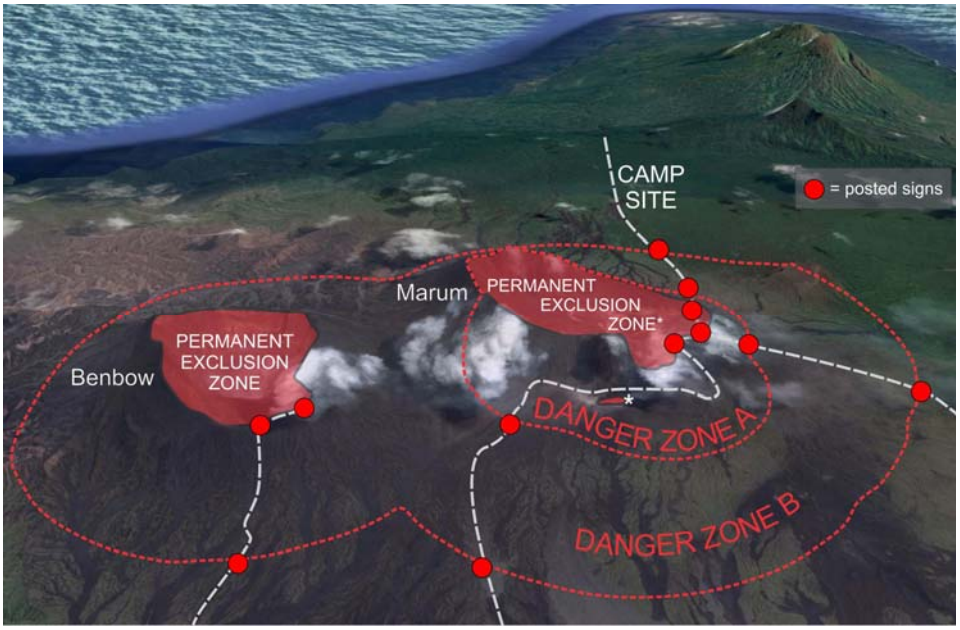
Volcano Fact Sheet

Ambrym Volcano

Description

- Ambrym, a large basaltic shield volcano with a 12-km-wide caldera, is one of the most active volcanoes of the New Hebrides arc.
- Scoria cones are dotted across the island. Marum and Benbow cones within the caldera are the main active vents, with glowing lava lakes inside.
- Eruptions have occurred almost yearly during historical time from cones within the caldera or from flank vents.

(photo Shane Cronin, 2005)



(Background: Google Earth. Description: **www.volcano.si.edu**)

Type

Ambrym includes four main volcanic land forms

Shield volcano - A wide gently-sloping stack of lavas and deposits from explosive eruptions

Caldera - An area of the top of the shield volcano that has collapsed as magma below ground is erupted to the surface

Scoria cones produced by two eruption styles:

Strombolian - bubbles of glowing magma burst spraying bombs of lava into the air

Vulcanian - explosions within the magma fragment it to fine ash which blows downwind

Maars Wide low craters produced by local explosive eruptions as magma has reached surface or ground water – mostly found near the coastline.

The central east-west axis of the island hosts a concentration of eruption vents down the middle of the island.

Magma in the lava lakes is up to 1000°C near the surface, and bombs remain very hot for up to an hour from eruption. Ash is not hot.

Monitoring

- There are two seismographs, and one camera at Ambrym, monitored remotely by VMGD in Port Vila. The data and photos can be seen at:

http://www.geohazards.gov.vu/

Volcanic history

Ambrym is a long lived volcano, with the northern portion containing many overlaping volcanic cones.

The caldera cuts through the old volcano strcuture, possibly producing a large explosive eruption about 1900 years ago.

Marum and Benbow cones are the most active vents inside the caldera and produce lava flows that pond on the caldera floor or spill through gaps in the caldera rim.

Other eruptions (e.g., 1896, 1917, 1950) formed a scoria cones, maars and lava flows outside the caldera, along the E-W ridge.

Many villages have been abandoned after being overun by lavas.

Large ash-eruptions occasionally occur from Marum and Benbow (e.g., 1977, 2005) covering crops and villages in the west and north with ash.

Cause

- The volcanoes of Vanuatu are created by subduction of the Indo-Australian plate below the Pacific plate under Vanuatu.
- A large magma chamber is located a few km below the caldera, feeding Marum and Benbow.

Safety

- Bombs can land in any zone at any time. The only way to avoid all risk of bombs is to stay out of Zone B.
- Stay out of the permanent exclusion zone – the danger is extreme
- The exclusion zone may be extended - during periods of larger or more frequent explosions to include Zone A, or to include Zone A & B.
- Check which zone(s) are closed in the latest bulletin - click on 'Ambrym' at: http://www.geohazards.gov.vu/

Flying bombs are always a danger

Wear a hard hat – it will help protect you, but it will not stop larger bombs.

Watch for bombs in the air - especially after explosions. Stand still unless you see bombs that are not moving left/right or up/down – these are coming towards you, and you should avoid them.

- Bombs fly very fast – even though they look to move slowly at first. The time from an explosion to bombs landing at the rim is often only a few seconds.
- Falling into the crater – beware that the edge of the crater is slippery and unstable.