

Sudden eruption of Japanese volcano very rare: expert

September 29 2014, by Véronique Martinache

The suddenness of the eruption of Japan's Mount Ontake volcano is an extremely rare phenomenon which makes it impossible to take precautionary measures, French volcanologist Jacques-Marie Bardintzeff told AFP Sunday.

After 35 years without a major eruption, the 3,067-metre (10,121-foot) volcano in central Japan reawakened on Saturday, spewing a deadly blanket of ash, rocks and steam down slopes popular with hikers.

Bardintzeff, of the Universities of Paris-Sud Orsay and Cergy-Pontoise, said in an interview that such sudden eruptions were rare.

"In general when a volcano becomes active, certainly after 30 or 40 years (of dormancy) which is short, we normally expect 24 to 72 hours of warning, The magma moves, micro-seismic movement is registered.. there are changes in temperature."

Normally that is enough time to alert people living in the area to evacuate or to ban access to the site in a tourist area, he explained.

However eruptions which occur with only minutes of warning are not unknown.

The Ontake eruption, in which more than 30 people are feared to have died, was not only sudden but was particularly dangerous as there were so many people about on a busy weekend.

The mountain is popular with hikers, particularly in late September when the autumn colours make for dramatic scenery.

"A combination of factors turn this into a catastrophe," said Bardintzeff, adding that there were different explanations for the unexpected eruption.

"The magma could have found a crack which allowed it to rise up in a single stroke. This is very rare."

There is also another feared type of eruption called hydrovolcanic or phreatomagmatic eruptions.

"Often there are pockets of water in volcanoes. When the magma rises and a wave of heat accompanies it. The water can be quickly vaporised, creating high pressure like in a pressure cooker.

"If this pressure is greater than the resistance of the earth above it, all the rocks are pulverised into fragments known as cinder bombs," the volcanologist explained.

This type of eruption is particularly dangerous precisely because of the speed of events, with no real signs of what is about to happen.

Without more sophisticated seismological equipment than is currently available "unfortunately we are helpless," in such cases, Bardintzeff said.

For the time being no hypothesis has been confirmed as the reason behind the sudden Japanese [eruption](#).

Mount Ontake is a classic Japanese [volcano](#), he explained.

"Japan is a land of volcanoes, with a complex geodynamic system. There

are many which erupt in turn."

They are usually of an explosive nature and the plumes of ash and smoke 11 kilometres high, seen in the latest case, are reasonably standard, he added.

"What is exceptional is the fact that it was so sudden."

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