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Press release

Floods dominate natural catastrophe statistics in first half of 2013

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Floods causing billions of dollars in losses dominate the natural catastrophe statistics for the first half-year 2013. Around 47% of the overall losses and 45% of the insured losses derived from inland flooding that occurred in Europe, Canada, Asia and Australia. Altogether, at around US\$ 45bn, losses from natural catastrophes were below the average amount for the past ten years (US\$ 85bn). Insured losses totalled approximately US\$ 13bn (ten-year average: US\$ 22bn).

By far the most expensive natural catastrophe in the first half-year was the flooding in southern and eastern Germany and the neighbouring states in May and June, which gave rise to an overall loss of more than €12bn (US\$ 16bn) and an insured loss in the region of €3bn plus (US\$ 3.9bn). The majority of the insured losses occurred in Germany. By way of comparison, the Elbe flooding in 2002 caused an overall economic loss of US\$ 16.5bn, of which US\$ 3.4bn was insured.

“The frequency of flood events in Germany and central Europe has increased by a factor of two since 1980. But particularly with floods, an increased hazard – such as more frequent heavy rainfall events – need not necessarily result in higher losses. Such a rise in losses can be prevented by better flood control”, said Board member Torsten Jeworrek. “It is therefore important to sharpen risk awareness. Rivers need room so that flood waves can disperse without causing serious damage. And the flood risk needs to be considered in the designation of land for industrial or residential areas. Politicians should not only set up emergency funds after catastrophes but should act with greater foresight, engaging in prudent supraregional flood control, which should ideally be coordinated across national borders.”

The flooding in Germany and the neighbouring countries to the east was caused by an atmospheric trough across central Europe, drawing moist air from the Mediterranean and southeast European area northwards over eastern Europe. The lows embedded in this air current, with an anticlockwise airstream, led to orographic lifting on the north sides of the eastern German mountain ranges and the Alps. In some places, 400 litres of rain per square metre fell within a few days. And up to 100 litres per square metre were recorded over a very large

area. As the ground was already saturated from the rainiest spring for 50 years, the rainwater flowed directly into the rivers.

The consequence was an extensive flood in Bavaria and eastern Germany which significantly exceeded the levels of 2002 in many places on the Danube and Elbe. In Passau, at the confluence of the rivers Danube, Inn and Ilz, the highest water level since 1501 was recorded. In Dresden, by contrast, the old city centre was largely spared, unlike in 2002. Thanks to better flood control, fewer dykes on the upper reaches of the Elbe broke than in 2002, but this meant that the flood wave further downstream was all the higher. In Magdeburg, the floods reached a record level. More than 20,000 people had to be evacuated.

In neighbouring countries like the Czech Republic and Austria, the flooding also caused high losses, although in contrast to 2002 the old city centre of the Czech capital Prague escaped largely unscathed, thanks to enhanced flood control measures. Austria experienced numerous mudflows as a result of the heavy rain. In Vienna, some of the floodwater was diverted into the "New Danube" relief canal, enabling the flooding to be restricted to a few streets. The floods in Slovakia and Hungary were limited to the swollen Danube, as the two countries themselves were not affected by the heavy rain. In Bratislava and Budapest, the flood control measures proved their worth, with only a few streets right next to the river being flooded.

Prof. Peter Höpfe, Head of Munich Re's Geo Risks Research unit, noted: "It is evident that days with weather conditions that lead to such flooding are becoming more frequent and that such weather systems tend to remain stationary for longer. With this higher persistence of weather patterns, the potential for heavy and long-lasting precipitation within a trough situation, for example, increases. The counterpart to this are stationary high-pressure systems which in summer increase the risk of heatwaves and periods of drought."

"Debate in climate research is currently focusing on what the causes of such changes in weather patterns could be and what role climate change might play in this. But it is naturally not possible to explain single events on this basis", Höpfe added.

The second most expensive event in the first half-year was a squall line with severe tornadoes in the USA between 18 and 22 May. On 21 May, a tornado of category 5 (maximum strength) hit the town of Moore, a suburb of Oklahoma City. The tornado reached peak wind speeds of up to 300 km per hour and was unusually large, with a width of nearly two kilometres. The destruction was enormous: well over 1,000 buildings were completely destroyed in Moore alone, including seven schools and a hospital. 26 people were killed and more than 370 were injured. The overall economic loss amounted to more than US\$ 3bn, of which approximately US\$ 1.5bn was insured.

"The central states of the USA have the highest tornado risk in the world. Altogether, however, the US tornado season has been below average so far: by

the end of June, 625 tornadoes had occurred, compared with the longer-term average of 1,075", Höppe said.

Another severe event was a flood in the Canadian province of Alberta – probably the worst flooding ever experienced there. Starting on 19 June, massive rainfall of up to 200 litres per square metre in one day coincided with late snowmelt, causing the Bow River in Calgary to swell to a level three times higher than during the flood of 2005. Some 75,000 people were evacuated. Numerous streets were flooded, and the Saddledome, home to ice-hockey club Calgary Flames, was hit. Initial estimates indicate an overall economic loss of more than US\$ 3bn, while the insurance loss is likely to exceed the one-billion-dollar mark.

The event with the severest consequences in humanitarian terms was the disaster caused by flash floods in northern India and Nepal as a consequence of exceptionally early and extremely heavy monsoon rains. Hundreds of roads and bridges were washed away, making the job of rescue workers all the more difficult. Over 1,000 people were killed.

All in all, 460 loss-relevant natural hazard events occurred throughout the world in the first half of the year, slightly above the average for the past ten years (390).

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