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AFTER 10 YEARS, HURRICANE ANDREW GAINS STRENGTH

In the record books, it's still one of America's costliest hurricanes, and today National Oceanic and Atmospheric Administration (NOAA) scientists announced Hurricane Andrew was even stronger than originally believed when it made landfall in south Florida 10 years ago this week. Based on new research, scientists upgraded the storm from a Category 4, to a Category 5, the highest on the Saffir-Simpson Hurricane Scale.

In their re-analysis of Hurricane Andrew's maximum sustained surface-wind speeds, the NOAA/National Hurricane Center Best Track Committee, a team of hurricane experts, concluded winds were 165 mph - 20 mph faster than earlier estimated B as the storm made landfall. Herbert Saffir, a structural engineer who co-designed the Saffir-Simpson Hurricane Scale, joined the committee as an observer and reviewed the team's results.

The upgrade makes Andrew only the third Category 5 (wind speeds greater than 155 mph) hurricane on record to strike the continental United States. The other two Category 5 storms were the "Florida Keys 1935 Hurricane", and Hurricane Camille in 1969.

"There is always some uncertainty in determining the maximum winds in a hurricane, and Andrew is no exception," said Max Mayfield, director of the National Hurricane Center, a part of NOAA's National Weather Service. "Our previous estimate was 145 mph, based on the science available in 1992. With advanced research techniques and technology, we now estimate the winds were stronger."

Andrew was directly responsible for 23 fatalities in Florida and Louisiana, and about $25 billion in damages (1992 dollars), according to NOAA.

The National Hurricane Center has had an ongoing program to review the historical record of all storms. Scientists and other researchers note that society needs an accurate account of the frequency and intensity of past catastrophic events to best plan for the future.

"We have recently completed a review of a re-analysis of storms from 1851 to 1910," said Colin McAdie, chairman of the National Hurricane Center's Best Track Committee. This re-analysis effort was undertaken by a team led by Dr. Chris Landsea of NOAA's Hurricane Research Division (HRD) and supported by a grant from the NOAA Office of Global Programs (OGP).

Hurricane Andrew is one of the most significant cases studied. According to McAdie, scientific understanding of the wind structure in strong hurricanes has significantly increased since 1992. For Andrew, the Best Track Committee considered input from scientists at the HRD, including the "re-analysis team" and National Hurricane Center.

Since 1997, forecasters have used Global Positioning System dropwindsondes, a measuring device dropped from hurricane reconnaissance aircraft into the eyewall - the windiest part of the hurricane. The sonde system measures temperature, barometric pressure, water vapor and wind data every 15 feet on its way down.

This new method gave meteorologists an important glimpse into the true strength of these devastating storms. The analyses of the dropwindsonde data indicated that, on average, the maximum sustained surface-wind speed was about 90 percent of the wind speed measured at the 10,000-foot aircraft level flown as Andrew approached south Florida. In 1992, Andrew's wind speed was estimated at 75 to 80 percent of the aircraft observations. The research findings resulted in an increase in the estimated wind speeds of Hurricane Andrew from 145 mph to 165 mph.

Best Track Committee Findings:

- Hurricane Andrew was a Category 5 over open water on approach to South Florida.
- Hurricane Andrew was a Category 5 on the Saffir-Simpson Hurricane Scale at time of landfall, with Category 5 winds occurring in a small area on the immediate coast having open exposure to Biscayne Bay.
- Winds at specific locations over land in Miami-Dade County are unknown due to remaining scientific uncertainties.
- There should be continuing research aimed at better determining hurricane winds immediately preceding, and during landfall. The "Hurricane Landfall" component of the U.S. Weather Research Program is structured to address such a question.

When Hurricane Andrew hit southeast Miami-Dade County, Fla., August 24, 1992, flying debris in the storm's winds knocked out most ground-based wind measuring instruments, and widespread power outages caused electric-based measuring equipment to fail. The winds were so strong many wind-measuring tools were incapable of registering the maximum winds. Surviving wind observations and measurements from aircraft reconnaissance, surface pressure, satellite analysis, radar, and distribution of debris and structural failures were used to estimate the surface winds.

NOAA's National Weather Service is the primary source of weather data, forecasts and warnings for the United States and its territories. NOAA's National Weather Service operates the most advanced weather and flood warning and forecast system in the world, helping to protect lives and property and enhance the national economy. To learn more about NOAA's National Weather Service, please visit http://www.nws.noaa.gov.

Note to Editors:

For facts and photos of Hurricane Andrew visit:
http://www.noaa.gov/hurricaneandrew.html

The complete minutes of the Best Track Change Committee and information from the

re-analysis project are found at URL: http://www.aoml.noaa.gov/hrd/hurdat/index.html

Questions and Answers: Hurricane Andrew Winds