



The Met. Office

**STRICT EMBARGO: NOT FOR USE BEFORE 0.01HRS TUESDAY 6 JUNE 2000.**  
SCIENCE, ENVIRONMENT, INSURANCE AND CITY EDITORS.

## **SCIENTISTS REVEAL US HURRICANE AND JAPAN TYPHOON STRIKES FOR 2000 SUMMER**

The number of hurricanes striking US shores and the number of typhoons impacting Japan are both expected to be slightly below average in 2000, a team of UK scientists said today.

Dr Mark Saunders, Dr Paul Rockett and Dr Tony Hamilton of the Benfield Greig Hazard Research Centre at University College London (UCL) have developed innovative long-range forecasts for the number of tropical cyclones likely to impact the US, the Caribbean Lesser Antilles, and Japan.

In June 1999, using a similar model, the UCL team successfully predicted that the 1999 North Atlantic hurricane season and US strike total would be above average. Their forecast of 4 tropical storms, 2 hurricanes and 1 intense hurricane reaching US landfall agreed well with the actual landfalling totals of 5 tropical storms, 3 hurricanes and 1 intense hurricane. A further prediction of 12 Atlantic tropical storms and 7 hurricanes in 1999 also closely matched the observed totals of 12 tropical storms and 8 hurricanes. The team also forecast well the England and Wales winter storminess levels for the 1999/2000 winter season.

The team's pre-season prediction for 2000 is that impacts on the US and the Lesser Antilles will be 90% of average during the Atlantic hurricane season which runs 1<sup>st</sup> June through 30<sup>th</sup> November. Three tropical storms are expected to cross US shores, of which either 1 or 2 will be at hurricane-force. These are lower strike levels than in 1999. During the NW Pacific 1<sup>st</sup> June - 31<sup>st</sup> December 2000 main tropical cyclone season, 3 tropical storms are likely to hit Japan of which 2 will be at typhoon strength. These are higher strike levels than in 1999 but still only 70-80% of average.

The UCL team's work is supported by a joint venture between the UK Government and a consortium of UK insurance companies - the TSUNAMI Initiative. The tropical cyclone forecasts are produced in collaboration with The Met. Office who provided meteorological data, expertise and project coordination. Insurers and risk managers will benefit greatly from these data - the forecasts have been designed with their interests in mind, and timed for release well before the main hurricane and typhoon seasons to allow ample scope for reviewing existing windstorm policies.

Mike Cooper, TSUNAMI board representative for the CGNU Group - one of the seven companies sponsoring the consortium - welcomed the forecasts saying: "Long-range weather forecasting is notoriously difficult. However, as the volume and value of property rise, such forecasts are of growing importance not only to the insurance market but also to the Economy and to society as a whole. Through their ability to produce skilful forecasts on a timely basis, the UCL team are reducing the uncertainties in the pricing of windstorm policies."

Mark Gibbs, Head of The Met. Office Consultancy Group, praised the scientists efforts and commented; “The Met. Office is always keen to support research that offers potential benefits to its many customers. This research complements ongoing Met. Office projects to reduce hurricane and typhoon track errors, and to produce seasonal weather forecasts in the tropics and extra-tropics.”

The UCL forecasts are prepared using advanced statistical methods and historical climate data back to 1950. Predictors comprise a mix of current sea surface temperatures, and model predictions for sea surface temperatures at the time (August-October) of the 2000 hurricane and typhoon seasons. The main factors in the calculation are the expectations, during the summer and autumn of 2000, for neutral or slightly negative ENSO conditions in the tropical Pacific, and for neutral sea surface temperatures in the tropical north Atlantic. Both these factors are linked to slightly below average hurricane and typhoon seasons.

Hurricanes rank above earthquakes and floods as the United States’ costliest natural disaster. Typhoons are the most expensive and deadly natural disaster affecting much of Japan and coastal areas in other southeast Asian countries. The US hurricane damage bill for 1990-1999 averages £3.7 billion per year. In southeast Asia the typhoon damage loss for the 1990s averages £2.0 billion per year. Thus forecasts with even modest accuracy can create huge financial savings.

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## NOTES FOR EDITORS

(i) Forecast Numbers:

	US Landfalling 2000			Atlantic Total Numbers 2000		
	Intense Hurricanes	Hurricanes	Tropical Storms	Intense Hurricanes	Hurricanes	Tropical Storms
Ave. no. 1952-99	0.8	1.7	3.5	2.3	5.8	9.9
Actual no. 1999	1	3	5	5	8	12
Forecast no. 2000	0.7	1.5	3.1	2.1	5.1	8.7

	Japan Landfalling 2000		NW Pacific Total Numbers 2000		
	Typhoons	Tropical Storms	Intense Typhoons	Typhoons	Tropical Storms
Ave. no. 1972-99	2.5	4.1	7.9	16.4	26.3
Actual no. 1999	1	2	5	12	25
Forecast no. 2000	1.8	3.1	7.0	14.1	25.3

Key: Intense Hurricane/Typhoon = Sustained Wind > 95 Knots = Category 3 to 5  
Hurricane/Typhoon = Sustained Wind > 63 Knots = Category 1 to 5  
Tropical Storm = Sustained Wind > 33 Knots

The full forecasts may be viewed as PDF downloads at: <http://forecast.mssl.ucl.ac.uk>

(ii) The TSUNAMI initiative was established in response to the Foresight Programme, a UK Government initiative aimed at stimulating improved dialogue between academia and industry. TSUNAMI was formed in September 1997 by Dr Dougal Goodman, Deputy Director of the British Antarctic Survey a component part of the Natural Environment Research Council (NERC). It aims to improve the competitiveness of the insurance industry by using UK scientific expertise to improve the assessment of risk. TSUNAMI's three year programme is funded jointly by the Government through the Department of Trade and Industry's Sector Challenge and by a consortium from the UK insurance industry comprising:

*UK Composite Companies:* CGNU Group, Royal & Sun Alliance Insurance Group  
*Lloyd's Reinsurance Brokers:* Benfield Greig Group, Guy Carpenter  
*Lloyd's Managing Agencies:* Catlin Underwriting Agencies Ltd, DP Mann Ltd, Wren Syndicates Management Ltd