



TSR Adds Forecast Rainfall Capability for Tropical Storms Worldwide

Innovative Forecast Product Allows Government and Humanitarian Agencies to More Effectively Plan Their Emergency Response to Damaging Tropical Cyclones

London, 15 February 2007 - Tropical Storm Risk (TSR), the award-winning consortium of experts on insurance, risk management and seasonal climate forecasting led by the Benfield UCL Hazard Research Centre, today announced the addition of quantitative and probabilistic rainfall forecasts for tropical storms worldwide as part of its award-winning Tropical Storm Tracker. The rainfall forecast enhancement complements TSR's existing suite of tracking software and is accessible through the website www.tropicalstormrisk.com.

Professor Mark Saunders, TSR lead scientist and Head of Weather and Climate Extremes at the Benfield UCL Hazard Research Centre, said: "Intense rainfall often causes more damage and loss of life than the high winds of tropical cyclones. However, there are few tools which provide warnings of the risk of heavy rainfall from active tropical storms worldwide. The TSR upgrade represents the first inclusion of quantitative and probabilistic rainfall forecasts within a publicly-accessible storm tracker."

Originally developed for use by the insurance industry, the new application will also benefit government and humanitarian relief agencies. The product's advance warnings on the level and likelihood of tropical storm severe rainfall will help these agencies to more effectively plan their emergency response when storms target populated areas, thereby reducing hardship, suffering and fatalities. The innovation is underpinned by rainfall forecasts from the UK Met Office's 'Global' numerical weather prediction model combined with considerable in-house research and modelling.

TSR's enhanced features include:

- Quantitative rainfall forecasts giving the total rainfall at a given point over leads of 1, 2, 3, 4 and 5 days.
- Probabilistic rainfall forecasts giving the likelihood that rainfall at a given location will exceed thresholds of 5 cm (2 ins), 12.5 cm (5 ins) and 20 cm (8 ins) over leads of 1, 2, 3, 4 and 5 days.
- Forecasts provided at a spatial resolution of ~60km and interpolated to ~10km.
- Updated forecasts every 12 hours.
- Observed rainfall rates and totals for the last 3 hours and last 7 days.
- Available for tropical storms worldwide.

Martyn Broughton, Editor of the humanitarian news portal Reuters AlertNet, said: "The addition of this important component of hazard forecasting to the existing storm tracker service makes it an even more effective tool for the aid community. TSR is giving levels of detail that build up the overall predictive power and help the response to be better targeted."

Severe rainfall in tropical storms can lead to property losses of over US \$ 1bn and cause significant loss of life either by drowning or via landslide inundation. Recent examples of tropical storm rainfall-inflicted property losses exceeding US \$ 1bn include tropical storm Allison (2001) - Texas, hurricane Ivan (2004), typhoon Maemi (2003) – South Korea, and typhoon Songda (2004) – Japan. The impact of tropical storm severe rainfall on fatalities is evidenced by noting that in Asia, such rainfall causes hundreds of deaths annually (*EM-DAT: The International Disaster Database* - <http://www.em-dat.net>), while in the U.S. 59% of all tropical cyclone deaths between 1970 and 1999 were caused by inland flooding (<http://www.nws.noaa.gov/floodsafety/trop.shtml>).

TSR currently provides tropical storm emergency alert feeds to Reuters AlertNet and the United Nations World Food Programme. Alerts are given for all tropical storms threatening landfall anywhere in the world and include information on the storm's predicted landfall time, position and strength, together with warnings of potential property damage and flooding.

Examples of TSR's new product for Hurricane Wilma and Hurricane Katrina may be viewed under the "Storm Rainfall Demo" link on the TSR Rainfall Homepage. The latter is accessible by clicking the link http://tsr.mssl.ucl.ac.uk/precip_forecasts/dynamic/homepage_precip.html

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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 increase risk awareness and to help decision making within the (re)insurance industry, other business sectors, government and society. The TSR consortium is co-sponsored by Benfield, the world's leading independent reinsurance and risk 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.

Tropical Storm Risk has won two major insurance industry awards during the past three years. In 2006 TSR was awarded the prestigious Risk Management Award at the British Insurance Awards, and in 2004 won the British Insurance Award for London Market Innovation of the Year.

Recent innovations include a breakthrough in the seasonal prediction of hurricane activity reaching the coast of the U.S., the first demonstration of the business relevance of seasonal U.S. hurricane forecasts, and the introduction of forecast windspeed probabilities for tropical cyclones worldwide. TSR provides tropical storm alert feeds to Reuters AlertNet (www.alertnet.org), the humanitarian news portal, and to the United Nations World Food Programme (<http://www.hewsweb.org>).

About Benfield UCL Hazard Research Centre:

Benfield UCL Hazard Research Centre is sponsored by Benfield, the world's leading independent reinsurance and risk intermediary. With over forty researchers and practitioners, the Benfield UCL Hazard Research Centre is Europe's leading multidisciplinary academic hazard research centre and comprises three groups: Geological Hazards, Weather and Climate Extremes, 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