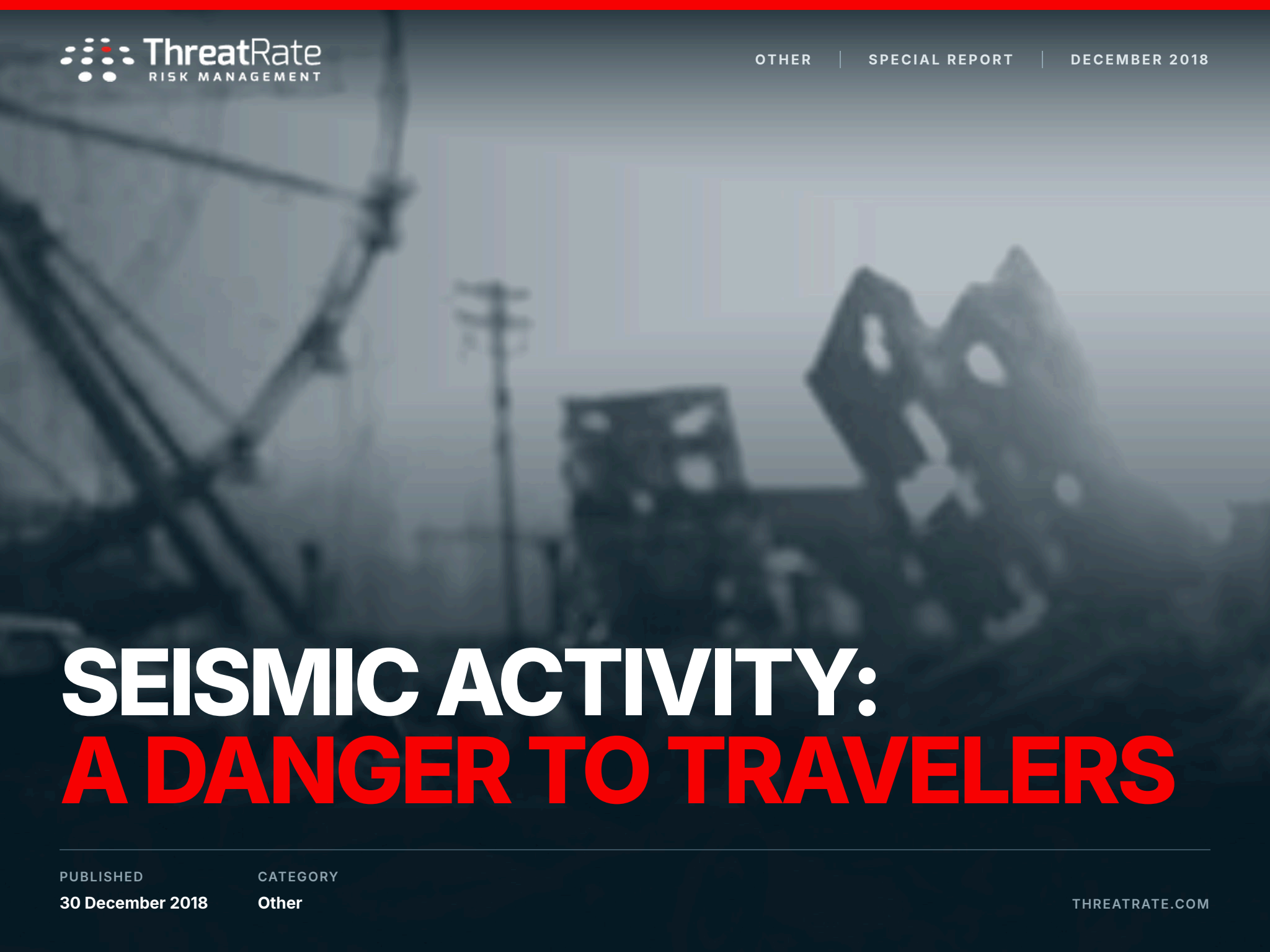


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SEISMIC ACTIVITY: A DANGER TO TRAVELERS

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Seismic Activity: A Danger to Travelers

It is not hyperbole to state that not a day passes without some sort of seismic activity. One can, if curious, view a listing here and see that – as an example – on June 25, 2018, there were twenty seismic events worldwide. The frequency is such that there were, on average, nearly 1500 earthquakes a year over the last few years. While some areas – e.g., the significant parts of the interior of the United States such as the Great Lakes region – are relatively quiet from a seismic perspective other regions and countries throughout the world are extremely seismically active.

Japan has repeatedly been ranked as the most earthquake prone country in the world due to its location in the Pacific Ring of Fire - a tectonic system that is responsible for 90% of the world's earthquakes. For example, in 2011, it was an earthquake that precipitated the large tsunami (with waves up to 33ft) that eventually led to the Fukushima nuclear power plant disaster. Elsewhere in Asia, countries such as Nepal, India, and Pakistan are consistently categorized as especially earthquake prone; indeed, some estimates say that the Nepalese, more than any other nationality, are likely to be killed by an earthquake. The Indian subcontinent's danger is on account of its unique geography. The Indian subcontinent's tectonic plates drive under Central Asia and converge at an estimated two inches annually. It is, in fact, this geologic event that caused the creation of the great Himalayan mountain. Nepal is, moreover, uniquely dangerous because of the remnants of a prehistoric lake under Kathmandu which causes what is essentially quicksand to form during seismic events and, subsequently, swallow everything above ground. Outside of Asia, countries such as Mexico, El Salvador, and Ecuador are considered especially dangerous.

While the underlying geology of some areas makes them more dangerous than others, the region's infrastructure also plays a significant role in determining the overall risk of harm from a seismic event. Earthquake warning systems monitor the seismic activity of a region and, when it appears that an earthquake is occurring, it sounds an alarm to give individuals time to take safety measures such as ducking underneath a table or holding onto furniture. In China, after an especially damaging earthquake in 2008, researchers estimated that 20,000-30,000 lives could have been saved had an early warning system been in place then (China subsequently created an early warning system). Poorer countries without warning systems fail to provide their citizens with time to undertake basic safety measure which, when added to less-resilient infrastructure, compounds the damage from a quake.

Individuals and businesses can, however, engage in strategies to mitigate their risk from seismic events. Organizations and individuals that are in earthquake prone zones can, for example, develop survival kits that provide sufficient water for a period, non-perishable food, flashlight (and batteries), a hand-crank radio, and a first-aid kit. Additionally, personal or especially sensitive documents ought to be kept in an area that is readily accessible if needed (even during a disaster). Organizations can use a site such as QuakeKare to purchase an earthquake survival kit for their businesses.

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Organizations ought to also create and regularly review a response plan to ensure that it can be operationalized if needed.

Finally, organizations should determine how long – if at all – they can operate during the aftermath of such an event and what sorts of notifications need to be deployed to customers and other key stakeholders if a disruption were to occur. Earthquakes are, literally, everyday occurrences and while some are truly devastating, it is also true that careful planning and sound attention to infrastructure can significantly mitigate the risk presented by seismic activity. While much of the risk mitigation falls on local and national governments – especially in areas of building code enforcement and disaster response, private organizations, likewise, must create contingency plans to remain operational (or at least to survive) especially disruptive events.

In December 2018 alone there were 803 Seismic Events with an average magnitude of 4.68 and average depth of 78.5 KM

http://ds.iris.edu/seismon/eventlist/index.phtml

Soundbite analytics

- One of the most powerful earthquakes in modern history hit Alaska – a magnitude 9.2 – in 1964.
- More than 200,000 people died in a tsunami that followed a 9.1 magnitude earthquake in Sumatra, Indonesia in 2004.
- 40% of the ten strongest known earthquakes were in South America.
- An earthquake off the coast of Mexico on 9/8/2017 was preceded by a successful 90 second warning from Mexico's Earthquake Early Warning system.
- It is estimated that an early warning system for the West Coast of the United States will cost more than $38 million to build and more than $16 million annually to run.

SOURCES

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