International cooperation during volcanic crisis: an example from the Italy-El Salvador monitoring system installed at Chaparrastique volcano, El Salvador.

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On December 29th, 2013, after 12 years of inactivity, a new explosive eruption occurred at Chaparrastique volcano (San Miguel, El Salvador) prompting the evacuation of more than 5000 people. The new eruption that occurred at the volcano has so far been an isolated single explosion of vulcanian type, and was the first eruption since 2002, when the volcano produced a small VEI 1 eruption. The explosion produced an ash plume of considerable (5-10 km) height, generating heavy ash fall in nearby areas downwind, such as in the towns of Chinameca and San Jorge. Pyroclastic density currents also affected the flanks, damaging the coffee plantations and small inhabited areas around the volcano.

On January 2014, following a request of support by the government of El Salvador, INGV (Istituto Nazionale di Geofisica e Vulcanologia), organized a task force, V-Emer (Volcano Emergency) to improve the existing monitoring network at Chaparrastique volcano.

During a 10 days campaign in El Salvador a temporary network was successfully installed, and it is now run by the volcanologists of MARN (Ministerio de Medio Ambiente y Recursos Naturales, El Salvador). The network is composed of five broadband seismic stations, 3 infrasonic microphones, 2 radiometers, 10 GPS stations, 1 thermal camera, 1 DOAS and 1 multi-gas geochemical station for measurement of SO2 and CO2 fluxes, respectively.
Since 27 January, significant collaborative efforts are being done between MARN and INGV for the processing and interpretation of the data collected during monitoring. For facilitating communication and exchange between the members of the cooperation, a mailing list has been created, and weekly meetings are attended by the members for the discussion on a number of scientific and technical aspects. This initiative seeks to make significant advance into volcano monitoring network and data analysis, as well as improving international cooperation during volcanic crisis management.


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