New Hurricane Prediction Model Forecasts Active 2005 Season

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Researchers at North Carolina State University have developed a new model for predicting the number of hurricanes likely to form in the Atlantic Ocean during the 2005 season, as well as the number of those hurricanes likely to threaten the eastern seaboard.

In an article published in a recent issue of *Geophysical Research Letters*, Dr. Lian Xie, professor of marine, earth and atmospheric sciences, along with colleagues Dr. Leonard Pietrafesa, professor and director of the Office of External Affairs in the College of Physical and Mathematical Sciences, and graduate student Tingzhaung Yan, describe the methodology they used in creating their prediction model as well as the results of their analysis. The mathematical model evaluates data from the last 100 years on Atlantic Ocean hurricane positions and intensity, as well as other variables including weather patterns and sea surface temperatures, in order to predict how many storms will form and where they will make landfall.

â€œThe most important factor in determining the probability of landfall was the temperature difference between the North and South Atlantic Ocean,â€? says Xie. â€œWhen we looked at the histories of these storms we discovered that if the water in the North Atlantic was warmer than in the South Atlantic, landfall on the eastern seaboard of the United States became more likely.â€?

Based on their data, the researchers believe that 2005 will see an active hurricane season, and are predicting 5 to 6 hurricanes to form in the

Atlantic. Of those, 2 to 3 are deemed likely to impact the eastern seaboard of the United States. The Atlantic hurricane season runs from June 1 to Nov. 30.

The data used in the NC State study was provided by the Climate Prediction Center (CPC) of the National Centers for Environmental Prediction (NCEP), a division of the National Weather Service (NWS) of the National Oceanic and Atmospheric Administration (NOAA). This study is co-sponsored by the National Climatic Data Center and the Coastal Services Center of NOAA, as a component of the NOAA/NCSU Cooperative Program on Climate and Weather Impacts on Society and the Environment (CWISE).

Source: North Carolina State University