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## Press release

### Accumulation of very severe natural catastrophes makes 2011 a year of unprecedented losses

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**An exceptional accumulation of very severe natural catastrophes makes 2011 the highest-ever loss year on record, even after the first half-year. Already, the approx. US\$ 265bn in economic losses up to the end of June easily exceeds the total figure for 2005, previously the costliest year to date (US\$ 220bn for the year as a whole). Most of the losses were caused by the earthquake in Japan on 11 March.**

Altogether, the loss amount was more than five times higher than the first-half average for the past ten years. The insured losses, around US\$ 60bn, were also nearly five times greater than the average since 2001. First-half losses are generally lower than second-half losses, which are often affected by hurricanes in the North Atlantic and typhoons in the Northwest Pacific. The total number of loss-relevant natural events in the first six months of 2011 was 355, somewhat below the average for the previous ten years (390).

It is very rare for such an extreme accumulation of natural hazard events to be encountered as in the first half-year. Munich Re Board member Torsten Jeworrek: "The role of insurance in such a case is to bear these seldom catastrophe losses and, by so doing, assist with the rebuilding effort and the economic recovery of the region concerned. We were not surprised by any of the events when seen as single events, since they were within the range of what our risk models led us to expect. The accumulation of so many severe events of this type in such a short period is unusual, but is also considered in our scenario calculations. Thanks to our risk know-how and financial strength, we are able to exploit business opportunities that arise following the increased demand for risk transfer, which is often accompanied by a decreasing supply of capacity."

Most of the losses were accounted for by the earthquake in Japan on 11 March, which caused an overall economic loss of US\$ 210bn. The 9.0 magnitude earthquake, the strongest ever registered in Japan, is also the costliest natural catastrophe on record – even more expensive than Hurricane Katrina in 2005, which caused economic losses in the order of US\$ 125bn. Nevertheless, the currently estimated US\$ 30bn claims burden for the insurance industry will not attain the level of insured losses caused by Hurricane Katrina.

The Japanese quake was also the biggest catastrophe to occur in the first half of 2011 in human terms. 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 on 11 March occurred under the sea to the east of Honshu, the main island, some 350 km northeast of the Tokyo conurbation, and was followed 35 minutes later by a similarly severe (7.9 magnitude) aftershock, which caused even greater losses in the Tokyo area than the main earthquake. Experts had expected a strong quake in Japan for some time, but involving some other location instead.

Anselm Smolka, Munich Re earthquake expert: "Major quakes always shift stresses in adjacent areas, making it more probable that a strong quake could occur under the sea to the east of Tokyo or a moderate-magnitude earthquake at a depth many kilometres directly under Tokyo in the coming years. Nevertheless, the probability of the most extreme scenario, a powerful quake south of Tokyo at the entrance to Tokyo Bay, is no greater than before."

The severe earthquakes that shook the city of Christchurch, New Zealand, in February and in June (the third time since autumn 2010) are not connected with the Japanese quake. Economic losses from the 6.3 magnitude earthquake on 22 February in particular were very high, amounting to approx. US\$ 20bn, of which more than US\$ 10bn was insured. This was due to the fact that the ground motion was amplified by the reflection of seismic waves off an extinct volcano complex situated nearby. There was also widespread ground deformation. Moreover, buildings that had sustained damage in September 2010 were now completely destroyed by the tremors.

In terms of weather-related natural catastrophes, the southern and midwest US states were hit by several exceptionally severe series of tornadoes in April and May. The extreme series of severe weather events can largely be explained by the La Niña climate phenomenon. As part of this natural climate oscillation, atmospheric disturbances from the northwest recurrently move over the central states of the USA and meet humid warm air in more southerly and easterly regions. Under such conditions, extreme weather events are more probable than in other years. It is therefore no coincidence that the number of tornadoes registered in 2011 up to the end of June – approx. 1,600 – is virtually at a record level, i.e. only marginally below the current record year, 2008, which was also affected by La Niña.

Peter Höpfe, head of Munich Re's Geo Risks Research: "Overall the accumulation is nothing unusual in La Niña years. The statistical increase in the number of tornadoes over the course of time is mainly the result of better documentation."

Most of the severe thunderstorm-related hazards are local events, which cause serious damage over a small area but are not comparable to events like severe hurricanes. However, the total loss amount from the tornado series is substantial.

In the case of the two most severe series, which occurred at the end of April and in the third week of May, the overall economic losses amounted to approx. US\$ 15bn, with insured losses an estimated US\$ 10bn.

Also strongly influenced by the La Niña phenomenon, a number of extreme weather-related natural catastrophes hit the Australian continent in the first half of 2011 as well. Firstly, in Queensland in northeast Australia, where the area north of the city of Brisbane suffered widespread floods following the heaviest rainfall for decades. For the first time in state history, all three major rivers flooded simultaneously.

The first big flood occurred at the end of 2010 but the flooding continued well into January 2011. Brisbane itself was also severely hit although, contrary to what had been feared, the Brisbane River flood waters remained around a metre below the record level of 1974. Altogether, hundreds of thousands of homes and businesses were flooded and large open-pit mines had to be temporarily closed. The overall economic losses of the several events came to approx. US\$ 7bn, of which US\$ 2.5bn was insured.

Queensland also suffered its first Force 5 (maximum-strength) storm in nearly 100 years when Cyclone Yasi made landfall on 3 February, bringing wind speeds of over 280 km/h. Although smaller localities were primarily affected by the windstorm, the losses were substantial. The agricultural sector was badly hit, this being a region with large banana plantations. However, the major cities of Cairns and Townsville for the most part escaped significant damage. The overall economic losses amounted to around US\$ 2bn, of which approximately half was insured.

“One factor that stood out was that this year saw the highest sea temperatures ever measured off the coast of Australia, which are contributors to these weather extremes. Although this is linked to La Niña, temperatures were higher than in previous La Niña years”, said Höppe.

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