



## **Temperature monitoring of the hot spring opposite Green Island on Saba, Caribbean Netherlands.**

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Saba, the northernmost island of the Lesser Antilles volcanic arc in the Caribbean, hosts the Mount Scenery volcano. The existence of hot springs on the island testifies to the volcano being active rather than dormant even though the last eruption probably occurred more than 370 years ago. The hot springs of Saba, which were first described in 1903 (Sapper, 1903), are all located close to the shoreline and orientated along a NE–SW line crossing the island.

We focus on the hot spring opposite Green Island as it is the most accessible. It is located on the shoreline at the north side of the island directly below the sulfur mine. Two manual measurements recorded temperatures of  $69 \pm 3$  °C between 1979 and 1994, increasing to  $82 \pm 4$  °C between 1996 and 2008, based on six measurements. This increase was attributed to a mild seismo-volcanological crisis between 1995 and 1997 (Roobol, 2004).

We want to investigate the temporal evolution of the temperature of this spring. Therefore, we installed two “Tinytag plus 2” data loggers with two PB-5001 thermistor probes, which record the temperature every 20 minutes. Biggest challenges are the durable waterproofing of the loggers and the fixation of the probes in the hot spring, which is submerged and effected by sea wave activity. Here we present the first time series of the temperature recordings and compare our findings to other available data such as sea water height and temperature.

Sapper, K (1903) "Ein Besuch von S. Eustatius und Saba." *Centralblatt für Mineralogie, Geologie und Palaontologie*, Vol. 1, p. 314–318.

Roobol, M. and Smith, A (2004) "Volcanology of Saba and St. Eustatius, Northern Lesser Antilles." *Koninklijke Nederlandse Akademie van Wetenschappen: Amsterdam, The Netherlands*; ISBN 90-6984-384-6.