San Cristóbal
Nicaragua

12.702°N, 87.004°W; summit elev. 1,745 m
All times are local (= UTC - 6 hours)

Explosions on 7 June 2013; gas-and-ash emissions in early 2014

Our last Bulletin report covered seismicity and explosions at San Cristóbal through 31 December 2012 (BGVN 38:01).

2013. The Instituto Nicaragüense de Estudios Territoriales (INETER) reported that on 7 June 2013 seven explosions at San Cristóbal, that ejected gas and ash, were detected by the seismic station located on the W flank. The explosions occurred at 0615, 0645, 0653, 0911, 1137, 1139, and 1143, and were observed by civil defense and INETER staff. The largest explosion, at 1139, generated a plume that rose 100 m. Sulfur dioxide (SO$_2$) emissions, which had been low, increased. A report later that afternoon stated that gas-and-ash explosions decreased, but RSAM values almost tripled to between 80 and 100 units due to increased tremor. INETER noted that tremor is frequently detected at San Cristóbal, and for the public not to be alarmed. A small mud flow, producing no damage, occurred at 1710.

2014. INETER reported that seismic tremor increased at 0340 on 17 January; RSAM values increased to 460 units from a baseline of 70 units. Twelve gas emissions were observed between 1259 and 1315, and RSAM climbed to 649 units. A report at 1700 noted that RSAM values decreased to 100 and no additional gas emissions were observed. The next day RSAM values fluctuated between 90 and 190 units.

INETER reported that a gas emission with small amounts of ash rose from San Cristóbal between 0641 and 0850 on 4 February. Although there was no increase noted, the report stated that seismicity decreased to background levels. By the afternoon SO$_2$ emission values were 2,000-3,000 tons per day, the normal levels, and on 7 February, they were 1,000 tons per day. RSAM fluctuated between 20 and 140 units, which is considered normal.

Based on analysis of satellite images, the Washington VAAC reported that on 11 April a gas plume from San Cristóbal that possibly contained small amounts of ash drifted 20 km W. A thermal anomaly was present in short wave infrared satellite images. Periods of elevated seismicity were also detected.

Geological summary. The San Cristóbal volcanic complex, consisting of five principal volcanic edifices, forms the NW end of the Marrabios Range. The symmetrical 1745-m-high youngest cone, named San Cristóbal (also known as El Viejo), is Nicaragua's highest volcano and is capped by a 500 x 600 m wide crater. El Chonco, with several flank lava domes, is located 4 km to the west of San Cristóbal; it and the eroded Moyotepe volcano, 4 km to the NE of San Cristóbal, are of Pleistocene age. Volcán Casita, containing an elongated summit crater, lies immediately east of San Cristóbal and was the site of a catastrophic landslide and lahar in 1998. The Plio-Pleistocene La Pelona caldera is located at the eastern end of the San Cristóbal complex. Historical eruptions from San Cristóbal, consisting of small-to-moderate explosive activity, have been reported since the 16th century. Some other 16th-century eruptions attributed to Casita volcano are uncertain and may pertain to other Marrabios Range volcanoes.
Information Contacts: Instituto Nicaragüense de Estudios Territoriales (INETER), Apartado Postal 2110, Managua, Nicaragua (URL: http://www.ineter.gob.ni/geofisica/); Washington Volcanic Ash Advisory Center (VAAC), Satellite Analysis Branch (SAB), NOAA/NESDIS E/SP23, NOAA Science Center Room 401, 5200 Auth Rd, Camp Springs, MD 20746, USA (URL: http://www.ssd.noaa.gov/VAAC/).