Willis Technical Advisory Bulletin

Willis

May 2007 – Atlantic Basin Hurricane Forecast

This Year They Might Be Right

Predictions for the 2007 season are comparable to those of a year ago. If these prove more accurate than last year's, the insurance climate will be very different in 2007 than it was in 2006.

Forecasters predict that the 2007 Atlantic hurricane season will be much more active than the average season since 1950. The Colorado State University (CSU) Tropical Meteorology Project team led by Dr. William Gray offers the following estimates.

Event	Prediction for 2007	Average
Hurricane	9	5.9
Named storms	17	9.6
Named storm days	85	49.1
Intense hurricanes (Category 3, 4 or 5)	5	2.3
Intense hurricane days	11	5.0

The probability of a major hurricane landfall in the US is estimated to be about 140 percent above the long-period average. Forecasters expect Atlantic basin net tropical cyclone (NTC) activity in 2007 to be about 185 percent of the long-term average.

Incorporating data through March 2007, this forecast is based on a newly devised extended range statistical forecast procedure which utilizes 40 years of past global reanalysis data. Analog predictors are also utilized. The CSU team has altered their more benign forecast of early December largely due to the rapid dissipation of El Niño conditions over the past couple of months. Currently, neutral ENSO (El Niño-Southern Oscillation) conditions are present. CSU expects either neutral or weak-to-moderate La Niña conditions to be present during the upcoming hurricane season. Tropical and North Atlantic sea surface temperatures remain well above their long-period averages.

Landfall Predictions

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

- Entire US coastline – 74 percent (average for last century is 52 percent)
- US East Coast including Florida Peninsula – 50 percent (average for last century is 31 percent)
- Gulf Coast from the Florida Panhandle westward to Brownsville – 49 percent (average for last century is 30 percent)
- Caribbean – above-average major hurricane landfall risk

CSU will be issuing seasonal updates of their 2007 Atlantic basin hurricane forecasts on Thursday, May 31 (to coincide with the official start of the 2007 hurricane season on June 1); Friday, August 3; Tuesday, September 4; and Tuesday, October 2. The August, September and October forecasts will include separate forecasts of August-only, September-only and October-only Atlantic basin tropical cyclone activity. A

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

verification and discussion of all 2007 forecasts will be issued in late November 2007. The first seasonal hurricane forecast for the 2008 hurricane season will be issued in early December 2007. All of these forecasts will be available on the web at: http://hurricane.atmos.colostate.edu/Forecasts

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.

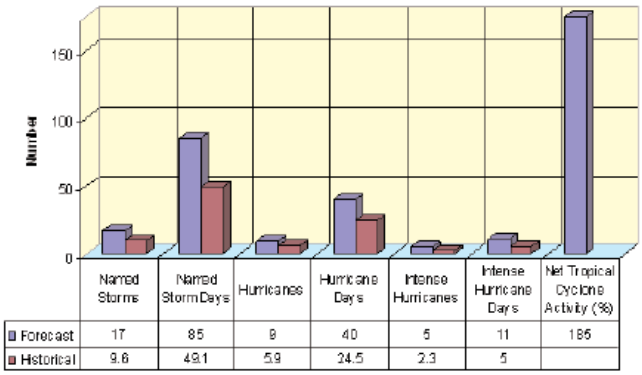
Category Two Hurricane

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[1] 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.

Year 2007 Hurricane Forecast (Historical vs. Forecast)



	Named Storms	Named Storm Days	Hurricanes	Hurricane Days	Intense Hurricanes	Intense Hurricane Days	Net Tropical Cyclone Activity (%)
Forecast	17	85	9	40	5	11	185
Historical	9.6	49.1	5.9	24.5	2.3	5	

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.[2]

[1]An exterior non-bearing wall between columns, sometimes containing windows or all glass.

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