

# Prediction for the Year 2006 – Close Out

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## Forecast

I generated the following forecast for the year 2006:

*Storminess levels will fall very dramatically from 2004 & 2005 levels. The year 2006 will not produce an extreme in either the number of major Atlantic hurricanes (Category 3 or greater) or in the number of major U.S. tornados (F4 or F5). I predict 0-2 major Atlantic hurricanes for 2006.*

## Actual Results

The forecast was very accurate.

The year 2006 produced 2 major Atlantic hurricanes, a mild year.

The year produced only 2 major U.S. tornados becoming the second least intensive year in major tornados since 1950.

## Background

In early 2006, Susan Waggoner and I developed a forecasting tool for predicting extreme weather years (years producing significant numbers of major Saffir/Simpson category 3-4-5 Atlantic hurricanes or major Fujita scale F4-F5 U.S. tornados). By combining hurricane and tornado analysis, we discovered the existence of a short term cycle on storminess intensity. We described this forecasting tool, *storminess analysis*, in a paper "The Art of Forecasting Extreme Weather Events" presented at the Second International Conference on Global Warming and the Next Ice Age sponsored by Los Alamos National Laboratory in July 2006. [http://meteo.lcd.lu/globalwarming/SantaFE2006\\_conference/LANLClimateConfAbstracts.pdf](http://meteo.lcd.lu/globalwarming/SantaFE2006_conference/LANLClimateConfAbstracts.pdf)

A forecasting tool is only as good as its ability to generate accurately predictions. And the best way to measure the tool's accuracy is to generate a forecast. After analyzing the extreme weather events for the years 1950-2005, I placed our 2006 forecast on the "Impact" website at <http://personals.galaxyinternet.net/tunga/Prediction.pdf> and posted it on the Cambridge Conference Network (CCNet), an academic newsletter, <http://www.staff.livjm.ac.uk/spsbpeis/CCNet-26-06-06.htm> .

At the time, other forecasters were predicting an extreme weather year for 2006; whereas our analysis showed quite the opposite. Therefore we felt this was a good initial test for the tool. The Colorado State University team of Phil Klotzbach and William Gray had generated a Seasonal Hurricane Forecast that predicted 5 major Atlantic hurricanes for 2006. The National Oceanic and Atmospheric Administration (NOAA) predicted 4-6 major Atlantic hurricanes. Tropical Storm Risk (TSR) "warned that the United States and Caribbean should brace themselves for yet another active Atlantic hurricane season in 2006". TSR is a forecasting consortium of insurance, risk management and seasonal climate experts lead by Benfield Hazard Research Centre at University College London. Their forecast predicted hurricane activity 60 percent above the 1950-2005 norms. At the far extreme were the computer modelers. Although this group does not technically generate forecasts, they began making model predictions that to the layman might be interpreted as forecasts. Kevin Trenberth from the National Center for Atmospheric Research (NCAR) predicted that human-induced climate change was producing a shift in hurricane intensities toward extreme hurricanes. Kerry Emanuel, a climatologist at the Massachusetts Institute of Technology, suggested that because

hurricane intensity was increasing, the Saffir-Simpson hurricane scale should be expanded to include a new category called Category 6 hurricanes.

### **Close Out**

This was the first test for a new hurricane/tornado forecasting tool and the results were an accurate prediction.

As predicted, storminess levels\* dropped very dramatically from 2004 & 2005 levels (a double peak). The year 2006 produced a storminess level of 2.268, a drop of 4.866 from 2005 levels.

This drop agrees well with the other 3 double peaks that occurred in the past 56 years.

After the double peak of 1964/1965, the storminess index dropped 6.032. In spite of this dramatic drop in storminess, the levels did not fall below the lower threshold. In 1966 there were 3 major Atlantic hurricanes.

After the double peak of 1984/1985, the storminess index dropped 6.347. 1986 produced 0 major Atlantic hurricanes and the storminess index dropped below the lower threshold.

After the double peak of 1995/1996, the storminess index dropped 4.196. 1997 produced only 1 major Atlantic hurricane and the storminess index dropped below the lower threshold.

Storminess in 2006 fell below the lower threshold. This sets the stage for another extreme year in storminess. In January 2007, I forecasted an extreme weather year for 2008. I predicted a minimum of 5 major Atlantic hurricanes (Category 3 or greater) for the year 2008.

\* The storminess index is the sum of (the number of major Atlantic hurricanes for a given year) combined with (the sum of the number of major U.S. tornados for that year divided by the weighting factor 7.47).