



The use of EO Optical data for the Italian Supersites volcanoes monitoring

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This work describes the INGV experience in the capability to import many different EO optical data into in house developed systems and to maintain a repository where the acquired data have been stored. These data are used for generating selected products which are functional to face the different volcanic activity phases. Examples on the processing of long time series based EO data of Mt Etna activity and Campi Flegrei observation by using remote sensing techniques and at different spatial resolution data (ASTER - 90m, AVHRR - 1km, MODIS-1km, MSG SEVIRI-3km) are also showed. Both volcanoes belong to Italian Supersites initiative of the geohazard scientific community.

In the frame of the EC FP7 MED-SUV project (call FP7 ENV.2012.6.4-2), this work wants to describe the main activities concerning the generation of brightness temperature map from the satellite data acquired in real-time from INGV MEOS Multi-mission Antenna (for MODIS, Moderate Resolution Imaging Spectroradiometer and geostationary satellite data) and AVHRR-TERASCAN (for AVHRR, Advanced Very High Resolution Radiometer data).

The advantage of direct download of EO data by means INGV antennas (with particular attention to AVHRR and MODIS) even though low spatial resolution offers the possibility of a systematic data processing having a daily updating of information for prompt response and hazard mitigation. At the same time it has been necessary the use of large archives to inventory and monitor dynamic and dangerous phenomena, like volcanic activity, globally.