UNITED STATES DEPARTMENT OF COMMERCE
WEATHER BUREAU

Chief, U. S. Weather Bureau
Washington 25, D. C.

Subject: Report of Hurricanes, September 1947

October 15, 1947

Sir:

The hurricane of mid-September crossed Florida from Ft. Lauderdale on the east to Naples on the west on September 17th. Eleven persons were killed as a direct result of the storm and six others died as an indirect result. In addition 186 persons were injured, with twenty-two seriously injured. Two deaths and twelve injuries occurred in a tornado that occurred on the edge of the hurricane at Apalachicola on the 18th. Property and crop damage is estimated at slightly over $31,000,000. This hurricane was first reported to us by the SS ARAKAKA in about latitude 15° north longitude 49 west on the night of September 10th. Prior to that, however, Lt. G. A. Mikulam of Pan American Airways, stationed at Dakar, F.W.A., reported in part as follows:

"The low aloft over the intertropical convergence zone was reflected on the surface and a disturbance developed, which, while still on land gave us at Dakar moderate E to NE winds. Just as soon as it hit the sea it deepened and picked up moisture and gave Dakar 85.4 mm. of rain on September 4th. The last I could keep track of it was on September 5 at 1200Z when it was over the Cape Verde Islands. Once it got beyond the Cape Verde Islands I lost track of it because of lack of reports."

From the position given by Lt. Mikulam on the 5th until the ARAKAKA reported it the night of the 10th would have required a movement of about 17 MPH, and we believe there is little doubt that it was the same disturbance. We believe, therefore, that the genesis of this great hurricane was over Africa in the vicinity of Dakar.

Reconnaissance planes of the army and navy followed the hurricane during the ensuing several days on a west-northwest course to a position off Abaco Island, Bahamas, on the 15th, where it came to a virtual standstill for about 24 hours. Thereafter it turned west-southwestward and reached the Florida coast with center at Ft. Lauderdale about 11:30 am of the 17th. Hopetown on Abaco Island recorded 160 MPH highest wind when the center passed nearly over that place. The highest wind recorded by a reliable instrument in Florida was 155 MPH at Hillsboro Light near Pompano at 12:56 pm on the 17th. This station also reported the lowest pressure for a reliable instrument, 27.97 inches (corrected) at 11:25 am. It is pointed out, however, that Hillsboro Light was not in the calm center, but very close to the edge on the north side. It is very probable that pressure was lower in the exact center. The center moved on a westward course across the state at about 10 MPH and entered the Gulf of Mexico a short distance north of Naples about 10 pm of the 17th.

Hurricane force winds were experienced along the Florida east coast from about Cape Canaveral to Carysfort Reef Light, a distance of about 240 miles, while winds of 100 MPH or over were felt from the northern portion of Miami to west north of Palm Beach, or about 70 miles. This classifies this hurricane as one of the great storms of recent years.

The Cape Verde family of hurricanes, as they are sometimes called, are the really great storms of the mid-season. They reach full maturity and violence in crossing the Atlantic, and are usually of great size as well as severe intensity.

It was fortunate that the most destructive portion of this hurricane passed between the largest communities--Miami and Palm Beach--or the damage toll would have been far greater. As it was, the smaller communities from Ft. Lauderdale to
Lake Worth bore the brunt of its violence. Pompano, Deerfield, Boca Raton, and Delray Beach were in the path of strongest winds.

As it crossed Florida the center was over the swamp lands of the Everglades and the Big Cypress where there was little damage. The area around Lake Okeechobee had hurricane force winds, but was outside the strongest area. The dikes held and there was no flooding from the lake, but heavy rains of around six to eight inches coming on top of a completely saturated and partly flooded country from previous rains, resulted in great and extensive flooding of the rich farm lands and pastures. The loss to crops, especially sugar cane, will run to several million dollars, while a good many livestock were lost in the floods.

When the storm reached the west coast communities it still retained much of its violence. The strongest wind at a west coast point was reported from Sanibel Light where gusts of 120 MPH were noted. The official in charge at Ft. Myers estimated highest sustained wind at that place at about 90 MPH, with gusts to 110, while at Naples 105 MPH was recorded on good instruments but with rather poor exposure. The tall was felt for an hour at Naples from 9 to 10 pm, and the wind dropped to 12 MPH at 9:45 pm, with shift from northwest through west to south. This leads us to conclude that Naples was near the southern edge of the calm. Heavy damage was done in the west coast communities from Everglades City to Sarasota, with greatest damage in the Ft. Myers-Punta Gorda area. The town of Everglades City was inundated by about two feet of tidewater when it rose 5 1/2 feet above normal. North of the center, however, strongest winds were offshore and low tides resulted.

After leaving Florida the hurricane turned more northwesterly over the Gulf and passed inland over the southeast Louisiana coast on the 19th. Reports indicate very heavy damage on the middle Gulf coast area, which has been estimated by the New Orleans office tentatively at $80,000,000 with 34 deaths. If these figures are correct, the total damage by this hurricane will run to about $110,000,000, with about 50 deaths as a direct or indirect result.

**SUMMARY OF CASUALTIES AND DAMAGE IN FLORIDA**

**DEATHS and INJURIES:**
- Deaths directly caused by hurricane (8 drowned) .................................. 11
- Deaths indirectly caused (accidents, electrocutions, etc.) ......................... 6
- Injured requiring treatment (22 seriously injured) .................................. 186

**DAMAGE ESTIMATES:**
- Property damage .......................................................... $10,800,000
- Crop damage (includes 6,000,000 boxes of citrus) ................................ 10,000,000
- Trees, shrubbery, and tropical ornaments .............................................. 2,000,000
- Highways, bridges, and city streets ....................................................... 2,500,000
- Piers, docks, seawalls, bulkheads & few small craft ................................ 3,000,000
- Power and communications ........................................................................ 1,500,000
- Cost of clean-up and removal of debris ................................................... 2,000,000
- **TOTAL** ......................................................................................... $31,800,000

**HOUSES DAMAGED and DESTROYED:**
- Houses destroyed ................................................................. 205
- Houses seriously damaged ......................................................... 10,543
- Families receiving assistance from Red Cross ........................................ 27,075

The relatively small figure for houses destroyed and damaged reflects resistant buildings constructed in accordance with "hurricane codes" in the communities along the southeast Florida coast, as well as the protective measures taken before the storm, such as boarding windows and removing awnings and signs. The Red Cross sheltered upward of 40,000 people who were evacuated from dangerous location, which
deadly saved hundreds of lives. The Coast Guard carried the warnings to all iso-
places and assisted in evacuations, while their planes dropped hurricane war-
streamers to all vessels around Florida to be sure they didn't fail to get
ings. We were surprised to learn that some Cuban fishing vessels failed to re-
ceive, which resulted in the sinking of the "Antonio Cordero" off Ft. Myers with the
loss of seven of her crew.

ADVICES AND WARNINGS

The Miami office issued 26 advisory and warning bulletins in connection with this
hurricane, after we had coordinated and advised with San Juan in the issuance of
the first eight. The behavior of this storm was complicated from the forecaster's
standpoint by the long standstill in the vicinity of Abaco Island, and its subse-
cquent turn to west-southwestward. No forecaster I know anticipated this turn very
long in advance, but regardless of this "unusual" behavior we alerted the Florida
peninsula nearly 48 hours ahead of the storm and actual hurricane warnings were
ordered 24 hours in advance for most of the area affected. When the southwestward
turn was noted, it was necessary to extend the hurricane warning southward to in-
clude the greater Miami area only about 12 hours ahead of the storm, but this
proved ample for all protective measures. Protective work was well underway before
hurricane warnings were extended, since gale warnings were ordered 12 hours previ-
ously. The most complete preparations were made for protection of property and lif-

FAILURE OF COMMUNICATIONS

The hurricane disrupted power and communications lines and put the Miami Hurricane
Central out of business about two hours before the center reached the coast at Ft.
Lauderdale. By pre-arranged plan, advisory responsibility went to the New Orleans
office and coordination to the sub-center at Washington. From about 10 am of the
17th until noon of the 19th this office was entirely inoperative. At this time
power was restored to the Aviation Building and some local lines were working. It
was 11 am of the 20th before lines were completely restored and we could resume
operations.

RECONNAISSANCE AND USE OF RADAR

The course of the storm over the Atlantic until it reached the northern Bahamas was
charted by aircraft reports. The use of planes equipped with radar were used in
night operations for the first time and proved very effective. The fixes on the
hurricane obtained by radar were as good or better than those by daylight navigation.
Poor communications and careless handling of reports were the great weaknesses of
the reconnaissance program. A great loss of time in the receipt of inflight reports
amounting to several hours at times, proved very aggravating to the forecasters,
and rendered these reports less effective than in former years.

COORDINATION WITH MILITARY

Coordination was effected through the Miami Central for all advices issued at San
Juan and Miami, and we believe all official sources used the coordinated basic data
in making distribution. Natural difference of opinion, especially with regard to
future movement, were constantly before us. Effort was made to keep within the
spirit as well as the letter of the Agreement in these coordination conferences, but
of course we had to compromise at times in order to bring about agreement. Prognos-
tic positions proved the greatest source of trouble. The military services require
a 24- and 48-hour prognosis, but it is our belief that it is never good policy to go
further in forecasting a hurricane than conditions reasonably warrant. These prog-
etic positions by the military forecasters and the WBAN analysis center, all proved wrong at the critical time and caused some confusion. When our communication were disrupted, coordination was transferred to the sub-center at Washington after the 6:15 am advisory on the 17th and coordination was returned to WBAN at 11 am of the 20th.

UNOFFICIAL FORECASTS AND PUBLIC REACTION

Never in my experience have so many independent forecasters put out forecasts. Every airline, both regular and charter, were forecasting. Some newspapers and news associations and many radio commentators were jumping in to tell where the hurricane would strike the coast—indeed, everybody who thought he was a forecaster or wanted some publicity, were at it! Some of these unauthorized and unofficial predictions were widely circulated and caused confusion and trouble. It was fortunate that we had microphones in most of our offices here in Florida where we could give the official advice directly to the people and counteract these independents. I think a salutary lesson resulted when the hurricane turned in direction no one was expecting. This enhanced the esteem enjoyed by the Weather Bureau in these times as the reliable source of storm information. So far as we could learn only one newspaper in the state was inclined to criticize us for lack of long range forecasts at the critical time of the turn, and that one admitted the wisdom of our stand after the fact!

Public reaction after the storm was universally favorable, and no word of criticism has reached us.

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The Tropical disturbance of September 20-25, formed in the Caribbean south of Cuba on the 20th from an easterly wave. It moved northwestward across western Cuba during the night of the 21st without achieving a well organized center of circulation, although it was preceded by an area of squalls up to 40-50 MPH 200 miles or more to the north. After it entered the Gulf west of Havana it began a slow increase in intensity and thereafter had a fairly well defined center as it moved up the west Florida coast and passed inland between Tampa and Cedar Keys about 5 to 6 pm on the 23rd. Winds were about 60 MPH along the coast from Sarasota northward to near Cedar Keys, and squalls of 40-60 MPH were quite general over the entire Peninsula.

The lowest pressures reported were Cedar Keys 29.23 inches and St. Leo 29.22 inches. The center passed between these two places when it moved inland. Rainfall was heavy throughout the state and greatly aggravated the flood situation already existing from the recent hurricane and previous rains. The storm lost force rapidly as it moved northeastward. It passed west of Jacksonville during the night of the 23rd and by morning was west of Savannah and Charleston. Thereafter winds were not very strong and the remnants of the storm moved off into the Atlantic between the North Carolina and Virginia Capes on the morning of the 25th.

A notable feature of this storm was the series of small tornadoes that occurred on its northern edge as it advanced northward. Two or three tornadoes occurred in the west coast area around Tampa—one in Tampa. Another was reported near Ocala, while four were reported in and around Jacksonville. These tornadoes were small and rather short lived and did not cause extensive damage. Other damage consisted of some damage to beaches from Bradenton to Tarpon Springs, slight damage to power and communications lines, and the aggravation of flood conditions mentioned above. The damage to citrus fruits was negligible. It is believed that $100,000 would cover the entire damage.
This office issued 20 advisory and warning bulletins in connection with this storm. Copies of all advices, charts showing tracks, and other related matter regarding both the hurricane and the second storm are attached.

Respectfully,

Grady Norton
Supervising Forecaster
<table>
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<tr>
<th>STATION</th>
<th>Date</th>
<th>Lowest</th>
<th>Time</th>
<th>5 Min</th>
<th>Wind Data (MPH)</th>
<th>1 Min</th>
<th>Xtrn</th>
<th>TIME</th>
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<td>Hopetown, Pahamas</td>
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<td>3:12a</td>
<td>43 ENE</td>
<td>6:18p 17th</td>
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<td>Ponce de Leon Lgt</td>
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<td>3:30p</td>
<td>66 E</td>
<td>12:05a 18th</td>
<td>75 E</td>
<td>12:05a 18th</td>
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<td>Orlando</td>
<td>18</td>
<td>29.65</td>
<td>3:00a</td>
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<td>Melbourne</td>
<td>17</td>
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<td>2:25p</td>
<td>54 ESE</td>
<td>7:30p 85</td>
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<td>West Palm Beach</td>
<td>17</td>
<td>29.02</td>
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<td>Miami WHAS</td>
<td>17</td>
<td>28.72</td>
<td>12:00N</td>
<td>85 W</td>
<td>11:00a 90 SSW</td>
<td>2:00p</td>
<td>Cups blew down a 1:25p</td>
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<td>Miami WBO</td>
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<td>10:42a 86 W</td>
<td>10:57a</td>
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<td>Carysfort Reef Lgt</td>
<td>17</td>
<td>29.29</td>
<td>1:45p</td>
<td>68 SW</td>
<td>2:25p 76 SW</td>
<td>2:25p</td>
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<td>Tavernier</td>
<td>17</td>
<td>29.43</td>
<td>2:30p</td>
<td>50-60 SSW</td>
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<td>around 8:00p</td>
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<td>Key West TFAS</td>
<td>17</td>
<td>29.52</td>
<td>7:25p</td>
<td>58</td>
<td>12:47a 18th</td>
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<td>Everglades City</td>
<td>17</td>
<td>28.81</td>
<td>7:45p</td>
<td>60-65</td>
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<td>Naples</td>
<td>17</td>
<td>100 NW</td>
<td>8:00p</td>
<td>105 NW</td>
<td>8:05p 12mph at 9:42p</td>
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<tr>
<td>Ft. Myers</td>
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<td>28.82</td>
<td>10:15p</td>
<td>85-90 SSW</td>
<td>10:15p 90 NNW</td>
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<td>Sanibel Light</td>
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<td>11:00p</td>
<td>120 S</td>
<td>12:15a 18th</td>
<td>120 S</td>
<td>12:15a 18th</td>
<td>Island 3' under water</td>
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<tr>
<td>Tampa</td>
<td>18</td>
<td>29.53</td>
<td>3:30a</td>
<td>34 NE</td>
<td>3:12a 38 NE</td>
<td>3:12a</td>
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<td>29.63</td>
<td>2:15a</td>
<td>34 NE</td>
<td>7:57p 17th</td>
<td>46 ENE</td>
<td>8:01p 17th</td>
<td>75 ENE at 4:55 on 17th</td>
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<td>Lakeland WNAS</td>
<td>18</td>
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<td>2:00a</td>
<td>44 ENE</td>
<td>4:28p 17th</td>
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<td>Moorehaven</td>
<td>17</td>
<td>29.05</td>
<td>5:00p</td>
<td>52 NE</td>
<td>5:00p 92 NE</td>
<td>8:00p</td>
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<td>Apalachicola</td>
<td>18</td>
<td>29.69</td>
<td>4:40p</td>
<td>54 SE</td>
<td>12:09a 19th</td>
<td>67 SE</td>
<td>12:11a 19th</td>
<td>tide +4</td>
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<tr>
<td>Pensacola WBO</td>
<td>19</td>
<td>29.54</td>
<td>4:20a</td>
<td>61 SE</td>
<td>6:00a 19th</td>
<td>91 SE</td>
<td>6:00a 19th</td>
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United States Department of Commerce
Weather Bureau

Hurricane Office
302 Aviation Building
Miami 37, Florida
October 31, 1947

Chief, U. S. Weather Bureau
Washington 25, D. C.

Subject: Forecaster's Report of Hurricanes of October, 1947

Sir:

The month of October gave us three tropical storms in the Miami District. Two of these were hurricanes, while the third was a moderate disturbance.

The first disturbance of the month was a moderate and partly developed wave disturbance that had its inception over the Bahamas Islands and Florida Straits on the 6th. It advanced northward and northwestward and moved inland near Brunswick, Georgia during the night of the 6-7th. Highest winds were force nine from some ships off the Georgia coast during the afternoon of the 6th. The strongest wind on land was about 50 MPH, and no damage resulted.

The second storm was the hurricane of the 9-15th, which was first noted as it generated in the intertropical convergence zone which had been pushed north of the Isthmus of Panama. By the 9th it was off the coast from Cape Gracias, Nicaragua, and on the night of the tenth it crossed western Cuba as a moderate storm. It increased very rapidly to hurricane force on the 11th and passed over the extreme southern portion of the Florida peninsula on the night of the 11-12th. Northeastward movement continued over the Atlantic to a position about 100 miles southeast of Cape Hatteras on the night of the 13-14th, where it apparently dissipated. However, a secondary development occurred about 150 to 200 miles to the southwest of where the original center was lost. This secondary center was rather weak at first but developed hurricane force late on the 14th and moved westward into Georgia near Savannah on the morning of the 15th.

The third storm of the month was first noted east of the Leeward Islands as an easterly wave. This wave developed on the 16th north of the Virgin Islands and moved on a broad curving path over the Atlantic. It reached hurricane intensity during the night of the 17th when it was some distance northeast of Turks Island, and its curving path brought the center close to but west of Bermuda during the forenoon of the 20th. Bermuda reported winds in excess of 100 MPH during the passage.


The principal interest to the States centers around the small hurricane of October 9-15, or the second storm mentioned above. It presented a number of unusual and interesting aspects that are worthy of note. In Florida there was very little wind damage, even though it had a small center of winds above hurricane velocity. This was because it passed over swampland from where it entered on the west coast just north of Cape Sable until it reached the east
coast communities between Miami and Palm Beach. Over the area it followed the same route as the great hurricane of a few weeks earlier and there was not much that the weaker winds of the second storm could damage.

The heavy rainfall associated with this storm was the crowning stroke that, added to the flood conditions already existing over South Florida, resulted in the worst flood ever experienced in this section. It should be pointed out, however, that the rains of this hurricane did not in themselves cause the flood, but rather it was the accumulation of water from previous rains, including a very wet summer and the great hurricanes and two lesser storms that gave heavy rains during the month preceding. The rainfall of from five to thirteen inches in connection with this hurricane was confined to south Florida from around the Lake Okeechobee area, where 3.50 to 4.50 inches occurred, southward. These rains merely furnished the climax to floods already dangerous. The flooded area covered a good portion of 12 counties and lesser portions of others and extended from Okeechobee County southward to the lower end of the peninsula.

It is not possible to estimate damage resulting from these floods as related to the hurricane of October 11-12th for the reasons stated above, and because we cannot separate its effect from the rainfalls of the month preceding. Damage for the whole flood condition has been variously estimated at about $20,000,000. Miami damage will probably be about $75,000 in Florida.

The rainfall of this storm constituted one of its unusual features, not because it was heavier than expected, but because it practically all fell in a very severe thunder and electrical storm on the advance edge of the hurricane circulation several hours ahead of the hurricane winds. There was practically no rainfall associated with the hurricane center proper, only a fine spray of misty rain that probably did not total more than a tenth of an inch. Lightning flashes were so continuous in the thunderstorm that it produced such continuous illumination that it could have been used for reading. The intensity of the rainfall was such that a recording gage at Miami water plant recorded six inches in one hour and fifteen minutes before the gage overflowed. At the Miami City office, which was on the edge of the heavy rain area, 3.60 inches fell in one hour and 1.32 inches in ten minutes.

There was a series of small tornadoes associated with the electrical storm, but otherwise winds were variable and not very strong. Five tornadoes were reported over the area from Key Largo to the Greater Miami Area. They were small and apparently had short paths and the aggregate damage was not very great. It might be pointed out that the hurricanes of this season have been very prolific tornado producers, and the occurrence of tornadoes on the periphery of hurricanes is not unusual.

Another "unusual" feature of this storm was the sudden increase in intensity in the vicinity of Dry Tortugas. From a storm of moderate proportions when it crossed Cuba, where the strongest winds were gusts to 57 mph at Catlina Field, there was an increase in the space of about three or four hours of
nearly 200%. The observer at Dry Tortugas estimated wind at 150 MPH after his anemometer bearing froze after registering 88 MPH. In amplification of his estimate of 150 MPH, he states that several small hardy trees that had withstood all storms for years were torn up and carried through the air like straws. We believe, however, that this estimate is excessive for the reason that other velocities reported from the vicinity were not nearly as high. It may be that the observer became excited, but we do believe winds were 100 MPH or more.

We are unable by any analysis of the energy field at our command, to account for such a sudden intensification, from forces inherent in the storm surroundings at the time. We are at a complete loss to account for it unless it was the result of tornado action, and there was no mention of tornadoes at that place, and the strong winds were reported for an hour or more, so this hypothesis has been discarded. The lowest pressure at Dry Tortugas was 28.31 inches at 4:00 AM on the 13th. The record of 88 MPH before the anemometer froze from friction and lack of oil, was at 12.30 PM and 150 MPH hour estimate was made about 1:30 PM. An airplane that flew into the center just before this time reported lowest sea level pressure 983.5 mb. or about 29.03 inches. We conclude, therefore, that a minimum pressure above 29 inches does not provide a gradient sufficient to produce such superhurricanes velocities.

After passing the Dry Tortugas area, the storm turned rather abruptly from a north-northeast course to an east-northeast direction and entered Florida just north of Cape Sable. This turn was not unexpected, since the upper winds were in accord with such a movement. It traversed the swamp lands of the Everglades until it reached the east coast communities after midnight. The center passed Miami a short distance to the northwest about 1:00 AM of the 12th. The City Office recorded 62 MPH for fastest mile at 12:23 AM and lowest pressure was 29.47 inches at 1:05 AM. The Airport Station was about seven miles closer to the center and recorded lowest pressure 29.39 inches. The wind instruments at the airport were considered unreliable, but the observer estimated several gusts of 90 MPH.

The center passed directly over Hillsboro Lighthouse near Pompano as it entered the Atlantic, with calm center experienced from 3:30 AM to 4:30 AM of the 12th. The strongest winds were 86 MPH for five minutes and 92 MPH for fastest mile registered at 2:30 AM. The lowest pressure was 29.27 inches, which occurred at 2:45 AM, or about 45 minutes before the beginning of the calm and pressure was rising during the passage of the calm center. This is considered another very peculiar feature of this hurricane. Both the barometric minimum and the rainfall ran out ahead of the surface position of the center.

After leaving Florida the storm was followed by aircraft on a northeastward course over the Atlantic to a position about 75 to 100 miles southeast of Cape Hatteras on the night of the 13-14th, where the original center apparently dissipated. A secondary disturbance was observed, however, about
this time about 100 or 200 miles to the southwest. This disturbance was not of hurricane force as late as 1.00 p.m. of the 14th when a plane estimated highest winds at 50 to 55 knots. It gained force during the afternoon and another plane that flew into it near sunset estimated winds at 80 knots. After some hesitancy and uncertainty of movement, it was finally established that it was moving on a westward course. The speed picked up some and the center moved into Georgia about 7.00 a.m. of the 15th a short distance south of Savannah. The lowest pressure at Savannah was 28.76 inches at 7.00 a.m., and the strongest winds estimated at 85 MPH at 6.59 a.m. with gust estimated at 95 MPH. The area of hurricane winds was very small, probably about 40 miles in width.

The city of Savannah and its vicinity experienced the worst part of the hurricane when the center passed inland about 15 miles to the south. Damage in the Savannah Area is estimated at about $2,000,000, while in all other areas of Georgia total damage will not exceed $500,000, or a grand total of about $2,500,000. Some structural damage occurred in Savannah, with many roofs damaged either by direct action of the wind or by falling trees. Window glass was extensively broken, while signs, ventilators, chimney tops, awnings, and other like objects were blown down. A small tornado was reported near Hinesville in the storm area, and vivid lightning was observed at Savannah and Charleston. There are no reports of any casualties in Georgia.

In South Carolina strong gales prevailed along the coast, especially from the Charleston area southward. Strongest wind at Charleston was 58 MPH at 3.55 a.m., while Farrar Island reported gusts to 65 MPH at 4.30 a.m. of the 15th. Damage from wind and high tides in South Carolina will run to about $125,000, and about $250,000 of this amount was to crops. The only death reported in connection with this hurricane in its entire history was at Charleston where a man was killed by a falling tree.

High tides along the Georgia and South Carolina coast ranged from 12.0 ft. above mean low at Savannah Beach and Parratt Island, to 9.0 ft. at Charleston and 9.6 ft. at St. Simons Island, near Brunswick. The lower sections of Charleston were flooded about a foot deep, while low lying beaches and is- lands with causeways thereto were flooded and damaged. Considerable damage also resulted to rice crops in lowlands by salt water flooding. Some small communities as far north as Cape Hatteras were partly or wholly inundated by the tides.

Warnings were timely and effective in all areas in connection with this hur- ricane. There were some complaints from the Savannah area that warnings were not issued soon enough, but even the complainants admitted that they had sufficient time to make preparations and evacuate people from danger areas ahead of the storm. In this area hurricane warnings were ordered only seven or eight hours ahead of the storm, and we realize that this was not sufficient for orderly procedures, or the best preparations. The rather short advance warnings to this area was due to the very erratic and unusual behavior of this storm off the South Atlantic coast, plus the un- certainty regarding ships and airplane reports received, and their late arrival at the forecast center. The storm regained hurricane force (or
the secondary storm developed hurricane force) in the late afternoon of the 11th, and by time reports of this were charted and analysed it was 10:00 p.m. when the warning was issued.

Copies of all advices for this hurricane are inclosed, as well as those issued for the other two storms of the month. There is also attached a table giving wind and pressure data at a number of places and track charts of the storms. An analysis of conditions surrounding the storm off the South Atlantic coast on the 13th to 15th has been prepared by Mr. Gentry (for limited distribution) and a copy is attached.

Respectfully,

Grady Morton
Supervising Forecaster

Incls.

November 5th, 1923

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