



An extended monitoring network for the volcanoes of St. Eustatius and Saba, the Caribbean Netherlands.

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The volcanoes of the Quill (St. Eustatius) and Mt. Scenery (Saba) are part of the Lesser Antilles volcanic island arc in the West Indies, which hosts seventeen active volcanoes. The last eruptive activity at the Quill occurred 1600-1800 years ago but Mt. Scenery erupted as recent as in 1640. The existence of heated groundwater at St. Eustatius and hot springs at Saba indicate that both the Quill and Mt. Scenery are active, but quiet, rather than extinct. Volcanic hazard is therefore present and monitoring of these volcanoes of utmost importance. Especially considering the fact that Soufrière Hills volcano, at the neighbouring island of Montserrat and of comparable nature to Mt. Scenery, started to erupt in 1995 after ~450 years of quietness.

Currently, a network of four broadband seismometers is operational at each island. Seismic data are transmitted in real-time to the Royal Netherlands Meteorological Institute (KNMI), where they are (automatically) analysed. We plan to extend this monitoring effort by adding integrated geodetic observations (campaign and continuous GPS, InSAR) and temperature measurements of the hot springs. Furthermore we intend to improve our understanding of the terrain and surface geology by thorough analysis of a TanDEM-X DEM. An improved geophysical characterization of the islands is of great importance both for the population and local governments. These combined efforts will greatly improve the chance to observe the onset and follow the evolution of a future volcanic crisis.