Assessing the RST_VOLC algorithm implementation on infrared Sentinel 3 SLSTR data

Alfredo Falconieri\textsuperscript{1}, Francesco Marchese\textsuperscript{1}, Giuseppe Mazzeo\textsuperscript{1}, Nicola Pergola\textsuperscript{1}, and Valerio Tramutoli\textsuperscript{2}

\textsuperscript{1}CNR, IMAA, Tito Scalo (PZ), Italy (alfredo.falconieri@imaa.cnr.it)
\textsuperscript{2}Università degli Studi della Basilicata (UNIBAS), Scuola di Ingegneria, 85100 Potenza, Italy

RSTVOLC is a multi-temporal algorithm developed for detecting volcanic hotspots that was successfully used to monitor active volcanoes located in different geographic areas exploiting both polar and geostationary satellite data. The algorithm runs operationally at the Institute of Methodologies for Environmental Analysis (IMAA) to monitor Italian volcanoes in near-real time by means of Advanced Very-High-Resolution Radiometer (AVHRR) and Moderate Resolution Imaging Spectroradiometer (MODIS) data. In this study, we assess the possible RSTVOLC implementation on data from the Sea and Land Surface Temperature Radiometer (SLSTR). The latter is a new generation sensor flying onboard the ESA (European Space Agency) Sentinel-3 mission, offering some spectral channels in the infrared bands particularly suited to identify high temperature surfaces such as lava flows. Here, we verify the RSTVOLC implementation on SLSTR data despite the absence of a multiannual time series of satellite records, by using synthetic spectral reference fields. Results achieved by investigating recent eruptions of Mt. Etna and Stromboli (Italy) volcanoes are presented and discussed.