



# Support to Aviation Control Service

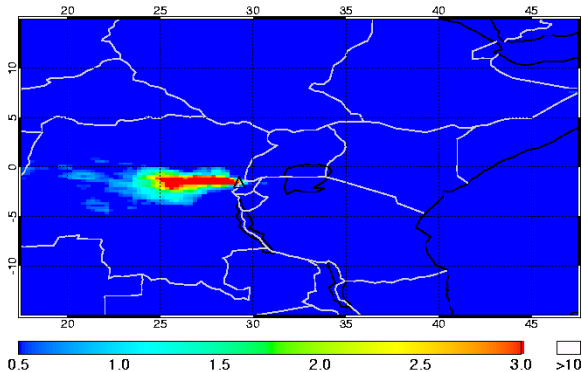
<http://sacs.aeronomie.be/>

Volcanic eruptions can eject large amounts of ash (aerosols) and trace gases, such as sulphur dioxide (SO<sub>2</sub>), into the atmosphere. These can have a considerable impact on air traffic safety and on human health. Groundbased monitoring is carried out at only a limited number of volcanoes, and, in fact, most volcanoes are not monitored on a regular basis. Satellite observations can provide additional information and thus help assess, on a global level, possible impacts of volcanic eruptions.



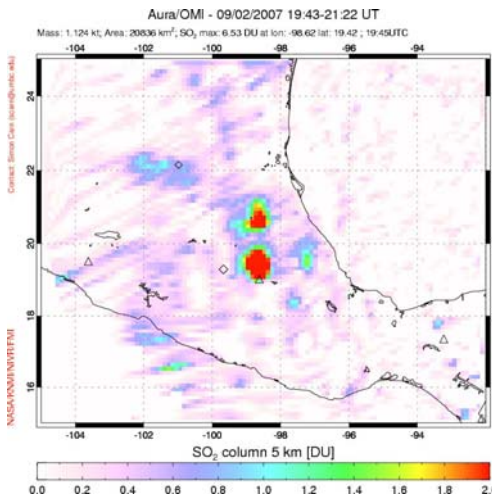
A plume of steam and ash rises above Popocatepetl in Mexico (summit: 5426 m), whose Aztec name means "Smoking Mountain". [Photo: CENAPRED, Mexico City, Dec. 1994.]

SO<sub>2</sub> vertical column [DU] Dem. Rep. Congo / Tanzania  
 SCIAMACHY – BIRA-IASB/DLR/ESA November 2004

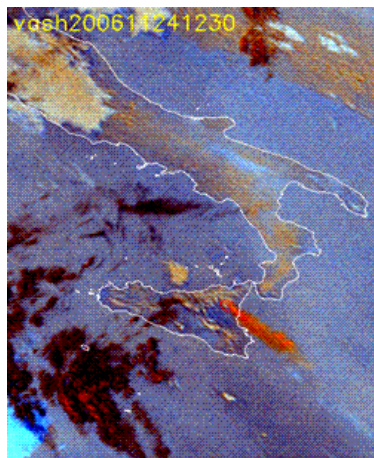


Monthly average SO<sub>2</sub> concentration based on SCIAMACHY data of Nov. 2004. The SO<sub>2</sub> peak is related to eruptions of Nyiragongo (triangle) in the Dem. Rep. Congo during that month. The area shown is about 3300 by 3300 km. [Map: BIRA-IASB.]

The aim of the "Support to Aviation Control Service" (SACS) is to deliver SO<sub>2</sub> and aerosol data derived from different satellites. This data is used to monitor the occurrence of volcanic eruptions, and the extension and motion of volcanic plumes. In the event of large SO<sub>2</sub> values, the service sends an alert by email to interested parties, pointing them to a dedicated web page.



SO<sub>2</sub> concentration map based on OMI data of 2 Sept. 2007 around 20h30 GMT. The area shown is about 1350 by 1100 km. The triangle in the middle is Popocatepetl, the diamond to the left of that is Mexico City. [Map: Univ. of Maryland.]



Volcanic ash plume above Etna on Sicily (Italy) as seen by SEVIRI on 24 Nov. 2006 at 12h30 GMT. [Map: CGS.]

## Key users of the service

The Volcanic Ash Advisory Centres (VAACs) — set up in 1995 by the International Civil Aviation Organization (ICAO) — are the official organisations charged with gathering information on volcanic clouds. On the basis of this they issue advices and alerts to airline and air traffic control organisations on the possible danger of volcanic clouds.



SACS is part of the ESA financed project PROMOTE and combines activities at BIRA-IASB (Belgium), KNMI (Netherlands), DLR (Germany) and CGS (Italy).



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