Title: Using GIS to Understand Hurricane Windfields in the Gulf of Mexico

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Abstract

Meteorologists at Weather Research Center have been using ArcGIS to re-create the windfields in past significant Gulf of Mexico hurricanes in order to develop a hurricane windfield forecast tool in the Gulf of Mexico. The tracks and windfields for the following hurricanes will be demonstrated: Carla 1961, Hilda 1964, Betsy 1965, Camille 1969, Carmen 1974, Gilbert 1988, Andrew 1992, Lili 2002, Ivan 2004, Katrina 2005 and Rita 2005. By plotting the windfields in a layer, one can see that not all tropical cyclones are alike. They come in all shapes and sizes. With the GIS software one can see where the highest winds in the cyclone are tracking and what properties will be at the highest risk, with emphasis in the deepwater leases such as: Green Canyon, Atwater Valley, Keathley Canyon, etc. This wind field model has also been used in typhoons in the West Pacific and cyclones in the Indian Ocean.

Weather Research Center is a non-profit educational center whose mission is to inspire America's next generation of scientists and engineers. The GIS software is a new tool which WRC uses to capture the interest of young scientists and engineers through the graphical depiction of the weather.

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