# **RISK ATLAS** NATURAL CATASTROPHES

# A costly year for nat cats

Record losses from natural disasters alongside an increasingly globalised world have made for a highly disruptive year

 ${f B}^{
m Y}$  JULY THIS YEAR, THE TOTAL ECONOMIC LOSSES AS a result of severe natural hazards totalled around \$265bn (€195bn), according to reinsurer Munich Re. That is the highest ever loss on record, despite Wildfires the figures only including half the year.

More recently, catastrophe modeller USA, May-Jun AIR estimated insured losses of between \$3bn and \$6bn for Hurricane Irene, caused by wind and storm surge damage to residential, commercial and industrial properties on the east coast of the USA.

Irene first made landfall in the USA on 27 August in North Carolina as a Category 1 hurricane, then paralleled the East Coast and slammed into Little Egg Inlet, New Jersey, the next day as a slightly weakened storm. Irene made a third landfall on Coney Island, New York, at tropical storm strength a few hours later.

The Risk Map here depicts some of the other key natural catastrophes to have hit this year, including a rash of heavy tornadoes, wildfires and heavy flooding – all of which hit the USA earlier this year. The fact that so many disasters have struck a region like the USA, where lots of people buy insurance, instead of the emerging markets, where insurance penetration is less deep. could hit the global insurance industry hard and result in a reduced risk appetite. The rating agency AM Best said that it believes some property and casualty insurers in the USA could face capital and, ultimately, rating pressures. However, it does expect the overall financial impact of Hurricane Irene to be "generally manageable" given the current overall strength of the

USA

According to AIR, Hurricane Irene in August 2011 brought more than a foot of rain to some parts of the US Atlantic coast from North Carolina to Maine. Rivers only began to recede very slowly. Along the Atlantic coast and into New England, the flooding was exacerbated by record or near-record rainfall in August, which created wet soil conditions and raised water levels in major rivers. At least 10 rivers or creeks hit record flood levels, with most centred over eastern New York and Vermont.

Severe storms, tornadoes USA, 20-25 May

Floods USA, Apr-Jun

> Severe storms, tornadoes USA, 22-28 Apr

#### Chile

A magnitude 8.8 earthquake that struck offshore of Chile on 27 February ranked in the world's top 10 most powerful quakes and occurred on a portion of the fault zone between two previously devastating earthquake epicentres, from 1922 and 1960. "Given the previous events along the fault, there was an increased probability of another earthquake on this section," says Dr Claire Souch, vice-president at RMS.

Landslides, flash floods Brazil, 12/16 Jan



#### EXPERT VIEW

Tina Butzbach, Global Head of Catastrophe Risk Management, Allianz Global Corporate & Specialty AG

## Preparedness is kev

The number, scale and destructive power of natural catastrophes appear to be increasing worldwide every year. Across the globe, trends like urbanization and coastal or flood plain development increase the overall loss potential due to the high risk of windstorms and floods. Socio-economic changes combined with rapidly developing technology and increasing global supply chains create growing potential for huge losses and a threat for business continuity.

However, despite great media coverage and the significant impact, many businesses still don't address their vulnerability to natural perils adequately. Thorough preparation and risk management is crucial.

Risk management in respect of natural hazards is complex. Organisations should ask themselves where they are overly concentrated relative to the catastrophic loss exposure and where they are highly exposed to multiple perils. Secondary perils like storm surge or floods after major storms should also be considered. Single event loss experience is not adequate for longterm risk management. It is important to not only consider the single 'surprising' event, but also how many opportunities there have been

for similar events to have occurred within the same area or time.

The emphasis should be on proactive loss prevention and risk mitigation, as damage can be reduced or prevented. Customised insurance solutions exist. Nevertheless, insurance cannot cover loss of market share or damaged reputation. A comprehensive risk analysis will help to understand potential damage, losses and potential implications on the organisation and mitigation actions can be taken. There are no uniform practices and standards, but established improvements to key business facilities as well as to those of critical suppliers do prevent or reduce potential property damage and ensure business continuity.

#### Number of events so far this year: 355

### Pakistan

Major destruction was wrought in Pakistan in July 2010 after severe flooding killed around 1,645 people, with more than 2,479 injured and hundreds more missing, according to Aon Benfield. Over 17.6 million people were affected in the hardest-hit provinces of Khyber Pakhtunkhwa, Punjab, Sindh and Balochistan – more than the 2004 Boxing Day tsunami, Kashmir earthquake and Haiti earthquake combined, according to Pakistan's National Disaster Management Authority.

#### Floods, flash floods Australia, Dec 2010-Jan 2011

industry. Worryingly, though, leading scientists and insurance brokers in the USA think that the number and costs of natural disasters in the future are going to increase sharply (see box). A UN natural disaster report released in May also suggested that the risk of economic loss is now rising faster than wealth creation, particularly in high income countries.

All this means that reducing the human and economic losses as a result of natural catastrophes is needed now more than ever. For the corporate sector, this means investing in disaster risk reduction and business continuity plans. It's worth considering that this year's total economic losses exceed the \$220bn loss for the whole of 2005 (previously the costliest year on record), which had a dramatic effect on pricing and capacity within the insurance market. As a response, in catastrophe-prone areas, commercial insurers began to tighten their terms and conditions in an effort to control their exposure. It also led to some availability problems as insurers and reinsurers revaluated their exposures. As we head into the 2011 hurricane season, let's hope Hurricane Irene is not the start of something similar. SR



#### IN ASSOCIATION WITH



Geophysical events earthquake, tsunami, volcanic activity

- Meteorological events storm
- Hydrological events flood, mass movement

Climatological events extreme temperature, drought, wildfire

#### Earthquake, tsunami Japan, 11 Mar

#### Japan

On 11 March, a 9.0 magnitude earthquake, the strongest ever registered in Japan, proved to be the costliest natural catastrophe on record – even more expensive than Hurricane Katrina in 2005, which caused economic losses in the order of \$125bn. At least 15,500 people lost their lives and thousands are still missing following the earthquake and the subsequent tsunami, which devastated entire cities along the northeast coast of Japan. The quake occurred under the sea to the east of Honshu, the main island, some 350 km northeast of Tokvo, and was followed 35 minutes later by a similarly severe (7.9 magnitude) aftershock.

**Cyclone Yasi** Australia, 2 Feb

Earthquake New Zealand, 22 Feb Earthquake New Zealand, 13 Jun

#### Australia

In January 2011, Australian prime minister Julia Gillard said that extreme flooding would cost her country around A\$5.6bn (€4.04bn) and said the government planned a one-off levy on taxpayers to help pay for reconstruction. Reports also suggested that the Australian floods killed 32 people and affected some 30,000 properties in Queensland. There was also significant crop damage