



Volcanic hazard management in dispersed volcanism areas

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Traditional volcanic hazard methodologies were developed mainly to deal with the big stratovolcanoes. In such type of volcanoes, the hazard map is an important tool for decision-makers not only during a volcanic crisis but also for territorial planning. According to the past and recent eruptions of a volcano, all possible volcanic hazards are modelled and included in the hazard map. Combining the hazard map with the Event Tree the impact area can be zoned and defining the likely eruptive scenarios that will be used during a real volcanic crisis.

But in areas of dispersed volcanism is very complex to apply the same volcanic hazard methodologies. The event tree do not take into account unknown vents, because the spatial concepts included in it are only related with the distance reached by volcanic hazards. The volcanic hazard simulation is also difficult because the vent scatter modifies the results. The volcanic susceptibility try to solve this problem, calculating the most likely areas to have an eruption, but the differences between low and large values obtained are often very small. In these conditions the traditional hazard map effectiveness could be questioned, making necessary a change in the concept of hazard map. Instead to delimit the potential impact areas, the hazard map should show the expected behaviour of the volcanic activity and how the differences in the landscape and internal geo-structures could condition such behaviour. This approach has been carried out in La Palma (Canary Islands), combining the concept of long-term hazard map with the short-term volcanic scenario to show the expected volcanic activity behaviour. The objective is the decision-makers understand how a volcanic crisis could be and what kind of mitigation measurement and strategy could be used.