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| **Pilot Name:** Volcano **Objective or sub-objective:** C (Major eruption) |
| **February 2015** | **PI or PoC**: Mike Poland, Simona Zoffoli, Fabrizio Ferrucci, John Pallister | **Collaborating organisations**: USGS, ASI, Open University |
| **Achievements:** • Conducted detailed thermal monitoring of the November-December 2014 eruption of Pico do Fogo, Cape Verde |
| **Activities**: The purpose of Objective C of the Volcano pilot is to demonstrate the utility of remote sensing data in responding to a major eruptive event in an area of significant population that is at risk from volcanic hazards, and that does not already have access to extensive remote sensing data. An example of such an eruption is that of Merapi, Indonesia, in 2010. The target area is southeast Asia, as this region is not covered by other aspects of the pilot. No eruption meeting our criteria has occurred, so we continue to wait for a suitable event. However, the potential application of this objective was demonstrated in the remote sensing response to the November-December 2014 eruption of Pico do Fogo, Cape Verde. During that eruption, a large quantity of thermal satellite data were analyzed and used to construct a time series of lava effusion rate—one of the most critical volcano monitoring parameters in terms of potential hazard. These results were communicated to on-site monitoring agencies for use in hazards assessment and mitigation activities. |
| **Data accessed this Q** (#images /satellite):As this is the first report, please see column to the right. | **Total data accessed to date** (#images /satellite):None (not counting data provided to respond to the eruption of Pico do Fogo, Cape Verde)  |
| **Products** (delivered this quarter): None for the official objective. Effusion rate estimates for the Pico do Fogo, Cape Verde, demonstration. | **User** (by product):For the Pico do Fogo effusion rates, INMG receive effusion rate products | **User or practitioner endorsement/opinion/outcomes**“The effusion rate inverted from radiance flux satellite data was crucial to us (INMG) to advise the National Civil Protection authorities on what extension of lava flow should be expected. It gave us also a very important information for modelling the lava flow, mainly when the Eastern flank of the Fogo Islands , where there are several villages, was under the threat of lava flow.” - Bruno Faria (INMG) |
| **List any publications directly stemming from pilot work**:As this objective has yet to be fully implemented, there are no publications on conference presentations to report. However, Team member Fabrizio Ferrucci has produced a number of status reports on the eruption of Pico do Fogo, Cape Verde, summarizing the results of that demonstration. He has also authored the following conference abstracts:Ferrucci, F., Day, S., Hirn, B., Faria, B., and Zoffoli, S., 2015, Multi-payload multi-platform tactical monitoring and evaluation of the 2014 eruption of Fogo, Cabo Verde, European Geosciences Union General Assembly, Vienna, Austria, 12–17 April.Ferrucci, F., Hirn, B., Faria, B., and Zoffoli, S., 2015, Multi-payload multi-platform simultaneous tactical monitoring of major effusive eruptions in 2014, International Geosciences and Remote Sensing Symposium, Milan, Italy, 26–31 July. |
| **List objective milestones and state progress to date (%)**- submit proposal in advance of any suitable Objective C eruptive event (25%)- identify an eruptive event, hopefully in southeast Asia, that threatens a significant population and in which results from remote sensing data would not otherwise be available to local emergency management officials (0%)- process SAR and thermal/visual data and provide derived products (effusion rates, deformation, deposit maps, etc.) to local scientists and emergency management agencies (0%) |
| **Issues identified and risk management approach**:None so far, but may change upon implementation of the objective. |