

Currently erupting volcanoes

2025-11-15

www.volcanodiscovery.com

- ▲ : in eruption
▲ : minor activity



Volcanic Activity

- **Active** - activity present in the last few centuries:
 - Mauna Loa, HI (2022!)
 - Mt. St. Helens, WA (1980)
- **Dormant** - “quiet” for the last hundreds to thousands of years, but still have potential to erupt:
 - Mt. Elbrus, Russia (~2000 years ago)
- **Extinct** - no eruption in historical times, unlikely to erupt again, no longer have magma supply:
 - Castle Rock, Edinburgh, Scotland (~350 million years ago)



Notable Volcanoes

- **Mt. Etna, Italy**

Near-continuous eruption
for over 110 years!



- **Mauna Loa, Hawaii**

Largest single mountain in the world

- **Kilauea, Hawaii**

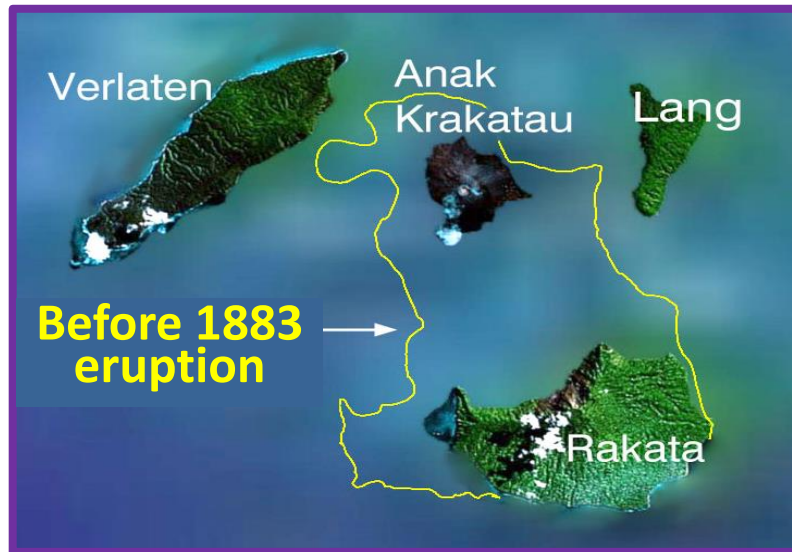
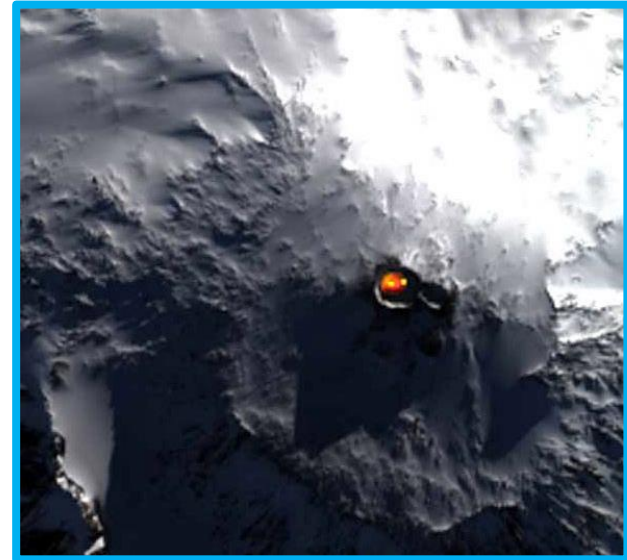
Largest observed lava lake



Notable Volcanoes

Mt. Erebus, Antarctica •

Southernmost active volcano on Earth.



NOW

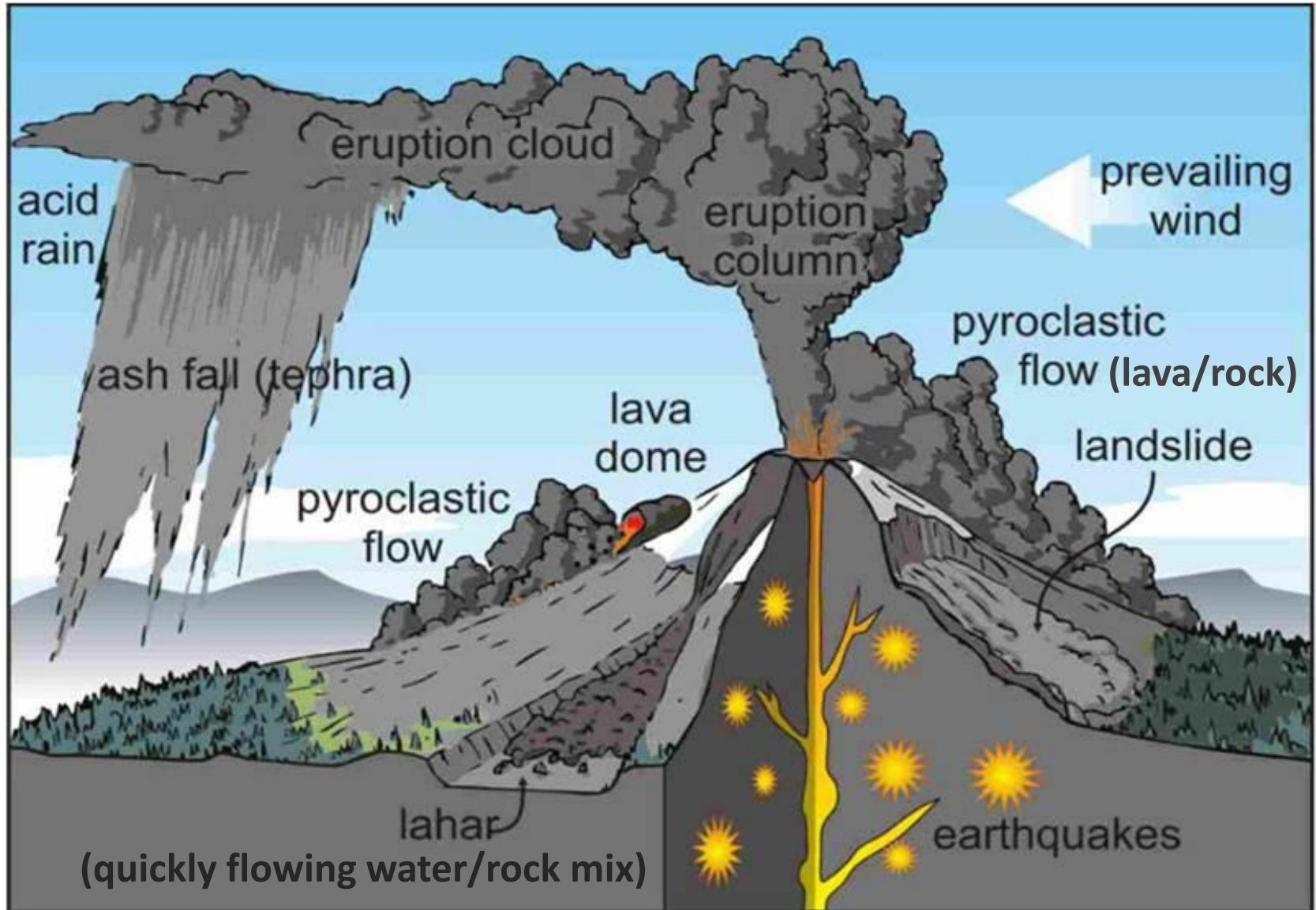
• Krakatoa, Indonesia

1883 explosive eruption produced huge tsunamis as well as loudest sound ever heard in modern history.

THEN



Explosive Eruption Diagram



Volcanic Eruption: Explosive

Very high viscosity magma prevents the release of volcanic gases; **gases accumulate**, and the **magma pressure builds up**... until it is blasted out in an explosion!



**Mount Mayon,
Philippines**



**Sarychev Peak,
Kuril Islands,
Russia 2009**

Explosive eruptions can send rocks, dust, gas and pyroclastic material **up to 20 km** into the atmosphere.

Volcanic Eruption: Non-explosive

- Most volcanoes erupt basalt, a fluid **low viscosity lava** that erupts *effusively* (quietly) and forms *flows* with occasional *fountains*.



- **Higher viscosity lava** with low gas content produces bulging lava *domes*.

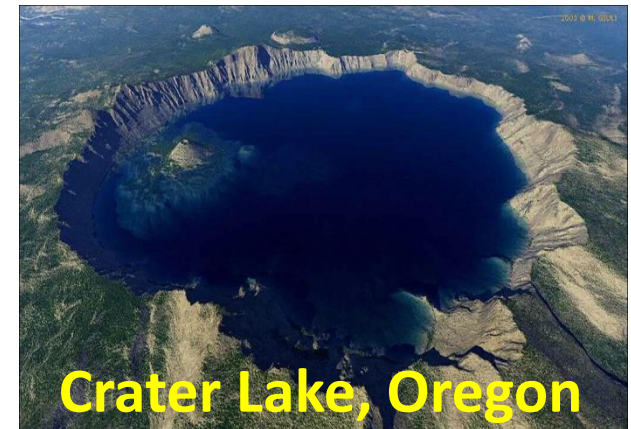
Volcanic Landforms: Caldera

(Spanish for “cooking pot”)

Volcano rapidly empties its magma chamber, and support is lost. Overlying material collapses into the magma chamber: a caldera forms.

- **Explosive calderas**

Silica-rich magma feeding these volcanoes has high viscosity; gases tend to become trapped at high pressure within the magma, resulting in explosion.



Crater Lake, Oregon

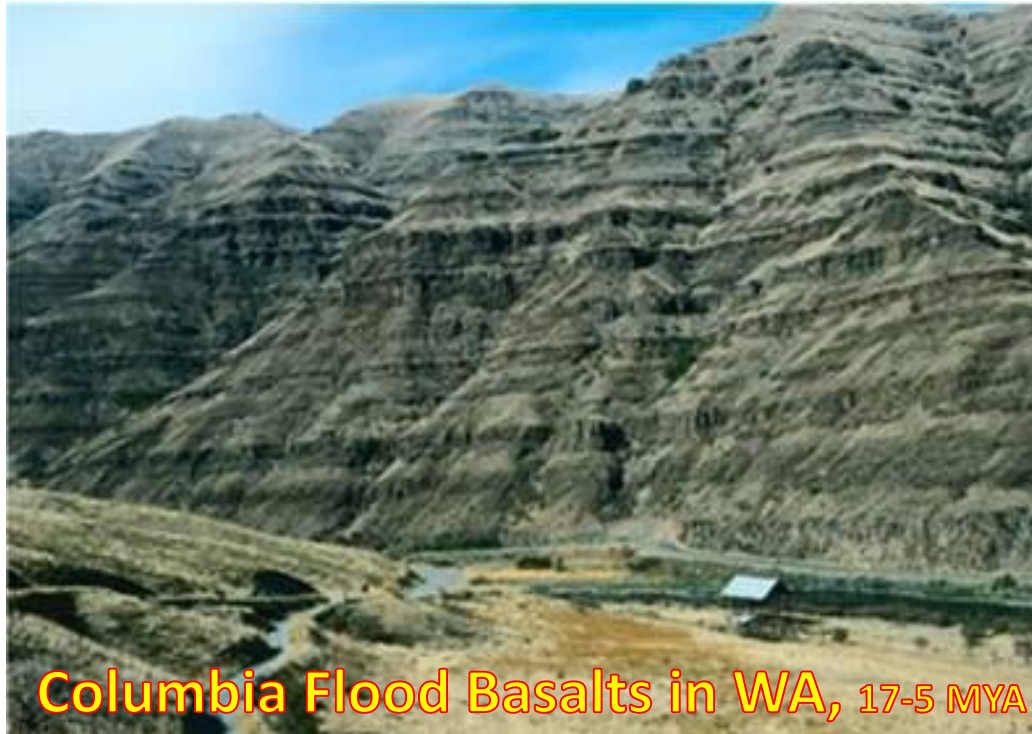
- **Non-explosive calderas**

Basaltic magma feeding these volcanoes is silica poor and much less viscous; the magma chamber is drained by large lava flows rather than by explosive events.

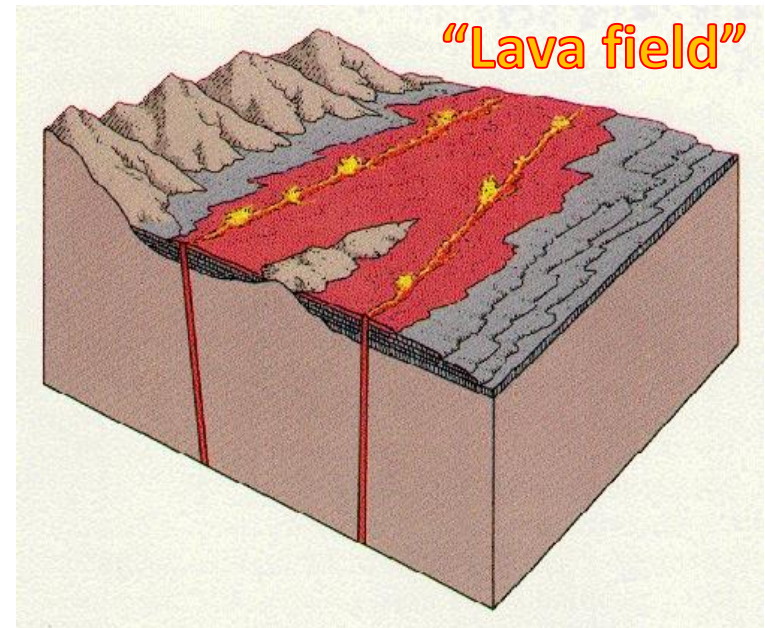


**Aniakchak Caldera, Alaska,
~3400 YA**

Volcanic Landforms: Flood Basalts



- Large (10-100 square miles) outpourings of very low viscosity basaltic lava



- Multiple, "quiet" eruptions
- Lava *plateau* forms
- Flood basalt volcanism has been connected to major mass extinction events in the past.