VAMOS SEGURO

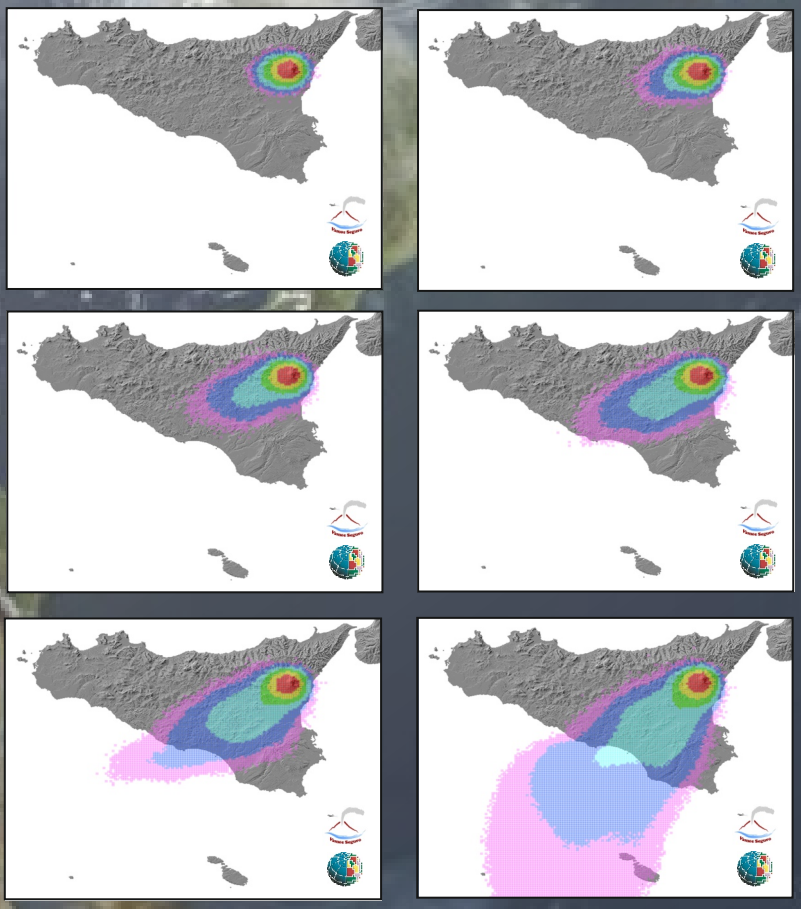
Volcanic Ash Monitoring and fOrecaSting between Sicily and Malta arEa and sharinG of the resUlts foR aviatiOn safety

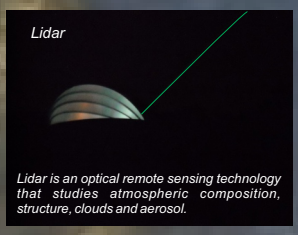
Volcanic clouds disperse a great amount of volcanic ash into the atmosphere and constitute a major hazard to aviation and the local population. The accidental encounter between volcanic ash and airplanes causes damage to control surfaces, windshields and landing lights, loss of visibility and failure of critical navigational and operation instrumentations and in the worst scenario the failure of the engine. Moreover, volcanic ash deposited on the ground cause respiratory problems, eye injuries and skin irritations, damage to crops, roads and infrastructures.

Etna is one of the most active volcanoes in the world and during its frequent explosive episodes, eruption columns can rise to several kilometers above the summit craters and volcanic ash plumes may be dispersed into the atmosphere and reach as far as the Maltese islands. In order to reduce the impact that Etna's explosive activity has in the area between Sicily and Malta, a new research project VAMOS SEGURO (Volcanic Ash Monitoring and ForecaSting between Sicilia and Malta arEa and sharingG of the resUlts foR aviatiOn safety) has been funded by Programma di Cooperazione Transfrontaliera Italia-Malta 2007-2013, A1.2.3-62, Obiettivo Specifico 2.3).

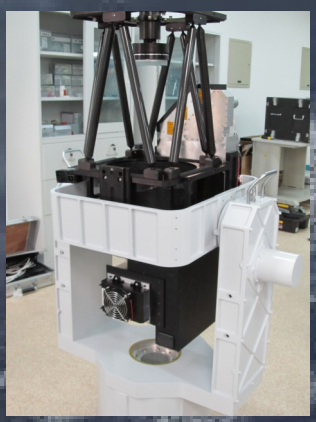
In this project, new instruments have been installed at the University observatory facility at Giordan lighthouse and at Xewkija, Gozo. Moreover, an innovative Lidar system with scanning capability, designed and realized by CNISM (Consorzio Interuniversitario per le Scienze Fisiche della Materia) will be installed at two suitable sites will be able, one in Montedoro, Caltanissetta and another at Serra La Nave, 7 km away from the Etna summits will be located. Furthermore, an automatic forecasting system will produce simulations of the region affected by the volcanic ash plumes on a daily basis visible at www.ct.ingv.it/vamosseguro. The Istituto Nazionale di Geofisica, Osservatorio Etneo, lead partner of the project, together with the Istituto Nazionale di Astrofisica, Comune of Montedoro and the University of Malta, will provide actual measurements of ash and SO2 plumes and provide warnings to the competent Civil Authorities and Catania and Malta airports in the case of Etna eruptions.

Volcanic Ash Forecasting between Malta and Sicily





Lidar is an optical remote sensing technology that studies atmospheric composition, structure, clouds and aerosol.



A new prototype of LIDAR realized ad hoc for the VAMOS SEGURO project by CNISM in collaboration with the University of Naples.

Reduction of the hazard from volcanic ash plumes between Sicily and Malta: the VAMOS SEGURO project

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