



Active Systems
None

Other Disturbances / Areas to Watch

Today marks the end of the 2017 Atlantic hurricane season, which caused an unprecedented amount of damage across the Atlantic basin. No tropical development is expected. Issuance of this product will resume on May 15, 2018. However, if there is a threat of development prior to then, we will resume transmission of this product.

With the season having come to an end, we will recap this historic hurricane season.

The 2017 Atlantic hurricane season began early with Tropical Storm Arlene in the central subtropical Atlantic in April. Arlene was a short lived tropical storm. It impacted no land areas.

Tropical Storm Bret was an unusual storm that formed east of the Windward Islands in the month of June. While Bret was only a minimal tropical storm, it did cause some damage to Trinidad and Tobago along with two deaths. Bret would quickly dissipate once it moved into the eastern Caribbean Sea. The early formation of a storm in the tropical Atlantic was a warning of above average activity in that part of the basin later in the season.

Tropical Storm Cindy formed from the interaction of a monsoon trough in the Caribbean, a tropical wave, along with interaction with an upper low in the southern Gulf of Mexico. Cindy would be a typical June, sheared tropical storm. It made landfall near the Texas/Louisiana border on the morning of June 22. Cindy would cause damage from flooding and tornadoes. Two deaths were reported from Cindy.

Tropical Storm Don was a short lived storm over the tropical Atlantic in late July that dissipated prior to reaching the Caribbean Islands.

Tropical Storm Emily quickly developed on July 31 and immediately moved inland over the west coast of Florida. Emily was a minimal tropical storm that only caused minor damage.

Franklin was the first hurricane of the 2017 Atlantic hurricane season. It developed in the western Caribbean and made its first landfall as a strong tropical storm over the Yucatan Peninsula. It then became a hurricane in the Bay of Campeche. Franklin made landfall as a minimal hurricane. Only minor damage was reported from Franklin.

Hurricane Gert was a category 2 hurricane that remained over open waters.

Hurricane Harvey was perhaps the most destructive hurricane ever recorded in the Atlantic basin, with some damage estimates topping even the normalized estimates of the 1926 hurricane that destroyed Miami and Pensacola. Harvey initially formed east of the Windward Islands. It impacted these areas as a minimal tropical storm. Initially forecast to survive as it moved across the Caribbean Sea, Harvey degenerated into an open wave. However, as it approached the Yucatan, it began to organize once again. Soon after moving into the Bay of Campeche, Harvey became a tropical depression. Rapid intensification followed. Harvey made landfall on the evening of August 25 near Rockport as a category 4 hurricane. While severe damage occurred from the winds, it was the rainfall that caused the vast majority of the damage. A rainband that moved through Houston on the night of August 26 and the morning of August 27 caused catastrophic flooding throughout the Houston area, leaving much of the city and surrounding areas under water. The rainfall would last several days, not ending until Harvey made its final landfall in western Louisiana on the morning of August 29th. As it made its final landfall, catastrophic flooding occurred in the Beaumont Port Arthur area. Overall, Harvey resulted in rainfall accumulations of more than 40 inches in much of southeast Texas, with some areas receiving up to 60 inches. What was unusual about Harvey was the geographic extent of the flooding, covering such a large area. All together, Harvey resulted in more than 90 deaths, and some damage estimates approach 200 billion dollars.

On the heels of Hurricane Harvey was Hurricane Irma. Irma formed from a tropical wave. It initially moved to the northwest. Irma was located in a position which normally would indicate a certain turn into the open Atlantic. However, a strong ridge of high pressure formed north of Irma, and forced it to the west-southwest. It also allowed for intensification. Irma intensified into a category 5 hurricane, it would strike the islands of Barbuda, St. Barthelemy, St. Martin and the British Virgin Islands with winds of 180-185 mph. Irma may have been the first category 5

hurricane to strike the Leeward or Windward Islands since 1781. The southern eyewall also moved over the US Virgin Islands of St. John and St. Thomas, likely bringing category 5 winds here as well. If this is confirmed in a post season analysis, Irma will be the 5th category 5 hurricane to strike the USA joining the 1928 Puerto Rico hurricane, the 1935 Florida keys hurricane, Camille, and Andrew. Catastrophic damage occurred in the northeast Caribbean. Irma then narrowly avoided Puerto Rico, but did cause some damage. Thereafter, Irma made a direct hit on the Turks and Caicos Islands followed by a landfall on Cuba. Both of these also occurred at category 5 intensity.

The landfall on Cuba weakened Irma significantly. However, it was also to regain category 4 status when it made landfall in the Florida Keys. In addition, the windfield expanded, resulting in hurricane conditions and tidal surge into downtown Miami. Irma then made a final landfall near Naples as a category 3 hurricane. As Irma weakened as it moved northward through Florida, it would remain large. This resulted in a very high tidal surge into downtown Jacksonville, along with winds higher than were experienced with Matthew last year. Overall, Irma would cause more than 60 billion dollars worth of damage, and caused the deaths of more than 100 people.

Hurricane Jose was another intense hurricane that may be upgraded to a category 5 on post season analysis. While it resulted in hurricane warnings for the northeast Caribbean immediately after Irma, it would make a late northwest turn, sparing these islands. Jose would then loop around the western Atlantic before bringing tropical storm force winds to New England. No major damage was caused by Jose.

Katia was a category 2 hurricane in the southwest Gulf of Mexico that weakened to a minimal hurricane before moving into Mexico. Two deaths resulted due to the flooding.

Hurricane Lee was a category 3 hurricane that remained over the open Atlantic

Hurricane Maria formed from a tropical wave in the central Atlantic. As it approached the islands of the eastern Caribbean, it underwent explosive intensification. Maria became the second category 5 hurricane to strike the Leeward Islands in the month of September of this year when it moved over Dominica with winds of 160-165 mph. Damage on Dominica was catastrophic, worse than what was experienced in Hurricane David. Maria also caused severe damage over southwest Guadeloupe.

While Maria weakened slightly as it moved over Dominica, it would quickly regain category 5 status. It peaked with winds of 175 mph. It passed a little southwest of St. Croix shortly after midnight on September 20. Based upon the wind reports from St. Croix, it is likely that the islands received category 3 conditions. The eyewall narrowly missed the island. That said, severe damage occurred. Maria would weaken slightly to a high end category 4 hurricane with 155 mph winds before making landfall in southeast Puerto Rico. Maria caused catastrophic damage in Puerto Rico, with some estimates indicating 50 to 90 billion worth of damage. There is a high level of uncertainty with the death toll, with estimates varying wildly. After striking Puerto Rico, Maria threatened the Carolinas. However, due to Jose looping around, there was enough of a weakness to the north of Maria to allow it to turn to the north before it reached the Carolinas.

Hurricane Nate formed from a monsoon trough in the western Caribbean. Nate would intensify into a hurricane in the Gulf of Mexico. Nate moved very quickly across the Gulf of Mexico. It would weaken somewhat before striking southeast Louisiana and Mississippi as a minimal hurricane. Damage from Nate appears to have been minor.

Hurricane Ophelia was the final category 3 or greater hurricane of the 2017 season. Ophelia passed to the east of the Azores. Initial forecasts had it threatening Portugal or Spain. However, Ophelia would turn to the northeast and move toward Ireland. It became extratropical only a few hours before moving over Ireland. Hurricane force winds did occur for southern Ireland, causing extensive damage along with 3 deaths.

Tropical Storm Philippe was the final named storm to affect land in 2017. Philippe was very disorganized, never intensifying beyond a minimal tropical storm. Only minor impacts to land occurred from Philippe.

Rina remained over the open Atlantic in early November.

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