

Dean third-most intense hurricane ever

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MIAMI --

Hurricane Dean was the third-most intense Atlantic hurricane to make landfall since record keeping began in the 1850s, based on its central atmospheric pressure, forecasters said.

The pressure in a hurricane's eye is often used to compare storms throughout history because in the past, wind gauges were often damaged or destroyed by powerful hurricanes. Now, technology exists to more accurately measure winds, said Jamie Rhome, a hurricane specialist with the National Hurricane Center.

"And the damage is caused by the wind, so that's what most people look at," he said.

But pressure also measures strength: the lower the pressure, the greater a hurricane's power to suck in air. A hurricane's winds are blown because higher-pressure air rushes toward the lower-pressure eye to equalize the difference.

Typically, the lower the pressure, the faster the air speeds in. But because of other variables in each storm, a certain pressure does not always correspond to a specific wind speed.

Dean was a top-scale Category 5 storm at landfall Tuesday on Mexico's Yucatan Peninsula. Its maximum sustained winds were near 165 mph and gusts reached 200 mph. Just before landfall, a Global Positioning System device dropped from a hurricane hunter aircraft found it had a central pressure of 906 millibars, forecasters said.

The only other storms that hit land with a lower pressure were the 1935 Labor Day hurricane that hit the Florida Keys and Hurricane Gilbert, which hit Cancun, Mexico, in 1988, forecasters said.

Gilbert caused more than 300 deaths in Latin America and the Caribbean. The 1935 hurricane was responsible for more than 400 deaths in the Keys, primarily among World War I veterans working on a highway connecting the island chain to the mainland.

Only 10 other Category 5 storms have been known to hit land in the Atlantic basin, including Gilbert, the 1935 hurricane, Hurricane Camille in 1969 and Hurricane Andrew in 1992, according to the hurricane center. Andrew had top sustained winds of 165 mph at landfall. It was the second-most expensive hurricane in U.S. history, after Hurricane Katrina.

Hurricane Wilma is the most intense Atlantic hurricane ever recorded in terms of pressure: It was at 882 millibars when it was in the Caribbean before it weakened ahead of landfall in the Yucatan.

The lowest pressure ever recorded in a tropical cyclone was 870 millibars in Typhoon Tip in the northwest Pacific Ocean in 1979.