

STORMS AND WEATHER WARNINGS

WASHINGTON FORECAST DISTRICT

From reports now available it is apparent that a disturbance of slight intensity moving on a WNW. course was about 500 miles northeast of Basseterre, St. Kitts, on the morning of the 1st. It then moved NW. with increasing intensity to a point about 250 miles S. by W. of Bermuda by the evening of the 5th, when the first definite indications were received in the report of falling pressure and increasing NE. winds at Bermuda. Information was broadcast at that time that the disturbance was apparently of considerable intensity and moving NNW. with the admonition that vessels north and northwest of the center should exercise caution. The storm (see track No. III, Chart II) moved northward and passed over Newfoundland, attended by winds of hurricane force. Warnings were broadcast twice daily. On the evening of the 7th there seemed to be some chance of gales off the Maine coast and storm warnings were displayed from Portland to Eastport, but strong winds were not reported from Maine coast stations.

Vessel reports received by mail show that the disturbance was of considerable intensity as early as the 1st, when the Dutch steamship *Bellatria* encountered winds of force 11 and lowest pressure of 29.39 in latitude 22° 16' N., longitude 56° 02' W.

It was next encountered by the steamship *Baron Belingham* in latitude 28° 43' N., longitude 63° 20' W., at noon of the 5th with a barometer reading of 28.94 inches and winds of hurricane force. At 5:30 p. m. of the 5th the hurricane passed near the steamship *San Gerardo* in approximately latitude 30° N., longitude 66° W., with lowest barometer reading 29.12 inches and force 12 from the north. At 6 a. m. of the 6th the steamship *Colorado Springs* in latitude 31° 25' N., longitude 67° 37' W., reported a barometer reading of 28.90 inches and force 12 from the north. Unfortunately, only the report of the *Colorado Springs* was received by radio. It assisted considerably in forecasting the progress of the storm.

On the 22d storm warnings were ordered for the Atlantic coast between Boston and Hatteras in connection with a disturbance of slight intensity east of Hatteras. This disturbance never advanced northward, but was held in check by the high pressure area on the north and slowly decreased in intensity; storm warnings were lowered the evening of the 22d.

On the 20th and 21st between Jamaica and the Yucatan Channel conditions were somewhat unsettled, and on the following day there were indications of a circulation on the extreme western coast of Cuba. It was not until the following morning that we had definite indications of the existence of a tropical disturbance. An observation taken at midnight of the 22-23d on board the steamship *Saramacca* in latitude 22° 42' N, longitude 88° W., showed a pressure of 29.34 inches, northeast force 7, raining. Accordingly information was disseminated that the disturbance was at least of moderate intensity but small diameter. Subsequently it advanced at a rate of about 12 miles per hour to about latitude 25°, longitude 91°, and then turned northward, at a slower rate, estimated at 7 miles per hour, but with increasing intensity and extent.

On the morning of the 24th advices were issued stating that the hurricane was apparently recurving to the northward and would probably reach the coast somewhere between Galveston and Burrwood. In the afternoon of that date advices were disseminated to the effect that

the storm was increasing in intensity and extent. At 10 p. m. of the 24th hurricane warnings were ordered from Morgan City, La., to Mobile, Ala., with the information that the disturbance was moving north-northeastward and that it would cross the eastern Louisiana coast attended by winds of hurricane force and high tides. Northeast storm warnings were ordered at the same time east of Mobile to Apalachicola and changed to northwest west of Morgan City to Galveston.

On the morning of the 25th the following bulletin was issued:

Tropical disturbance increasing in intensity approaching eastern Louisiana coast. Every precaution should be taken in area affected taking into consideration extremely high tides that will probably occur between point where center strikes coast and Mobile. Steamship *Cranford* passed hurricane center 7.45 a. m. at approximately latitude 27° 40', longitude 90° 40'.

The tropical disturbance passed inland in the late afternoon of the 25th (see Track No. VIII, Chart II) slightly east of Morgan City, La., and nearly over but immediately west of Houma. The lowest barometer at the latter being 28.31 inches between 9.30 and 9.55 p. m. of the 25th and at Morgan City 28.80 inches between 11.15 p. m. of the 25th and 12.30 a. m. of the 26th. The lowest reading at New Orleans was 29.37 inches at midnight and 1 a. m. of the 26th. Details regarding winds and tides in Louisiana and their effects are given under the report of the New Orleans district.

No seriously destructive effects of the storm were experienced on the Mississippi and Alabama coasts, although maximum tides of 3 to 4 feet or more above normal were reported from Mobile westward to the mouth of the Mississippi River. The lowest pressure at Mobile was 29.78 at 2 a. m. of the 26th with a maximum wind of 43 miles per hour.

This disturbance was of limited extent but of great intensity. The warnings were accurate, complete, and timely and the damage remarkably small. In the section around Berwick and Morgan City where the winds were severe, the losses were extremely small, as indicated by the following letter from the president and general manager of the Louisiana Oyster & Fish Co., dated August 28:

On behalf of this company and the citizens of Morgan City and Berwick I wish to thank you for the splendid service rendered by your department during the past storm. Advices given by you made it possible to save much property and many lives.

The writer received your phone message at 1 o'clock Monday morning. At 7 a. m. we had a fast boat on the way to the shrimping grounds and at 9 o'clock the word was passed around giving everyone outside in this vicinity plenty of time to get away from the coast. As a result, there was not a loss of life that we know of in that territory and no boats lost. The only boats lost here and at Morgan City were the property of those who refused to move their boats away from the front and put them in harbor. There were about 20 boats sunk here and none on this coast.

The vessel-reporting service functioned splendidly, numerous reports, both regular and special, being received. The steamship *West Quechee* passed through the center or "eye" of the hurricane, where the winds dropped from hurricane to force 4. The captain reports that at that time quantities of birds were encountered "so thick about the vessel that the second mate went on deck and literally scooped them up by the armful, carrying them into the deck house."

After crossing the coast the disturbance rapidly decreased in intensity. Within 24 hours the lowest pressure reported was 29.72 and highest wind 16 miles per hour, and in the following 12 hours it had disappeared. The rapidity with which intense tropical disturbances decrease in intensity after passing inland is truly remarkable.

The barometer readings at Morgan City and Houma furnish data from which some idea of the pressure gradient in this and other hurricanes may be obtained. The distance from Morgan City to Houma is approximately 29 miles. At 9:40 p. m. of the 25th, when the pressure was lowest at Houma, 28.31 inches, the pressure at Morgan City was about 28.97, a difference of 0.66 inch in a distance of 29 miles, or a gradient of 0.0228 inch per mile. However, the center passed west of Houma and east of Morgan City, thereby reducing the distance, as near as can be estimated, to 22 miles. Further, the pressure was undoubtedly lower at the center than at Houma, which would increase the difference between the pressure at Morgan City and that at the center a tenth of an inch on a conservative estimate, making the gradient 0.035 per mile.

While the present hurricane was severe it was neither of the extent nor development of some in other years. Unfortunately, only in a limited number of these disturbances have we authentic barometer readings from two stations properly located near the center. One of the most remarkable of these was the hurricane of September, 1919, which passed on a course about west-northwest, 30 or 40 miles south of Key West. Sand Key lies about 8 miles south of Key West. At both stations mercurial barometer readings are available, as follows: Lowest, Key West, 28.83 inches, and at Sand Key, 28.35 inches, a difference of 0.48 in 8 miles, or 0.06 inch per mile.—*R. H. Weightman.*

CHICAGO FORECAST DISTRICT

The temperature averaged above the normal over most of the forecast district, there being a slight deficiency in northern Michigan and western North Dakota only. The excess was considerable on the central Great Plains, where extremely warm weather prevailed on several days.

The distribution of rainfall was rather irregular, deficient in some portions and excessive in others. The largest rainfalls occurred in the Ohio Valley, Cairo having a total of 12.02 inches during the month. In consequence of the heavy rains, some areas in the central valleys were flooded.

Storm movement across the district was rather sluggish, but the area covered by rainfall was at times unusually extensive for the season.

The one disturbance attended by strong winds developed in the west near the close of the second decade. Its center reached Lake Michigan on the night of August 20 and passed over Lake Huron on the 21st and 22d. This storm was attended by rather strong winds and severe squalls on Lakes Huron, Erie, and Ontario; small-craft warnings were ordered for these lakes on the morning of the 20th and continued on Lakes Erie and Ontario on the 21st. Reports show that a small steamer, the *Harold S. Gerkin*, which left the city of Erie, Pa., on the morning of the 21st, was sunk 8 miles out in the lake. The ship carried a crew of 20 men, of whom 16 were known to be rescued.

No frost warnings of any kind were issued, and no frost occurred.

Special fire-weather forecasts were issued at times to the State and National Forest Service for the northern Michigan peninsula, and special fruit-spray forecasts to the orchardists in Door County, Wis., and southwestern lower Michigan.

The forecast center made special forecasts day by day for the annual commercial reliability tour of airplanes which started from Detroit August 7 and, after a tour of

middle-western cities, returned to that place August 21, 1926. The tour started with 28 planes and finished at Detroit with 19 still in the race. (Special report was made on this work in letter of August 27, 1926.)—*H. J. Cox.*

NEW ORLEANS FORECAST DISTRICT

The only warnings required were in connection with the tropical hurricane of August 23–26. Warnings were issued by the central office, as follows:

August 23, advisory, noon: Tropical disturbance of at least moderate intensity but small diameter in approximately latitude 23, longitude 88.

August 23: Hoist northeast storm warnings 10.30 p. m. New Orleans to Matagorda, Tex. Tropical disturbance of considerable intensity but small diameter moving northwest. Estimated position, latitude 25½, longitude 90½. Impossible to indicate where storm will strike coast, but interests should be prepared to take quick action on to-morrow morning's advices.

August 24, advisory, 10.30 a. m.: Tropical disturbance located approximately latitude 26, longitude 92, of considerable intensity but small diameter, apparently recurring to the northward, will probably reach the coast somewhere between Burrwood, La., and Galveston late to-night or early Wednesday morning. Area over which destructive effects will be felt will be small. Further advices this afternoon.

August 24, advisory, 5.30 p. m.: Nothing in reports received this afternoon to change this morning's advices, except that disturbance appears to be increasing somewhat in intensity and extent. In absence of reports near center, estimated position at 5 p. m., latitude 27, longitude 92. Further advices to-night.

August 24: Hoist hurricane warnings 10 p. m. Morgan City, La., to Mobile, Ala. Tropical disturbance moving north-northeastward, central about latitude 28, longitude 90½. Will cross eastern Louisiana coast line late to-night or early to-morrow morning. Northeast and east winds will increase to hurricane force by Wednesday morning, accompanied by high tides. Advise all interests that storm is increasing in energy and extent. Northeast storm warnings have been ordered east of Mobile to Apalachicola and storm warnings have been changed to northwest west of Morgan City to Galveston.

August 25, advisory, 9.30 a. m.: Tropical disturbance increasing in intensity approaching eastern Louisiana coast. Every precaution should be taken, taking into consideration extreme high tides that will probably occur between point where center strikes coast and Mobile. Steamship *Cranford* passed hurricane center 7.45 a. m. at approximately latitude 27°, 40', longitude 90°, 40'.

August 25, 3.30 p. m.: Continue hurricane warnings 10 p. m. Morgan City, La., to Mobile, Ala. Tropical disturbance of great intensity near eastern Louisiana coast moving slowly north-northeast. Increasing northeast and east winds will reach hurricane force to-night. Winds will be dangerously severe and tides high. Every precaution should be taken.

August 25, advisory 9 p. m.: Tropical disturbance passing inland near and probably slightly east of Morgan City, La., moving north-northeastward, attended by dangerous shifting winds. No further advices this disturbance.

WEIGHTMAN.

The morning reports of the 26th showed that the storm had advanced inland to central Louisiana and had decreased greatly in energy. Warnings for this district were accordingly lowered soon thereafter.

This tropical disturbance, increasing in intensity as it slowly approached the eastern Louisiana coast, reached the coast in the afternoon of the 25th as a remarkably intense hurricane. When on the Louisiana coast it was about half as extensive as the great storm of September, 1915, but the barometric gradient within 50 miles of the center was fully as steep as in that storm. From reports of damage, the usual condition of strongest winds to the right of the center was fulfilled, but as intense storms of slow movement have less difference between wind velocity in the right and left segments than more rapidly moving storms, it is not surprising that winds of hurricane force occurred at Morgan City, which was to the left of the storm center and a few miles inland. West of Morgan City the wind velocity fell off rapidly, as shown by the effects of the storm.