EFFUSIVE ERUPTION AT LA SOUFRIÈRE VOLCANO, ST. VINCENT

SITUATION REPORT No. 6

AS OF 8:00 PM ON 22 FEBRUARY, 2021

Volcanic Activity Continues at La Soufrière, St. Vincent Alert Level Remains at Orange

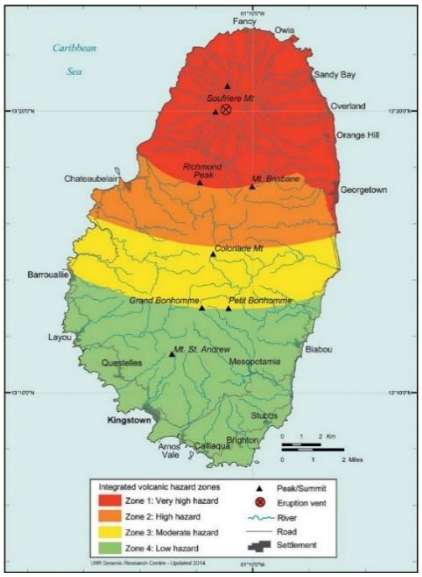
LOCATION:

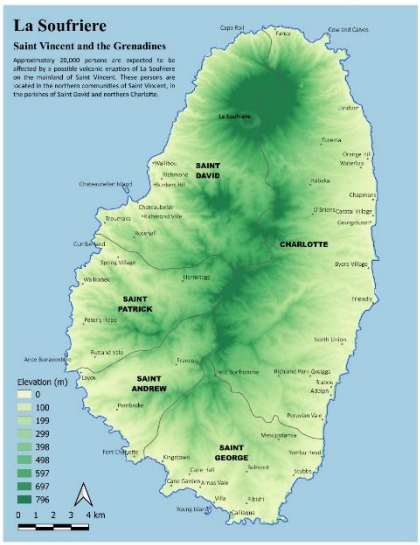
La Soufrière Volcano, Saint Vincent and The Grenadines

PRESENT ACTIVITY:

Effusive eruption, ongoing fumarolic activity, continued growth of the new volcanic dome, and increased seismic activity

ALERT LEVEL: ORANGE





No Evacuation Orders have been issued. Access to the volcano is strictly prohibited.

SITUATION OVERVIEW

On 29th December 2020 the alert level for the La Soufrière volcano in St. Vincent and the Grenadines was elevated to **Orange** because of increased activity at the site. The volcano has had an effusive eruption, with visible gas and steam eruption and the formation of a new volcanic dome. The volcano continues to exude magma on the surface and gas emissions can be observed from the Belmont Observatory. A UWI Seismic Research Centre team is currently in St. Vincent to support monitoring and data collection and analysis.

An Orange Level alert means that there is highly elevated seismicity or fumarolic activity, or both, or other highly unusual symptoms. Eruptions may occur with less than 24 hours notice. Monitoring systems are continuously manned and there is regular visual inspection of potential vent areas as well as continuous ground deformation and hydrothermal monitoring.

SITUATION cont'd

The UWI SRC advised that the tracking of dome growth was being undertaken using photogrammetric techniques informed by both aerial photographs taken with fixed wing, helicopter and UAV aircraft supplemented by satellite images. The new dome continued to grow towards the north-west and south-east with the most active gas emissions being the contact areas between the pre-existing 1979 dome and the 2020-21 dome, as well as the top of the new dome. The fumarolic area on the old dome had become more active than prior to the eruption.

Measurements of the gas emissions from the new dome, as well as a preliminary analysis of rock samples collected from the dome was indicative of new magmatic material from depth contributing to the lava extrusion currently ongoing in the crater.

The level of seismic activity precursory to the current dome extrusion was relatively low. The significant increase in the number of small earthquakes observed since early January was mainly as a result of the enhanced resolution of the network due to installation of additional stations on the flanks to the volcano and near to the summit.

The UWI-SRC scientific team increased its capacity to bolster seismic monitoring of La Soufrière volcano in St Vincent and the Grenadines (SVG) through a donation of seismic stations and telemetry equipment from the USGS-USAID VDAP. Photos to the left.

The spider seismometer donated to the University of the West Indies Seismic research Centre (UWI-SRC) by the USGS Volcano Disaster Assistance Program (VDAP) to reinforce monitoring of the La Soufrière volcano, St. Vincent and the Grenadines

Equipment (from L-R: cables, digitizer, power supply and seismometer) from one of the three seismic stations donated to the University of the West Indies Seismic research Centre (UWI-SRC) by the USGS Volcano Disaster Assistance Program (VDAP) to reinforce monitoring of the La Soufrière volcano, St. Vincent and the Grenadines.

The gas plume issuing from the dome continued to cause damage to vegetation in the summit areas on the south-western parts of the volcano. The gases within the plume could also be harmful to human beings and may, with prolonged exposure (such as may occur at the summit or in the crater), have the potential to render unconscious and even asphyxiate.

The Education & Outreach arm of the SRC provided updates and information on their social media platforms. The "Soufriere Today" program was recorded and posted to YouTube and work began on a new series of videos that would focus on the techniques used to monitor the volcano.

View of the new and old dome
Photo credit: SMU, Kemron Alexander

View of the fumarole on the old dome
Photo credit: SMU, Kemron Alexander

Eastern edge of the new dome
Photo credit: MVO, Thomas Christopher

Updates from Impacted CDEMA Participating State

The Caribbean Disaster Emergency Management Agency (CDEMA) has been in regular contact with the National Disaster Coordinator in St. Vincent and the Grenadines and the following was reported:

ST. VINCENT AND THE GRENADINES

1. NEMO's recent bulletins have advised that all monitoring data indicated that the ongoing effusion (outflow) of magma onto the crater floor continued.
2. The overall rate of growth since onset of dome growth was approximately 1.9 cubic metres per second. There were no clear indications that the activity was either increasing or decreasing in intensity, but there were periodic changes in the rate at which dome growth was occurring.
3. Measurements of the gas emissions (releases) from the new dome, as well as a preliminary visual inspection of rock samples collected from the dome were indicative of new magmatic material from depth, contributing to the lava extrusion now taking place in the crater.
4. There was a clear gas plume (column/cloud/trail) from the dome that was damaging the vegetation in the summit areas on the south-west of the volcano.
5. NEMO staff conducted a drive-through in the Colonaire Community on Friday 19th February 2021. The purpose of this drive through was to update residents on the state of the La Soufrière Volcano, and to provide information on evacuation procedures and individual preparedness.
6. The National Emergency Management Organisation continued to remind the public that no evacuation order or notice had been issued.
7. NEMO continued to appeal to the public to desist from visiting the La Soufrière Volcano, especially going into the crater, since doing so was extremely dangerous.
8. NEMO would continue to provide regular updates on all activities taking place at La Soufriere.

The effusive eruption at the La Soufriere volcano SVG continues and as the scientists study the new dome, UWI SRC shared the following infographic to help persons to better understand the activity and what was being done to monitor the volcano.

(Source: UWI SRC https://www.facebook.com/uwiseismic/photos/a.112065204326/10157904654989327/)

THREAT LEVELS

Below is a summary of the threat alert levels for the La Soufriere volcano:

LA SOUFRIERE VOLCANO HAZARD ALERT LEVEL

Alert Level	Symptoms	Action Scientist	Action: Civil Authorities
Green	Volcano is quiescent (quiet): seismic and fumarolic (steam vent) activities are at or below the historical level at this volcano. No other unusual activity has been observed.	Normal monitoring	Undertake ongoing public awareness campaign and work on volcanic emergency plans.
Yellow	Volcano is restless: seismic or fumarolic activity or both are above the historical level at this volcano or other unusual activity has been observed (this activity will be specified at the same time that the alert level is raised).	Monitoring system will be brought up to full capability. Civil authorities alerted.	Undertake ongoing public awareness campaigns and work on volcanic emergency plans. Advise vulnerable communities of evacuation procedures in the event of an emergency.
Orange	Highly elevated level of seismicity or fumarolic activity or both or other highly unusual symptoms. Eruptions may occur with less than 24 hours notice.	Monitoring system continuously manned. Regular visual inspection of potential vent areas. Continuous ground deformation and hydrothermal monitoring. Daily assessment reports to civil authorities.	Coordinate evacuation (if necessary) based on hazard zones. Entry to the restricted access zone by scientist will be permitted after evacuation on a case-by-case basis. Organize regular radio and television announcements.
Red	Eruption is in progress or may occur without further warning	Measurements as permitted by safety condition. Civil authorities advised continuously.	Coordinate continued evaluation as necessary. Organize regular radio and television announcements.

Caribbean Disaster Emergency Management Agency (CDEMA) Actions

The CDEMA Coordinating Unit (CU) continues to operate in accordance with the Standard Operating Procedures (SOPs) of the Regional Coordination Plan (RCP) which includes maintaining contact with the threatened states and its Regional Response Mechanism (RRM) partners.

CDEMA's actions to date:

I. The CDEMA Coordinating Unit continues to undertake technical consultations with the UWI Seismic Research Centre (SRC) on the status of La Soufriere volcano.
II. The Regional Coordination Plan (RCP) was activated at 6:00 PM December 29, 2020.
III. The Volcano Response Plan, the Regional Coordinating Centre (RCC), the Regional Logistics Plan (RLP) and the Regional Response Mechanism were activated.
IV. The CDEMA Coordinating Unit (CU) undertook consultations with the National Disaster Coordinator of the Subregional Focal Point in Barbados remained ready to provide support.
V. In accordance with the Volcanic Annex of the RCP, the following Regional Response Mechanism (RRM) Teams have been placed on ALERT:
    a) CARICOM Disaster Assessment and Coordination (CDAC)
    b) Rapid Needs Assessment Team (RNAT)
    c) Caribbean Disaster Relief Unit (CDRU)
    d) Regional Urban Search and Rescue Teams (RSART)
VI. The CARICOM Operational Support Team (COST) was activated and personnel would be deployed to support NEMO SVG effective 1 March 2021.
VII. The CDEMA CU was in constant contact with the SVG NDO and was providing technical assistance to the SVG National Emergency Management Organisation (NEMO) by testing the Emergency Telecommunications between the CDEMA CU, SVG, SRFP (Barbados and the Participating States; also Volcano Hazard Emergency and Logistics Planning and the GeoCRIS mapping – with support from the Copernicus Emergency Mapping Service (EMS).
VIII. The CDEMA CU convened a Brief and Table-Top Exercise (TTX) on the revised SVG Volcano Emergency Plan & SOP document on Friday, January 29, 2021.
IX. The CDEMA CU continues to provide technical assistance to the SVG National Emergency Management Organization (NEMO) in the following areas:
    a) Evacuation Planning
    b) Logistics Planning

Caribbean Disaster Emergency Management Agency (CDEMA) Actions

X. The Core-Coordination Group on Volcanic Hazards (CCG-VH), established as a thematic coordinating cell of the Regional Coordination Centre, was convened twice since January 2021. The CCG-VH, which comprises key representatives of political, scientific and technical institutions in the region, agreed to undertake the following:
   a) To work in support of the National Disaster Office of the threatened or impacted State, under the scientific guidance of the UWI Seismic Research Centre or other designated scientific entity, and
   b) To provide guidance for the provision of regional and international assistance to affected populations, with a focus on preparedness actions to address possible effects/impacts of the volcanic hazard.

XI. The next meeting of the CCG-VH would be communicated to the group.

XII. The previous meeting of the Caribbean Development Partners Group (CDPG) was convened on Thursday January 28th, 2021. The date of the next meeting of the CDPG would be communicated to the group.

XIII. The CDEMA CU co-chaired with NEMO SVG an evacuation planning meeting with the Trinidad & Tobago Defence Force (TTDF) and Coast Guard (TTCG), the Regional Security System (RSS), and the Royal SVG Police Force and Coast Guard on Feb 11.

XIV. The CU continued to engage regional and international partners on matters related to resource mobilisation.

XV. The CU would continue to monitor the situation in collaboration with the UWI Seismic Research Centre, the St. Vincent and the Grenadines NEMO and the National Disaster Management Offices of Participating States in close proximity to the volcano, and provide updates to the RRM partners as necessary.

The CDEMA CU urges all Participating States and members of the RRM to monitor the progress of this volcanic event. The public should continue to monitor the releases from their local National Disaster Management Office.

List of preparatory actions being undertaken by the RRM Partners

LOGISTICS SUPPORT

- The Regional Security System (RSS) was set to provide transport toward the deployment of COST personnel, deployment package and kit and equipment
- CDEMA, NEMO and NODS, Antigua and Barbuda facilitated transportation of the dignity kits which were provided by the United Nations Population Fund (UNFPA)

RELIEF SUPPORT

- Women and families who would be impacted by the increased activity of the La Soufrière Volcano in St. Vincent and the Grenadines, should it become explosive, would have access to 400 dignity kits that were donated by the United Nations Population Fund (UNFPA). The pre-positioning and supply of dignity kits was made to the Gender Affairs Division and the Family Planning Unit within the Ministry of National Mobilisation, Social Development, Family, Gender Affairs, Youth, Housing and Informal Human Settlements and the Ministry of Health, Wellness and the Environment respectively.