

## **Gulf of Mexico Coast of Florida**

The beaches of the southwest Florida coast fronting on the Gulf of Mexico extend for over 210 miles from Cape Sable in Monroe County through Anclote Key in Pasco County. Except for Lee County, where Hurricane Charley made landfall on August 13, the southwest Florida beaches received the fringe impact of all four hurricanes that impacted Florida during the 2004 hurricane season. Even Key West and the distal sandy beach islands to the west, including the Dry Tortugas, sustained beach and dune erosion from at least Hurricanes Charley and Ivan. Surveys are being conducted at Fort Zachary Taylor Historic State Park and other state parks in the Florida Keys to assess cumulative erosion impacts and to determine quantities of sand needed to nourish critically eroded park beaches. Determining the erosion from only Hurricanes Frances and Jeanne is difficult given Charley's initial erosion followed by Frances' erosion, which then was followed by Ivan's erosion prior to Jeanne's erosion. In most areas the individual impact of each storm was minor yet the cumulative impact of all four storms was significant. The Big Bend coast and the Ochlockonee Barriers coast of north Florida were impacted by the passing of both Frances and Jeanne in their tropical storm stage. Although erosion was relatively minor in this area, impacts on shell fishing and marina facilities were reported to be significant.

### **Collier County**

The beaches of Collier County experienced tropical storm force winds and wave activity from Hurricanes Frances and Jeanne. Only minor beach erosion was observed near Wiggins Pass (R17-R18) and along the beaches of Naples south of the Naples Pier (R73-R89). A one to two-foot lowering of the beach profile was observed along the beaches of Naples. Minor erosion was also reported from Marco Island, including Hideaway Beach, during Hurricane Jeanne.

### **Lee County**

Lee County beaches were significantly impacted by Hurricane Charley. Subsequent erosion conditions were observed following Hurricanes Frances, Ivan, and Jeanne. At the north tip of Captiva Island, the beach profile was lowered by about 3 feet exposing the old revetment along the golf course of the South Seas Resort. Along Captiva Drive (State Road 867) between R96 and R98, the dune has eroded to within 10 feet of the roadway leaving a three-foot escarpment. Captiva Island, between R83 and R99, sustained moderate beach and dune erosion from Hurricane Frances and Hurricane Jeanne. On Bonita Beach, two dune walkovers were destroyed at R223 during Hurricane Frances, and Bay Road was flooded along with several single-family dwellings during Hurricane Jeanne.

### **Charlotte County**

Charlotte County sustained minor beach erosion from the lee side of Hurricane Charley. Little additional erosion was observed during Frances. Northern Gasparilla Island (R59-R68) sustained minor beach erosion (Condition I). Don Pedro and Knight Islands also

incurred minor beach and dune erosion (Condition II), except on Don Pedro Island between R38 and R39, which sustained major dune erosion (Condition IV), from both Hurricanes Frances and Jeanne. At Stump Pass, significant shoaling continued, as a spit formation grows from the Stump Pass State Park southward into Stump Pass.

### **Sarasota County**

Generally, minor erosion to the beaches and dunes (Condition I to II) was sustained throughout Sarasota County. At several hotspots, Condition III erosion was observed. Some major damage was sustained between R75 and R77 along the south end of Siesta Key north of the former location of Midnight Pass. At a single-family dwelling at R77, an aluminum bulkhead was partially destroyed and an adjacent pool and deck was destroyed. A 500-foot steel sheet-pile seawall along Blind Pass Road sustained damage to about 275 feet of concrete cap, and another single-family dwelling north of R77 sustained understructure damage. In addition, a boardwalk was damaged on Casperson and a pavilion was damaged in Venice.

### **Manatee County**

Generally, Anna Maria Island experienced Condition I to II erosion. At the north end of the island (R3-R5), moderate beach and dune erosion was sustained (Condition III). Longboat Key also sustained minor beach and dune erosion (Condition II) north and south of the Yonkers seawall near R49. No major structural damage was observed.

### **Pinellas County**

Throughout Pinellas County, Condition I and II erosion prevailed during Hurricane Frances. A localized shoreline segment of Condition III erosion was observed near R32 at the north end of Clearwater Beach Island at the site of the former Dunedin Pass (now closed). Hurricane Jeanne brushed near to and northeast of Tampa, causing strong tropical storm force winds along the beaches of Pinellas County. The Sunshine Skyway Bridge over Tampa Bay was closed due to the high winds. Clearwater Beach Island and northern Sand Key (R32 through R57) sustained Condition III erosion. Flooding occurred in the vicinity of the Sheraton Sand Castle (R53) on Sand Key. St. Petersburg Beach at Pass-a-Grille experienced Condition IV erosion. Upham Beach, south of Blind Pass, sustained substantial erosion after having just been nourished. Sunset Beach north of Blind Pass on Treasure Island also sustained minor beach erosion. In Clearwater Beach, the Travelodge on South Gulfview Boulevard lost a section of roof, which blew 150 feet and damaged the Red Roof Inn, crushing a fourth floor balcony. Nearby on Gulfview Boulevard a condominium also sustained major roof damage.

### **Big Bend Coast**

Hurricane Frances entered the Gulf of Mexico north of Tampa as a tropical storm bearing winds of 65 mph before making a second Florida landfall near the Aucilla River in the St. Marks National Wildlife Refuge on the coast of Jefferson County. With little time spent over the waters of Apalachee Bay, Frances never regained hurricane strength. Hurricane

Jeanne never entered the Gulf of Mexico yet brushed close to Tampa before veering north to near Live Oak then west near Madison before heading north again up through Georgia.

Cedar Key had wind gusts to 65-mph where two of three charter boat docks were destroyed. The Florida Department of Agriculture estimated major shell-fish crop losses in the Cedar Key area due to the storm tides and wave activity.

### **Ochlockonee Barriers**

North and south of the Ochlockonee River Entrance are the coastal barrier beaches of Alligator Point, Southwest Cape, Lighthouse Point, and Bald Point (all in Franklin County) and Mashas Sands (Wakulla County). Tropical Storm Bonnie made landfall along the length of Alligator Point on August 12 causing minor beach erosion in this area. Tropical Storm Frances made landfall on September 6, east of the St. Marks River placing these barrier beaches in the more quiet lee of the storm. Alligator Point sustained no erosion west of R210 and the Southwest Cape. At the Southwest Cape (R211-R220) minor beach erosion prevailed (Condition I). At Lighthouse Point (R221-R222) minor beach and dune erosion (Condition II) was sustained and threatened a single-family dwelling. This house was subsequently damaged by the waves in the fringe of Hurricane Ivan when it made landfall in Alabama. Along the beaches between Lighthouse Point and Bald Point (R223-R239) minor beach erosion continued. No damage was sustained by the facilities at Bald Point State Park. Across the Ochlockonee River Entrance in Wakulla County some minor beach erosion was observed at Mashas Sands. Hurricane Jeanne passed by far enough to the east of this region as to have no significant additional effect on these beaches.