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## Press release

### Floods and typhoons are the biggest weather risks in Eastern Asia

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**Eastern Asia has been hard hit by weather-related loss events in the past three decades. Their number has increased by more than a factor of four, causing overall losses from weather-related events of some US\$ 700bn during this period. The insured losses of US\$ 76bn amounted to only around 10% of overall losses, with 62% of these attributable to Japan. Floods caused 56% of the overall losses in Eastern Asia, but only 30% of insured losses. The number of floods has increased strongly and is expected to increase further in the coming decades. With insured losses of US\$ 16bn, the 2011 Thailand floods caused the biggest-ever weather-related insured loss in the region. After floods, it is typhoons that cause the greatest weather-related losses. New analyses indicate a clear cycle of activity for typhoons, and increased typhoon activity is expected over the coming years.**

The last 33 years have seen a significant increase in losses from weather-related events in Eastern Asia. This is borne out by Munich Re NatCatSERVICE's data since 1980, which were analysed for Munich Re's publication "Severe Weather in Eastern Asia". This publication was written by Munich Re experts and renowned international guest authors from a variety of disciplines. The study focuses on the eight countries of Japan, South Korea, China, Taiwan, Vietnam, Thailand, Indonesia and the Philippines.

Ludger Arnoldussen, Munich Re Board member responsible for Asia-Pacific region: "Typhoon Haiyan, which swept across the Philippines on 8 November, has caused a terrible human catastrophe. It underlines how important analyses and a deep understanding of these weather phenomena are. Governments and insurers need to develop risk-minimisation strategies in order to reduce the number of victims and losses in the future."

With the exception of Japan, the countries analysed in this study will continue to be inadequately insured against weather risks in the years to come. At the same time, however, the loss potentials are set to increase drastically as values rise. Insurers in particular can provide solutions to effectively manage weather-related risks. Successful examples of this can be found in the form of public-private partnerships, which help to increase insurance penetration or cover state assets such as infrastructure.

Nearly half (45%) of all weather-related events in the period under consideration were floods, followed by storms (39%) and forest fires, heatwaves and droughts (16%). A total of 120,000 people have lost their lives since 1980 as a result of these weather catastrophes, 57% from flooding alone, 39% from storm events. Four of the five costliest weather-related catastrophes are also attributable to floods. At US\$ 393bn, floods accounted for 56% of overall losses, followed by storms with overall losses of US\$ 233bn (34%).

Peter Höppe, Head of Munich Re's Geo Risks Research unit, comments: "There is no region of Eastern Asia that is immune to the threat of flooding. The reasons for the strong increase in losses from weather catastrophes like floods are primarily socio-economic factors such as continued strong economic growth and the resultant increase in values in exposed regions. Urban agglomerations in coastal regions and rapidly expanding industrial parks located in river deltas are particularly at risk."

The greatest weather threat after flooding comes from typhoons, which are among the most loss-intensive weather events. Their greatest threat is to urban conurbations in Eastern Asia, especially in Japan, Vietnam, Taiwan and the Philippines, and the burgeoning megacities of Eastern China. The occurrence of typhoons is influenced by periodic climate fluctuations, with phases lasting some 30 years. "In the last ten years, typhoon activity has been below the long-term mean level. Extrapolating these cycles into the future, we expect a phase of higher typhoon activity in the next few years", says Höppe.

Here is a brief description of significant weather-related events that have caused major losses:

- Japan is primarily affected by typhoons, torrential rainfall and flooding. With an overall loss of US\$ 10bn, Typhoon Mireille in 1991 was one of the biggest storms ever to hit Japan. Typhoon Songda in 2004 caused overall losses of some US\$ 9bn. In both cases, flooding was a major source of losses.
- South Korea is affected by torrential rainfall and typhoons. Super Typhoon Maemi in 2003 remains the strongest storm ever to hit the country, with an overall loss of US\$ 4.8bn.
- China is severely threatened by weather catastrophes, in particular flooding, typhoons and hail but also heatwaves and sand storms. The worst weather catastrophe in China's history remains the flooding of the Yangtze and Songhua Rivers in 1998 with more than 4,000 fatalities and an overall loss of more than US\$ 30bn.
- Taiwan is particularly exposed to typhoons, hail and flood. Typhoon Morakot in August 2009 was one of the costliest storms in the country's history with an overall loss of US\$ 3.4bn.
- Floods pose the greatest weather risk in Thailand. The 2011 flood was the costliest natural catastrophe ever to hit the country and the most expensive flood catastrophe worldwide, with overall losses of US\$ 43bn.

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