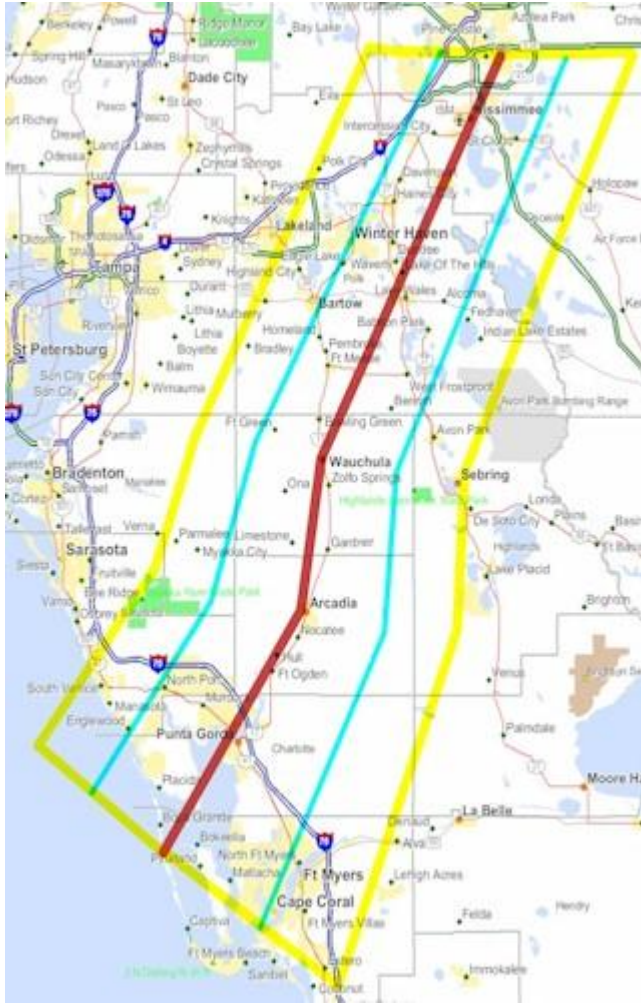


Hurricane Charley Preliminary Storm Survey I

Disclaimer: Hurricane Charley track and intensity information from our surveys are preliminary.
Final official intensity and track will be determined by the National Hurricane Center.

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Hurricane Charley, a powerful but compact category 4 hurricane on the Saffir-Simpson Hurricane Scale, roared into Southwest Florida during the late afternoon of August 13th, then raced northeast through the central Florida peninsula, reaching the Atlantic Coast near Daytona Beach in only seven hours. During its life, the storm, which packed 145 mph winds as it made landfall along the Lee County coastline, damaged or destroyed thousands of homes, knocked down tens of thousands of trees, and took out power to more than 2 million Floridians.



Map of Hurricane Charley's path. Areas within the yellow boundary indicate tropical storm (39 mph or greater) wind gusts. Areas within the light blue boundary indicate hurricane force (74 mph or greater) wind gusts. The thick dark red line indicates the location of heaviest damage, in the eastern semicircle of the 5 mile diameter eye.

Ample warning and well coordinated evacuation plans limited preliminary fatalities to fewer than 20 persons, even though expected dollar damage is the tens of billions of dollars. The vast majority of damage was from wind; rainfall was limited to 3 to 5 inches in a 20 mile radius surrounding the center, and storm surge was limited by the lack of buildup of high seas as the storm raced northward. Charley was the strongest storm to strike Florida since Andrew in 1992, and will rank as one of the worst storms to affect West Central and Southwest Florida.

Charley was spawned by a fast moving tropical wave west of the Cape Verde Islands, and initially developed as a tropical storm southeast of the Island of Hispaniola on August 10th, then moved west across the northern Caribbean while strengthening to a category 2 hurricane by the 12th. While turning northwest, Charley crossed western Cuba, emerged in the southeastern Gulf of Mexico early on the 13th, then began accelerating to the north. By mid morning, it passed Dry Tortugas, and was on a straight line for Tampa Bay when a slight increase in southwest flow in the high levels of the atmosphere allowed the storm to bear right just after noon.

Charley was on a new course, heading straight for Charlotte Harbor. At this point, it had reached category 3 (winds just over 110 mph), but was expected to only intensify slightly until landfall, which was now less than 3 hours away. Unfortunately, and mysteriously, a very rapid intensification occurred just prior to landfall, with the pressure falling 22 mb (0.65 inches)! This intensification, to category 4 (winds over 130 mph), ultimately produced the devastation seen on the barrier islands as well as in the city of Punta Gorda.

The center of Charley crossed the barrier islands of Cayo Costa and Gasparilla Island at 345 PM, then moved up Charlotte Harbor before making landfall at Mangrove Point, just southwest of Punta Gorda, at 435 PM. By 530 PM, the center was 5 miles west of Arcadia (Desoto County); at 630 PM, 1 mile west of Wauchula (Hardee County), and at 730 PM, 4

miles west of Lake Wales (Polk County). At approximately 830 PM, Charley had exited West Central Florida, and in 45 minutes slammed into Orlando International Airport.

Measured wind gusts well inland ranged from 100 to 109 mph, including 104 mph in Arcadia and 109 mph in Wauchula. The unofficial gust at Charlotte County Airport was 112 mph before the equipment failed. Preliminary surveys indicated widespread damage in the eastern semicircle of the tiny eyewall in Charlotte County and the northwest Lee County islands; in Desoto and Hardee counties, surveys revealed pockets of damage consistent with sustained winds from 95 to 100 mph with 110 to 115 mph gusts.

Table 1.Maximum wind gusts and lowest surface pressure along and very near the track of Hurricane Charley on August 13th. Sites courtesy of local amateur radio operators, mobile wind sensors, and emergency management locations. NOTE: Sensors which failed are noted with (F). Estimated data are noted with (E)

Location	County	Peak Gust(mph)	Time	Min. Pressure(mb)	Time	Source
Lee	Fort Myers/SW FL Int'l	78	300 PM	1001	357 PM	NWS
Lee	Fort Myers/Page	76	350 PM	998	353 PM	NWS
Lee	Fort Myers	95	423 PM	987	350 PM	mobile/public
Charlotte	Punta Gorda(PGD)(F)	112	435 PM	964	446 PM	NWS
Charlotte	Punta Gorda	127	435 PM (E)	943.6	445 PM (E)	mobile/private
Sarasota	Osprey	51	519 PM	n/a	n/a	mobile/public
Desoto	Arcadia	104	530 PM (E)	975	530 PM (E)	Emer. Mgmt.
Hardee	Wauchula	109	630 PM (E)	n/a	n/a	Emer. Mgmt.
Polk	10E Lake Wales	75	700 PM	n/a	n/a	trained spotter

Polk	2SE Bartow	50(E)	715 PM(E)	985(E)	715 PM (E)	amateur radio
Polk	Haines City	79	725 PM	n/a	n/a	trained spotter
Polk	Lakeland SE	58	736 PM	996	736 PM	mobile/public
Polk	Poinciana(F)	45	800 PM(E)	987(E)	800 PM(E)	amateur radio
Hillsborough	Plant City	61	750 PM	n/a	n/a	trained spotter