



THE UNIVERSITY OF THE WEST INDIES
SEISMIC RESEARCH CENTRE
ST. AUGUSTINE, TRINIDAD AND TOBAGO, WEST INDIES

La Soufrière Eruption 2020/2021
Media Fact Sheet
Thursday 8th April 2021

Background

- La Soufrière is the only 'live' (potentially active) volcano on the island of St. Vincent.
- The Volcano stands 1,178m (3,864ft) above sea level.
- There have been five (5) explosive eruptions at La Soufrière during the historical period: 1718, 1812, 1814, 1902/03 and 1979.
- Several effusive eruptions have also occurred at the volcano. In 1979, an effusive phase followed the initial explosive phase of the eruption. In 1971/72 an effusive eruption created a lava dome that existed until the 1979 eruption.
- The most recent dome building (effusive) eruption began on December 27th, 2020. Visual observations on December 29th, 2020 confirmed that high temperatures detected by satellites used to track fires were in fact caused by magma reaching the surface.

Situation Management

- The effusive eruption is on-going, and the volcano is still dangerous.
- The effusive eruption may or may not escalate to an explosive eruption.
- Scientists are currently unable to say if or when this may happen given the inherent uncertainty associated with volcanic systems. Considering this uncertainty, the monitoring network has been strengthened to make it more likely that any signs of escalated activity will be detected, and sufficient warning be given to authorities.
- The Volcanic Alert Level is currently at **ORANGE**.
- The Volcanic Alert Level is set by the local authorities in St. Vincent & the Grenadines based on scientific advice from The UWI-SRC.
- **The public is advised to stay away from the volcano particularly the crater rim where volcanic gas emissions are especially intense and can overwhelm one within minutes.**
- During the dome building (effusive) eruption, the volcanic activity is limited to within the crater. As such, no communities in St. Vincent have been evacuated (at this time).

- The Caribbean Disaster Emergency Management Agency (CDEMA) has activated the Regional Response Mechanism comprising a group of regional experts to support the ongoing eruption in St. Vincent.
- At this stage, it is unlikely that the volcano will impact other islands. However, should the eruption escalate, volcanic ash may be emitted and may impact neighbouring islands. NB: During the 1979 eruption volcanic ash was reported in southern Saint Lucia and Barbados.
- The UWI-SRC's Education & Outreach section is providing communications and public relations support to the NEMO.

Lava Dome/Coulee Dimensions (estimated) as of March 19, 2021

Height: 105m*

Length: 912m*

Width: 243m*

Total volume extruded: 13.13 million m³.

*These are approximate values which may change with additional data collection.

Scientific Monitoring

- A 4-person team comprising of senior scientists and technicians from The UWI-SRC and the Montserrat Volcano Observatory (MVO) is currently on island. This team is based at the Belmont Observatory and is working closely with local authorities (National Emergency Management Organisation and Soufriere Monitoring Unit) to monitor the volcano.
- Scientists are using several techniques in their ongoing surveillance of the volcano. These techniques monitor volcanic earthquakes, gas emissions, and changes to the shape and size of the volcano.
- Cameras have been installed at the Belmont Observatory and at the crater rim. This allows for continuous visual monitoring of the volcano. In-person visual observations are made during routine visits to the summit.
- Visual observations confirm that the dome continues to grow, gradually surrounding the pre-existing 1979 dome.
- Seismicity has changed in recent days with both volcano-tectonic (VT) and tremor type signals being observed. These indicate that the eruption has moved into a new phase.
- Volcanic gases including sulphur gases, halides and carbon dioxide continue to be emitted from the crater. The smell of sulphur will be particularly evident downwind of the volcano. Carbon dioxide is colourless, odourless and can be deadly in high concentrations near the crater. Steam can also be seen rising above the crater.



Volcanic Alert Level – ORANGE

LA SOUFRIERE VOLCANO HAZARD ALERT LEVEL

ALERT LEVEL
ORANGE

SYMPTOMS Highly elevated level of seismicity or fumarolic activity or both or other unusual symptoms observed. Eruptions may occur with less than 24 hour's notice.

ACTION: SCIENTIST

- Monitoring system continuously manned.
- Regular visual inspection of potential vent areas.
- Continuous ground deformation and hydrothermal monitoring.
- Daily assessment reports to civil authorities.

ACTION: CIVIL AUTHORITIES

- Coordinate evacuation (if necessary) based on hazard zones.
- Entry to the restricted access zone by scientists will be permitted after evaluation on a case by case basis.
- Organise regular radio and television announcements.

ALERT LEVEL TABLE FOR ONSHORE VOLCANOES IN THE EC

OFFICIAL SOURCE

UWI SEISMIC RESEARCH CENTRE

NEMO

@uwiseismic
@nemosvg

VOLCANO READY COMMUNITIES PROJECT

Communication

- The UWI-SRC and the St. Vincent & the Grenadines National Emergency Management Organization (NEMO) are the official sources of information on La Soufrière. **The public is advised to be wary of fake news from unofficial sources.**
- The UWI-SRC provides regular information on the La Soufriere eruption via
 - Facebook
 - Twitter
 - Instagram
 - YouTube
 - Website (www.uwiseismic.com)

- NEMO Bulletins (print) are provided daily via The UWI-SRC's communication channels.
- The UWI-SRC provides a weekly video update (“La Soufrière Today”) with a duty scientist via YouTube and Facebook.
- Media interviews with UWI-SRC staff are facilitated upon request:
 - **Email - src@sta.uwi.edu**
 - **Phone/What’s App - +1-868-774-8858**
- Contact NEMO at:
 - **Email - nemosvg@gov.vc or nemosvg@gmail.com**
 - **Phone - +1 784 456 2975**

Glossary

Explosive Eruption - In an explosive eruption, pressurised gases trapped in rock or magma expand rapidly, breaking the rocks apart violently. Explosive eruptions usually send ash (fine rock particles) high into the atmosphere in the form of a plume. Larger bits of rock called blocks and bombs can also be thrown several kilometres from the vent.

Effusive Eruptions - During effusive eruptions, magma (molten rock) reaches the surface and gently ‘oozes’ out, producing lava flows and lava domes. Effusive eruptions generally occur when magma has a low gas content. Sticky lavas (as in the Eastern Caribbean) form domes, while runny lavas (as in Hawaii) can travel several kilometres from a vent.

Band tremors - is a type of low frequency seismic signal observed at active volcanoes. They are periodic bursts that can last for hours separated by quiet periods of uniform duration

Pyroclastic flows - Hot fast-moving mixtures of ash, rock fragments and gas produced by an eruption. They travel down valleys and cause total devastation of the area over which they flow.

Volcanic Ash - Fine material carried upwards in a hot eruption column before it settles. Ash falls can blanket the entire island and may be thick enough to collapse buildings and destroy vegetation. Volcanic ash is very corrosive to machinery affecting boats and planes and is damaging to health if inhaled.

Volcanic bombs - Hot rocks hurled into the air by an eruption. These large blocks and bombs travel like cannonballs and can travel far from the vent.



Lahars - Dense mixture of volcanic particles and water. These mudflows occur during heavy rain creating a thick liquid that rushes down the volcano's slopes faster than a river floods. Lahars are destructive to everything in their path.

Visit The UWI-SRC YouTube channel (@uwiseismic) for videos on volcanic hazards.

