

3.1-P31. Thermal-image monitoring system at El Reventador and Tungurahua volcanoes (Ecuador)

We have implemented volcanic-surveillance systems based on thermal imaging at El Reventador and Tungurahua volcanoes (Ecuador), which provide the capability to compare visible-range images with the correspondent apparent-temperature images at near real-time. The installed equipment consists on a netcam that shows real-time images, and a thermal camera, which provides images on demand. The system automatically saves the historical record of images in an FTP server and publishes the last 10 images on the webpage of the Instituto Geofísico of Escuela Politécnica Nacional of Ecuador (<http://www.igeppn.edu.ec>). By using this system it is evident the identification of the intense ongoing effusive and explosive activity of those volcanoes. In the case of El Reventador, more than 100 explosions and 7 lava flows were identified by this system during 2014, one of them went down through the eastern flank for the first time since 2002, when the eruptive period started. In the case of Tungurahua, , hundreds of small and medium-size explosions were detected during 2014 and at least 30 small pyroclastic flows went down through the eastern and north-eastern flanks. Even in partially-clouded weather conditions this monitoring system is an important tool for prevention risk and volcanic crisis management.

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