



Exercises for the VAST demonstration volcanic ash forecast system

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Within the ESA-funded international project VAST (Volcanic Ash Strategic Initiative Team) a demonstration service for volcanic ash forecasting and source term estimate is planned. This service takes advantage of the operationally available EO data for constraining the source term and multi-input and multi-model ensemble approaches to account, at a certain extent, for the uncertainties associated to the meteorological data used to drive the forecast models and the models themselves.

In order to test the approach and current capabilities of the team, a set of exercises was carried out in 2013 including fictitious scenarios that would potentially affect the European airspace giving significant fine ash loads at usual cruise levels. The recent activity of Etna, with events in Autumn and Winter 2013 with clear transport over Europe, is providing a good test case for the evaluation of the system, from the early warning to the ensemble modeling tools, in a real case scenario. Although the releases were not a potential threat for aviation at an European scale, the local airport of Catania, at a close distance, was affected. For one recent Etna eruption and the former exercises we present here the performance of the system and the ensemble results. The combination atmospheric dispersion model-meteorology used are: FLEXPART-ECMWF/GFS/WRF, WRF-Chem and SILAM.