



Geophysical monitoring of Stromboli volcano: insight into recent volcanic activity

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Stromboli is an open conduit strato-volcano of the Aeolian archipelago (Italy), characterized by typical Strombolian explosive activity, lasting for several centuries, and by the emission of huge amounts of gas. The normal activity of Stromboli is characterized by some hundreds of moderate explosions per day. Major explosions, which launch scoria up to hundreds of meters from the craters, lava flows and paroxysmal explosions, which produce large ballistic blocks, sometimes take place. During the effusive eruption in 2002 - 2003, which caused a tsunami with waves of about 10 meters high along the coasts of the Island, the monitoring system was enhanced. In 2006 INGV has added two Sacks-Evertson borehole volumetric dilatometers to the surveillance system, in order to monitor changes in the local strain field by measuring areal strain. Today we have a large amount of geophysical data and observations that allow us to better understand how this volcano works. After a period of low explosive activity started in mid-2014, Stromboli has shown a more intense explosive activity in the last few months. During the recent phase of increased activity, the geophysical monitoring system detected four major explosions occurred on 26 July, 23 October, 1 November and 1 December 2017, respectively. The current phase of reawakening of Stromboli volcano has led the Italian civil protection authorities to decree the "attention" alert level (yellow) on the Island.