

Tannehill (1938) has listed only one storm for 1857 and a second storm for that year has been mentioned by Dunn and Miller (1960). The author of this study has recently documented three additional storms for 1857, bringing to five the total number of known storms for that year. Percentage-wise, this meant a 150 percent increase. This is the largest contribution for a year that the author has made over the 1851-1857 period.

Storm 1, 1857 (Jun. 30- Jul. 1).

This is a newly documented case by the author of this study. Storm 1, 1857 was found to occur in late June and early July. A track for the storm is shown in Fig. 8.

Documentation of Storm 1, 1857 was based on the following information: 1) Bark "Virginia", coming to New York from Turks Is., took a heavy gale from N.W. to N.E. and a heavy cross sea in the Gulf (Stream) on June 30 (The New-York Daily Times, Jul. 8, 1857, p.8, col.6). 2) Ship "Star of the South" experienced a heavy gale from S.E. to N.W. at lat. 36 N., long. 66 W. on June 30 and July 1 (The New-York Daily Times, Jul. 9, 1857, p.8, col.6).

Storm 1, 1857 was probably just a tropical storm, not a hurricane.

Storm 2, 1857 (Sept. 9-16).

This is a well-known hurricane which caused the loss of the steamer "Central America" off the U.S. east coast. Tannehill (1938) and Ludlum (1963) have mentioned this storm. The author has prepared the track for Storm 2, 1857 which is shown in Fig. 8.

The following information was useful in determining how the storm evolved from Sept. 9 to Sept. 11, 1857: 1) Brig "Emilia", lat. 28 33 N., long. 69 11 W. Had very heavy gales on Sept. 9 and 10 (The New York Times, Sept. 23, 1857, p.8, col.6). 2) Steamer "Central America". Sept. 11, 8 A.M., lat. 31 45 N., long. 78 15 W. Violent gale from the N.N.E. with a heavy sea. Wind shifted to N. and W. after midday (The New York Times, Sept. 23, 1857, p.1, col.1). Author's note: The meteorological information above was extracted from a deposition by two officers of the "Central America". Although the "Central America" sprung a leak, the steamer did not sink until the night of Sept. 12. 3) Steamship "Rebecca". Sept. 11, lat. 31 N., long. 77 W. Experienced a hurricane, wind N.E. to S.S.W. (The New York Times, Sept. 23, 1857, p.8, col.6). 4) Bark "Rapid". Sept. 11 to 15 (?), between Charleston and Hatteras. Gales from N.E. to E.S.E. to S.W. (The New York Times, Sept. 23, 1857, p.8, col.6). 5) Schr. "El Dorado". Sept. 11, lat. 29 40 N., long. 78 20 W. Had a hurricane from N.E. to S.S.W. (The New York Times, Sept. 26, 1857, p.8, col.6). 6) Brig "A. Blanchard". Experienced a hurricane from N.E. to S.S.W. at lat. 32 N., long. 77 W. on Sept. 11 and 12 (The New York Times, Sept. 24, 1857, p.8, col.6).

The storm evolution on Sept. 12 was documented on the basis of some coastal observations and, most importantly, on the basis of what was reported by the steamship "Columbia", the ship

"St. Louis", the bark "Colin Mc Rae" and the steamship "Southerner", which experienced the core of the storm.

Ludlum (1963) stated that the minimum pressure at Charleston was 29.88 inches in the afternoon of Sept. 12 and that the lowest barometer reading was 29.61 inches at Georgetown, S.C., at 3:30 P.M. Sept. 12. A gale blew at Georgetown from the night of Sept. 11 to the night of Sept. 12, having blown from the N. at 11 A.M., from the N.W at 1 P.M. and from the W. at 9 P.M. Sept. 12.

The following information on conditions encountered by the steamship "Columbia" was extracted from The New York Times, Sept. 18, 1857, p.1, col.3: The "Columbia" (from New York for Charleston) passed Hatteras in the evening of Sept. 10. At 10 A.M. Friday Sept. 11, off Frying Pan Shoals, an E.N.E. gale began to increase. At 10 P.M. it veered to E.S.E. and continued to increase until 2 A.M. Sept. 12 when the climax of high wind and sea was reached. Then, the gale abated slowly. At 5 A.M. the wind was down leaving the vessel on immense rolling waves. At 9 A.M. the wind, having shifted to W. and N., was in a few minutes the most driving hurricane. The wind did not show any abatement for 5 hours. It blew from the N.W. and later became S.W. or even more southward. Author's note: It is obvious that the "Columbia" was in the eye of the storm roughly from about 5 A.M. to 9 A.M. Sept. 12.

The following information on conditions encountered by the ship "St. Louis" was extracted from The New York Times, Sept. 21, 1857, p.8, col.6: Ship "St. Louis" (coming to New York from New Orleans). Hurricane winds from the E.N.E. moderated at daybreak Sept. 12. At 10 A.M., lat. 32 55 N. (no longitude given), wind very light from S., barometer 28.37 inches. At 1 P.M., the hurricane came again very suddenly. Author's note: 10 A.M. weather conditions reported by the "St. Louis" correspond to the eye of the storm.

The following information on conditions encountered by the bark "Colin Mc Rae" was extracted from The New York Times, Sept. 17, 1857, p.1, col.5 and 6: The bark "Colin Mc Rae" was sailing from Liverpool to Wilmington, N.C. On Thursday and Friday (Sept. 10 and 11), the wind blew very heavily from the N.E.; at 5 P.M. Saturday (Sept. 12), the wind changed to W.S.W., blowing very hard.

The following information on conditions encountered by the steamship "Southerner" was extracted from Ludlum (1963): The "Southerner" experienced a S.E. gale. It blew a perfect hurricane on "Friday evening", being the ship location about 20 miles S. of Cape Lookout but the wind had shifted to N.W. by 8 A.M. "Saturday morning". Author's note: Storm 2, 1857 was nearing Cape Lookout in the evening of Sept. 12 (Saturday). It is obvious that "Friday evening" should read Saturday evening and that "Saturday morning" should read Sunday morning.

According to the track in Fig. 8, the hurricane was in the vicinity of Cape Hatteras at 7 A.M. Sept. 13., and about to start moving away from U.S. However, its effects continued to be felt along the coast all day Sunday (Sept. 13) and Sunday night: The steamer "Joseph Whitney", which had left Baltimore for New York on Saturday afternoon (Sept. 12), was detained in Chesapeake Bay for 24 hours by a severe gale, and the "Norfolk" was abandoned early Monday morning (Sept. 14), having gone to pieces 10 miles south of Chincoteague in a violent gale Sunday night (The New York Times, Sept. 18, 1857, p.1, col.5).

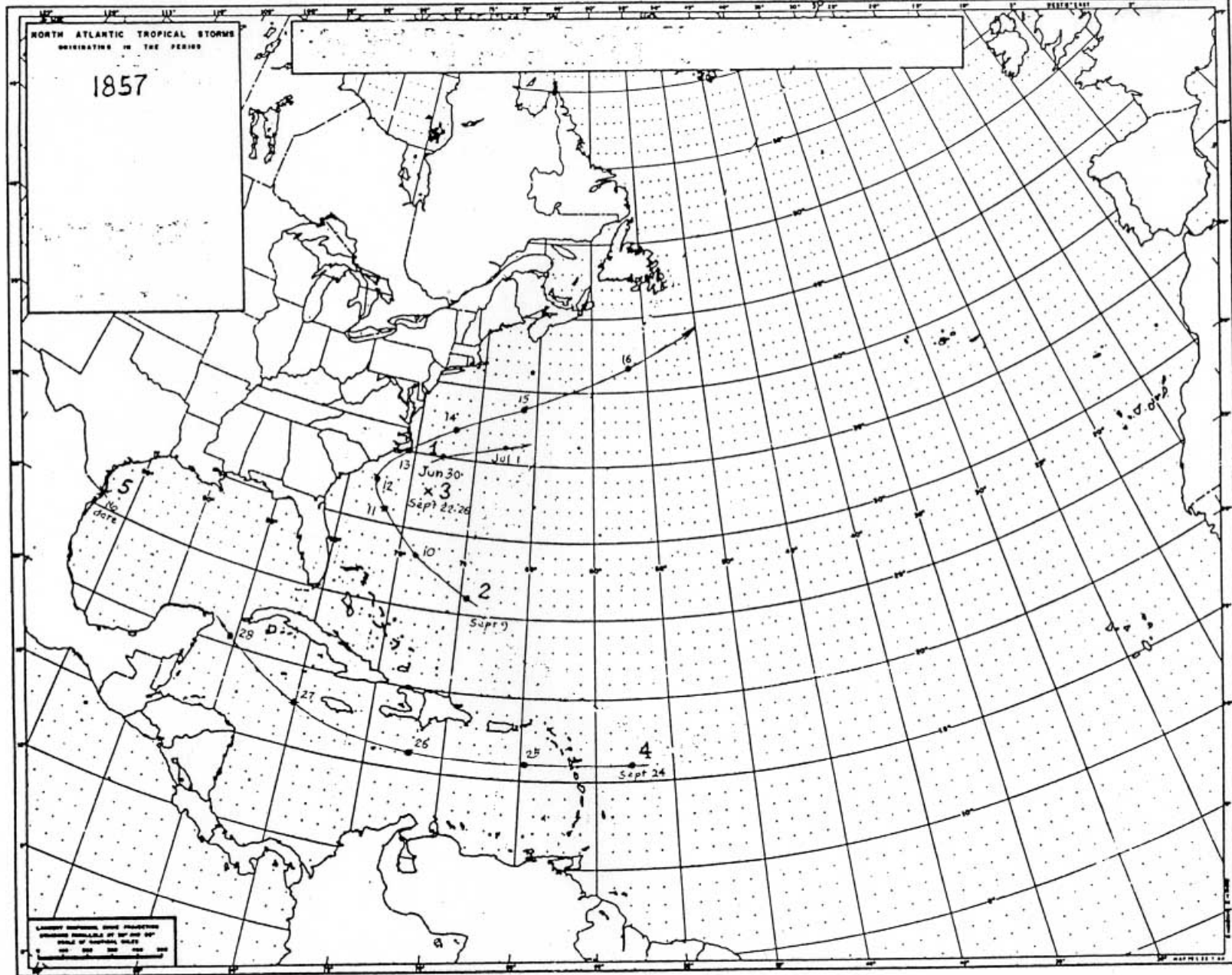


Fig. 8

The following information was helpful in determining the storm evolution from Sept. 14 to Sept. 16: 1) Bark "Kate Wheeler". Sept. 15, lat. 39 25 N., long. 65 50 W. Experienced a hurricane (The New York Times, Sept. 26, 1857, p.8, col.6). 2) Ship "Johann Lange". Sept. 15 and 16, lat. 39 25 N., long. 63 45 W. Had a hurricane, wind veered all around the compass (The New York Times, Sept. 23, 1857, p.8, col.6). 3) Bark "P. Pedlenton". Sept. 16, lat. 43 30 N., long. 53 49 W. Had a hurricane which lasted for 6 hours (The New York Times, Oct. 12, 1857, p.8, col.6).

Storm 3, 1857 (Sept. 22-26).

This is a newly documented case by the author of this study. Documentation of Storm 3, 1857 was based on the following information: 1) Bark "Aeronaut" experienced severe weather from N.E., off Hatteras, Sept. 24, 25 and 26 (The New York Times, Oct. 2, 1857, p.8, col.6). 2) Schr. "Alabama" put into Baltimore in distress (the vessel was going from Port-au-Prince to New York). On Sept. 22, the "Alabama" experienced a severe gale (The New York Times, Sept. 30, 1857, p.8, col.6). 3) Brig "Balaer". Sept. 25, Hatteras W. 45 miles, N.E. gale (The New York Times, Oct. 1, 1857, p.8, col.6). 4) Bark "Ilva". Sept. 24, lat. 34 30 N., long. 74 30 W., N.E. gale (The New York Times, Oct. 3, 1857, p.8, col.6). 5) Loss of brig "Jerome Knight" due to a leak developed during a gale condition. The "Jerome Knight" left Wilmington, N.C., on Sept. 22. A gale from N.E. increased to almost hurricane intensity during the night of Sept. 22-23. The gale was accompanied by an ugly sea. The gale moderated by daybreak Sept. 25 (The New York Times, Oct. 8, 1857, p.1, col.5).

Due to the lack of evidence of any specific movement, Storm 3, 1857 was kept essentially stationary near latitude 32.5 degrees North, longitude 73.5 degrees West over the period Sept. 22-26, 1857 (Fig. 8). Storm 3, 1857 is likely to have been the gale that the ship "Ocean Express" met on Sept. 29. According to The New York Times, Oct. 8, 1857, p.8, col.6, the "Ocean Express" experienced a S.E. gale, the wind shifted to S.S.W. and hauled instantly to N.N.W. and blew a perfect hurricane for 3 hours. The ship was coming to New York from Liverpool but the location where it encountered the gale was not given.

Storm 4, 1857 (Sept. 24-28).

This is another newly documented case by the author of the present study.

The New York Times, Oct. 18, 1857, p.8, col.6, stated that the bark "Cadet" experienced a very heavy hurricane commencing at W.N.W. and veering to S. and S.E. at lat. 20 30 N., long. 86 W. on Sept. 28.

Independently from the above report, The Times, London, Oct. 31, 1857, p.7, col.6, quoted the St. George's Chronicle, published in the island of Grenada, as having stated that on the 19th and the 25th of September almost a hurricane passed over the island of Guadeloupe driving several vessels out of the port of Basseterre.

Was it possible to link the two reports above to identify a moving storm in the Caribbean Sea? The author of this study noticed immediately that it was physically inconsistent for a single tropical cyclone to have occurred at Guadeloupe on the days indicated and that the statement "on the 19th and the 25th of September" should be corrected to read: 1) on the 19th and the 20th of

September or 2) on the 24th and the 25th of September. If the second correction were accepted, a nice storm track from near Guadeloupe on Sept. 24-25 to the vicinity of the Yucatan Channel on Sept. 28 would be achieved. Therefore, the second correction was adopted and a track for Storm 4, 1857 was obtained. This track is shown in Fig. 8.

Storm 5, 1857 (No date).

This storm has been mentioned only by Dunn and Miller (1960). These co-authors have placed it at Port Isabel, Texas, and have not given any date for the occurrence of the storm. No additional information about this case has been found by the author of this study, who decided to keep Storm 5, 1857 on record and to place it near Port Isabel (Texas) in 1857 (Fig. 8).