

## June 2005 – Atlantic Basin Hurricane Season

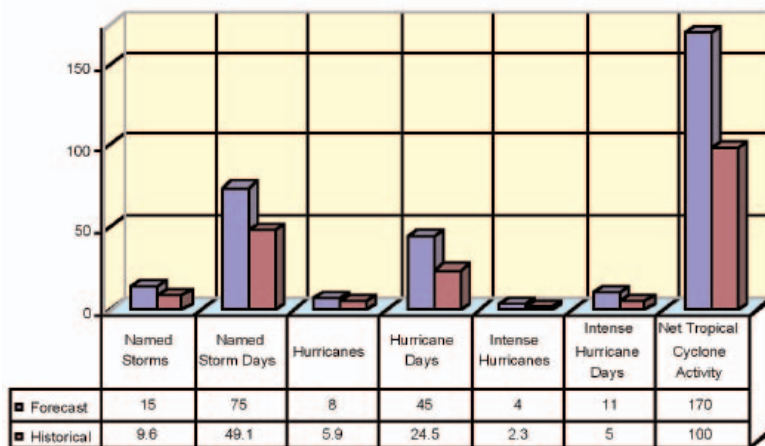
Last year's prediction of high hurricane activity was unfortunately accurate. The 2005 season forecast is even more severe.

### 2005 Atlantic Basin Hurricane Forecast

Information obtained through late May 2005 indicates that the 2005 Atlantic hurricane season will be a very active one. Forecasters estimate that 2005 will have about 15 named storms (average is 9.6), 8 hurricanes (average is 5.9), 75 named storm days (average is 49.1), 45 hurricane days (average is 24.5), four intense (category 3-4-5) hurricanes (average is 2.3) and 11 intense hurricane days (average is 5.0). We expect Atlantic basin Net Tropical Cyclone (NTC) activity in 2005 to be about 170 percent of the long-term average. The probability of major hurricane landfall in the US is estimated to be 150 percent of the long-period average. The forecast team expects this year to continue the decade-long trend of above-average hurricane activity.

This forecast is based on a newly devised extended range statistical forecast procedure which utilizes 55 years of past global reanalysis data. Analog predictors are also utilized. Continued Atlantic Ocean warming and decreased likelihood of an El Niño condition this summer clearly point to an active hurricane season.

**Year 2005 Hurricane Forecast (Historical vs. Forecast)**  
Atlantic Basin Seasonal Forecast as of May 2005



This is the 22nd year that Colorado State University (CSU) has published forecasts of Atlantic basin hurricane activity. Under Dr. William Gray, the CSU research project has shown that Atlantic tropical cyclone (TC) activity can be hindcast with accuracy significantly exceeding that of typical climatology. The hurricane forecasts are based on global reanalysis data and a separate study of prior analog years that shows global atmosphere and ocean precursor circulation features similar to those found in the current year. Qualitative adjustments are added to accommodate additional processes which may not be explicitly represented by statistical

analyses. These evolving forecast techniques are based on a variety of climate-related global and regional predictors previously shown to be associated with Atlantic tropical cyclone activity and landfall probability.

### Landfall Predictions

Here are probabilities for at least one major (category 3,4 or 5) hurricane landfall on each of the following coastal areas:

- 1) Entire US coastline: 77 percent (average for last century is 52 percent)
- 2) US East Coast including the Florida Peninsula:



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- 59 percent (average for last century is 31 percent)
- 3) Gulf Coast from the Florida Panhandle westward to Brownsville: 44 percent (average for last century is 30 percent)
  - 4) Expected above average major hurricane landfall risk in the Caribbean

## Forthcoming Update Forecasts of 2005 Hurricane Activity

Dr. Gray will be issuing seasonal updates of the 2005 Atlantic basin hurricane activity forecast on Friday, August 5; Friday, September 2; and Monday, October 3. The August, September and October forecasts will include separate forecasts for August-only, September-only and October-only Atlantic basin tropical cyclone activity. Verification and discussion of all 2005 forecasts will be issued in late November 2005. The first seasonal hurricane forecast for the 2006 hurricane season will be issued in early December 2005. All of these forecasts will be available at the CSU research team's web address: <http://tropical.atmos.colostate.edu/forecasts/index.html>.

## The Saffir-Simpson Hurricane Scale

### Category One Hurricane

Winds 74-95 mph. Storm surge generally four to five feet above normal. No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery and trees. Some damage to poorly constructed signs. Also, some coastal road flooding and minor pier damage. Hurricanes Allison of 1995, Danny of 1997 and Claudette of 2003 were Category One hurricanes at peak intensity.

### Category Two Hurricane

Winds 96-110 mph. Storm surge generally six to eight feet above normal. Some roofing material, door and window damage to buildings. Considerable damage to shrubbery and trees with some trees blown down. Considerable damage to mobile homes, poorly constructed signs and piers. Coastal and low-lying escape routes flood two to four hours before arrival of the hurricane center. Small craft in unprotected anchorages break moorings. Hurricane Bertha of 1996 was a Category Two hurricane when it hit the North Carolina coast, while Hurricane Isabel of 2003 was a Category Two hurricane when it passed through North Carolina.

### Category Three Hurricane

Winds 111-130 mph. Storm surge generally nine to 12 feet above normal. Some structural damage to small residences and utility buildings with a minor amount of curtain wall<sup>1</sup> failures. Damage to shrubbery and trees with foliage blown off trees and large trees blown down. Mobile homes and poorly constructed signs are destroyed. Low-lying escape routes are cut by rising water three to five hours before arrival of the hurricane center. Flooding near the coast destroys smaller structures with larger structures damaged by battering of floating debris. Terrain continuously lower than five feet above mean sea level may be flooded inland eight miles or more.

Evacuation of low-lying residences within several blocks of the shoreline may be required. Hurricanes Fran of 1996 and Fabian of 2003 were Category Three hurricanes at landfall in North Carolina and Bermuda, respectively.

### Category Four Hurricane

Winds 131-155 mph. Storm surge generally 13 to 18 feet above normal. More extensive curtain wall failures with some complete roof structure failures on small residences. Shrubs, trees and signs are blown down. Complete destruction of mobile homes. Extensive damage to doors and windows. Low-lying escape routes may be cut by rising water three to five hours before arrival of the hurricane center. Major damage to lower floors of structures near the shore. Terrain lower than 10 feet above sea level may be flooded, requiring massive evacuation of residential areas as far inland as six miles. Hurricane Luis of 1995 was a Category Four hurricane while moving over the Leeward Islands. Hurricanes Felix and Opal of 1995 also reached Category Four status at peak intensity.

### Category Five Hurricane

Winds greater than 155 mph. Storm surge generally greater than 18 feet above normal. Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. All shrubs, trees and signs blown down. Complete destruction of mobile homes. Severe and extensive window and door damage. Low-lying escape routes are cut by rising water three to five hours before arrival of the hurricane center. Major damage to lower floors of all structures located less than 15 feet above sea level and within 500 yards of the shoreline. Massive evacuation of residential areas on low ground within five to 10 miles of the shoreline may be required. Hurricane Gilbert of 1988 was a Category Five hurricane at peak intensity and is the strongest Atlantic tropical cyclone of record. Hurricane Andrew was a Category Five hurricane when it struck South Florida in August of 1992.<sup>2</sup>

<sup>1</sup>An exterior non-bearing wall between columns, sometimes containing windows or all glass.

<sup>2</sup>Hurricane Andrew was re-classified as a Category Five hurricane on August 21, 2002 by the National Oceanic and Atmospheric Administration (NOAA).

For more information on loss control guidelines for specific natural perils, or any property risk control issue, contact your local Willis representative, or Joe Stavish, PE, North America Property Risk Control Practice Leader, at 800 862 1441, stavish\_jc@willis.com.

*The objective of our services is to assist management in its loss control effort. The comments and suggestions we have made are accordingly advisory and are based upon conditions observed and information available at the time of this report. While we have endeavored to research those unsafe acts or conditions which could contribute to an accident or loss, it cannot be assumed that we have detected every loss potential or hazard, not does this report assure compliance with any Federal, State or local code or law.*