

Munich, 03 January 2013

Press release

Natural catastrophe statistics for 2012 dominated by weather extremes in the USA

Contact
Media Relations Munich,
Michael Able
Tel.: +49 (89) 3891-2934
Fax: +49 (89) 3891-72934
mable@munichre.com

**Münchener Rückversicherungs-
Gesellschaft**
Aktiengesellschaft in München
Media Relations
Königinstraße 107
80802 München
Germany
Letters: 80791 München

www.munichre.com
<http://twitter.com/munichre>

The USA accounted for a higher proportion of global natural catastrophe losses than usual in 2012, due to a series of severe weather-related catastrophes. Last year, natural catastrophes caused US\$ 160bn in overall losses and US\$ 65bn in insured losses worldwide. Some 67% of overall losses and 90% of insured losses were attributable to the USA – the respective averages are 32% and 57%. The year's highest insured loss was caused by Hurricane Sandy, with an estimated amount of around US\$ 25bn.

Munich Re Board member Torsten Jeworrek: “The heavy losses caused by weather-related natural catastrophes in the USA showed that greater loss-prevention efforts are needed. It would certainly be possible to protect conurbations like New York better from the effects of storm surges. Such action would make economic sense and insurers could also reflect the reduced exposure in their pricing.”

Overall, losses were significantly lower in 2012 than in the previous year, when record figures were posted due to the earthquakes in Japan and New Zealand and severe floods in Thailand. In 2011, overall losses came to US\$ 400bn and insured losses to US\$ 119bn – also a record amount. A long-term comparison shows that 2012 losses were above the ten-year average of US\$ 50bn for insured losses and slightly below the average of US\$ 165bn for overall losses.

Some 9,500 people lost their lives in natural catastrophes last year compared with the ten-year average of 106,000. The relatively small number of fatalities was due to the fact that, in 2012, few severe natural catastrophes occurred in emerging and developing countries, where natural catastrophes tend to have far more devastating consequences in terms of human lives.

With regard to the 2012 loss statistics, Hurricane Sandy alone accounted for some US\$ 50bn in overall losses, while the insured losses are expected to be around US\$ 25bn. The estimate is still subject to considerable uncertainty because the losses are extremely difficult to assess. Had it not been for this exceptional storm, losses would have been very low in 2012.

Sandy made landfall near Atlantic City on the US East Coast, to the south of New York, on 29 October. At that point, its maximum wind speeds were no more

than 150 km/h but it was an exceptionally wide storm, measuring 1,800 km in diameter – one-and-a-half times as big as Texas – so that the losses extended over a vast area.

The worst losses were caused by a storm surge on Sandy's northern side, which extended along several hundred kilometres of coastline from New Jersey to Massachusetts. Sandy's landfall coincided with a full-moon spring tide, resulting in a storm surge of more than three metres along many parts of the coast. In Battery Park, at the southern tip of Manhattan, close to Wall Street, the storm surge reached a record 4.3 metres, just one metre of which was attributable to the spring tide. Some of the tunnels linking Manhattan with the mainland were inundated and a number of tunnels on New York's subway were flooded for the first time in 100 years. There was comparatively little wind damage.

Prof. Peter Höppe, Head of Munich Re's Geo Risks Research: "Sandy's flood wave hit New York with full force. Its coincidence with the spring tide was a most exceptional circumstance. But such aspects also have to be borne in mind when assessing risks relating to conurbations."

All in all, the losses revealed a significant degree of vulnerability, especially where infrastructure is concerned. Sandy left a trail of devastation in the Caribbean before it made landfall on the northeast coast of the USA. Some 80 people lost their lives in Haiti, Jamaica and Cuba and on other Caribbean islands; the overall figure totalled 210. Even in Canada the storm caused insured losses in the order of US\$ 100m.

The second major loss event of 2012 was the summer-long drought in the USA that plagued the Corn Belt in the Midwest and surrounding states, where most of the USA's main agricultural crops, corn and soybean, are grown. Until November, 2012 had been the USA's warmest year since records began in 1895. Even June and July largely failed to produce the usual rainfall. Only in the Dust Bowl years, from 1934–1936, had yields been decimated by a worse drought. Nearly half of the USA's arable acreage was hit by the 2012 event. The overall agricultural crop losses in the USA in 2012 totalled around US\$ 20bn, of which approximately US\$ 15–17bn is covered by the public-private multi-peril crop insurance programme, making it the biggest loss in US agricultural insurance history. In average years, insured losses are around US\$ 9bn.

Höppe: "These two catastrophes clearly demonstrate the type of events we can expect to contend with more often in the future. It is not possible, of course, to attribute individual events to climate change, each theoretically being possible in isolation. However, numerous studies assume a rise in summer drought periods in North America in the future and an increasing probability of severe cyclones relatively far north along the US East Coast in the long term. The rise in sea level caused by climate change will further increase the risk of storm surge. And, with no apparent prospect of progress in international climate negotiations like those held recently in Doha, adaptation to such hazards using suitable protective measures is absolutely essential."

Tornadoes also caused significant losses in the USA, many squall lines forming in the spring due to a natural climate cycle. Overall losses from the most severe tornado outbreak (on 2–4 March) came to US\$ 5bn, of which 50% was insured. Tennessee was particularly badly hit.

There were far fewer severe natural catastrophes in the Asia-Pacific region in 2012, following a year when the major earthquakes in Japan and New Zealand had featured prominently in global loss statistics. Typhoon Bopha, which struck the Philippines in December, caused over 1,000 deaths, and many people are still unaccounted for. This storm was thus the year's most devastating natural catastrophe in terms of lives lost, whereas insured losses were minor due to the low insurance density.

Two earthquakes that struck Italy's Emilia Romagna region in May proved to be Europe's costliest events. A series of earth tremors was recorded in the region to the east of Modena, which has moderate earthquake exposure, in the period from May to July. The worst earthquakes, which had magnitudes of 5.9 and 5.8, struck on 20 and 29 May. Many of the region's buildings, including historic monuments, were destroyed, and a large number of businesses located in this rural region's numerous small industrial estates were damaged. Overall losses from the two earthquakes totalled some US\$ 16bn and insured losses US\$ 1.6bn.

Note for the editorial staff:
For further questions please contact

Media Relations Munich, Michael Able
Tel.: +49 (89) 3891-2934

Media Relations Asia, Nikola Kemper
Tel.: +852 2536 6936

Media Relations USA, Beate Monastiridis-Dörr
Tel.: +1 (609) 243-4622

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