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“Storms and Hurricanes, will insurers be blown away?”

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Natural disasters have been increasing. The most notable in recent times being the 2004 Asian tsunami, and the 2005 hurricanes in the Gulf of Mexico. These have highlighted the risks to coastal cities from the sea, risks which will inevitably increase as climate change causes sea levels to rise¹.

The death toll from the earthquake in Pakistan accounted for 83% of the total mortality of that country for the year, but only 3% of total economic damages from disasters. By contrast, Hurricane Katrina in the USA accounted for 1.5% of total deaths in the year and 78% of total economic damages from disasters².

In 154 years of record keeping³, 2005 had the most named storms (27) the most hurricanes (14), the highest number of major hurricanes hitting the USA (4), and the most category 5 hurricanes (3).

Is this a new 150 year natural cycle we did not know about? It could not of course be climate change because the US fossil fuel industry funded scientists tell us that global warming does not exist, or if it does, the world should not worry because it will not affect the US for another 1,000 years, or if it does, it will not harm US business, or if it does, it is not caused by greenhouse gas emissions, or if it is, it is not due to burning fossil fuel, or if it is, it is entirely the fault of China and India. (Some people have dared to suggest that scientists and lobbyists funded by the US fossil fuel industry may not be entirely objective...)

Here in the UK, the jury is still out on whether an increase in storminess can be expected due to climate change. However there are persuasive arguments that storm tracks may change⁴, and according to the Met Office Hadley Centre the number of severe storms crossing England has doubled in the last 50 years⁵.

¹ Crichton, D., 2005. “*The threat of climate change*”. Journal of Catastrophe Risk Management, pp24-25. Spring 2005. London

² “*Disaster Data: A Balanced Perspective*” Journal of the Centre for Research on the Epidemiology of Disasters (CRED). Université catholique de Louvain. issue No 4, February 2006.

³ Report prepared by the US Association of State Floodplain Managers to be published at their annual conference in summer 2006.

⁴ Dronia, H., 1991. “*Zum vermehrten Auftreten extremer Tiefdruckgebiete über dem Nord-atlantik.*” Die Witterung in Übersee, 39(3), 27.

⁵ Hadley Centre, 2003. “*Climate change observations and predictions: Recent research on climate change science from the Hadley Centre*”, UK Met Office, December 2003

<http://www.metoffice.gov.uk/research/hadleycentre/pubs/brochures/2003/global.pdf>

This is bad news for insurers: traditionally, storms have tended to track over the North of Scotland, where buildings are constructed to very resilient standards to cope. If these storms move South to England where buildings are much less resilient and more densely concentrated, then losses could be severe as was demonstrated in the storms of October 1997, (1 million claims) and January and February 1990 (3 million claims).

Will the continent of Europe also suffer more from storms? December 1999 was a particularly bad month with three major storms happening close together:

- 3/4th “Anatole” cost \$ 2.3 bn
- 26th “Lothar” cost \$ 5.9 bn
- 27th “Martin” cost \$ 2.5 bn

While Anatole was the least costly of these storms, it did produce an unexpected and unprecedented 5 metre storm surge in Denmark where 350,000 properties were damaged when sea defences were breached. If such a surge were to be repeated in the Thames, London could be at risk of major flooding.

When modelling catastrophes, there are three major factors to be considered: exposure, vulnerability and hazard.

Exposure

More and more people are living near the coast or on low lying land.

Vulnerability

Greater wealth, more use of expensive electrical goods and lightweight building materials mean that modern properties are much more vulnerable to damage.

Insurance funded research⁶ has shown that in the 1987 and 1990 storms, houses built after the 1971 changes in building regulations were much more likely to be damaged.

Hazard

While exposure and vulnerability are increasing, so is hazard as sea levels rise and climate change concerns grow.

So will insurers be blown away?

The answer is almost certainly “no”. Insurers are buying more reinsurance to spread the risk globally. The danger is that a “catastrophe clash” could hit markets in different continents at the same time. Insurers could certainly become much more proactive in encouraging society to adapt to climate change by using more resilient construction methods.

⁶ Mootoosamy, V.K.S, and Baker, M.J., 1998 *“Wind Damage to Buildings in the United Kingdom”* University of Aberdeen, Department of Engineering. Published by the Loss Prevention Council, Paper LPR 8: 1998 Watford. (ISBN 0 902167 49-9).

In Australia, insurers and banks became fed up with lack of government action on building standards and developed their own set of standards, called the “Blue Book”, which is used by mortgage lenders to determine eligibility for lending. Builders there have learned to ignore government standards and use the Blue Book instead. Government keeps updating the official standards but no one uses them. One wonders what it would take for the insurance industry to think about trying such an idea in Britain? It would enable the industry to neatly sidestep government inertia and complacency.

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For more information, see:

Roaf, S. Crichton, D., and Nicol, F., 2005 *“Adapting Buildings and Cities for Climate Change”* Architectural Press, Oxford. ISBN 0 75065 9114. Price £28.