Information Day on EO Exploitation Activities of ESA's Strategic Initiative

Norwegian Space Centre
Oslo, Norway
2011 March 15

Claus Zehner

European Space Agency

Volcanic Ash Plumes

ESA DATA USER ELEMENT

Background

- Volcanis ash is a hazard to aviation
  - Icelandic Eyjafjoll Eruption (14 April – 23 May 2010) caused the closing of the airspace over Europe and had financial impact of about 3 Billion Euro
  - ICAO (International Civil Aviation Organization) set up a worldwide network of Volcanic Ash Advisory Centres (VAACs)

- Activities will build on previous work done within DUE and Earthnet exploitation elements:
  - Capabilities to deliver information services exists within STRIN countries
  - Previous ESA activities include the projectcs SAVAA (Support to Aviation for Volcanic Ash Avoidance - savaa.nilu.no/) and SACS (Support to Aviation Control Service - http://sacs.aeronomie.be/)

- User Needs:
  - ESA/EUMETSAT Workshop end of May 2010 at ESRIN
  - ESA Publication: http://earth.eo.esa.int/workshops/Volcano/files/STM_280_ash101124.pdf

Volcanic Ash Plumes

- Target Users: VAACs
- Elements to be covered:
  - Improved satellite retrieval algorithms (e.g. SCIAMACHY, OMI, IASI, GOME-2, SEVIRI, ATSR, MERIS)
  - Better eruption source term determination and modelling
  - Improved ash plume dispersion modelling (e.g. ensemble approach?)
  - Improved ground-based infrastructure (e.g. Lidars in Ireland)
  - Improved geophysical validation (of satellite retrievals and ash plume modelling)
  - Provide Web-based operational services (e.g. alerts to VAACs, fore/hind-casting of ash plume movements, on-line image/video information about the ongoing eruption)
  - Get satellite data handling capabilities transferred to VAACs (e.g. London)
- Linked Activities:
  - EUMETSAT dust/ash services (possible user to upgrade operational services at EUMETSAT – e.g. SEVIRI)
  - EC Framework projects (2 proposals on this theme)
  - Ongoing projects at NASA and NOAA (e.g. using OMI, AIRS measurements)
- ITT:
  - to be issued by end of May 2011
  - project with a duration of 3 years