



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

---

## **La Soufriere 2020 Eruption FAQs**

### **1. What do the Volcanic Alert Levels mean?**

Volcanic Alert Levels allow scientists and civil authorities to quickly communicate what's happening at a volcano. Each step up the alert level table usually indicates an increased level of volcanic activity requiring heightened awareness and action from the public.

### **2. What does the Red Alert mean?**

The red alert means an eruption is in progress or may occur without warning. Measurements are permitted by safety conditions and the civil authorities are advised continuously. The civil authorities begin or continue evacuation as necessary and organise regular radio, television and social media announcements.

### **3. What is an effusive eruption?**

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 form domes, while runny lavas can travel several kilometres from a vent.

### **4. What is an 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.

### **5. How long does it take La Soufrière to go from an effusive to explosive phase?**

This period can vary from days to months. Each volcano and volcanic eruption is unique. Depending on the volume of magma close to the surface and the amount of energy in the volcanic system, some effusive eruptions may only form domes while others go on to become explosive.



6. **What are band tremors and what does that mean with respect to activity?**

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. These may indicate a change in the eruptive activity that maybe occurring.

7. **Where would people be required to evacuate to?**

During a volcanic eruption, it is safest to be as far from the volcano as possible. Places closest to the volcano often suffer the most damage. River valleys and low-lying areas are especially dangerous as flows from the volcano tend to follow these existing paths. Evacuated persons are taken to safe areas least likely to be affected by the most dangerous hazards. These safe areas can be found easily using volcanic hazard maps.

8. **Why do you get strong smells during an eruption?**

As magma rises towards the surface and pressure decreases, gases are released and continue to travel upwards and are eventually released into the atmosphere. The most abundant volcanic gas is water vapour, which is harmless. However, significant amounts of carbon dioxide, sulphur dioxide, hydrogen sulfide and hydrogen halides can also be emitted from volcanoes.

9. **Residents have observed a more noticeable smell of sulphur in the area. Is this dangerous to persons and property?**

The concentration of the volcanic gases is not dangerous as they have become diluted by the time it has reached the surrounding communities. However, closer to the summit, precautions by scientists and NEMO officials working on the volcano will have to be taken as the concentrations will be higher.

10. **Are volcanic gases harmful?**

Volcanic gases can be hazardous to everyone in high concentrations but more so to sensitive groups (infants, pregnant women, persons with respiratory and heart problems). If you feel dizzy or nauseous, or find it difficult to breathe, move to fresh air at once.

11. **Can eruptions occur without warning and destroy the entire island?**

It is unlikely an eruption can occur without warning. The eruption may impact the northern part of the island but will not destroy the entire island. The team at the Observatory is continuously monitoring and provides updates for any action to be taken.

12. **Could the geothermal exploration trigger an eruption?**

Geothermal drilling cannot trigger volcanic eruptions. Geothermal fluids (waters and gases) result from the interaction between surface water and rocks heated by magma. The hot fluid is extracted relatively close to the surface very far from actual magma chambers.

**13. Is the eruption at La Soufrière related to activity at Mt. Pelée, Martinique and can it set off other volcanoes in the region?**

No. La Soufrière and Mt. Pelée are two separate volcanoes that are not physically connected in anyway. Each volcano has its own plumbing system and they operate independently. The eruption at La Soufriere cannot trigger any other volcano as they are not connected.

**14. Can the current eruption cause a tsunami?**

At this point in time, activity remains within the crater and cannot cause a tsunami. Should the eruption go towards an explosive one, this will be evaluated and advise will be given accordingly.