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Management of the volcanic crisis during the most recent Ubinas eruptive activity

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Local and global co-operation in a volcanic crisis - case studies and lessons learned

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Abstract

The most recent explosive activity of Ubinas volcano started on 27 March 2006. In response to the volcanic crisis, members of three national Institutions (INGEMMET, IGP, UNSA) as well as the regional Civil Defense offices in Moquegua (RCCDM) and Arequipa formed a joint scientific committee. With foreign help, a preliminary hazard-zone map and a contingency map were produced in early April 2006. The hazard-zone map is based on two eruption scenarios: 1) a small eruption similar to the 1990-1998 vulcanian episode of Sabancaya, and 2) a moderate event such as the AD 1677 scoria-and-ash fall and flow-producing eruption at Ubinas. Monitoring, consisting of a network of seismometers, EDM, and geochemical survey of thermal springs, has been undertaken by a pool of Institutions on a temporary basis until May 2006 and on a permanent basis ever since. The scientific committee successfully offered a three-stepped response to the increase in eruptive activity: (1) The appearance of an incandescent lava plug in the vent on 20 April prompted the scientific committee to ask RCCDM to evacuate 150 people from the nearest hamlet of Querapi, situated at the foot of the unstable south flank, towards the first shelter (village of Anascapa) 8 km away. (2) Due to a substantial increase in eruptive activity between 27 April and 2 June, the scientific committee increased the level of alert from yellow to orange and implemented the evacuation plan based on the contingency map. RCCDM further issued the order to evacuate five villages within 12 km of Ubinas and, between 9-11 June 2007, 1000 people were relocated to the second shelter (Chacchagen) 20 km away from the volcano. (3) After ~9 months in Chacchagen, the refugees returned to their villages in March 2007, as the population could not cope with less economic resources and a tense situation. In addition, the planned relocation on the remote coast near Moquegua has not been implemented in 2007. Despite economic and social drawbacks, the challenging crisis of the most active volcano in Peru was the first opportunity for Peruvian institutions to successfully cooperate in, and gain lessons for, managing volcanic crises.