm warnings were ordered from Savannah, Ga., to Delaware Breakwater, Del. On the following afternoon the warnings were extended northward from Delaware Breakwater to Boston, Mass.; and on the morning of the 9th again extended northward to Eastport, Me. Strong winds and gales occurred substantially as indicated in the advices.

Storm warnings were ordered at noon of the 14th from Fishers Island, Long Island, to Eastport, Me., in connection with a disturbance of increasing intensity passing north-northeastward from near Cape Hatteras. The disturbance moved rapidly northeast with greatly increased intensity, and while strong winds and gales occurred immediately offshore, coast stations did not report high velocities. Warnings were lowered in the evening south of Portland, Me., and to the north early on the morning of the 15th.

Storm warnings were ordered on the morning of the 18th from Delaware Breakwater to Boston, and on the afternoon of that day were extended northward to Eastport. Strong winds and gales occurred over the region indicated in the advices.

On the afternoon of the 21st, southwest storm warnings were ordered displayed from Southport, N. C., to Sandy Hook, N. J. They were changed to northwest warnings on the following morning, at the same time that northwest warnings were displayed from Sandy Hook to Eastport. Strong winds occurred generally over the region of display and gales north of Hatteras.

Southwest warnings were ordered on the evening of the 23d from Delaware Breakwater to Eastport and were

changed to northwest at noon of the 24th. Strong winds and gales occurred substantially as indicated.

On the afternoon of the 25th, northeast storm warnings were disseminated from Wilmington, N. C., to Delaware Breakwater, in connection with a disturbance of slight but increasing intensity over northeast Florida; but they were ordered down the same evening owing to the fact that the disturbance moved off the coast and it was not until the morning of the 27th that it approached the Nova Scotia coast attended by gales.

Northwest storm warnings were displayed at 9.30 a. m. of the 28th from Norfolk, Va., to Eastport and strong west and northwest winds and gales occurred.

On the morning of the 31st northeast storm warnings were ordered from Delaware Breakwater to Boston in connection with a disturbance of increasing intensity over South Carolina. Warnings were extended that evening from Boston to Eastport, and changed to northwest on the following day from Sandy Hook northward. Severe winds and gales occurred as indicated in the advices.—*R. H. Weightman.*

CHICAGO FORECAST DISTRICT

On January 1, 1926, the forecast work for the States of Montana and Wyoming was transferred to the Denver forecast district, and the States now included in the Chicago district are 11 in all, namely, upper and lower Michigan, Indiana, Illinois, Wisconsin, Missouri, Iowa, Minnesota, North Dakota, South Dakota, Nebraska, and Kansas; also the Great Lakes.

The month of January was exceptionally mild over most of the Chicago forecast district, especially in the Great Plains States. The average daily excess in temperature over the normal in North Dakota, for instance, exceeded 13°. However, in the extreme eastern portion of the district the excess was slight. Precipitation throughout the district varied considerably, but it was near the normal over the greater portion.

The month was uneventful from a weather standpoint until about the 10th, when a rather deep barometric depression passed eastward over the Great Lakes, with its center well to the north, followed by a cold HIGH area of moderate proportions which first made its appearance in northern Manitoba. An advisory message for strong winds was sent out to open ports on Lake Michigan on the morning of the 10th, and this was repeated in the evening, as the winds promised to be rather strong, and this later proved to be true. Moreover, cold wave warnings were issued in the evening of the same date and on the morning of the 11th from Minnesota and Iowa eastward and southward over Illinois and Indiana. The cold wave moved in with great rapidity and considerable force over North Dakota before warnings could be issued, but this was due to the fact that observations from Le Pas were missing and not available at the time the forecast was made.

From the 13th to the 16th, a series of barometric disturbances passed across the Great Lakes and advisory messages for fresh and strong winds were sent to the open ports on the Lake.

Then disturbances began to develop in the Southwest and move northeastward across the southern portion of the district, mainly from the 17th to the 21st, and cold HIGH areas followed rapidly southeastward and southward in the rear of the depressions. Advisory messages for strong winds were issued for Lake Michigan, and cold wave warnings for the eastern and southern portions of the forecast district.

The next disturbance of importance developed in the Canadian Northwest on the night of the 22d, and pushed southeastward across the Great Lakes and was followed by another cold HIGH. Warnings of strong winds and cold waves were issued to the various interests affected throughout the district.

Additional storms followed across the Great Lakes in rapid succession from the Northwest during the period between the 25th and 29th, and the development and movement of the one on the 27th were so rapid that warnings issued to lake interests were rather late, although no casualties were reported.—*H. J. Cox.*

NEW ORLEANS FORECAST DISTRICT

Severe weather conditions overspread the district from the 20th to 25th, with a general cold wave and freezing to the west Gulf coast from the 24th to 25th, for which cold wave warnings were issued as follows: On the 19th at noon for Oklahoma and northwest Arkansas; 20th, a. m., for the northwestern portion of east Texas, extended at 8 p. m. over east Texas; the southeast portion of west Texas, and northern Louisiana, with warnings of freezing to the west Gulf coast by the morning of the 22d; 21st, a. m., repeated the eastern and southern portions of east Texas and extended over Louisiana and southeastern Arkansas. Livestock warnings were distributed in connection with this cold wave.

No cold waves occurred without warning. Frost or freezing warnings were issued for the southern portion of the district on the 9th, 10th, 11th, 12th, 13th, 26th, and 27th.

Storm warnings for the Texas coast and small craft warnings for the Louisiana coast were issued on the morning of the 21st. These warnings were justified. No general storm occurred without warning. "Norther" warning was issued for Tampico, Mexico, January 21, and the condition occurred as forecast.—*I. M. Cline.*

DENVER FORECAST DISTRICT

High pressures prevailed on the northern Rocky Mountain Plateau during most of the month, with the crests of the HIGHS generally farther north than in the average January. A succession of disturbances of marked intensity moved along the northern border, and frequent LOWS advanced eastward from the extreme Southwest. Although the month as a whole was stormy in the northern and eastern portions of the district, there was a remarkable absence of widespread cold waves.

On the evening of the 17th a cold wave warning was issued for eastern Montana, with temperatures of zero, or below, forecast by the following night. The warning was repeated on the morning of the 18th and extended to include northeastern Wyoming. On the morning of the 19th warning of a moderate cold wave was issued for eastern Colorado. These special warnings were verified.

Local cold waves, of which no warning was issued, occurred at Pueblo and Lander on the 12th, at Roswell on the 22d and at Flagstaff on the 26th.

Frost warnings which were generally verified were issued for southern Arizona as follows: South-central and southeastern Arizona, 4th and 5th; southern Arizona, with freezing temperature in southeast portion, 6th; southwestern Arizona, 14th to 22d, 24th to 28th, and 30th.—*J. M. Sherier.*

SAN FRANCISCO FORECAST DISTRICT

January opened with high barometric pressure over the continent west of the Rocky Mountains and over that area of the northeast Pacific Ocean lying between the California coast and the Hawaiian Islands and subnormally low pressure over the ocean to the north and north-westward with the center of minimum pressure over and south of the Aleutian Islands. This pressure distribution continued, with at times minor variations, until the latter part of the month when the HIGH off the California coast disappeared and the low pressure system previously central over and south of the Aleutian Islands enlarged and dominated the winds and weather over the entire northeast Pacific Ocean; that is, southward to below north latitude 30 degrees and westward beyond the meridian of 180 degrees. It is probable that the records of the past will not show barometric pressure as low and as persistently low as prevailed over the northeast Pacific Ocean throughout this month.

In the preceding paragraph it is noted that during the last 10 days of the month the high pressure area off the California coast disappeared. The disappearance or breaking down was attended by a remarkable reversal from the type of wind and weather that had prevailed in California during the preceding several weeks. The changed type was so extraordinary that the district forecaster felt confident that in the immediate future general rains would fall in the Pacific States, including California. Based on his knowledge of the succession of weather changes following a type reversal of this kind, a special forecast was issued on Tuesday, the 26th, to the effect that general rains would fall in the Pacific States the latter part of the then current week. Owing to the drouth then prevailing throughout California, this forecast was given an unusually wide dissemination by the press and by radiophone. The morning of Thursday, the 28th, rain set in along the coast from the San Francisco Bay region northward, and subsequently spread

to all parts of the Pacific States, terminating the drouth and a serious water shortage in many parts of California.

On a number of occasions storm warnings were issued for the Washington and Oregon coast and for the north California coast. No storms occurred without adequate and timely warnings. Frosts were frequent in California and called for the issue of frost and freezing temperature warnings. The month was notable for the prolonged period of low temperature and fog over the valleys of northern California. At such times the temperatures on the valley floors would be near or below freezing, while at higher altitudes, as for example at Mount Hamilton, the temperatures were notably higher, at times as much as 10° to 15°. A special forecast of the coming of rains near the end of the month was issued for the citrus regions. Rain forecasts are greatly appreciated by the growers, as adequate warnings permit prompt picking of fruit for immediate future demands. Picking is carried on with difficulty when the ground is thoroughly wetted.—E. H. Bowie.

627.41 (73) RIVERS AND FLOODS

By H. C. FRANKENFIELD

Heavy rains between January 4 and 7 over Mississippi and Alabama necessitated warnings of moderate floods for the Pearl River system of Louisiana and Mississippi and the Tombigbee, Black Warrior and lower Alabama Rivers of Alabama. The floods occurred as forecast, and the resulting damage was very small.

A pronounced storm of southwestern type was attended by heavy rains on January 16-17 in the lower Ohio Valley and the Gulf States, continuing January 17-18, and extending through the South and Middle Atlantic States. On January 18-19, the rains covered New England, but in more moderate quantity. Although the temperatures were high and some snow was melted, there were no floods reported in New England and the Middle Atlantic States. To the southward and southwestward, however, floods were general, yet not of serious character. They occurred as a rule between January 18 and 22 (January 17 in the lower Altamaha River). The Santee flood was prolonged as usual and the river was still above the flood stage at the close of the month. The usual warnings were issued for all the floods, and they were well verified, except over certain sections of South Carolina and Alabama, where the impounding of water in one instance, and the release of impounded water in another, prevented the rivers below from reaching their indicated crests. The reported losses due to these southern floods was only \$14,070, almost entirely through enforced suspension of certain business activities for a few days, while the value of property saved through the warnings was given as \$38,025.

General rains from the Ohio Valley eastward and southward between January 17 and 22 were followed by a decided rise in all the rivers of the Ohio Basin, but flood stages were not reached except in the Ohio River between Evansville, Ind., and Shawneetown, Ill., the Green River of Kentucky, and in a few smaller tributaries. The usual warnings were issued and the reported loss and damage was only \$5,300, while property worth \$50,000 was saved through the warnings.

An ice gorge that had formed early in January at Wolf Creek, Ky., broke and moved a little during the night of the 18th and 19th. It moved for the second time

until noon of January 20, but soon reformed and held until some time during January 22. The heavy ice from this gorge passed Evansville during the afternoon of January 23, and by January 26 the ice had reached the mouth of the river.

A more serious condition of affairs prevailed in the upper Allegheny River of Pennsylvania. Much ice had formed during the cold days of the last week of December, 1925, but rains and high temperatures soon caused it to break, and by the night of January 7 ice was running from headwaters to Pittsburgh. On January 8 a gorge formed at a small island about 15 miles below Franklin, and one and one-half miles below Brandon, Pa. The river at Franklin rose from 4 feet on January 8 to 9 feet on January 10, when more cold weather froze the upper river. On January 18, the "southwestern" storm loosened the upper river ice and it piled above the original gorge, raising the river until at 5 a. m., January 20, the stage at Franklin was 20.3 feet, 5.3 feet above the flood stage. At 6 a. m. of the same date the ice began to move, but piled up still higher at Brandon, the gorge extending 6 miles above Brandon. The river at Franklin fell slowly and on January 24 the stage was 13.8 feet, the water running under the ice. At the end of the month the situation was serious with the stage at Franklin 10.1 feet and the river above the gorge covered with 6 or 8 inches of solid ice. Thus far, however, while the gorge has caused considerable inconvenience, the losses will probably not exceed \$18,000.

Local floods occurring about the same time in portions of the Wabash River drainage in Indiana, the smaller rivers of Arkansas, and in the Sulphur River of Texas were well forecast, and no damage of consequence was reported.

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
<i>Atlantic drainage</i>					
Schuylkill, Reading, Pa.	10	19	19	11.0	19
James, Columbia, Va.	18	20	20	18.9	20
Roanoke:					
Randolph, Va.	21	20	20	21.9	20
Weldon, N. C.	30	19	22	37.3	21
Cape Fear, Elizabethtown, N. C.	22	21	21	22.0	21
Santee:					
Rimini, S. C.	12	21	(1)	14.3	25
Ferguson, S. C.	12	23	(1)	13.4	26
Broad, Blairs, S. C.	15	19	20	17.6	19
Saluda:					
Pelzer, S. C.	7	18	20	10.2	19
Chappells, S. C.	14	20	22	15.5	20
Broad, Carlton, Ga.	11	18	19	13.0	18
Altamaha, Everett City, Ga.	10	17	21	10.1	20
<i>East Gulf drainage</i>					
Alabama, Selma, Ala.	35	7	10	36.8	9
		21	24	35.9	22-23
Tombigbee, Lock No. 4, Demopolis, Ala.	39	7	9	39.4	8-9
		20	30	48.2	26
Black Warrior, Lock No. 10, Tuscaloosa, Ala.	46	18	20	49.4	19
Pearl:					
Jackson, Miss.	20	10	11	20.2	11
		18	(1)	26.2	19
Columbia, Miss.	18	6	6	18.0	6
West Pearl, Pearl River, La.	13	7	16	16.0	9
		21	(1)	15.1	23
<i>Great Lakes drainage</i>					
St. Joseph, Montpelier, Ohio.	10	20	20	10.3	20
<i>Mississippi drainage</i>					
Allegheny, Franklin, Pa.	15	20	23	20.3	20
Ohio:					
Evansville, Ind.	35	25	30	38.5	28-29
Dam No. 48, Cypress, Ind.	35	26	30	37.0	29
Mount Vernon, Ind.	35	27	31	36.8	29
Shawneetown, Ill.	35	27	31	36.5	29
Little Kanawha, Glenville, W. Va.	23	22	22	23.3	22

¹ Continued at end of month.

² Ice gorge.