Monitoring of volcanic SO2 from satellite:
- explore and inter-compare different satellite SO2 data-sets (OMI and GOME-2)
- use NOVAC ground-based data to validate satellites estimates of gas flux emissions
- case study over Etna involving OMI and ASTER: impact of spatial inhomogeneities of the SO2 within an OMI pixel; importance of external information (as the height of the volcanic plume) to reduce the error on the SO2 estimation.

VOLCANIC SO2 FLUX DERIVED FROM SATELLITE AND FROM NOVAC GROUND-BASED SYSTEMS
G. Pinardi1*, M. Van Roozendael1, C. Fayt1, J. van Geffen1, R. Campion2, B. Galle3, S. Carn4, P. Valks5, M. Rix5
(1) BIRA-IASB, Belgium, (2) ULB, Belgium, (3) Chalmers, Sweden, (4) MTU, USA, (5) DLR, Germany

Conclusions and future work
- OMI and GOME-2 SO2 columns around the NOVAC stations have been extracted and compared. Total SO2 masses have been calculated and compared to fluxes derived by ground-based NOVAC instruments at 3 stations. More NOVAC data are needed to conclude on the validity of the exercise.
- Flux estimation from OMI has been developed (possibility to extend to GOME-2) and comparisons with ASTER show a good correlation but an under-estimation of OMI compared to ASTER. Smoothing of the SO2 column within an OMI has also been showed for a test study over Etna.

Acknowledgements: The NOVAC project is funded by The European Union, FP6, Global Change and Ecosystems, Natural Disasters program.