

Munich, 17 October 2012

Press release

North America most affected by increase in weather-related natural catastrophes

Contact
Media Relations Munich,
Gerd Henghuber
Tel.: +49 (89) 3891-9896
Fax: +49 (89) 3891-79896
ghenghuber@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>

A new study by Munich Re shows that North America has been most affected by weather-related extreme events in recent decades. The publication "Severe weather in North America" analyzes all kinds of weather perils and their trends. It reports and shows that the continent has experienced the largest increases in weather-related loss events.

For the period concerned – 1980 to 2011 – the overall loss burden from weather catastrophes was US\$ 1,060bn (in 2011 values). The insured losses amounted to US\$ 510bn, and some 30,000 people lost their lives due to weather catastrophes in North America during this time frame. With US\$ 62.2bn insured losses and overall losses of US\$ 125bn (in original values) Hurricane Katrina in 2005 was the costliest event ever recorded in the US. Katrina was also the deadliest single storm event, claiming 1,322 lives.

The study was prepared in order to support underwriters and clients in North America, the world's largest insurance and reinsurance market. Using its NatCatSERVICE – with more than 30,000 records the most comprehensive loss data base for natural catastrophes – Munich Re analyzes the frequency and loss trends of different perils from an insurance perspective. The North American continent is exposed to every type of hazardous weather peril – tropical cyclone, thunderstorm, winter storm, tornado, wildfire, drought and flood. One reason for this is that there is no mountain range running east to west that separates hot from cold air.

Nowhere in the world is the rising number of natural catastrophes more evident than in North America. The study shows a nearly quintupled number of weather-related loss events in North America for the past three decades, compared with an increase factor of 4 in Asia, 2.5 in Africa, 2 in Europe and 1.5 in South America. Anthropogenic climate change is believed to contribute to this trend, though it influences various perils in different ways. Climate change particularly affects formation of heat-waves, droughts, intense precipitation events, and in the long run most probably also tropical cyclone intensity. The view that weather extremes are becoming more frequent and intense in various regions due to global warming is in keeping with current scientific findings, as set out in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) as well as in the special report on weather extremes and disasters (SREX). Up to now, however, the increasing losses caused by weather related natural catastrophes have been primarily driven by socio-economic factors, such as population growth, urban sprawl and increasing wealth.

Among many other risk insights the study now provides new evidence for the emerging impact of climate change. For thunderstorm-related losses the analysis reveals increasing volatility and a significant long-term upward trend in the normalized figures over the last 40 years. These figures have been adjusted to account for factors such as increasing values, population growth and inflation. A detailed analysis of the time series indicates that the observed changes closely match the pattern of change in meteorological conditions necessary for the formation of large thunderstorm cells. Thus it is quite probable that changing climate conditions are the drivers. The climatic changes detected are in line with the modelled changes due to human-made climate change.

The Head of Munich Re's Geo Risks Research unit, Prof. Peter Höppe, commented: "In all likelihood, we have to regard this finding as an initial climate-change footprint in our US loss data from the last four decades. Previously, there had not been such a strong chain of evidence. If the first effects of climate change are already perceptible, all alerts and measures against it have become even more pressing." Höppe continued that even without changing hazard conditions, increases in population, built-up areas and increasing values, particularly in hazard-prone regions, need to be on Munich Re's risk radar. All stakeholders should collaborate and close ranks to support improved adaptation. In addition, climate change mitigation measures should be supported to limit global warming in the long term to a still manageable level. "As North America is particularly exposed to all kinds of weather risks, it especially would benefit from this", added Höppe.

Peter Röder, Board member with responsibility for the US market, said: "Climate change-related increases in hazards – unlike increases in exposure – are not automatically reflected in the premiums. In order to realize a sustainable model of insurance, it is crucially important for us as risk managers to learn about this risk of change and find improved solutions for adaptation, but also mitigation. We should prepare for the weather risk changes that lie ahead, and nowhere more so than in North America."

Tony Kuczinski, CEO of Munich Reinsurance America, pointed out: "This publication represents another contribution to the global dialogue concerning weather-related activities and their causes. What is clearly evident when the longterm data is reviewed is that losses from weather events are trending upward. To simply say that this trend is a statistical anomaly or part of a long-term cycle of activity misses the point of these efforts – we must set aside our biases and continue a meaningful dialogue in search of answers to mitigate the losses that we are experiencing."

Losses from weather related natural catastrophes

Storms

Storms dominate the weather loss statistics; they account for 76% of overall losses (US\$ 805bn since 1980) and – due to high insurance penetration – for 89% of insured losses (US\$ 454bn). 2005 was the major hurricane year when Katrina, Rita and Wilma occurred and 2011 the record year for thunderstorm related losses, when the US suffered US\$ 26bn in insured property losses from that kind of events alone.

Tropical cyclones

Tropical cyclones can affect almost the entire North American East and Gulf Coasts – especially if they develop into hurricanes. A main loss driver is the

concentration of people and assets on the coast combined with high and possibly growing vulnerabilities. In recent years, not only high winds but storm surge risk has moved into focus, given that it carries an immense loss potential and is responsible for fatalities in high numbers. August 24, 2012 marked the 20th anniversary of Hurricane Andrew, the 20th century's most expensive hurricane, resulting in original losses of US\$ 17bn for the insurance industry. It was considered a wake-up-call. Following Andrew, US building codes were tightened and the insurance industry introduced complex risk models, while calling for stronger prevention measures. Therefore if an Andrew-type event occurred today affecting the same region, the normalized losses would probably be lower.

Thunderstorms

The study draws special attention to thunderstorms: besides tropical cyclones, thunderstorms are the most important severe weather hazard for the insurance industry in the US. Between 1980 and 2011, 43% of insured property windstorm losses (US\$ 180bn) were caused by severe thunderstorms. Thunderstorm-related losses have increased over the past 40 years. The study identifies two major drivers of this trend. One factor is urban sprawl exposing higher destructible values to the forces of thunderstorms. Parallel to this, the study provides strong indication that changing climatic conditions are having a visible impact.

Floods

Several hundred loss events resulting from floods add up to a billion-dollar figure every year. While exposure to flooding is increasing, flood control and protection measures that counteract this are being improved. Even if they are expensive, measures for flood protection do pay off. Without flood management and control structures, the cost of the 2011 flood on the Mississippi, around US\$ 5bn, would have amounted to more than US\$ 100bn.

Heat-waves and droughts

Other events like heat-waves, droughts and wildfires contributed 15% (US\$ 160bn) to the overall losses from severe weather events, with droughts accounting for more than half of this. Climate change will alter the occurrence of extremely dry and hot weather conditions. The loss potential of droughts and heat-waves is often underestimated, as their impact is only felt gradually but affects every sector from private households, infrastructure and power supply to agriculture over a huge area. On top of this, long dry periods create ideal conditions for promoting the outbreak and spread of wildfires. New high-temperature records have been set in recent years. To date (including September) 2012 has been the warmest year in the US since the beginning of weather records in 1895, with a mean temperature 3.8°F (2.1°C) above the 20th century average. Nearly two thirds of the area under cultivation was affected by the drought in 2012, which was among the most extreme events of the last 50 to 100 years. Crop insurance will play an even more significant role as climate change evolves.

Note for the editorial staff:
For further questions please contact

Media Relations Munich, Gerd Henghuber
Tel.: +49 (89) 3891-9896

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

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

17 October 2012

Press release

Page 4/4

Munich Re stands for exceptional solution-based expertise, consistent risk management, financial stability and client proximity. Munich Re creates value for clients, shareholders and staff alike. In the financial year 2011, the Group – which pursues an integrated business model consisting of insurance and reinsurance – achieved a profit of €0.71bn on premium income of around €50bn. It operates in all lines of insurance, with around 47,000 employees throughout the world. With premium income of around €27bn from reinsurance alone, it is one of the world's leading reinsurers. Especially when clients require solutions for complex risks, Munich Re is a much sought-after risk carrier. Its primary insurance operations are concentrated mainly in the ERGO Insurance Group, one of the major insurance groups in Germany and Europe. ERGO is represented in over 30 countries worldwide and offers a comprehensive range of insurances, provision products and services. In 2011, ERGO posted premium income of €20bn. In international healthcare business, Munich Re pools its insurance and reinsurance operations, as well as related services, under the Munich Health brand. Munich Re's global investments amounting to €202bn are managed by MEAG, which also makes its competence available to private and institutional investors outside the Group.

Disclaimer

This press release contains forward-looking statements that are based on current assumptions and forecasts of the management of Munich Re. Known and unknown risks, uncertainties and other factors could lead to material differences between the forward-looking statements given here and the actual development, in particular the results, financial situation and performance of our Company. The Company assumes no liability to update these forward-looking statements or to conform them to future events or developments.

Munich, 17 October 2012

Münchener Rückversicherungs-Gesellschaft

Aktiengesellschaft in München

Media Relations

Königinstraße 107

80802 München

Germany