



## News Release

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# Major Breakthrough in Hurricane Prediction

## ***Precision of new forecasting model could have significant benefits to buyers and sellers of hurricane catastrophe (re)insurance***

LONDON, Thursday 21 April 2005 -- Scientists at Tropical Storm Risk, the award-winning forecasting venture led by the Benfield Hazard Research Centre at University College London, have developed a computer model which significantly improves the ability to predict the strength of hurricane activity striking the US mainland. Using forecasts generated by the model, buyers and sellers of hurricane catastrophe (re)insurance could have the ability to improve the efficiency of their reinsurance decision making. The breakthrough model was announced today in the prestigious scientific journal, *Nature*.

The model, developed by Dr. Mark Saunders and Dr. Adam Lea at University College London, uses anomalies in wind patterns over North America, the Eastern Pacific and North Atlantic during July to predict the wind energy of US landfalling hurricanes during the main August to October hurricane season.

"Scientists have been trying to deliver accurate seasonal predictions of US landfalling hurricane activity for decades," noted Dr. Saunders, the TSR Lead Scientist and Head of Seasonal Forecasting & Meteorological Hazards at the Benfield Hazard Research Centre. "The TSR model is the first to offer a level of forecast precision to be practically useful."

Using the model, Tropical Storm Risk correctly predicted the very active 2004 hurricane season ([TSR Atlantic hurricane forecast August 4<sup>th</sup>, 2004](#)). When applied retrospectively to the period 1950 to 2003, the model was 74 percent accurate in predicting whether US hurricane losses would be higher-than-normal or lower-than-normal.

Kevin Champion, Executive Vice President of Property Solutions at Benfield, the world's leading reinsurance and risk intermediary commented:

"As each North Atlantic hurricane season approaches, the common question for those who own or insure property near the coast is how likely is it that one or more hurricanes will make landfall. While researchers have improved their ability to forecast the number of tropical cyclones that will form, predicting landfalls has been much more difficult. The research presented in this issue of *Nature* demonstrates a significant improvement in the ability to forecast US property damage from these storms. These predictions could prove to be invaluable to insurance companies as they enter the riskiest part of the hurricane season—the months of August, September and October—as it could be used to revisit their catastrophe retention decisions in light of the latest available data."

Early indications point to another active Atlantic hurricane season in 2005 with four tropical storm strikes predicted for the US, of which two will be hurricanes ([TSR forecast 5<sup>th</sup> April 2005](#)). TSR will issue its forecast for US landfalling activity with the new model on the 4<sup>th</sup> August. This forecast will be available from [www.tropicalstormrisk.com](http://www.tropicalstormrisk.com)

Hurricanes afflict Florida, the eastern seaboard and the Gulf Coast. They rank as the US's most expensive natural disaster and are responsible for eight of the 10 most costly catastrophes to affect the country. The annual average damage bill from hurricane strikes on the continental US between 1950 and 2004 is estimated at \$5.6 billion (at 2004 prices).

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**For further information please contact:**

Dr Mark Saunders  
Lead Scientist, TSR Consortium  
Benfield Hazard Research Centre, UK  
Tel: +44 (0) 1483 204187  
[mas@mssl.ucl.ac.uk](mailto:mas@mssl.ucl.ac.uk)

Ansi Vallens  
Signals and Strategies  
New York London,  
Tel: +1 518 392 4238  
[ansivallens@taconic.net](mailto:ansivallens@taconic.net)

Chris Gatland  
Benfield  
UK  
Tel: +44 (0) 20 7578 7485  
[Chris.gatland@benfieldgroup.com](mailto:Chris.gatland@benfieldgroup.com)

Lisa Strasser  
Manager, Marketing & Communications  
Benfield (US)  
+1 203 291 2274  
[lisa.strasser@us.benfieldgroup.com](mailto:lisa.strasser@us.benfieldgroup.com)

**Notes to Editors:**

**Nature Paper**

*Seasonal prediction of hurricane activity reaching the coast of the United States*, by Dr Mark A. Saunders and Dr Adam S. Lea, appears in the 21 April issue of the journal *Nature*. The paper may be accessed from [www.nature.com](http://www.nature.com).

**About Tropical Storm Risk (TSR):**

Founded in 2000, Tropical Storm Risk (TSR) offers a leading resource for forecasting the risk from tropical storms worldwide. The venture provides innovative forecast products to benefit risk awareness and decision making in (re)insurance, other business sectors, government and society. The TSR consortium is co-sponsored by Benfield, the leading independent reinsurance intermediary, Royal & Sun Alliance, the global insurance group, and Crawford & Company, a global claims management solutions company. The TSR scientific grouping brings together climate physicists, meteorologists and statisticians at University College London and the Met Office. [www.tropicalstormrisk.com](http://www.tropicalstormrisk.com)

In 2004 Tropical Storm Risk won the prestigious British Insurance Award for London Market Innovation of the Year and demonstrated the business relevance of seasonal hurricane forecasts for the first time. TSR has recently introduced tropical storm alert feeds to Reuters AlertNet ([www.alertnet.org](http://www.alertnet.org)), the humanitarian news portal, and to the United Nations World Food Programme ([www.hewsweb.org](http://www.hewsweb.org)).

**About Benfield Hazard Research Centre:**

With over forty researchers and practitioners, the Benfield Hazard Research Centre is Europe's leading multidisciplinary academic hazard research centre and comprises three groups: Geological Hazards, Meteorological Hazards and Seasonal Forecasting, and Disaster Studies and Management. The Centre is based at University College London, which along with Oxford and Cambridge, is one of the UK's top three multi-faculty teaching and research institutions. [www.benfieldhrc.org](http://www.benfieldhrc.org). Benfield Hazard Research Centre is sponsored by Benfield, the leading independent reinsurance intermediary and risk advisory business. [www.benfieldgroup.com](http://www.benfieldgroup.com)