

YEAR 1892

Nine storms were found to have occurred in 1892. Tracks for these storms are presented in Fig. 2.

Storm 1, 1892 (Jun, 9-16), T.S.

The following information was found about this storm: 1) Jun. 9-11, 1892. A disastrous cyclonic perturbation, which formed to the S., passed to the W. of Havana and recurved as it emerged into the Gulf. It caused moderate gusty winds, but the rains were torrential from Santa Clara to Pinar del Rio. There was considerable damage at Havana province, but it was horrible at Matanzas. The number of casualties was large in the city and the province. Sixteen bodies were found in one farm alone (Sarasola, 1928). Author's note: Actually taken from the catalog of Cuban cyclones by M. Gutierrez-Lanza, which is included in Sarasola (1928). 2) There was a rainstorm in relation to the cyclone of Jun. 10, 1892, causing much damage at Matanzas province (Martinez-Fortun, 1942). 3) Washington, Jun. 10, 8 P.M. Reports are received from Havana and Key West of a threatening cyclonic disturbance of some intensity in the eastern Gulf, moving N.E. Rain has fallen in scattered showers on the Atlantic coast line and in southern Florida (The New York Times, Jun. 11, 1892, p.5, col.6). 4) Jun. 10. A heavy rain and wind storm prevailed over southern Florida. At Jupiter, rain with high N.E. winds continued during Jun. 10-11; trees were uprooted and much damage was done to crops (Monthly Weather Review, Jun. 1892). 5) New York, Jun. 11. Advices from Cuba state that, owing to heavy rain accompanied by gales, the towns of Matanzas, Batabano, Guines, Aguacate, Guara and other places are partially inundated, great damage has been done, and walls and roofs have entirely collapsed. Civil guards and troops were helping the inhabitants at Matanzas, where several houses are 10 feet under water (The Times, London, Jun. 13, 1892, p.6, col.2). 6) Matanzas, Jun. 12. The flood in this region is rapidly subsiding and the damage done is now everywhere apparent. The furniture of some 325 dwellings has been carried away and about 450 heads of cattle have been drowned (The New York Times, Jun. 13, 1892, p.1, col. 3). 7) Havana, Jun. 13. The advices received here from Matanzas in reference to the damage caused by the floods are of a contradictory character. The most recent dispatches indicated that the total loss is estimated at 1,500,000 dollars (The new York Times, Jun. 14, 1892, p.1, col.3). 8) New Orleans, Jun. 18. The Picayune's Havana Special says that since Wednesday, Jun. 8, the island of Cuba has experienced one of the greatest floods, causing great devastation to property and loss of several lives. At Matanzas, the Rivers San Juan and Yumuri overflowed their banks. River Almendares, which enters the Gulf 3 miles W. of Havana, is also over its banks. At Guines, the waters covered a great part of the town and the loss will be terrible. (The New York Times, Jun 19, 1892., p.1, col.6). 9) Storm of Jun. 10-16, 1892. Southern Florida (Tannehill, 1938). 10) Storm of Jun. 10, 1892. Ft. Myers to Pompano, Fl. Minor (Dunn and Miller, 1960). 11) The maximum wind at Key West was S.W. 30 mph on Jun. 10; it was

N.E. 36 mph at Jupiter on Jun. 11 (Monthly Weather Review, Jun. 1892). 12) Storm track as follows: Jun. 10, 25 degrees N., 83.7 degrees W.; Jun. 11, 27 degrees N., 78 degrees W. (Monthly Weather Review, Jun. 1892). 13) The storm was first observed at lat. 25 N., long. 85 W. on Jun. 10, 1892 and lasted 6 days; it was last observed at lat. 33 N., long. 75 W. (Mitchell, 1924). Author's note: A track which is also shown by Mitchell (1924) agrees very closely to the one in Neumann et al. (1993).

Although there were some clues that the storm existed on Jun. 18 (item 8), the author of this study started his track with an estimated position near 21.7 degrees N. 83.7 degrees W. at 7 A.M. Jun. 9, which was based on information in item 1). Neumann et al. (1993) gave no position for that day because their track was started on Jun. 10. The author estimated a 7 A.M. Jun. 10 position near 24.7 degrees N., 83.3 degrees W. on the basis of information in items 1), 3), 4), 10 and 11); this position is a few miles to the S.E. of the one shown in Neumann et al. (1993). The author's 7 A.M. Jun. 11 position was estimated near 27.0 degrees N., 78.7 degrees W. on the basis of information in items 4), 10 and 11); this position is about 60 miles to the S.S.E. of the corresponding position displayed in Neumann et al. (1993). The 7 A.M. positions shown by the above authors for the period Jun. 12-16 could not be verified beyond the fact that they agree very closely to a track in Mitchell (1924) as stated by the author's note corresponding to item 13); therefore, the 7 A.M. positions for Jun. 12-16 were kept unchanged. The author's track for Storm 1, 1892 is shown in Fig. 2.

As no hurricane winds were reported in relation to this storm in any of the above items, the tropical storm status which Neumann et al. (1993) gave to Storm 1, 1892 was preserved by the author of this study.

Storm 2, 1892 (Aug. 15-24), H.

The following information was found about this storm: 1) Observations taken by the steamship "Francia". Aug. 15, lat. 26 23 N., long. 54 16 W., wind S.E. force 4 to 8, barometer 30.16 to 30.08 inches, heavy sea and swell from S.E. to S.. Aug 16., lat. 21 39 N., long. 57 22 W., wind S.E. to S. force 4, barometer 30.12 to 30.08 inches, heavy swell and sea, shipped much water. Aug. 17, lat. 21 39 N., long. 60.07 W., wind S.E. force 4 to 9, barometer 30.04 inches, heavy sea, ship labored heavily, shipping much water, wind shifted to S. and S.W. Aug. 18, lat. 19 15 N., long. 61 52 W., wind S. force 3 to 6, barometer 30.12 inches, heavy S. and S.W. sea, moderating (Monthly Weather Review, Aug. 1892). Author's note: Barometer readings seem to be too high. 2) The afternoon of Aug. 16 the weather was threatening at St. Thomas and the barometer fell to 29.80 inches, a fall of 0.22 inch in 48 hours. At 7 A.M. Aug. 17 the barometer stood at 29.80 inches, with W. wind and heavy rains. A report from Tortola indicated that the center passed that place at 9 A.M. (Monthly Weather Review, Aug. 1892). 3) Washington, Aug. 16, 8 P.M. Thunderstorm and heavy rains and N.E. winds were reported at St. Thomas at midnight Monday (Aug. 15-16). At 7 A.M. Tuesday the wind was N.W. with light rain (The New York Times, Aug. 17, 1892, p.5, col.7). 4) Washington, Aug. 17, 8 P.M. The storm

noticed Tuesday morning (Aug. 16) at St. Thomas apparently passed N. of that island. At 7 A.M. Wednesday (Aug. 17) heavy rain with W. wind and a reading of 29.80 inches were reported there. At Puerto Rico no wind with threatening weather was reported (The New York Times, Aug. 18, 1892, p.5, col.5). 5) The steamer "Duart Castle" left Bermuda for St. Thomas the morning of Aug. 16, with light S.S.E. wind. Aug. 17, lat. 27.48 N., long. 65 42 W., wind E.; 4 P.M. fresh wind and threatening weather; 8 P.M. every indication of a cyclone, heavy rain squalls and sea rising. Aug 18, lat. 24 19 N., long. 65 22 W., wind E., barometer 29.85 inches; 8 A.M., hove to, heavy gale and high sea; noon, gale increasing, heavy high cross seas; 4 P.M., gale increasing and hauling to S. and S.E.; 8 P.M., gale blowing with increasing violence; 8 to 10 P.M., ship labored heavily and shipped great quantities of water, one lifeboat stove in and others started from their chocks, tarpaulins, hatches and deckload shifted, injuring 6 men. Aug. 19, lat. 25 01 N., long. 66 09 W., in the morning, shipped heavy seas, which caused considerable damage and ship listed 12 degrees to starboard; at 2 P.M. resumed course (Monthly Weather Review, Aug. 1892). 6) During Aug. 18-19 the storm recurved E. of the Bahamas and at 5 P.M. Aug. 19 the barometer had fallen to 29.91 inches, with S.E. wind of force 4 at Bermuda. During the early morning of Aug. 20 the disturbance moved northward W. of Bermuda. At that station the barometer fell to 29.71 inches from 4:30 to 6 A.M. with S.W. wind of force 8 (Monthly Weather Review, Aug. 1892). 7) Aug. 19-20, 1892. A hurricane passed Bermuda's shores at distance enough to be recorded only as a "cyclonic breeze" with wind velocity of 32-38 mph in these islands. Nevertheless, it did some damage: Trinity Church had considerable damage to its structure. Many trees have been blown down or blighted and the crops of young fruit, oranges and limes, is almost entirely destroyed, the Royal Gazette recorded (Tucker, 1982). Author's note: Winds of 32 to 38 mph correspond to force 7 on the Beaufort scale. 8) Washington, Aug. 21, 8 P.M. The storm central near St. Thomas on Aug. 16 advanced to the N.W., recurved between Bermuda and the Carolina coast and is central tonight E. of Nova Scotia (The New York Times, Aug. 22, 1892, p.5, col.6). 9) Moving to the N.N.E., the storm center reached Newfoundland on Aug. 22, attended by N.W. to N. gales of hurricane force along the trans-Atlantic shipping routes between 50 and 65 degrees W. meridians. Moving E. over the ocean in high latitudes, this storm apparently passed N. of Scotland on Aug. 25 (Monthly Weather Review, Aug. 1892). 10) Storm of Aug. 16-26, 1892. Atlantic (Tannehill, 1938). 11) Storm track as follows: Aug. 17, 19.5 degrees N, 65 degrees W.; Aug. 18, 22.5 degrees N., 68.8 degrees W.; Aug. 19, 26 degrees N., 69.5 degrees W.; Aug. 20, 33.7 degrees N., 67.5 degrees W.; Aug. 21, 42 degrees N., 60 degrees W.; Aug. 22, 46.8 degrees N., 56 degrees W. (Monthly Weather Review, Aug. 1892). 12) A storm appeared at lat. 20 N., long. 65 W., recurved at lat. 25 N., long. 70 W. and dissipated N.E. of Newfoundland in Aug. 1892 (Garriott, 1900). 13) A storm was first observed near 18 degrees N., 57 degrees W. on Aug. 16, 1892 and lasted 10 days; it recurved near 28 degrees N., 68 degrees W. and it was last observed near 61 degrees N., 8 degrees W. (Mitchell, 1924).

The author started his track for Storm 2, 1892 near 18.0

degrees N., 56.5 degrees W. at 7 A.M. Aug. 15, primarily based on the sea and swell condition reported on that day by the "Francia" (item 1); this location is slightly E. of the position displayed in Neumann et al. (1993) as they started their track at 7 A.M. Aug. 16 or 24 hours later than the author's track. The author of this study estimated a position near 19.0 degrees N., 60.5 degrees W. for 7 A.M. Aug. 16 on the basis of information contained in items 1) through 3); this position is about 175 miles to the W.N.W. of the corresponding one in Neumann et al. (1993). The author's 7 A.M. Aug. 17 position was estimated near 20.7 degrees N., 63.7 degrees W., primarily on the basis of the W. wind reported at St. Thomas at that time (items 2 and 4); this position is about 120 miles to the N.W. of the corresponding one in Neumann et al. (1993). Information provided by the "Duart Castle" (item 5) was found to support the 7 A.M. Aug. 18 position near 22.8 degrees N., 66.3 degrees W. given in Neumann et al. (1993); therefore, that position was kept unchanged by the author of this study. The 7 A.M. Aug. 19 position given by the above mentioned authors was, however, adjusted to the S. by about 60 miles to near 27.0 degrees N., 68.0 degrees W. in order to obtain a better space-time continuity along the author's track and a better agreement with information in item 5). The author estimated a 7 A.M. position near 33.5 degrees N., 68.0 degrees W. on the basis that the barometer fell only to 29.71 inches and the wind reached either force 7 (item 7) or force 8 (item 6) at Bermuda, implying that the storm center should have passed at least 200 miles W. of that island, which was in the strong side of the storm, and not as close as 120 miles, which is suggested by the 7 A.M. Aug. 20 position displayed in Neumann et al. (1993). The 7 A.M. positions given by the just mentioned authors for the period Aug. 21-24 were kept unchanged, and the track which was prepared by the author of this study is shown in Fig. 2.

The hurricane status given to Storm 2, 1892 in Neumann et al. (1993) could not be rigorously checked in the light of the information in the above items. However, the author of this study decided to continue classifying this storm as a hurricane.

Storm 3, 1892 (Sept. 3-17), H.

Very little information was found in relation to this storm: 1) Storm of Sept. 4-17, 1892 Atlantic (Tannehill, 1938). 2) A storm was first observed near lat. 12, long. 41 W. on Sept. 4, 1892 and lasted 13 days; it recurved near lat. 29 N., long. 55 W. and it was last observed near lat. 43 N., long. 12 W. (Mitchell, 1924). Author's note: In spite of that the starting position listed by Mitchell (1924) was at lat. 12 N., long. 41 W., he showed a map containing a track for this storm which extends as far east as the Cape Verde Islands.

The track in Neumann et al. (1993) was found to be quite similar to the one in item 2), the only exception being that the just mentioned authors included a 7 A.M. Sept. 3 position near lat. 11.5 N., long. 34.7 degrees W. No additional information was found to allow one to produce a full check of the storm track as displayed in Neumann et al. (1993) and, under these circumstances,

such a track was accepted and reproduced in Fig. 2.

The hurricane status given to Storm 3, 1892 in Neumann et al. (1993) was accepted as well.

Storm 4, 1892 (Sept. 9-17), T.S.

The following information was found about this storm: 1) Washington, Sept. 9, 8 P.M. The winds in the Gulf and South Atlantic coasts are indicative of a disturbance S. of the Gulf coast (The New York Times, Sept. 10, 1892, p.5, col.5). 2) Washington, Sept. 11, 8 P.M. The air pressure has continued to fall steadily at the Gulf and South Atlantic stations during the past 3 days and a general disturbance appears developing, rain having fallen at nearly all Gulf stations (The New York Times, Sept. 12, 1892, p.5, col.7). 3) Washington, Sept. 12, 8 P.M. A disturbance has developed and is central S. of Louisiana, giving general rains over the eastern and central portions of the cotton belt. The Gulf storm will probably move N.E. and merge with the storm over the Lakes within 48 hours (The New York Times, Sept. 13, 1892, p.5, col.7). 4) The presence of an area of low pressure of tropical origin over the central part of the Gulf of Mexico was indicated by reports of Sept. 11. On that date the 12-hour pressure decrease was more than 0.10 inch from the lower lakes to the Gulf coast. Morning reports of Sept. 12 showed a 24-hour decrease of pressure of 0.10 to 0.20 inch over the E. Gulf States and during the 12 hours ending at 8 P.M. the pressure decreased 0.10 to 0.18 inch from the middle Gulf coast to New England. At the evening report the storm was central near New Orleans and high winds and heavy rains were noted on that date along the Gulf coast. The morning of Sept. 13 the disturbance was central over Kentucky, with pressure below 29.60 inches and at the evening report the center had passed to eastern Lake Erie, with pressure below 29.40 inches. On that day rain fell generally E. of the Mississippi River, severe local storms occurred from the lower lakes and New York over the Carolinas, and heavy gales, reaching a velocity of 54 mph. from the N.W. at Cleveland, Ohio, prevailed over the central and eastern lake region (Monthly Weather Review, Sept. 1892). 5) Washington, Sept. 13, 8 P.M.. Rain has been general from the east Gulf and South Atlantic States northward and brisk to high winds have prevailed north of North Carolina. The wind on the Atlantic middle coast has been strong S.E., blowing at 23 to 26 mph (The New York Times, Sept. 14, 1892, p.5, col.6). 6) The maximum wind velocity at Pensacola was S. 54 mph on Sept. 13 (Monthly Weather Review, Sept. 1892). 7) Washington, Sept. 14, 8 P.M. The storm over Lake Erie this morning is passing N. of the St. Lawrence Valley beyond the range of stations of observation (The New York Times, Sept. 15, 1892, p.5, col.6). 8) Storm of Sept. 9-17, 1892. Middle Gulf coast (Tannehill, 1938). 9) Storm of Sept. 11-12. S.E. Louisiana. Much damage small area (Dunn and Miller, 1960). 10) Storm track as follows: Sept. 12 (morning), 27 degrees N., 89.7 degrees W; Sept. 13 (morning), 37.5 degrees N, 85.5 degrees W.; Sept. 13 (night), 42.5 degrees N., 80.7 degrees W.; Sept. 14, 46 degrees N., 80 degrees W. (Monthly Weather Review, Sept. 1892). 11) A storm was first observed near lat. 24 N., long 95 W. on Sept. 9 and lasted 8

days; it was last observed near lat. 60 N., long. 52 W. (Mitchell, 1924). Author's note: The actual track for this storm was started by Mitchell (1924) over the Bay of Campeche.

The track for Storm 4, 1892 which is shown in Neumann et al. (1993) was found to agree, in general, with information contained in the above items and, therefore, the author of this study reproduced it in Fig. 2.

As no indication of hurricane winds was found in such items, the tropical storm status given to Storm 4, 1892 by Neumann et al. (1993) was preserved.

Storm 5, 1892 (Sept. 12-23), H.

Very little information was found in relation to this storm: 1) Lisbon, Oct. 11. The mail just to hand from the Cape Verde Islands contains an account of a fearful cyclone which passed over the archipelago in the night of Sept. 12 and caused an immense amount of damage. Several vessels foundered off the coast, adobe homes were demolished, plantations devastated and a quantity of cattle killed (The Times, London, Oct. 12, 1892, p.5, col.6). 2) Storm of 12-23, 1892. Atlantic (Tannehill, 1938). 3) A storm was first observed near lat. 14 N., long. 18 W. on Sept. 12, 1892 and lasted 11 days; it recurved near lat. 32 N., long 51 W. and it was last observed near lat. 37 N., long 45 W. Map showing a track passing the storm center over the N.W. Cape Verde Islands in the morning of Sept. 14 (Mitchell, 1924). Author's note: This track is very similar to the one displayed in Neumann et al. (1993).

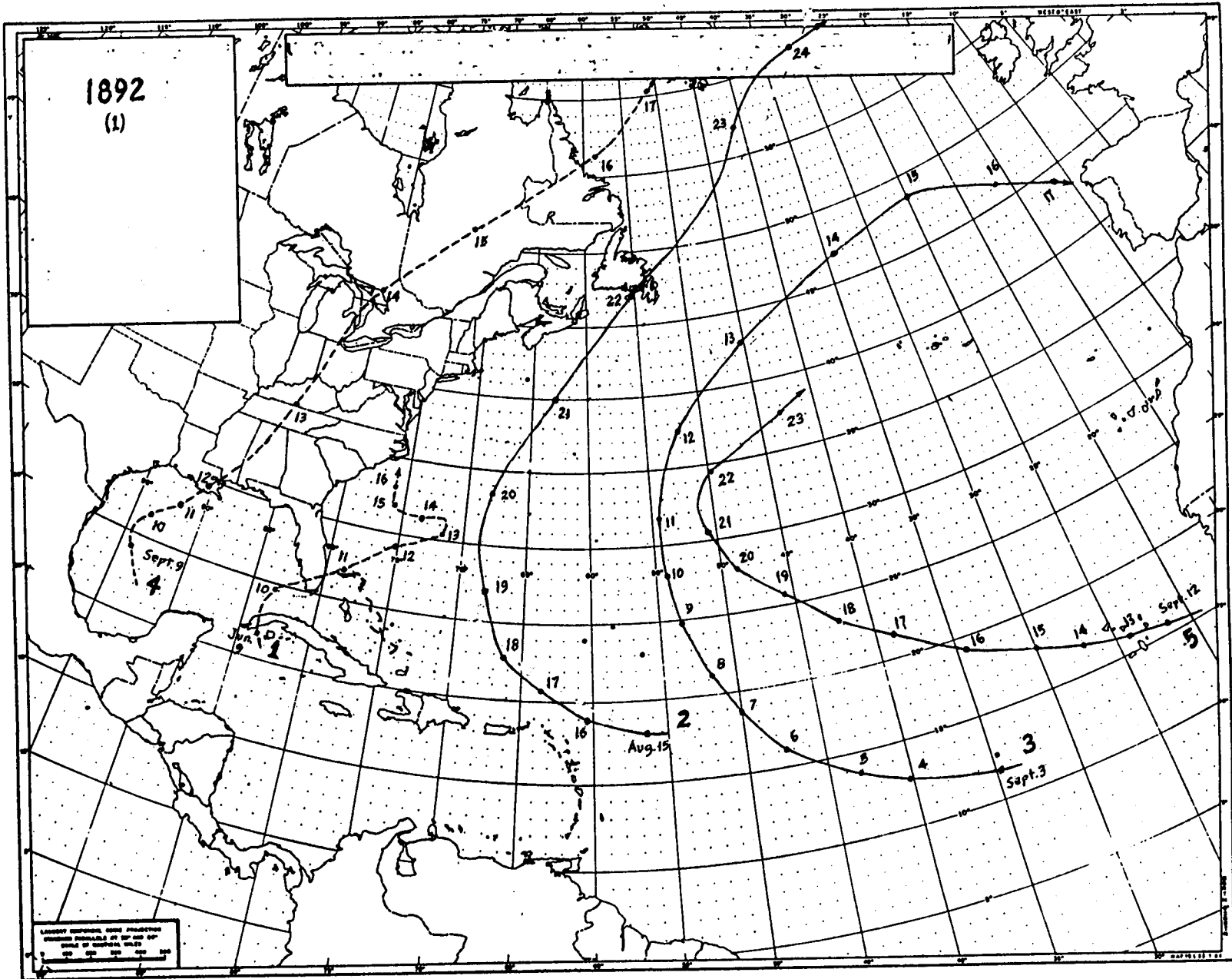
Based on information in item 1), some modifications were introduced along the track shown by Neumann et al. (1993) for Sept. 13-14, while the above authors have the storm approaching and moving through the Cape Verde Islands. The author of this study estimated 7 A.M. positions as follows: Sept. 12, near 15.5 degrees N., 21.5 degrees W.; Sept 13, near 16.0 degrees N., 24.0 degrees W.; Sept. 14, near 16.9 degrees N., 27.0 degrees W. These locations allow for the storm to have been felt at the Cape Verde Islands during the night of Sept. 12 (local time) as stated in item 1), having probably continued on Sept. 13. 7 A.M. position after Sept. 14 which are shown in Neumann et al. (1993) were kept unchanged. The track which was prepared by the author of this study is displayed in Fig 2.

The hurricane status which Neumann et al. (1993) attributed to Storm 5, 1892 seems to be supported by the classification of the storm as a "fearful cyclone" in item 1). This appears to have been one of the few storms which develop full hurricane intensity over the extreme eastern Atlantic.

Storm 6, 1892 (Sept. 25-27), T.S.

Very little information was found about this storm: 1) Storm of Sept. 25-27, 1892. Bay of Campeche, Mexico (Tannehill, 1938). 2) A storm was first observed near lat. 19 N., long. 92 W. on Sept. 25, 1892 and lasted 2 days; it was last observed near lat. 24 N., long 98 W. (Mitchell, 1924). Author's note: A track which is also shown in Mitchell (1924) was found to be quite similar to the one

1892
(1)



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Fig. 2

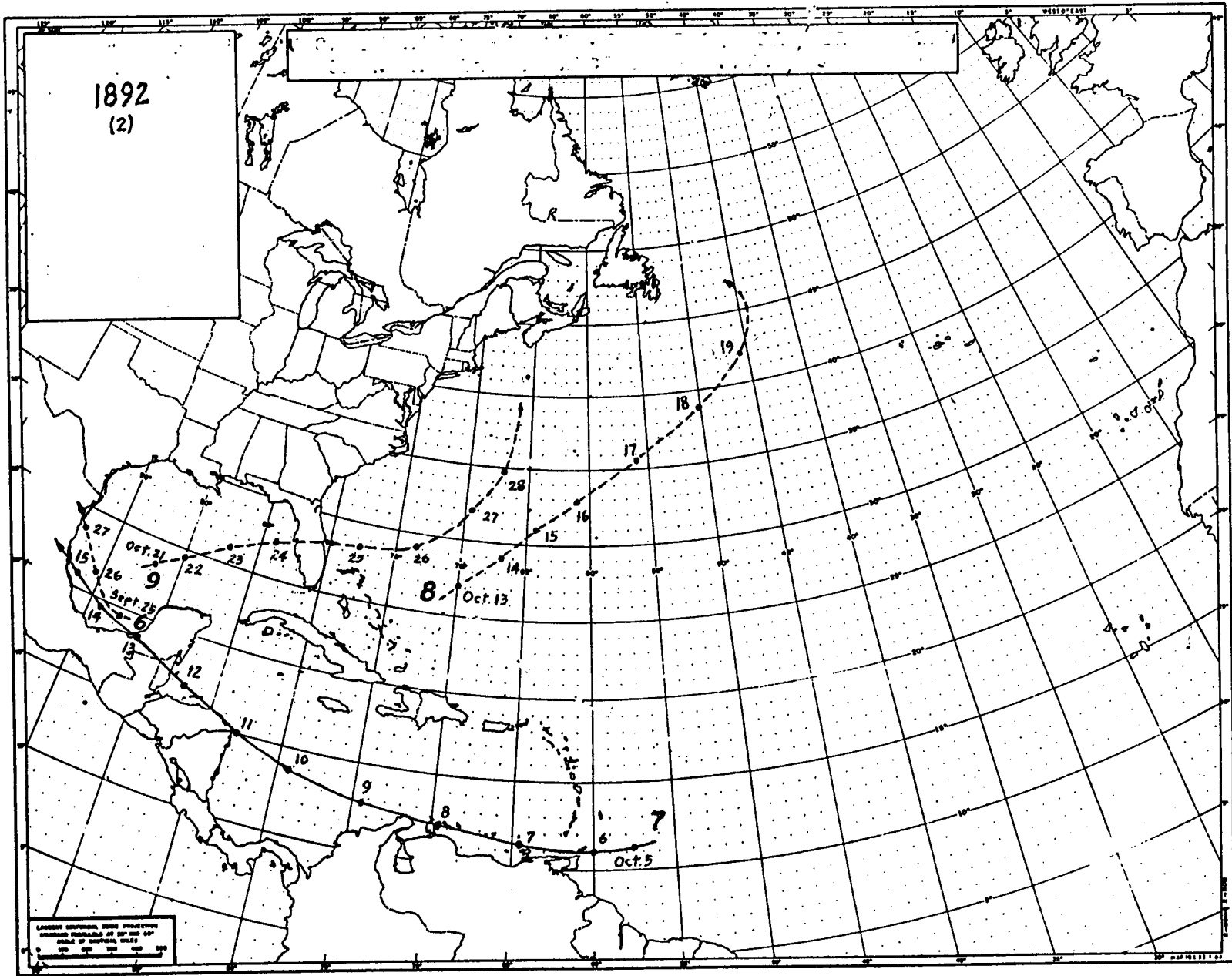


Fig. 2 (continued)

in Neumann et al. (1993).

The author of this study accepted the track in Neumann et al. (1993) and reproduced it in Fig. 2.

The tropical storm status which the above authors attributed to Storm 6, 1892 was also accepted by the author of this study.

Storm 7, 1892 (Oct. 5-15), H.

The following information was found in relation to this storm:

- 1) A storm of marked strength moved W. along the Venezuelan coast of the Caribbean Sea from Oct. 6 to Oct. 8 and apparently passed thence W. of Honduras by Oct. 11 and possibly to the Mexican coast by Oct. 15. On Oct. 7 very heavy rain fell on the island of Trinidad, with high W. winds which shifted to S.E. and increased to a gale at 4:15 P.M., 5 lighters were sunk, streams overflowed their banks, causing a suspension of railroad traffic and doing considerable damage to property. At La Guayra the storm was very severe the afternoon of Oct. 7; vessels were obliged to leave port on account of the tremendous seas. On Oct 8 the wind was very strong from the E. with rough seas at Curacao. On Oct. 11 a severe hurricane of short duration struck the Bay Islands, off the N. coast of Honduras, causing serious damage to plantations, buildings and shipping. The schooner "Stranger" went down off Cape Gracias, with the loss of 16 passengers. On Oct. 15 a destructive storm was reported along the Mexican coast; vessels in the port of Veracruz dragged anchor, and many buildings were destroyed (Monthly Weather Review, Oct. 1892). Author's note: The storm should have affected the island of Trinidad on Oct. 6 instead of on Oct. 7 as stated above.
- 2) Mexico City, Oct. 16. The storm which has been raging the Gulf for 24 hours is abating in the vicinity but from the Gulf of Campeche and Coatzacoalcos River come reports that there is a no decrease in violence of the hurricane and that the shipping is at great peril. A number of English, French and American ships sought refuge in Veracruz. One French vessel dragged her anchor during the storm yesterday and had a narrow escape from destruction. Several fishing vessels are missing and off Veracruz harbor a small steamer is reported in a critical position (The New York Times, Oct. 17, 1892, p.1, col.6).
- 3) The Spanish steamer Veracruz", previously reported wrecked at Veracruz, broke up during hurricane Oct. 14 (The Times, London, Oct. 19, 1892, p.6, col.3).
- 4) Storm of Oct. 6-15, 1892. Windward Islands, Bermuda (Tannehill, 1938). Author's note: Although there was a storm at Bermuda on Oct. 15 (Storm 8, 1892), such a storm was not the same one which affected the Windward Islands on Oct. 6.
- 5) A storm was first observed near lat. 11 N., long. 60 W. on Oct. 6, 1892 and lasted 9 days; it was last observed near lat. 21 N., long. 98 W. (Mitchell, 1924). Author's note: With the exception that this storm track was started one day later, such a track is very similar to the one displayed in Neumann et al. (1993).

The information in the above items was found to support. in general, the track for Storm 7, 1892 which is shown in Neumann et al. (1993). Therefore, the author of this study accepted such a track and reproduced it in Fig. 2.

The content of items 1) through 3) served to verify the

hurricane status which Neumann et al. (1993) attributed to this storm.

Storm 8, 1892 (Oct. 13-19), T.S.

The following information was found about this storm: 1) Reports of Oct. 13 indicated the development of a storm of marked energy E. of the Bahamas and in the afternoon gales of hurricane force were encountered between Bahamas and Bermuda. On Oct. 14 the storm was central S. of Bermuda and pressure below 29.70 inches and N.N.E. gales of force 9 were reported in that region. During Oct. 15-17 the storm pursued a slow N.E. course and on Oct. 17 was central E. of Bermuda. About 3 P.M. Oct. 17 a tornado passed across the eastern part of St. George Island. The disturbed surface of the sea clearly indicated the path of the tornado as it approached the island. This storm (the tornado) was not felt at Hamilton. By the morning of Oct. 18 the low pressure area had reached a position off the S.E. edge of the Grand Banks and by Oct. 19 it was central off the N.E. edge of the Banks. On Oct. 20 the storm united with a low pressure area over the Banks of Newfoundland (Monthly Weather Review, Oct. 1892). 2) On Oct. 15, 1892 another hurricane passed Bermuda and the wind force reported here registered 11 (between 64 and 73 mph at Gibb's Hill Light Station. American summaries note this as the date of a hurricane affecting Bermuda (Tucker, 1982). 3) Storm of Oct. 6-15, 1892. Windward Islands, Bermuda (Tannehill, 1938). Author's note: Although Oct. 15 was the date the storm affected Bermuda, this storm was not the same one which was felt in the Windward Islands on Oct. 6. The Oct. 15 storm at Bermuda was obviously the storm of Oct. 13-30, 1892 which Tannehill (1938) describes as having occurred over the Atlantic. 4) Storm track as follows: Oct. 14, 27.7 degrees N., 65 degrees W.; Oct. 15, 30 degrees N., 64 degrees W.; Oct. 16, 30.9 degrees N., 60.7 degrees W.; Oct. 17, 33 degrees N., 58 degrees W.; Oct. 18, 40 degrees N., 45.3 degrees W.; Oct. 19, 47.5 degrees N., 48 degrees W. (Monthly Weather Review, Oct. 1892). 5) A storm was first observed near lat. 30 N., long. 70 W. on Oct. 13, 1892 and lasted 17 days; it was last observed near lat. 55 N., long. 2 W. (Mitchell, 1924). Author's note: According to the track shown by Mitchell (1924), storm positions along his track prior to Oct. 15 were farther north than the corresponding ones in Neumann et al. (1993).

On the basis of information in items 1) and 2) and to a lesser extent in item 5), the author of this study decided to produce a northward adjustment of the track in Neumann et al. (1993) prior to Oct. 18, bringing the storm quite close to Bermuda on Oct. 15. The author started his track one day earlier than in Neumann et al. (1993), resulting in a 7 A.M. Oct. 13 position near 27.0 degrees N., 70.0 degrees W., which is to the E. of the Bahamas in compliance with item 1). The author's position for 7 A.M. Oct. 14 was near 29.0 degrees N, 67.0 W. and was primarily based on space-time continuity with his 7 A.M. Oct. 15 position near 31.0 degrees N. 64.3 degrees W. which was chiefly based on the force 11 winds reported at Bermuda (item 2). The author estimated 7 A.M. positions near 33.0 degrees N., 61.0 degrees W. for Oct. 16 and near 35.5 degrees N., 56.0 degrees W. for Oct. 17 on the basis of keeping

continuity along his new track with the 7 A.M. Oct. 18 position in Neumann et al. (1993) which was kept unchanged. The Oct. 19 position shown in the above mentioned publication was also kept unchanged. The author's track for Storm 8, 1992 is shown in Fig. 2.

The tropical storm status which Neumann et al. (1993) gave to this storm was maintained by the author of this study in spite of that item 1) supported hurricane winds on Oct. 13 and item 2) made reference to winds of just below hurricane force at Bermuda on Oct. 15.

Storm 9, 1892 (Oct. 21-28), T.S.

The following information was found about this storm: 1) The presence of a low area over the Gulf of Mexico was indicated by reports of Oct. 22. On that day, rain fell on the middle Gulf coast and a wind velocity of 50 mph from the N.E. was reported at New Orleans. During Oct. 23 the low pressure area recurved N. and E. off the middle Gulf coast and the rain area expanded northeastward to the middle Atlantic coast. On Oct. 24 the center of disturbance moved eastward over the Florida peninsula, with heavy rain in eastern Florida and along the Georgia and South Carolina coast, after which it apparently moved northeastward off the Atlantic coast, attended by high winds and heavy rain, reaching the New England coast the evening of Oct. 26 and the lower St. Lawrence Valley the morning of Oct. 27 (Monthly Weather Review, Oct. 1892). 2) The maximum wind was N.E. 50 mph at New Orleans on Oct. 22, and E. 45 mph at Pensacola on Oct. 23 (Monthly Weather Review, Oct. 1892). 3) Havana, Oct. 22. A red streamer has been hoisted over the tower of Morro Castle, this being an announcement of the near approach of a cyclone (The New York Times, Oct. 23, 1892, p.8, col.4). 4) Washington, Oct. 23, 8 P.M. The storm in the central Gulf is apparently moving to the eastward and it will probably cause dangerous gales in the east Gulf and the southern Atlantic coast tomorrow (The New York Times, Oct. 24, 1892, p.5, col.5). 5) Washington, Oct. 24, 8 P.M. The storm which was in the east Gulf has moved to the eastward of Florida and is apparently being forced to the eastward beyond the limits of the coast stations by an area of high pressure which covers the entire country, except New England (The New York Times, Oct. 25, 1892, p.5, col.6). 6) Washington, Oct. 25, 8 P.M. The storm which was central to the E. of Florida is apparently moving N.E. following the course of the Gulf Stream, tonight reports showing strong northerly gales on the North Carolina coast (The New York Times, Oct. 26, 1892, p.5, col.6). 7) Storm of Oct. 24, 1892. North Florida. Minor (Dunn and Miller, 1960). 8) Storm of Oct. 21-31, 1892. Gulf, Florida (Tannehill, 1938). 9) Storm track as follows: Oct. 23, lat. 27.7 N., long. 90.5 W.; Oct. 24, lat. 29.3 N., long. 82.7 W.; Oct. 25, lat. 27.5 N., long. 77 W.; Oct. 26, lat. 35 N., long. 67.5 W.; Oct. 27, lat. 41.3 N., long. 54.5 W. (Monthly Weather Review, Oct. 1892). 10) A storm was first observed near lat. 23 N., long. 93 W. on Oct. 21, 1892 and lasted 11 days; it was last observed near lat. 51 N., long. 15 W. (Mitchell, 1924). Author's note: A track, which is also shown in Mitchell (1924), brings the center to near lat. 28 N., long. 78 W. on Oct. 25, to near lat. 28.5 N., long. 72.5 W. on