



Overview of gas flux measurements from volcanoes of the global Network for Observation of Volcanic and Atmospheric Change (NOVAC)

Bo Galle, Santiago Arellano, Vladimir Conde, and the NOVAC Team

Department of Earth and Space Sciences, Chalmers University of Technology, Gothenburg, Sweden

NOVAC, the Network for Observation of Volcanic and Atmospheric Change, was initiated in 2005 as a 5-years-long project financed by the European Union. Its main purpose is to create a global network for the study of volcanic atmospheric plumes and related geophysical phenomena by using state-of-the-art spectroscopic remote sensing technology. Up to 2014, 67 instruments have been installed at 25 volcanoes in 13 countries of Latin America, Italy, Democratic Republic of Congo, Reunion, Iceland, and Philippines, and efforts are being done to expand the network to other active volcanic zones. NOVAC has been a pioneer initiative in the community of volcanologists and embraces the objectives of the World Organization of Volcano Observatories (WOVO) and the Global Earth Observation System of Systems (GEOSS).

In this contribution, we present the results of the measurements of SO_2 gas fluxes carried out within NOVAC, which for some volcanoes represent a record of more than 8 years of semi-continuous monitoring. The network comprises some of the most strongly degassing volcanoes in the world, covering a broad range of tectonic settings, levels of unrest, and potential risk. Examples of correlations with seismicity and other geophysical phenomena, environmental impact studies and comparisons with previous global estimates will be discussed as well as the significance of the database for further studies in volcanology and other geosciences.