

Monitoring and Alert Levels

The Seismic Research Centre has established a monitoring network and warning system specifically for Kick ‘em Jenny. The main purpose of this is to provide warning to shipping in the vicinity, it is not a tsunami warning system. Since tsunamis travel very rapidly, by the time one has been generated it is already too late to issue a warning. Furthermore, tsunamis are only generated by big eruptions, and such eruptions take time to build up. The monitoring system is therefore designed to detect premonitory symptoms before the eruption begins, and to allow scientists to judge whether an eruption is building up to a stage where a tsunami could be generated. In this way vulnerable communities will be given warning prior to a large eruption, enabling them to evacuate to higher ground.

Recent upgrades in the monitoring system have resulted in a strong network of monitoring equipment surrounding the volcano as well as the development of a small, dedicated volcano observatory on nearby Grenada. This upgrade was made possible through a grant from the Caribbean Development Bank. The monitoring system includes a network of seismometers (to detect earthquakes), tide gauges (to detect water disturbances), hydrophones (to detect submarine explosions) and tiltmeters and GPS stations (to detect ground deformation). Various combinations of these instruments are installed at Sauteurs, the Sisters rocks, Isle de Ronde, Isle de Caille and Carriacou (see figure below).



Alert Level System

At any given time, the alert level reflects the status of the volcano. The alert levels for volcanoes in the Commonwealth Caribbean are set by a committee which consists of the professional scientific staff of the Seismic Research Centre although we often consult with other scientists with special knowledge of this region. Governments with responsibility for the volcano in question are consulted before the alert level is changed but this may not always be possible as alert levels may change very rapidly. For example the Soufriere of St Vincent went from mild premonitory activity to full-scale eruption in less than 18 hours in 1979.

The table below outlines the alert levels for Kick ‘em Jenny **ONLY**. Alert levels for volcanoes on land are defined slightly differently. Kick ‘em Jenny is neither visible nor audible until it is in full eruption so that one of the most useful volcanic monitoring techniques – visible inspection – is not possible. Kick ‘em Jenny has been in a state of continuous low-level activity since 1939 at least and it can be dangerous to spend time directly over the volcano.

Alert Levels for Kick ‘em Jenny Volcano

Alert Level	Symptoms	Action by Scientists	Recommended action by Civil Authorities and the Public
GREEN	Volcano is quiet. Seismicity and fumarolic (steam vent) activity are below the historical level at the volcano. No other unusual activity detected.	Maintain basic monitoring system.	– Undertake public awareness campaigns. - Prepare evacuation plan for vulnerable areas. – Check the Seismic Research Centre website regularly for change in status. – Visiting scientists should submit a complete plan of their proposed activities to NaDMA, Grenada, for approval
YELLOW	Volcano is restless: seismicity and/or fumarolic activity are above the historical level or other unusual activity has been observed or can be expected without warning.	– Bring monitoring system to full capability. – Civil authorities will be alerted and communication system tested.	– Intensify public awareness campaigns. – An exclusion zone of 1.5km from the summit of the volcano should be enforced for non-essential shipping. – Visiting scientists should ensure that the Sauteurs Observatory is manned throughout their visit (at their expense) and that the Observatory can contact their ship at any time. They must also be prepared to leave the exclusion zones immediately upon request.
ORANGE	Highly elevated level of seismic and/or fumarolic activity or other unusual activity. Eruption may begin with less than twenty-four hours notice.	– All regional governments alerted through Disaster Coordinators and Venezuelan diplomatic missions. – Sauteurs Observatory continuously manned. – Continuous communication with NaDMA. (GRENADA and St. Vincent and the Grenadines). – Summit area under continuous visual surveillance. – Scientists and emergency personnel within exclusion zones maintain continuous contact with the Observatory.	– Vulnerable communities advised of evacuation routes and transport put on standby. – Local radio stations in Grenada, St. Vincent, Barbados and Trinidad placed on alert. – Public listens to local radio continuously for updates and visits the Seismic Research Centre website if possible. - All shipping stays outside the first exclusion zone (1.5km from the summit). – Non-essential shipping (pleasure craft etc) stays 5km clear of the summit (second exclusion zone). – Visiting scientists who are not taking part in essential monitoring are regarded as non-essential.
RED	Eruption is in progress or may begin without further warning.	– Measurements within the exclusion zones as permitted by activity. – Aerial reconnaissancewhenever possible.	– Vulnerable areas prepared for immediate evacuation. – All shipping stays 5km clear of summit (i.e. out of the first and second exclusion zones). – Public in all vulnerable zones should listen to local radio stations for updates.