

Volcanic eruptions and insurance

Professor Russell Blong of Aon Benfield delves into insurance policy wordings in relation to volcanic eruption scenarios and highlights why the global re/insurance industry should think carefully about the cover that policies may actually provide. As a keynote speaker at the Cities on Volcanoes 6 conference in Tenerife in June 2010, Blong raises questions about ambiguous wordings and how these need to reflect underwriting intent.

Volcanic eruptions can affect large, heavily insured urban areas such as Seattle, Mexico City and Auckland. On the other hand, insurers particularly need to take heed of exposures in South East Asia as they seek to increase insurance penetration in a region where eruptions have the potential to affect major cities such as Jakarta and Manila.

Wordings

A standard clause may refer to 'loss occurrence' as meaning all individual losses arising out of and directly occasioned by one catastrophe. However, the duration and extent of any 'loss occurrence' shall be limited to '72 consecutive hours as regards earthquake, seaquake, tidal wave and/or volcanic eruption'.

Around the world many wordings are similar: volcanic eruption is grouped together with earthquake and tsunami, even with 'seaquake'. But some contracts refer to 'volcanic activity', 'volcanic eruption' (seismic events) or even 'losses caused by volcano'. In plain English, these different wordings do not mean the same – though that may or may not have been the intent.

Historic volcanic activity; future conundrums

Global volcanic history provides interesting case studies that illustrate the complex nature of volcano related claims and help to highlight how a review of wordings would address the situation if an event occurred today.

Ruapehu

On Christmas Eve 1953 in New Zealand, water in volcano Ruapehu's crater lake breached the crater wall. The resulting mudflow destroyed a rail bridge and an overnight express train, taking 151 lives. The insured loss was minimal but could be considerably more today. However, the volcanological bible, the Smithsonian Institution's Global Volcanism Program states that Ruapehu did not actually erupt between 1952 and 1956. Would an insurance contract using the seemingly more broad expression 'volcanic activity' provide cover today?

Rotorua

In 2005 householders in Rotorua, New Zealand suffered damage caused by hydrothermal activity – steam, gas and hot water – at several locations within the city. There were no insurance issues as the Earthquake Commission policy states: "If your house is damaged by earthquake, natural landslip, tsunami, volcanic eruption or hydrothermal activity (as defined in the Earthquake Commission Act 1993) and any amendments we will pay." However, would damage caused by hydrothermal activity be covered if wording included only 'volcanic eruption' or 'volcanic activity'?

Plymouth

In 1997 Plymouth on Montserrat in the Caribbean was evacuated before parts of the town were destroyed by pyroclastic flows (fast moving clouds of incandescent ash, rock and gas). Thirteen years on, most of the houses in surrounding areas remain only lightly damaged by ash fall (and the occasional hurricane) but stand empty as the southern end of the island remains in a government-ordained exclusion zone. For the owners, the houses are 'total constructive losses'. How should insurance policy wordings address similar situations in the future?

Hours clause

Explosive stages of eruptions last from a few minutes to more than a year with a median value of around 10 hours. In many cases it is too dangerous for loss assessors to determine damage for days or weeks after an eruption where explosive phases are irregularly interspersed between less violent stages of activity. Even after an eruption has ceased heavy rains can redistribute ash as mudflows down streets and through buildings.

Most hours clauses in insurance policies relating to volcanic activity specify durations of 72, 168 or (less commonly) 672 hours. The longer periods covered by some clauses may imply that insurers will pay more than one retention and a number of reinstatements even though it is not clear whether damage occurred in the first or later periods.

For example, if three violent eruptions of the one volcano spread over a month with intermittent heavy rains prevent loss assessment for weeks, is it reasonable to assume all insured damage occurred in one 72 hour period?

Clean-up costs

Clean up costs resulting from ash fall over an urban area remains one of the biggest issues for insurers to consider.

Scenario: an ashfall 1cm thick occurs across a city with 200,000 people, over an area of 100km². The ash has to be removed before it blows and washes into the storm water system which probably has links to the sewage system. This volume of ash is about 1million cubic meters; it is not a simple matter of trucking the ash to another location where it can continue to blow around.

A repeat of the 1707 eruption of Fuji in Japan, for example, would spread ash across the Tokyo and Yokohama urban areas. The cost of cleanup and removal of ash from the urban areas is estimated to cost more than USD10 billion. Not all of this cost would fall to insurers but have re/insurers considered the potential costs?

A 1cm thick fall of volcanic ash will cause little damage to well-constructed buildings. Re/insurers need to decide whether their policies cover the cost of debris removal and cleanup when there is no material damage.

After the 1980 Mount St. Helens eruption, around 90% of insurers in eastern Washington paid policyholders an hourly rate to remove ash from building roofs and surrounds. Will this practice continue?

Conclusion

The re/insurance community needs to further understand the physical nature and consequences of volcanic eruptions and how these could impact their balance sheets. Volcanologists and re/insurers working together can help shape underwriting strategies and draft less ambiguous wordings.

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