

Interactive comment on “Support to Aviation Control Service (SACS): an online service for near real-time satellite monitoring of volcanic plumes” by H. Brenot et al.

Anonymous Referee #2

Received and published: 23 December 2013

The authors compile a series of UV and IR techniques to measure volcanic emissions of SO₂ and Aerosol Index (AI) values and IR methods to measure volcanic ash. They couple these methods with an alert system that send messages informing of the detection of SO₂.

Although the paper mentions that the detection of SO₂ does not imply the occurrence of a volcanic eruption and that the presence of SO₂ often does not match the location of ash, it understates the fact that an SO₂ plumes alone does not pose any safety concerns to the aviation. The Volcanic Ash Advisory Centers (VAACs) have little if any interest in SO₂ detection alone and are willing to look into the subject only when coincident

C2129

strong measurements of AI and ash are also provided.

Having a detection system that only reports on the SO₂ presence is unreliable and will show an excessive number of hits because a large SO₂ plumes stay in the upper atmosphere for weeks. While travelling around the globe the same plumes are viewed every time a satellite swath passes over them resulting in another alert that has nothing to do with an actual volcanic eruption or with the presence of ash.

Since the paper provides very little information on ash detection and no information on the more important ash height variable, their findings have very little use for the VAACs' operational environment. Its value is mostly academic as a description of various SO₂ detection technique and their combination into a single system with an alert capability.

I suggest that the authors change the title of the paper and mentioned "volcanic SO₂ plumes" to avoid the confusion with "ash plumes", which is the real subject of interest of the operational organizations tracking volcanic activities to assist the airliners.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 5935, 2013.