

DISTURBANCE OF OCTOBER 29–NOVEMBER 8, 1939

By WILLIS E. HURD

The fifth tropical disturbance of 1939 originated from a shallow low-pressure wave in the southwestern Caribbean Sea on October 27. A slow north-to-northwest movement of the wave, with equally slow fall in barometer, occurred until 7 p. m. (E. S. T.) of the 29th, when a cyclonic circulation became more developed, with center not far to the southward of Swan Island. At the morning observation of the 30th the center was close to the westward of Swan Island, where the barometer read 1,004.7 millibars (29.67 inches), wind south-southwest, force 5. During the day of the 30th the disturbance curved into a northeasterly direction, the center passing to the north of Swan Island where, at 7 p. m. (E. S. T.), the barometer had fallen to 1,003.4 millibars (29.63 inches). Up to that time no gales had been reported in connection with this disturbance. But at midnight of the 30th–31st the American steamer *Olancho*, Santa Marta toward Barrios, experienced a gale of force 8. The ship's position at 4 p. m. of the 30th was in 16°25' N., 83°53' W., where she had lowest barometer, 1,005.1 millibars (29.68 inches).

During the 31st the disturbance increased in intensity, and was locally of hurricane force as it passed over the Cayman Islands during the afternoon. At Grand Cayman the maximum wind velocity was 92 miles an hour, and the lowest pressure, at about 3:30 p. m., was 990.5 millibars (29.25 inches). Press reports indicate considerable damage on the islands, and the loss of four schooners. The strongest wind reported by a ship on the 31st was from the northwest, force 9, experienced by the American steamer *Memphis City* near 21° N., 85° W., at about 7 a. m., ship's time. The ship was at that time considerably to the west-northwest of the storm center, then near 19° N., 82° W.

After leaving the Caymans, the cyclone took an east to east-by-south course toward Jamaica, and at 7 p. m. (E. S. T.) of the 31st, while yet moderate to strong northerly gales were blowing at Grand Cayman, strong southerly gales were battering the western extremity of Jamaica. At 7 a. m. (E. S. T.) of November 1 the center lay close off the northwest coast of Jamaica, where there was heavy property damage, particularly at Montego Bay, according to press reports. Here the high waves forced scores of families to leave their homes, and one life was lost. Heavy rains also added materially to the damage done on the island. During the day a few ships well to the westward of the storm center reported northerly gales of fresh to strong force along the eastern slope of a high pressure area central over the extreme southern Gulf States.

During the 2d and 3d of November the storm center, of lessened energy except for local manifestations, moved very slowly and capriciously, but generally eastward, between Jamaica and eastern Cuba, accompanied by strong winds and torrential rains. Floods in the southern Cuban rivers resulted in damage to crops and livestock and the loss of one life. Even as far to the eastward as Haiti some damage was done in coastal localities by the high seas. The strongest winds reported during the 2 days was encountered by the Honduran steamer *Amapala* on the 3d. At 8 a. m. this ship, in 18°37' N., 76°05' W., had an east-southeast gale of force 10, barometer 997.3 millibars (29.45 inches). This reading is the lowest reported by a ship during the course of the storm in the Caribbean Sea. Between the *Amapala* and the Cuban

coast two other ships, at 7 a. m., reported east gales of force 8 to 9, but with much higher barometers. At 7 p. m. (E. S. T.) of the 3d a ship near 19° N., 76° W., had a southeast gale of force 9, but with only moderately low barometer.

Outside of the immediate area of the disturbance, in the eastern Gulf of Mexico, the Florida Strait, and off the southern Atlantic coast, there were strong northeasterly winds, but these were more related to the anticyclone over the United States than to the Caribbean disturbance.

During the 4th the low center moved slowly northward across eastern Cuba. At 7 p. m. (E. S. T.) of that day the barometer at Guantanamo read 1,003 millibars (29.62 inches.) In the neighboring sea area the highest wind noted for the day was of force 8, from the southeast, at 4 p. m., lowest barometer 998.6 millibars (29.49 inches), reported by the American steamer *Margaret Lykes*, in 21°00' N., 75°15' W. The wind on ship changed to northeast, force 8, at 6 p. m.

Farther northward the high pressure was giving way, and by the morning of the 5th the disturbance was central over the southeastern Bahamas, with a shallow trough of low pressure extending northward to the New Jersey coast, where another low center had formed since the preceding night.

The tropical center at 7 p. m. (E. S. T.) of the 5th lay near 25° N., 72° W., now moving north-northeastward with greatly increased rapidity. The American steamer *Delfina* reported the heaviest wind, force 9 from southwest, in connection with it, in 27° N., 71° W., at 11 p. m. The ship's barometer at that hour was 993.2 millibars, 29.33 inches. The more northerly center then lay off the southern New England coast. During the afternoon hours it caused gales of force 9–10, as reported by ships, within the region 37° to 40° N., 69° to 74° W.

During November 6 ship reports were few from along all but the northernmost part of the trough of low pressure extending from the eastern West Indies to New England, but the center of the southern disturbance at 7 a. m. (E. S. T.) could be located at approximately 29° N., 70° W., from which point it continued to move north-northeastward, to the westward of Bermuda. By evening of the 6th, continuing at great speed, the storm center, so far as can be estimated from the few ships' reports, was in 39° N., 64° or 65° W. During the night it traveled toward Newfoundland, and the center was close to the island at 7 a. m. (E. S. T.) of the 7th. The cyclone was now displaying considerable energy. The Dutch steamer *Veendam*, at 6 a. m. of the 7th, near 44° N., 55° W., had a south gale of force 9 and lowest barometer 995.5 millibars (29.40 inches). An hour later, a little to the westward, she met a westerly gale of force 11. Thereafter the storm, of considerable depth and intensity, continued its northward movement, crossed the Gulf of St. Lawrence and Newfoundland, and on the morning of the 8th was central to the eastward of Labrador.

Quoting from the report of Grady Norton, forecaster on duty at our Jacksonville office, regarding the disturbance in its tropical stages:

An interesting and somewhat disconcerting aspect of this disturbance was the occasional breaking away of large blocks of tropical air, with attendant waves of falling pressure, which formed secondary disturbances off the South Atlantic coast, which in turn

moved northward and formed vigorous storms. It is believed that the energy thus released was a factor in preventing a more severe development of the original tropical center.

The first bulletin relative to this disturbance was issued from the Weather Bureau office, Jacksonville, Fla., on

October 30, and was followed at frequent intervals by timely bulletins and advisory warnings until November 6.

The track of this disturbance, together with the tracks of preceding tropical disturbances of the year, will appear in the December issue of the REVIEW.

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By AMY P. LESHER

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