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# Application of Seasonal Hurricane Forecasts for Catastrophe Reinsurance Announced

## ***Business benefit of seasonal U.S. hurricane forecasts is shown for the first time***

London, 21 July 2004 — Using advances in seasonal hurricane forecasting, buyers and sellers of Industry Loss Warranty (ILW) reinsurance covers can improve returns by as much as 30 percent. The application is for covers incepting at 1 August. Historically 96% of all intense (category 3 to 5) hurricane strikes on the U.S. occur after 1 August.

These findings are reported by researchers from Helvetia Patria Group and Tropical Storm Risk (TSR), the award-winning\* forecasting venture led by the Benfield Hazard Research Centre at University College London.

In a paper entitled “Business Application of Seasonal Hurricane Forecasts in Property Catastrophe Reinsurance” issued today, the researchers demonstrate for the first time the relevance of seasonal U.S. hurricane forecasts for the selling and buying of (re)insurance covers. The authors Niklaus Hilti (Helvetia Patria), Dr Mark Saunders and Dr Benjamin Lloyd-Hughes (both TSR) combine several innovative developments and ideas to obtain their proof.

Depending on the forecasted activity for the upcoming hurricane season, a decision is made whether to buy or sell an ILW cover. ILW triggers of \$5 bn, \$10 bn and \$20 bn are examined. For ILW sales, the forecast strategy leads to a 10-30% increase in annual revenue net of recovery. For ILW purchases, the forecast strategy pays 10-30% less for the same amount of protection (i.e. to gain the same recoveries without any increase in volatility or risk).

The authors tested their strategies on the 1950-2002 period of historical insured losses (as-if 2002 values) and over a 50,000 year period of simulated U.S. hurricane strikes and losses. The simulation is a sophisticated and complex model which employs fitted distributions to historical as-if losses and frequency distributions.

Dr Mark Saunders, the TSR Lead Scientist and Head of Seasonal Forecasting and Meteorological Hazards at the Benfield Hazard Research Centre said “Now the proof is there that seasonal hurricane forecasts benefit property catastrophe reinsurance business, opportunities exist to improve the profitability of a range of hurricane (re)insurance products”.

Hurricanes rank historically above earthquakes and floods as the major geophysical cause of property damage in the United States. The annual mean insured damage bill and its standard deviation for hurricanes striking the continental US 1900-2002 is US \$ 2.9 billion and US \$ 6.7 billion respectively at 2002 prices and exposures.

Copies of the report, which appeared in the July/August edition of Global Re are available by contacting [gmc@benfieldgroup.com](mailto:gmc@benfieldgroup.com)

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\* Tropical Storm Risk was awarded the London Market Innovation of the Year Award at The British Insurance Awards 2004 for their global Tropical Storm Tracker. The judges praised Tropical Storm Risk for the way major market players - insurer Royal & SunAlliance, broker Benfield and claims services provider Crawford & Company - "had worked together to harness the academic expertise available to offer a service that was innovative, relevant and unquestionably an asset to the London market."

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**Notes to Editors:**

**About Industry Loss Warranties**

Industry Loss Warranties (ILWs) are financial instruments designed to protect insurers or reinsurers from severe losses due to significant natural disasters. The buyer pays the seller a premium at the inception of the contract, and in return the buyer can make a claim should a major industry loss occur at or above an agreed trigger level. The trigger level is determined by the aggregated industry insurance loss. For U.S. hurricane cover, ILW trigger levels range typically from U.S. \$ 3bn to U.S. \$ 30bn depending upon the territorial scope of the cover, i.e. Florida only, North East U.S., Nationwide U.S. etc..

**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 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. Tropical Storm Risk was awarded the London Market Innovation of the Year Award at The British Insurance Awards 2004 for their global Tropical Storm Tracker.

### **About Benfield Hazard Research Centre:**

The Benfield Hazard Research Centre is sponsored by Benfield, the leading independent reinsurance intermediary and risk advisory business. Benfield's customers include many of the world's major insurance and reinsurance companies as well as Government entities and global corporations. Benfield employs over 1,700 people based in over 30 locations worldwide. [www.benfieldgroup.com](http://www.benfieldgroup.com)

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)

### **About Helvetia Patria Group**

Helvetia Patria is the 4th largest Swiss insurance company. It employs 4,700 people and has branches in Germany, Austria, Italy, Spain and France. Helvetia Patria has run a reinsurance business since 1870 and was a co-founder of Swiss Re. [www.helvetiapatria.com](http://www.helvetiapatria.com)