

Ambae Volcano



Description

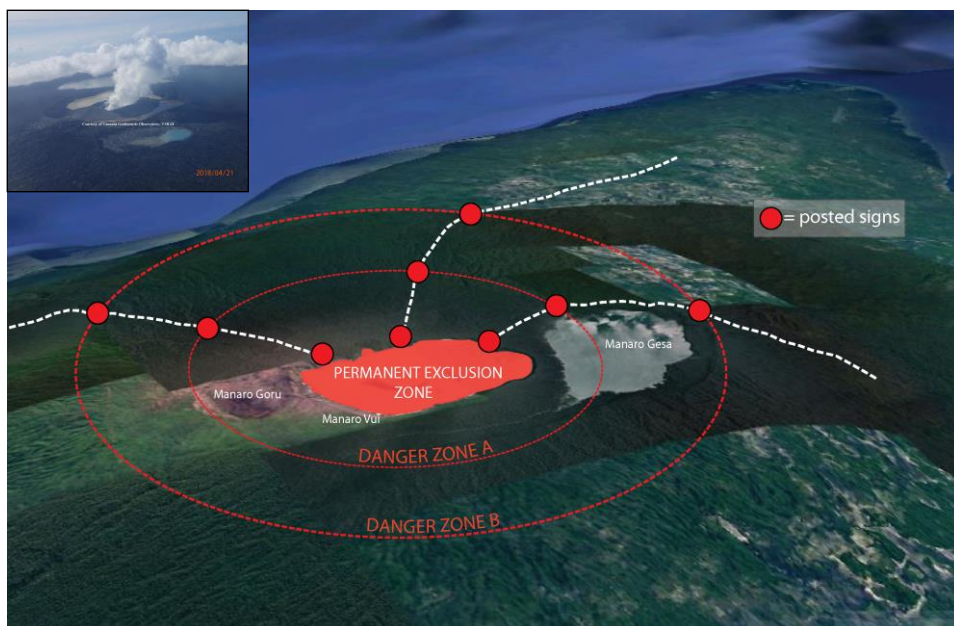
- Ambae, is a massive 2500 cu basaltic and the most voluminous active shield volcano of the New Hebrides arc. Its summit area shows two concentric calderas, the largest of which is 6 km in diameter and the smallest including three Lakes (Manaro-Ngoru, Manaro-Lakwa and Manaro-Voui).

- Scoria cones are dotted across NE-SW of the island. Manaro Voui (2.1 Km in diameter) is the main active crater.

- Eruptions have occurred almost yearly during historical time from cones within the caldera or from flank vents.

(www.volcano.si.edu)

([volcanic hazards in Vanuatu](http://volcanic_hazards_in_Vanuatu))



(Background: Google earth. Photo, Vanuatu Geohazards Observatory, 21 April 2018)

Type

Ambae includes five main volcanic land forms

A shield volcano - A broad volcano with a very gentle slope.

A 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 tree eruption styles:

Surtseyen – Violent explosions caused by the interaction between magma and groundwater.

Phreatic– interaction of the groundwater and the hot volcanic rocks producing a violent expulsion of steam and rocks. Magma is not involved.

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

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

Tuff cone (s) produced by the phreatic explosions and characterized by rims that have a low, broad topographic profiles and gentle topographic slopes.

The central north-south axis of the island hosts a concentration of eruption vents down the middle of the island.

Volcanic history

Ambae volcano is a very large volcano and is frequently active. A large-scale eruption about 400 years ago built a volcanic cone in the summit crater and the crater is now filled by Lake Voui; the modern active vent area underlies Lake Voui. A tuff cone was constructed within Lake Voui about 60 years later.

Most of the eruptions has been from the summit crater lake eg. 1530, 1670, 1870, 1915 and 1966 1991, 1995, 2005, 2016, 2017 and 2018 except for the 1670, which producing a flank eruption and destroyed the population of the Nduindui area near the western coast.

Cause

- The volcanoes of Vanuatu are created by subduction of the Indo-Australian plate below the Pacific plate under Vanuatu.

- A magma chamber is located a few km below the caldera, feeding Manaro Voui.

Monitoring

There are two seismographs at Luvunvili and Ambaga villages and two cameras stationed at Saratamata and Ena, monitored remotely by VMGD in Port Vila. The data and photos can be seen at <http://www.geohazards.gov.vu/>

Safety

- Stay out of the permanent exclusion zone – the danger is extreme
- The exclusion zone may be extended - during periods of large eruption 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 'Ambae' 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.



