

VI.—This was a tropical hurricane, which developed south of the twentieth parallel prior to the 19th. The storm-centre moved to the northwestward and recurved to the northeastward, when north and west of the Bermudas, on the 23d or 24th. It evidently passed at a considerable distance from the coasts of the United States, since the only indication of a hurricane noticed by vessels on the seventy-second meridian, was the unusually heavy se. swell which prevailed for several days. In this connection, Captain Timmerman, of the s. s. "City of Alexandria," reports that the se. swell of the 21st, (in N. 34°, W. 74°) was the heaviest he ever experienced during calm weather. Captain Hess, of the s. s. "Valencia," also reported in N. 30° 11', W. 71° 22', barometer 30.16 (766.1), wind n., force 6, very heavy se. swell, unsettled weather, heavy bank of clouds in the se. The earliest observations indicating the presence of the hurricane are those of the bark "B. F. Watson." On the 19th, in about N. 21° 28', W. 58° 30', that vessel reported threatening weather, barometer falling gradually, wind nne. blowing in strong gusts, and accompanied by heavy rain; 10 a. m., shortened sail and hove to, wind nnw. blowing a gale with heavy rain, barometer 29.73 (755.1); 1 p. m., barometer 29.7 (754.4), wind wnw; 2 p. m., barometer 29.65 (753.1), wind blowing in terrific gusts, and high confused sea running; 4 p. m., barometer 29.68 (753.0), wind moderating and barometer rising, weather clearing. It would thus appear that, on the 18th, the storm-vortex was at a considerable distance to the eastward of the vessel and moving towards the northwest. The next report is that of the U. S. Steamer "Galena," Commander Batcheller, United States Navy, commanding. On the 20th that vessel was in N. 24° 40', W. 61° 26', and reported as under:

Hour.	Barometer (corrected.)		Wind.		Remarks
	Inches.	Mill.	Dirac'n.	Force	
19th.					
1 a. m.....	29.95	760.7	ne.	6-7	Barometer falling slowly.
10 a. m.....	29.83	757.7	ne.	10	Sea becoming heavy.
11 a. m.....	29.83	757.7	ene.	10	
1 p. m.....	29.75	755.6	e. by n.	10	Squalls very heavy and sea rough.
2 p. m.....	29.57	751.1	e. by s.	10	Wind hauling gradually to south but sometimes backing again for half an hour.
5 p. m.....	29.47	748.5	se. ½ e.	10	Strong cyclone blowing: wind hauling slowly to south.
6 p. m.....	29.47	748.5	se.	10	Frequent lulls followed by heavy gusts: heavy, irregular sea.
9 p. m.....	29.65	752.6	sse.	10	Barometer rising.
11 p. m.....	29.72	754.9	s. by e.	10	Wind hauling to south and moderating slightly.
20th.					
3 a. m.....	29.79	756.7	s.	9	Moderating.
5 a. m.....	29.87	758.7	sse.	8	Very heavy squall of wind and rain from south-southeast from 4 to 5.30 a. m.
6 a. m.....	29.91	759.7	sse.	7	Wind and sea moderating.

This report shows the storm-centre to have been southeast of the ship, and moving toward the west; during the 18th and 19th the storm vortex was therefore between N. 18°, W. 58°, and N. 26°, W. 63°, and moving in a northwesterly direction between the "B. F. Watson" and the "Galena." The following reports serve to indicate the probable course of the storm and its violence: s. s. "Flamborough," in N. 24°, W. 66°, on the 19th, experienced heavy gales and lost spars and deck fittings; on the 20th the bark "Folkefesten," in N. 28° 10', W. 65° 41', had a heavy ne. gale veering to s. and w. and lasting two days; vessel lost several sails. The brig "Abbie Clifford," in N. 29° 40', W. 69° 30', reported barometer (aneroid,) 30.12 (765.0), wind ne., force 6, long heavy se. swell; upper clouds moving slowly from s. and lower from ne. On the 21st the brig "Helen O. Phinney," in N. 27°, W. 66°, took a hurricane from s. to wnw., lost foremast and all attached. On the 22d the brig "Clara Jenkins" was dismasted in a hurricane in N. 33°, W. 67, and on the same date the brig "Daphne," near N. 32°, W. 70°, reported as follows: 4 p. m., (Greenwich mean time,) took a hurricane which lasted with great violence until the 24th; the wind was at first e., then ne., and kept gradually backing until it finally settled in the sw.; the barometer fell to 29.7 (754.4). The wind blew hard throughout the forty-eight hours, but during the passing rain squalls it was terrific; the sea was very high and irregular. On the 23d the bark "Emilia T.," in N. 34° W. 68°, encountered a hurricane from se. by e., veering to nw. and lasting twenty-four hours, lost sails.

This report seems to indicate that the hurricane recurved somewhere near the position given by the "Emilia T." On the 25th, the s. s. "Britannia," in N. 38° 15', W. 63° 10', reported having encountered a cyclone from sw. which suddenly flew around to ne. and then to se., with very heavy sea, vessel shipped large quantities of water; damaged boats and lost sails. The s. s. "Republic" reported, 4.21 p. m., Greenwich mean time, N. 41° 39', W. 60° 29'; at 8.2 p. m. barometer 29.79 (756.7), wind s., force 4, heavy squalls of wind and rain, wind veering to se. in the squalls; midnight, barometer 29.68 (753.9), wind ese., force 8, moderate gale, with fierce squalls; 14h. 2m., barometer 29.48 (748.8), wind shifted to ene. and increased, squalls more frequent; 16h. 2m., barometer 29.22 (742.2), wind veering to northward and blowing with hurricane force, with heavy confused sea; 18h. 2m., gale at its height, fierce squalls, barometer beginning to rise; 20h. 2m., barometer 29.44 (747.8), wind n., force 10, heavy confused sea; 24h. 0., barometer 29.53 (750.0), weather moderating, wind veering to nw. Ship's position on the 26th, N. 42° 32', W. 55° 0'.

From the 20th to 25th the storm-vortex seems to have moved very slowly, but after turning to the northeastward the movement became more rapid; the pressure decreased, and the wind and sea became, if possible, more violent. On the 26th the storm centre was probably on the southern edge of the banks of Newfoundland. The bark "Lynwood," in N. 43° 18', W. 54° 31', reported, 3 p. m., 25th, wind s., with rain, barometer falling rapidly, hove ship to, on the starboard tack; 5 a. m., 26th, wind died out, and at 6.20 a. m. a hurricane burst out from ne. throwing the ship nearly on her beam ends; parted topsail sheets, lost lower topsails and blew the sails out of the gaskets; lost eleven sails; the hurricane lasted ten hours, with terrible fury and fearfully high sea.

It was this gale that wrought such damage to the fishing vessels on the Banks; the gale began suddenly at sunrise on the 26th, the wind blowing violently from the e. and shifting to nne. with high sea. It is reported that one hundred dories and eighty men were lost; this great loss of life was due to the fact that many dories were away from their vessels, overhauling nets when the gale burst on them, and were unable to regain their ships. Many fishing vessels ran before the gale and reached port in a disabled condition, others were swamped by the heavy seas and their crews washed overboard. The lowest reliable barometric observations on the 26th, in connection with this storm, as yet in the possession of this office,

are those of the steamships "State of Nevada," and "Pennsylvania." The former, in N. 45° 43', W. 49° 15', reported barometer 28.9 (734.0), wind ese., force 9; at about 9 a. m., (Greenwich mean time), it began to blow strongly from the s. and veered to ese., increasing to a whole gale with very high sea; at noon the wind suddenly shifted to nw. and continued until 2 p. m., blowing very hard. The s. s. "Pennsylvania," in 45° 28', W. 50° 00', reported barometer 28.98 (736.1), wind nue., force 10, thick and sultry.

All vessels between the fortieth and fiftieth meridians and south of N. 47° reported strong gales from s., ne., and nw. The s. s. "Finchley," in N. 47° 20', W. 47° 40', reported strong ne. gale, veering to n. and nw., barometer, not corrected, 28.8 (731.5). Moving northeastward during the 26th, the storm-centre reached N. 51°, W. 36°, on the 27th, the barometer having risen to 29.41 (747.0), as reported by the s. s. "British Princess," in about N. 49° 20', W. 37° 20'. From 10.30 a. m. to 2.30 p. m., (Greenwich mean time,) of the 27th, that vessel experienced a heavy gale from wsw., w., and nw. The s. s. "Habsburg" reported: 27th, 2.40 a. m., barometer 29.59 (751.6), wind sse., force 7; 3.40 a. m., in N. 48° 20', W. 40° 00', barometer 29.45 (748.0), wind se., force 8; 4.40 a. m., wind s., force 10; 5.40 a. m., wind sw., force 10; 6.40 a. m., wsw., force 9, sea very heavy and irregular. From 6.40 a. m. till 10.40 a. m., wind wsw., force 8, barometer rising; at 10 a. m., wind changed to wnw.; from 10 a. m. to noon, wind decreasing and barometer rising. By the 28th the depression had moved northeastward to about N. 56°, W. 21°, the region of least pressure being indicated by the isobar for 29.5 (749.3); the storm had apparently decreased in energy, as vessels to the west of the centre reported northerly to northwesterly winds of force 5 to 7, and the wind remained moderate in front of the depression. On the 29th the disturbance was near the Irish coast.

VIII.—The data relating to this disturbance, which was apparently a tropical hurricane, are very meagre prior to the 28th, so that, at the present writing, it is impossible to determine when and where the storm originated. The following reports may have some connection therewith:

On the 24th the bark "N. Boynton," in N. 24°, W. 60°, took a heavy squall with rain; the wind increased to a hurricane and the vessel lost boats, stove bulwarks, and had decks swept. 25th, the bark "Paolina" in N. 25° 49', W. 62° 22', took a hurricane from nw. veering to sw. and w., lasting until the 28th, (N. 28° 42', W. 68° 02') lost and split sails. Same day the brig "Maggie Glen," in N. 25° 14', W. 64° 59', encountered a hurricane; vessel was thrown on her beam ends and abandoned; Captain Knock, who has made fifty-eight trips to the West Indies, reports that this was the most violent hurricane he ever experienced. The ship "Eclipse" reported: August 19th, in N. 16°, longitude not given, (probably between W. 45° and 55°) threatening weather, raining in torrents constantly for four days, wind hauled to sse.; appearances indicating a cyclone, hove to for twelve hours, when the weather began to improve, but on proceeding to the northwestward it grew worse again; followed it along until the 28th, in N. 29° 40', W. 64°, then hove to again; in twenty-four hours the weather cleared and the wind hauled to sw. On the 28th the bark "Alsen," in N. 32°, W. 71°, had a strong ne. gale, lasting twenty-four hours.

The reports used in tracing this disturbance are the following: The brig "Daphne," on the 28th, in N. 35° 07', W. 66° 46', reported, 2.30 a. m., heavy se. gale, which continued with great force until 2.30 a. m. of the 29th, when it blew a hurricane. The vessel was knocked down, the sea making a complete breach over her; cut away the foretopmast backstays, the foretopmast going over the side and carrying with it the foremast head, maintopmast, jibboom and all attached. The foresail was well secured, but it was blown and washed out of the gaskets and lost. The weather remained stormy throughout the 29th, 30th, and 31st. At Bermuda the wind blew with the force of a fresh gale from se. on the 28th, changing on the 29th to a moderate sw. gale, squally weather. Vessels near the seventieth meridian had strong ne. gales, with long heavy south, and short east, swells. After passing Bermuda the storm-centre appears to have moved nearly due north, low area vi., of chart i., probably uniting with this disturbance during its passage along the coasts.

On the 29th the storm-centre was near N. 40°, W. 67°, the bark "Chignecto," in N. 40° 15', W. 65° 00', had a severe sse. gale, shifting to nw. blowing with hurricane force for twelve hours, lost sails, etc. The s. s. "State of Nevada," reported at 2 a. m., (Greenwich mean time,) 29th, light e. wind; 6 a. m., fresh breeze from same direction, with heavy showers and lightning in the northwest; 10 a. m., moderate gale increasing rapidly; noon, N. 41° 02', W. 66° 04', barometer 29.68 (753.9), gale increasing and veering to ne. with constant rain; 2.45 p. m., blowing a whole gale from ne. with very high sea; 7 p. m., wind moderating and veering to west, lowest barometer 28.98 (736.1), at 4 p. m. By midnight of the 29th the storm-centre was probably at no great distance from the coast of Nova Scotia, when the course changed to the eastward; great damage was done to vessels in the harbors of Cape Breton island, and many vessels put into Halifax to repair damages. The storm was very disastrous to fishing vessels on the Banks; many of these, being disabled in the gale of the 26th, were unable to reach port before the present hurricane swept over them, and were not in a condition to withstand it. Vessels as far eastward as the fifty-seventh meridian, reported terrific gales on the 29th. On the 30th the storm-centre was near N. 45°, W. 57°, as indicated by the following: s. s. "British Princess," 10 a. m., (Greenwich mean time,) 30th, strong gale set in, force 9 to 10, continued till 3.40 p. m., when it began to moderate, minimum barometer reading during the gale 29.38 (746.2), wind sw. At 5.40 a. m., five hours before the height of the gale, the barometer read 29.75 (765.6); the wind afterward shifted to wnw., force 9 to 10, ship's position at noon N. 40° 30', W. 56° 10'. S. S. "Fulda," reported 3 a. m., (Greenwich mean time) 30th, wind began to back and increased in force; the following observations were taken during the gale:

Hour.	Barometer (corrected.)		Wind.		Remarks.
	Inches.	Mill.	Direction.	Force.	
4 a. m.....	29.79	756.7	se.	6	Heavy rain; lightning at intervals.
5 a. m.....	29.16	740.7	sse.	8	
9 a. m.....	29.20	741.7	sw.	9-10	Heavy and breaking sea.
10 a. m.....	26.23	742.9	sw. by w.	9-10	
11 a. m.....	29.39	745.7	sw.	9-10	
12 m.....	29.41	747.0	sw. by w.	9-5	Position, N. 43° 26', W. 58° 47'.
4 p. m.....	29.51	757.2	w.	7	Moderating.

S. S. "Habsburg:"

Hour.	Barometer (corrected.)		Wind.		Remarks.
	Inches.	Mill.	Direction.	Force.	
3.46 a. m.....	29.59	759.2	se.	7	
7.50 a. m.....	29.40	746.7	se.	9	
8.50 a. m.....	29.23	742.4	se.	9	Minimum.
9.50 a. m.....			sw.	10	
10.50 a. m.....			sw.	10	

From 11 a. m. the barometer began to rise, and at 11.50 a. m. it read 29.5 (749.3), wind wsw., force 10; at 0.47 p. m. (near N. 43° 15', W. 57° 20'), wind decreasing; 3.47 p. m., wind w. by s., force 8, barometer 29.7 (754.4); 7.51 p. m., wind wnw., force 6, barometer 29.94 (760.5); a very heavy sea prevailed during the storm. The s. s. "Rotterdam," reported, 4 a. m., barometer 29.2 (741.7), wind sw., force 10, perfect storm, high cross sea; 7 a. m., barometer 29.03 (737.3), wind w., force 9, gradually decreasing; the wind changed during the time of the heaviest gusts; the upper atmosphere was clear, but below were dense clouds of haze or scud, rendering it impossible to see ahead; the sea was white with foam and fearfully high; lightning was observed in the southwest and west. At noon the ship's position was N. 42° 45', W. 59° 24'.

During the day the storm continued its northeastward course, maintaining all its fury, and by the 31st it was probably central near N. 52°, W. 36°. The s. s. "Arizona" in N. 47° 55', W. 45° 22', reported 12.08 p. m. (Greenwich mean time), barometer 30.09 (764.3), wind sse., force 4, barometer falling rapidly and wind increasing; 9 p. m., barometer 29.42 (747.3), wind s., force 7; 2 a. m. of the 31st, the wind gradually hauled to wsw., force 9, and the barometer read 29.32 (744.7), very heavy sea; 2.30 a. m., wind suddenly hauled into ne., force 7, and the barometer rose even more rapidly than it had fallen, the weather became fine but the high westerly sea kept up. At 12.08 p. m. of the 31st the s. s. "Waesland," in N. 49° 15', W. 36° 34', reported barometer 29.23 (742.4), wind nnw., force 10, high confused sea. This storm was probably identical with that reported by vessels between W. 30° and the British coasts on September 1st and 2d, and appears to have lost none of its violence on nearing the coasts.

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IV.—The first indications of this hurricane were observed at Saint Pierre, Martinique, on the afternoon of the 4th. The following report thereof was furnished by Captain Alexander, of the brig "L. & W. Armstrong": "Tuesday, September 4th. Harbor of Saint Pierre, Island of Martinique.—Forenoon, fine weather, barometer (aneroid) 30.06. Afternoon, intermittent showers, wind ene., force 3. At 5 h. 0 m., a heavy swell began to come from wnw., and broke very heavily on the beach; glass 30.04, wind ne. At 6 h. 30 m., wind n., heavy rain squalls, glass 30.04, sea increasing; 7 h. 15 m., wind nww., force 7, glass 29.8; at times very heavy rain; 7 h. 45 m., wind nww., force 9, glass 29.7; 8 h. 30 m., wind w., force 9, glass 29.54; incessant rain, sea breaking very heavily. At 9 h. 30 m., wind from w. to wsw., blowing in furious gusts; the glass fluctuated so much that at first I thought it was broken, but I noticed that it fell to 28.2 and rose again to 29.02. At that time we had to close the cabin doors, as the decks were flooded with water; at about 10 h. 30 m., the wind blew steadily from wsw., with hurricane force. All hands were lashed to the vessel to prevent being washed overboard; the sea was furious and very broken. At this time I saw the first of the vessels go ashore, and in a few minutes they broke up. I had no chance to go below to look at the glass until 14 h. 15 m., when it read 29.5; about half an hour before this, the wind hauled to sw., with the first flash of lightning that I observed. At 16 h. 0 m., the wind would lull at times and the rain would cease, then again it would blow in furious gusts accompanied by heavy rain. At 16 h. 30 m., the wind hauled to s., with very bright flashes of lightning; sea going down, glass 30.0, wind s., force 10, sea rough but not breaking. At 22 h. 0 m., glass 30.06, wind force 3, clearing."

The above report shows that the hurricane passed from se. to wnw. of Martinique and, by the morning of the 5th, it had entered the Caribbean sea. At Basse Terre, Guadeloupe, all the wharves were destroyed.

The following report, furnished by Captain G. S. Locke, of the s. s. "Muriel," at Saint Thomas, indicates that the centre passed at some distance south of that island: "5th.—This day began with a fresh breeze from ene. and with a very threatening appearance; a hurricane reported to windward. At 4 p. m. the wind hauled to ese., with heavy squalls and much rain. The barometer gave no indication of bad weather, particularly

of the close proximity of a hurricane, as it fell only about .15 inch during the twenty-four hours. The hurricane must have passed about two degrees south of this island. During the night the sea-swell was very heavy from the southwestward; at 11 p. m. the weather cleared up; barometer rising."

During the 5th the hurricane moved slowly westward, south of Porto Rico, as indicated by the report of Captain C. V. Decker, of the brig "Rising Sun:" "At San Juan de Porto Rico the barometer was slightly affected by the cyclone passing to the southward of the island on September 5th. While the storm was advancing toward the island the weather was threatening, the sky being covered with heavy black clouds, the wind blowing a moderate gale from northeast to southeast. At 11 h. 23 m., Greenwich mean civil time, the weather partially cleared."

By midnight of the 5th the storm-vortex was near to Saint Domingo. At midnight of that date the wind blew from ne., and at 7 a. m. of the 6th it suddenly veered to sw., blowing with great fury and lasting until 10 a. m. Much damage was done at sea and on shore; vessels at anchor were driven from their anchorages and blown out to sea; the s. s. "Foscolia," off Saint Domingo, sustained severe damages, and a large number of small craft were lost; in nearly all cases all hands perished. The hurricane is reported to have given no warning of its approach, except that the sea rose before the wind.

The report of Captain Cameron, of the Royal Mail Steam Packet Company's s. s. "Belize," is given herewith, and shows that the vessel crossed the track of the hurricane between Cape Maysi, Cuba, and Castle Island Light (Crooked Island,) on the 6th, and that the storm-centre was, for several days, to the westward of the ship:

"September 5th.—11 hours, Greenwich mean time, left Port Antonio, Jamaica, barometer (corrected) 29.87; 17 hours, moderate ne. wind, with passing clouds moving toward the sw., barometer 29.85; 21 hours, fresh ne. wind with ne. sea, barometer 29.8.

"6th.—5 hours, fresh ne. wind and cloudy, with high sea, barometer 29.8; 9 hours, moderate ne. wind and squally, with rain, barometer 29.7; 13 hours, passed Cape Maysi light, barometer 29.64; 17 hours, strong n. gale, with furious squalls and heavy rain, very heavy cross sea, barometer 29.39; 21 hours, strong sse. gale, with rain at times and a high, confused sea, barometer 29.41.

"7th.—5 hours, fresh se. gale, with constant heavy rain and high se. sea, barometer 29.58; 7½ hours, passed Castle Island light-house; 9 hours, strong se. wind, heavy sea, and constant rain, barometer 29.61; 12 hours, passed Bird Rock light; 17 hours, strong se. gale, with furious squalls and vivid lightning, barometer 29.62; 21 hours, strong se. gale, with furious squalls, thunder, much vivid lightning, and heavy rain, barometer 29.62, ship laboring heavily.

"8th.—5 hours, fresh se. gale, with very heavy se. sea, cloudy; 9 hours, strong se. wind, cloudy, and high sea, barometer 29.68; 17 hours, strong se. wind, cloudy, heavy sea, barometer 29.72; 21 hours, strong se. wind, cloudy, heavy sea, barometer 29.72.

"9th.—5 hours, sudden shift of wind to ssw., with rain and high sea, barometer 29.74; 7 hours, wind shifted to se.; 9 hours, strong se. wind, squally, with heavy rain, barometer 29.76; 17 hours, no change, barometer 29.74; 21 hours, fresh se. wind, with furious squalls and heavy sea, barometer 29.72.

"10th.—5 hours, strong se. wind, overcast, barometer 29.7; 9 hours, strong se. gale, with heavy rain and very heavy sea, barometer 29.66; 17 hours (about N. 33°, W. 74°), very heavy se. gale, with terrific squalls of heavy rain and very heavy cross sea (se. and sw.), barometer 29.6; 21 hours, very heavy sse. gale, with hard squalls and heavy cross sea, barometer 29.61.

"11th.—5 hours, wind and sea decreasing, overcast, barometer 29.66; 9 hours, fresh se. wind, fine weather, high sea, barometer 29.7; 17 hours, moderate se. wind, high sea, barometer 29.76; 21 hours, moderate e. wind and fine weather, barometer 29.77."

During the 7th the hurricane passed slowly north-northwestward along the western shores of the Bahama islands, causing numerous shipwrecks and great loss of life along the Exuma cays. At Great Harbor cay, 50 miles southeast of Nassau, the wind blew with hurricane force from ene., veering with the sun to sw.; all fruit trees were uprooted and much damage was done. By the morning of the 8th the hurricane was central south of Nassau, New Providence, Bahamas.

The following report is taken from the "Nassau Guardian," of September 8th, and was forwarded to this office by Captain Faircloth, of the s. s. "Cienfuegos:" " * * * The weather was squally during the whole of yesterday (7th), and the sun, at setting, shed a lurid glare over the western sky. There were occasional showers during the evening and a breeze sprang up from ene., increasing till midnight, when a gradual fall in the barometer commenced. * * * At 11.30 a. m. (8th) the wind gradually shifted from ne. to nw., and the cyclone was at its height at 2 p. m., the barometer indicating 28.868. It then began to rise, and the wind veered to wsw. at 6.30 p. m., blowing from that point for four and a half hours. Rain fell heavily nearly all day and caused great destruction of property by beating into the houses and stores; there is scarcely a house which has not sustained damage. Walls, fences, and trees have been blown down in all directions, and many of the houses of the poor completely prostrated. Many wharves are totally destroyed and others are greatly damaged; the destruction to shipping far exceeds that caused by the hurricane of 1866. * * *

The following observations were recorded on board the light-house tender "Richmond," anchored near Nassau:

Date.	Hour.	Wind.	Force.	Barometer.
September 8th.....	1.00 p. m.....	n.	12	29.950
Do.....	1.20 p. m.....	n.	hurricane	28.940
Do.....	1.30 p. m.....	n.	"	28.930
Do.....	1.45 p. m.....	nnw.	"	28.895
Do.....	2.00 p. m.....	nw.	furious gusts	28.868
Do.....	2.20 p. m.....	nw.	"	28.908
Do.....	2.30 p. m.....	wnw.	"	28.914
Do.....	3.00 p. m.....	wnw.	"	28.926
Do.....	3.30 p. m.....	wnw.	"	29.034
Do.....	3.45 p. m.....	w.	"	29.104
Do.....	4.00 p. m.....	w.	"	29.130
Do.....	4.30 p. m.....	w.	"	29.255
Do.....	4.40 p. m.....	w. by s.	"	29.300

N. B.—It is not known whether the above barometric values are as read off, or whether the necessary corrections have been applied.—C. S. O.

The "Nassau Guardian," of the 15th, publishes a list of nearly one hundred vessels that have been either totally wrecked or seriously damaged in this hurricane; the same paper also states that the number of lives lost has been very great, fifty-three having been reported up to that date.

During the 8th the storm-vortex appears to have passed between Nassau and Eleuthera island, and by the morning of the 9th it was probably central north of, and near, Abaco island. Mr. J. Peterson, of the brig "Giles Loring," reports as follows: "On the 9th, between Abaco and Stirrup cays, had a gale from e.; ran in on the Bahama banks for anchorage; anchored in four and a half fathoms; barometer, 29.5, blowing a hurricane; cut away spars to save vessel and cargo. At 11 a. m. the wind suddenly shifted round to nw. in a furious blast, covering the vessel fore and aft with spray. Latter part of the day, fresh gale and clearing weather, wind w."

Mr. Peterson also reported having been informed by wreckers that at the Beminis (west of Nassau), the wind blew from n. to nw. a moderate gale. Although much damage was done to property among the islands north of New Providence, it is reported, however, that the hurricane was not so disastrous as when south of that island.

During the 9th the hurricane appears to have moved nearly due northward; the following reports serve to indicate its course and show that it exhibited great energy after leaving the Bahamas:

Captain Klocking, of the German bark "Wieland," forwards the following from Charleston, South Carolina: "After sailing through the trade winds with light ne. and ene. breezes,

weather very hot until the 7th, we fell in with an e. by s. breeze, force 5 (N. 27° 35', W. 69° 58'), barometer 29.9 (error unknown), se. sea swell. 8th, N. 28° 29', W. 72° 53', wind se. 6, squally, barometer 29.85, s. sea swell, lightning in the western horizon. 9th, N. 29° 34', W. 75° 54', wind ese. 7, thunder squalls with rain, barometer 29.75, s. sea swell, high. 10th, N. 30° 18', W. 76° 18', wind se. blowing a violent gale, barometer 29.55, lightning all around the horizon, rain squalls, sea from all directions. 11th, N. 31° 31', W. 74° 38', wind s. 8, barometer 29.70, sse. sea swell. 12th, N. 32° 5', W. 76° 18', wind sw. by s. barometer 29.75, weather fine, all canvas set. (Observations taken at 0 hr. 8 min. Greenwich mean time.)"

Captain J. W. Reynolds, of the s. s. "City of Washington," reports as follows: "Sunday, September 9th, 4 a. m., barometer 29.8, the wind came out strong from se. with heavy rain and cross sea; at 9 a. m., hove ship to (N. 29° 30', W. 78° 5'), blowing hard from ese., barometer 29.7, raining hard. At 8 p. m., blowing a hurricane with an ugly cross sea breaking over the ship, barometer 29.3, wind e. heavy rain. Monday, September 10th, 4 a. m., blowing a hurricane, a very heavy cross sea running and breaking over the ship, wind ne., raining heavily, barometer 29.0; 8 a. m., (near N. 30° 45', W. 78° 52') blowing hard from ne., barometer 29.05; noon, wind n. barometer 29.4; 4 p. m., wind nw., blowing freshly, barometer 29.6, kept ship on her course."

Captain Quick, of the s. s. "New York," reported: "September 8th (N. 31° 45', W. 80° 00'), from noon of this day until midnight, weather squally, wind light from e. to ne., barometer falling. 9th came in squally; when Cape Canaveral bore west, at 3.30 a. m., a very heavy swell came in from ese. to ne., weather very threatening, thunder and lightning. The barometer had fallen very slowly to 29.7, and remained at 29.7 until I was within thirty miles of Jupiter inlet, when the wind hauled from ne. by way of n. to w. At noon of this day, at Jupiter inlet, the barometer began to rise, with clearing weather, but still squally from the west."

Captain A. C. Burrows of the s. s. "Rio Grande," bound from New York to Galveston, furnishes the following interesting observations concerning this hurricane: "For several hundred miles outside of its approaching periphery, the sunsets were yellow and the reflection on the clouds in the east was fiery red, while the rising of the sun was characterized by a startling redness of the eastern sky (always considered a sign of bad weather). The sun's early rays were scalding and stifling, although the thermometer did not indicate unusual heat; the atmosphere during the nights was close and oppressive and the stars presented a 'sprawling' and 'spattered' appearance, while the young moon was seen surrounded by a vapory halo of continually changing density. The action of the barometer showed that the cyclone was pushing its irresistible progress north against a district of high barometer, for the reason that, from the time the "Rio Grande" left New York (10 p. m., 5th), until the storm-centre bore nearly east of her, seventy-six hours later, the barometer was gradually forced down in the following manner: it would fall a tenth and then rise (probably on account of local influence) half as much, then fall more, and so repeat. At 5 a. m., of the 9th, the ship's position was sse. of Canaveral, fifty-five miles from it and about ten miles from the shore; here the barometer began to fall very rapidly from 29.80, the wind breezing up from nne., accompanied by heavy rains and an increasing swell from about east. At 6 a. m. the "Rio Grande" was hauled off shore, as it was considered safer to get away from the immediate vicinity of the coast, particularly as it was impossible, at that time, to tell in just what direction the storm was advancing. Care was taken, however, not to go farther than was necessary to secure an offing, as the probabilities were that any progress to eastward would bring the ship nearer to the vortex of the storm. Fortunately this passed so far to the east of us that the wind only reached the force of a heavy gale, and the storm advanced northward so fast that that force only lasted till about 8 p. m., when the breaking clouds and moderating wind

showed that the storm had passed by, and we were able to resume our course without having suffered any loss beyond that of sixteen hours' time."

During the 10th the hurricane continued its northerly movement toward the southern coast of North Carolina, and by the morning of the 11th the centre was near Smithville, North Carolina. The following observations were taken at that station during the hurricane:

Observations taken at Smithville, N. C., during the most violent portion of the storm of September 10, 11, and 12, 1883.

Date.	Time.	Barometer corrected for temperature, instrumental error, and elevation.	Exposed thermometer.	Wind.	
				Direction.	Velocity in miles per hour.
1883					
September 10	7.00 a. m.	30.031	60.0	ne.	20
Do.	3.00 p. m.	29.529	64.0	ne.	28
Do.	11.00 p. m.	29.556	65.5	ne.	32
September 11	6.10 a. m.	29.170	71.0	e.	50
Do.	5.35 a. m.	29.170	71.0	e.	60
Do.	7.00 a. m.	29.184	71.0	e.	58
Do.	7.30 a. m.	29.157	71.0	e.	54
Do.	5.00 a. m.	29.175	70.8	se.	84
Do.	8.20 a. m.			se.	93
Do.	9.00 a. m.	29.191	70.5	se.	89
Do.	9.15 a. m.	29.217	70.5	se.	79
Do.	9.30 a. m.	29.247	70.0	se.	52
Do.	10.00 a. m.	29.254	69.0	se.	79
Do.	10.30 a. m.	29.309	69.4	s.	77
Do.	11.00 a. m.	29.355	68.7	s.	72
Do.	3.00 p. m.	29.503	68.0	sw.	50
Do.	11.00 p. m.	29.725	66.0	sw.	25

The gale began at 9.30 a. m. of the 10th; it reached its maximum force at 8.20 a. m. of the 11th, and ended at 1.20 a. m. of the 12th.

During its progress from the Bahamas, the centre does not appear to have deviated from a northerly course, since its extreme violence was not felt at stations on the coast of Florida, Georgia, and South Carolina, nor by vessels east of the seventy-fourth meridian, as indicated by following reports, but it was very disastrous to vessels between Hatteras and Wilmington, North Carolina:

Captain J. W. Lindsley, of the brig "Alcira," reports: "On the 9th, 10th, and 11th (between N. 35° 01', W. 74° 10', and N. 36° 32', W. 73° 30'), the wind blew heavy in squalls from all points of the compass, with a destructive sea running from all quarters. The barometer fluctuated rapidly, but did not at any time fall below 30.06; the clouds were very low, but I had no means of testing their velocity or that of the wind. I regret very much that, owing to loss of sails, &c., and the lack of proper instruments, I was not able to make any close observations, as there were some peculiarities attending this storm that I would have liked to note more particularly, but I hope that others have been able to do so."

Captain A. B. Chase, of the schooner "Norena," reported: "From the 8th to the 13th (from N. 31° to N. 39° and between W. 67° and W. 68°), experienced a very heavy swell, commencing at ssw., and running gradually around to w. The weather during this time was fine, but a heavy bank of clouds appeared in the western board, with mare's tails flying rapidly from sw., along the horizon to an elevation of 15° to 30°. The barometer, though high, oscillated more or less."

In Captain Chase's report, the barometer ranged from 30.1 to 30.3, wind ese. to se., s. and ssw., force 3 to 4, weather very fine.

The observer at Jacksonville, Florida, reported on the 9th brisk ne. wind blowing in squalls, heavy rain at intervals; barometer fell slowly until 3 p. m., (29.88) after which it rose slightly. On the 10th the barometer remained stationary and the ne. wind backed to nw. and moderated to a light breeze. The maximum velocity of the wind at this station was 22 miles n. At display stations on the coast of Florida the velocities

were as follows: Saint Augustine, ne., 40; Fort George island, n., 30, and at Fernandina the display was reported justified.

At Savannah, Georgia, on the 9th, the wind reached a velocity of 26 miles an hour from the northeast, the barometer remaining steady at 29.99; on the 10th the wind backed from n. to nw. and reached a velocity of thirty miles an hour; the lowest reported barometer was 29.82, on the afternoon of the 11th. At Charleston, South Carolina, high winds continued throughout the 10th, the barometer falling gradually, with rain during the afternoon; on the 11th the wind changed to w. and nw., brisk; barometer rising; the maximum velocity was 31 miles, n.: lowest barometer, 29.66.

The heaviest gales were experienced at stations north of the centre. On the 10th the wind reached a velocity of 60 miles ne., at Fort Macon, North Carolina, with heavy rain at intervals during the day. On the early morning of the 11th the wind shifted to se. and continued to blow with great force; at 7 a. m. the barometer read 29.70, and fell slowly until 4 p. m. of that date, after which a slight rise occurred and the wind afterwards shifted to sw., the gale ending on the 12th.

At Cape Lookout, North Carolina, the gale began on the morning of the 9th, the wind blowing from ne., gradually increasing in force and accompanied by heavy rain at intervals. By the morning of the 10th the wind had attained a velocity of about sixty miles an hour; low nimbus clouds moved from ne., and a very high ene. swell broke on the beach. From 12 m. till 8.30 p. m. the wind blew with an estimated velocity of 75 miles an hour; it then began to lull, and at intervals it rose in sudden gusts of terrific velocity, accompanied by sheets of salt water and sand and very heavy rain, which continued during the night. The wind remained at ne. until 1 a. m. of the 11th, when it shifted to se. and blew with great force throughout the day, accompanied by heavy rain. The rain was reported to have been the heaviest known at this station in many years. During the night of the 11-12th, the wind shifted to sw. and moderated. No damage was done at this place, as, owing to the timely warning issued from this office, all fishing property had been moved to places of safety.

At Portsmouth, North Carolina, the gale was equally severe; the wind reached a velocity of 62 miles, ne. on the 10th, shifting to se. and e. gales on the 11th; the high tide and heavy surf submerged the island to a depth of one foot. One vessel was driven ashore at Ocracoke inlet. The observers at coast stations reported much wreckage drifting along the shores. At Hatteras the lowest reported barometer during the gale was 29.73.

At Wilmington, North Carolina, the ne. gale began at 3 p. m. of the 10th, reaching a velocity of 32 miles an hour, barometer falling. On the 11th the barometer read 29.41 and the wind changed to se. and attained a velocity of 39 miles an hour. Telegraph and telephone wires were prostrated and one or two buildings of light construction were blown down; on the river several vessels were driven from their moorings, but received only slight damage. The land on the western side of the river was flooded by the immense body of water which was driven up the river by the gale.

The hurricane was most severe at Smithville, North Carolina, and appears to have lost its energy on reaching the land. The shifting of the wind indicates that the centre passed to the westward of the station, but the barometric gradient decreased so rapidly that the subsequent path of the disturbance became doubtful and cannot be traced. The observer at Smithville reports that many fences and buildings of light construction were destroyed, several houses unroofed, and trees uprooted. The leaves remaining on the trees after the gale, had the appearance of having been frostbitten, turning black and beginning to wither. The rain had a saltish taste from admixture of spray carried up and borne along by the violence of the wind. Many vessels broke from their moorings and drove ashore, sustaining more or less damage. The damage by the hurricane at Smithville was estimated at from \$8,000 to \$10,000.

After the 10th, 11th, and 12th the winds remained high over

the ocean from W. 75° eastward to the sixtieth meridian, but the pressure increased to 30.0 and above.

Captain Powell, of the bark "Aquadneck," in a report of heavy ne. to se. gales encountered by him during the 9th, 10th, and 11th, when off Hatteras, says: "My barometer never fell below 30.0, nor rose above 30.2, the average was 30.1; for such a gale as this I never saw the barometer so high."

After this storm reached Wilmington, North Carolina, a slight depression developed in the southern portion of the middle Atlantic states on the 11th, and moved northward to western New York. This movement was traced by the wind directions at neighboring stations, the difference of barometric pressure being much less than one-tenth of an inch.

The following warnings in connection with this hurricane were issued by the Chief Signal Officer: At midnight of September 6th coast stations from Delaware Breakwater to Pensacola were warned of the approach of a cyclone, and vessels advised not to sail until further notice:

"Special bulletin, September 7th, 1 a. m.—A hurricane is reported in the West Indies near Porto Rico, moving slowly to the northward."

"Special bulletin, September 7th, 10 a. m.—Reports from the West Indies indicate that a hurricane is moving towards Florida from southeast of Jamaica, and vessels should not sail southward until the track of this storm is more fully determined."

September 7th.—Despatch sent to the "Maritime Exchange," New York: "Hurricane reported from the West Indies near Jamaica. Direction of movement cannot now be determined. Further information will be sent you when received."

"Special bulletin, September 8th, 10 a. m.—Reports from Florida indicate that a severe storm is moving slowly northwestward from the West Indies."

"September 8th.—To observer, New York: Reports from Florida indicate that a hurricane is moving northwestward from the West Indies."

"Special bulletin, September 10th, 1 a. m.—A severe storm is apparently moving northeastward from the West Indies, and it is now central off the south Atlantic coast."

"Special bulletin, September 10th, 10 a. m.—The indications are that the severe storm, which is central off the coast of Florida, will move northeastward during Monday and Tuesday, causing dangerous gales off the southern Atlantic, middle Atlantic, and southern New England coasts. Shipmasters are warned that it is not safe for vessels to leave port."

"Special bulletin, September 11th, 1 a. m.—The hurricane previously reported in the West Indies is moving northward along the Atlantic coast and is now central near Cape Hatteras. Dangerous gales are anticipated off the middle Atlantic and New England coasts on Tuesday and Wednesday. Vessels should not leave port."

"Special bulletin, September 11th, 10 a. m.—The West Indian hurricane has moved northward and is now clearly defined as central on the south Atlantic coast near Wilmington, North Carolina. Violent gales are reported this morning from the middle Atlantic and south Atlantic coasts, with heavy rains on the coast. Dangerous gales are indicated for the New England and middle Atlantic coasts during Tuesday and Wednesday. Vessels should not leave port, as the storm will be unusually severe north of Hatteras, North Carolina."

reported cloudy and threatening weather, with long e. sea-swell. The s. s. "Edith Godden," which arrived at New York October 24th from Jamaica, reported having encountered heavy ne. gales between N. 35° and Barnegat. On the 23d the wind shifted from ne. and e. to se. and s., which indicated that the storm-centre was moving westward; the barometric observations and wind force reported, however, do not show that the depression attained any great depth, or that it displayed unusual storm-energy. The ship "Hedwig," in N. 34° 26', W. 74° 30', reported barometer 30.02 (762.5), wind sse., force 3, long ene. swell, and the s. s. "D. J. Foley," in N. 32° 36', W. 75° 04', barometer 30.00 (762.0), wind se., force 2. During the 23d and 24th moderate to strong ne. gales prevailed off the New England coast. The disturbance appears to have recurved when between N. 34° and 35°; the ship "Hedwig," on the 24th, in N. 35° 32', W. 73° 14', reporting barometer 29.97 (761.2), wind nw. by n., force 5, squally; the s. s. "D. J. Foley" also reported, N. 35° 00', W. 74° 40', barometer 29.95 (760.7), wind nne., force 4. During the day the depression moved northeastward, and on the 25th it was central apparently at some distance to the south or southeast of Nova Scotia, the pressure ranging from 29.6 (751.8) to 29.7 (754.4). During the 26th the depression moved northeastward, and by the 27th it was central near N. 50°, W. 30°. Captain Vogelgesang of the s. s. "Rhaetia," in N. 50° 41', W. 29° 20', reported as follows: "Light wind shifting to se. with rain, squally at times, westerly sea decreasing, southerly sea increasing. The wind increased in force and went around to w., with heavy rain and heavy northerly sea-swell making up; at 12.45 p. m. the wind suddenly hauled to north, increasing to a hurricane, sky immediately clearing." The following observations were taken during the gale:

Time.	Barometer corrected.		Temperature.		Wind.	
	Inches.	Mill.	Fah.	Cent.	Dir.	Force (0-10)
October 27, 1.00 a. m.	29.82	757.4	50	10.0	wsw	4
" 4.00 a. m.	29.72	754.9	51	10.6	sse.	1-5
" 8.00 a. m.	29.48	753.9	53	11.7	se. s.	6
" 12.00 noon	29.00	738.0	55	12.8	wsw.	6
" 12.05 p. m.	29.03	737.4	55	12.8	w.	6
" 1.00 p. m.	29.00	738.2	51	10.6	n.	10
" 2.00 p. m.	29.07	738.4	50	10.0	n.	10
" 4.00 p. m.	29.32	744.8	50	10.0	n by w	9
" 8.00 p. m.	29.55	750.6	48	8.9	nw.	8
" 12.00 midnight	29.66	753.3	47	8.3	nw.	6-7

On the 28th the region of least pressure was near the fifty-fifth parallel and about W. 20°, in which region moderate to strong westerly to southerly gales were reported, barometer ranging from 29.45 (748.0) to 29.65 (773.1). On the following day the depression either filled up or passed beyond the limit of observation.