

## **Study tracks erosion from Hurricane Ivan**

### **Storm last September set record for building damage**

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NEW ORLEANS - New measurements of Hurricane Ivan's erosion of beaches, dunes and barrier islands along the Gulf of Mexico underscore how vulnerable the American shoreline is to such storms, a U.S. Geological Survey oceanographer says.

Ivan's center made landfall Sept. 16 at Gulf Shores, Ala., with 115 mph wind and a storm surge estimated at 10 to 13 feet high.

Ivan washed away as much as 164 feet of beach in places, according to Abby Sallenger, an oceanographer for the Geological Survey's Center for Coastal & Watershed Studies in St. Petersburg, Fla. He presented his findings at the National Hurricane Conference in New Orleans.

The Geological Survey, NASA and NOAA are measuring the damage hurricanes do to the coastline in terms of land and sand loss. Much of the surveying is done with an airplane equipped with "lidar," which is similar to radar but uses laser light in place of radar's radio waves to map surface contours.

Ivan, the worst hurricane of the 2004 Atlantic hurricane season in terms of coastal sand and land loss, pointed out how vulnerable the nation is to large-scale destruction by hurricanes, Sallenger said.

The erosion caused by Ivan's waves and storm surge undermined five-story oceanfront condominium buildings, "the largest buildings to fail during a hurricane in United States history," Sallenger said.

He said the average shoreline erosion was 42 feet in the area where Ivan came ashore, roughly between Alabama's Mobile Bay and Florida's Pensacola Bay in Florida.

Some of that sand will reappear on beaches and barrier islands. But Sallenger said sand swept into inland bays and onto shore will not be returned to the beaches by natural processes.

The Geological Survey plans to issue erosion predictions to give coastal residents a sense for what sections of beach are most at risk

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