

What are the consequences of the tectonic plates' movement?

- Landscape formation
- Volcano formation
- Orogeny (mountain formation)
- Earthquakes
- Tsunami formation

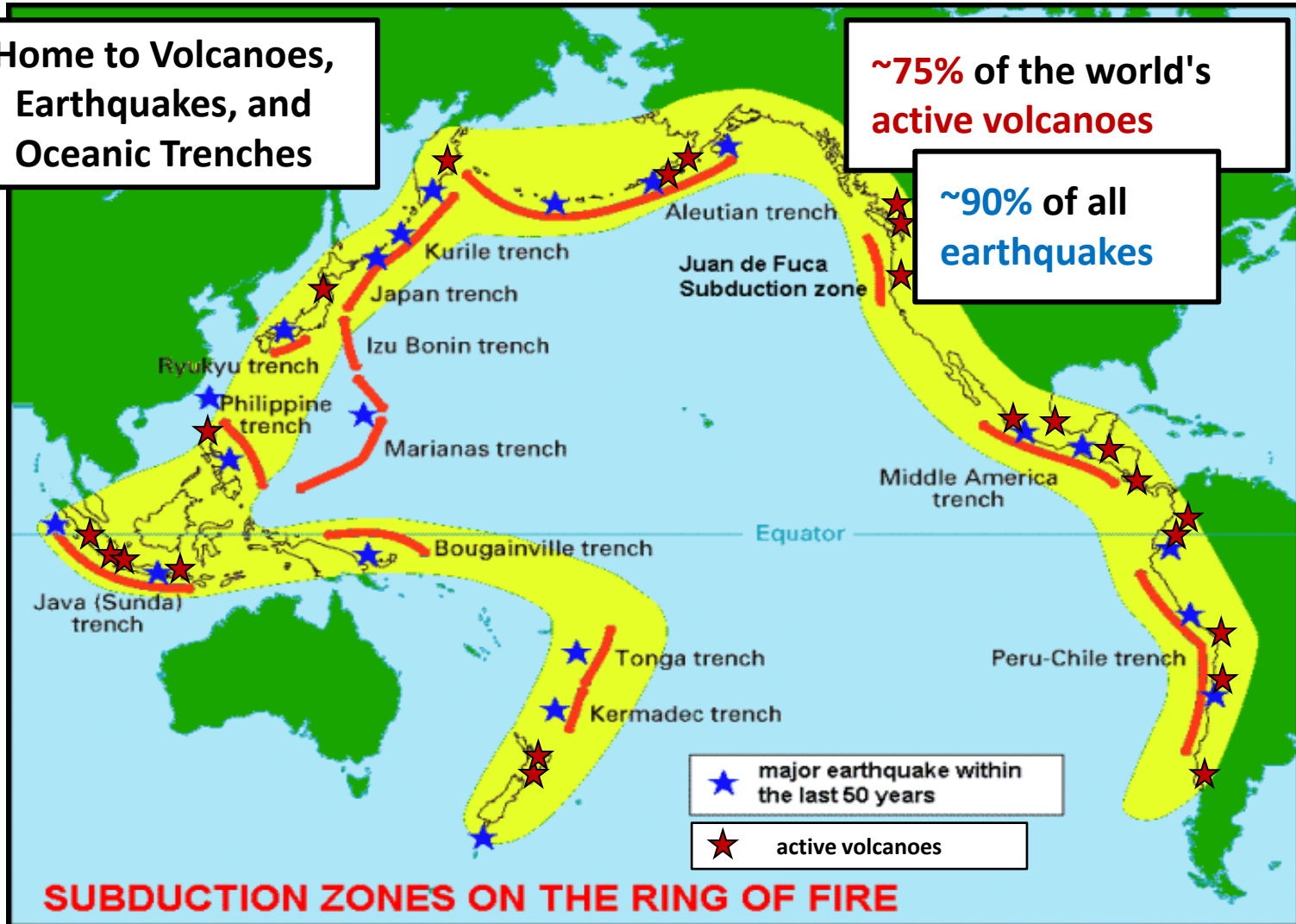


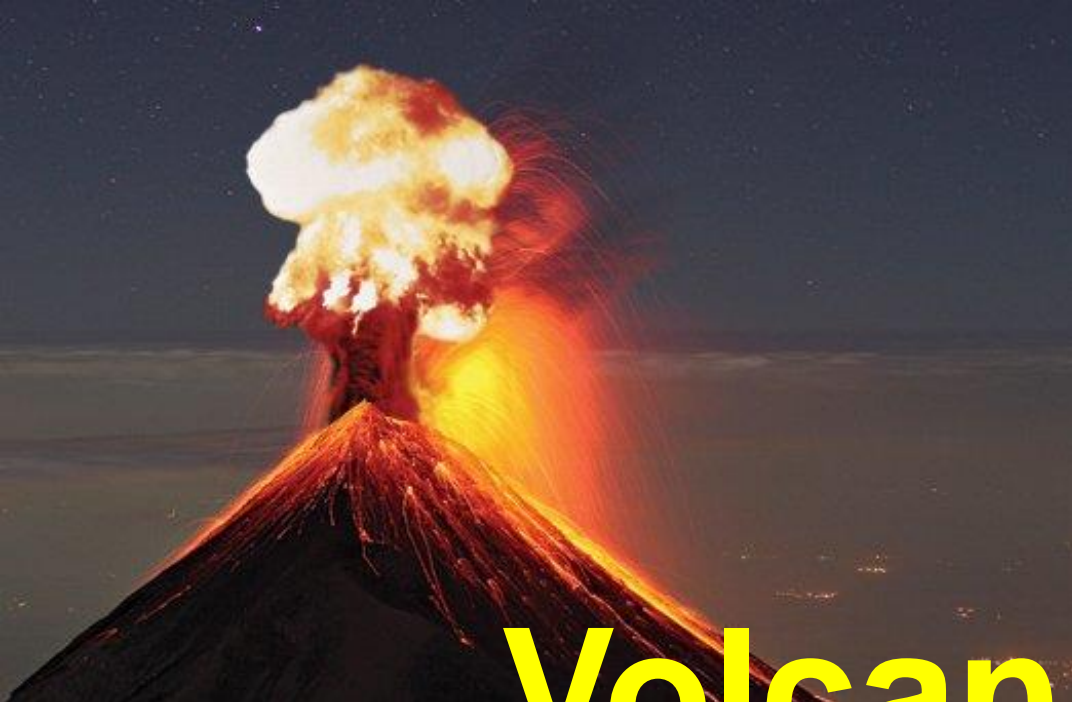
The Pacific Ring of Fire

Home to Volcanoes,
Earthquakes, and
Oceanic Trenches

~75% of the world's
active volcanoes

~90% of all
earthquakes



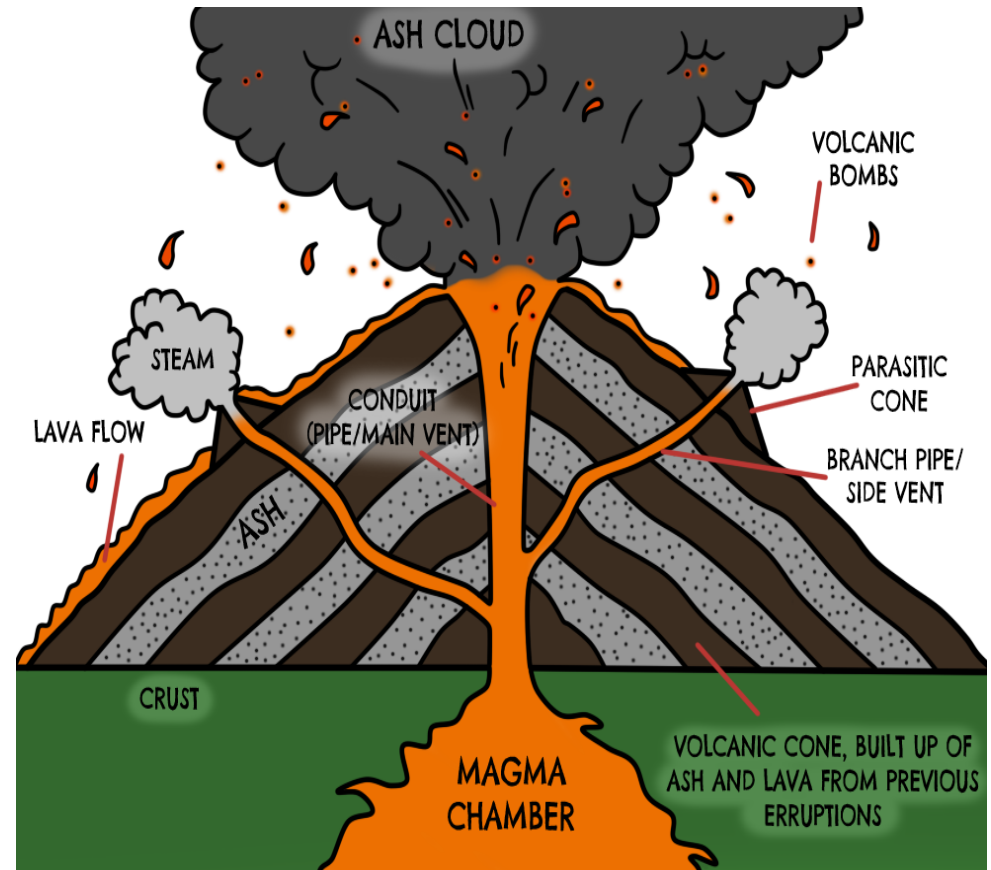


Volcanism



A **Volcano** is a mountain that forms when **magma reaches the Earth's surface.**

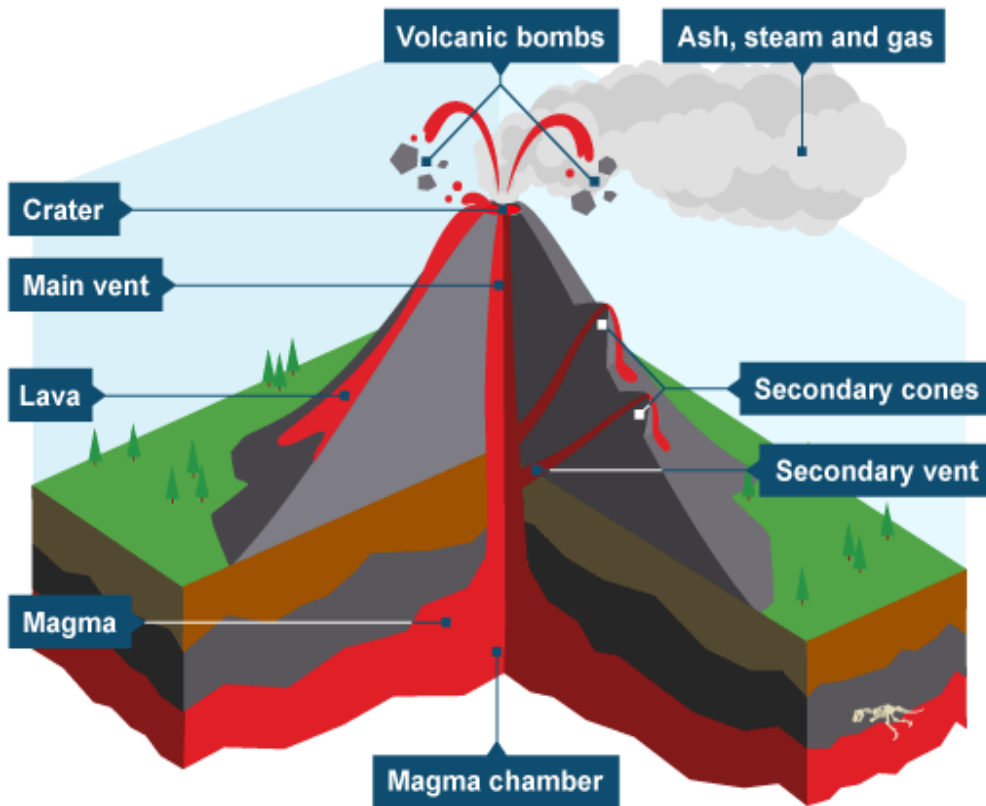
- Magma develops and collects in areas called **magma chambers.**
- Magma is less dense than the solid rock around it.
- Magma can also easily migrate (flow) if a structural zone allows movement.



- When a rupture on the crust is present, **magma rises to the surface and escapes**, resulting in **volcanism.**

Parts of a Volcano

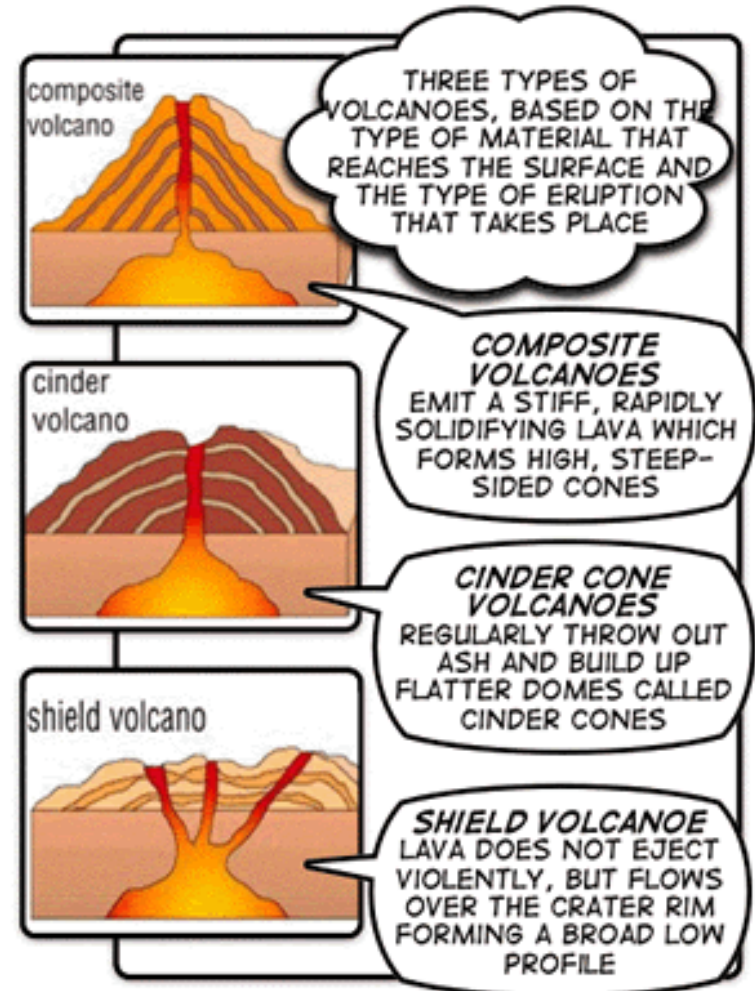
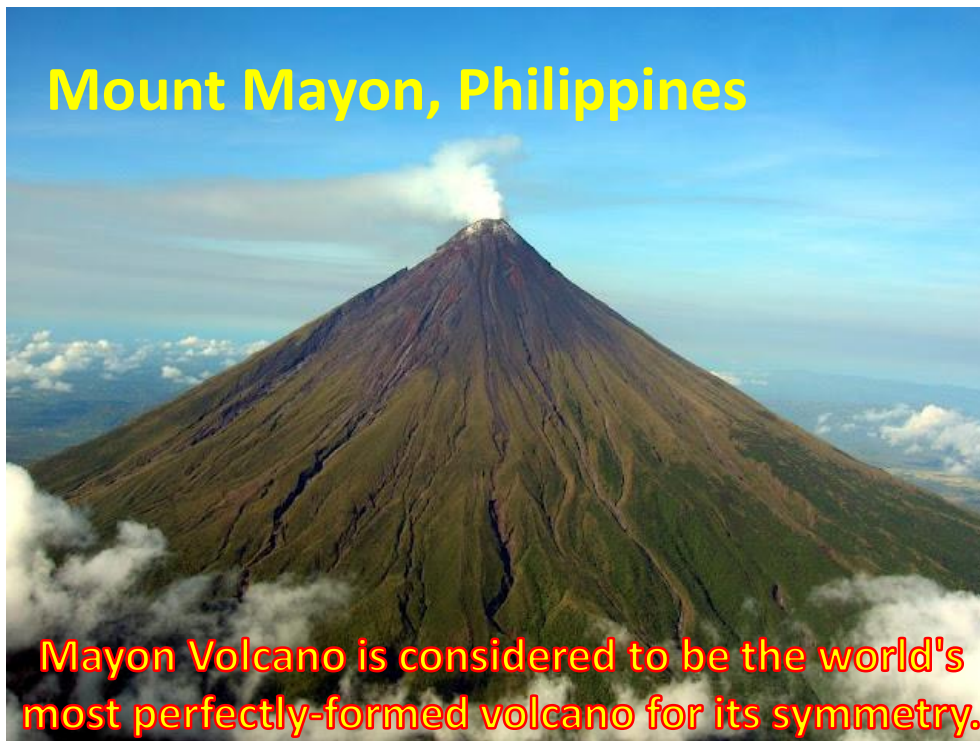
1. VENT - the vent is the opening from which **lava** flows.



- A volcano can have **several vents**.
- **Dust, ash, and rock particles** can also be thrown out of the vent!

Parts of a Volcano

2. VOLCANIC CONE - the pile of lava, dust, ashes, mud, and rock around the vent.



It can be found in different shapes!

Parts of a Volcano

3. CRATER - the top of the volcano.

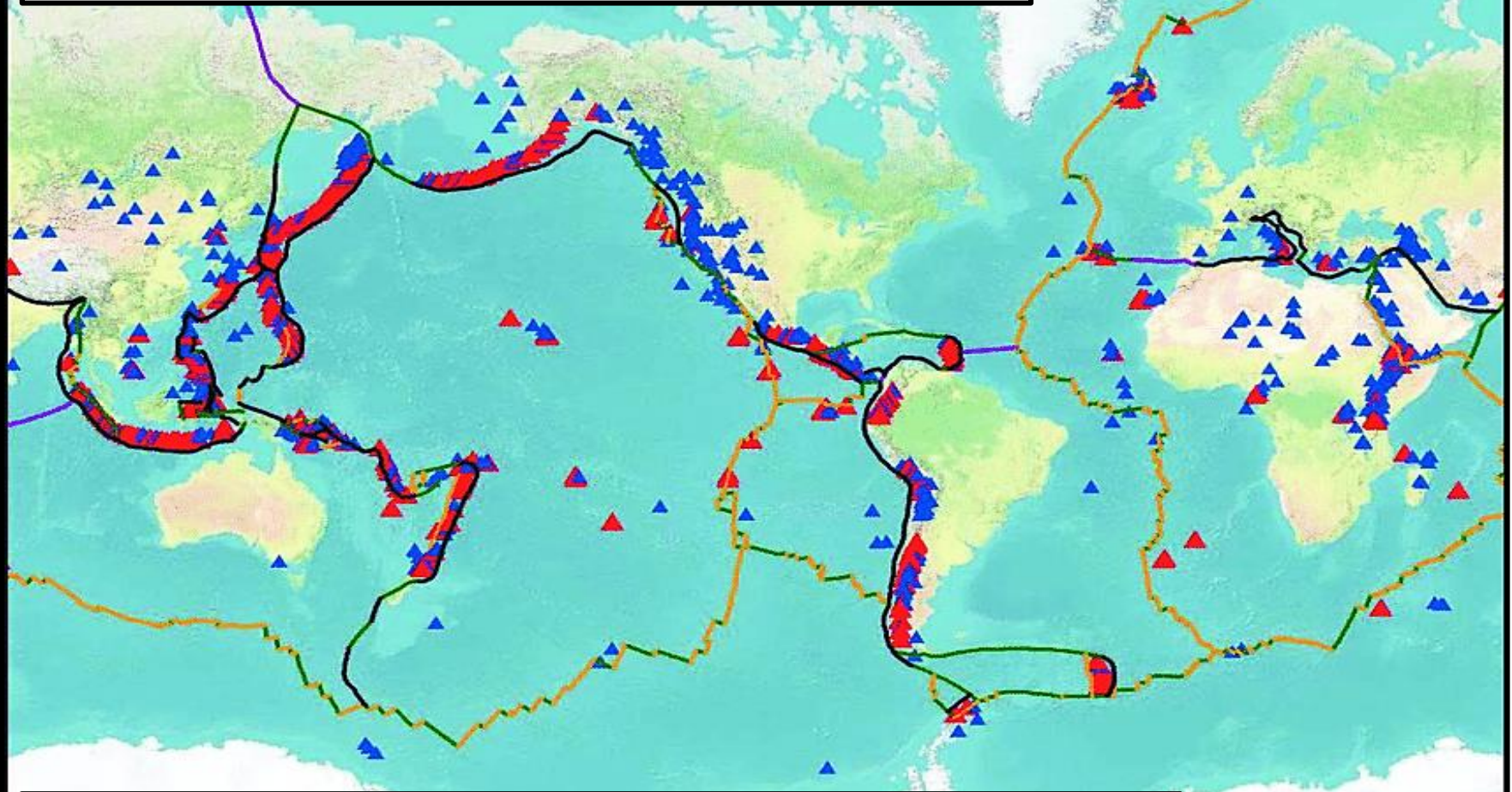


This **funnel-shaped pit** is formed when the material is ejected out of the vent!



Volcano Distribution

during the current geological epoch



△ Activity since 1900, △ Activity since ~11700 YA

0 5,000 km

Volcanic Activity



- **Active** - activity present in the last few centuries:
 - Mauna Loa, HI (1984)
 - 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)



Currently erupting volcanoes

2023-11-04

www.volcanodiscovery.com

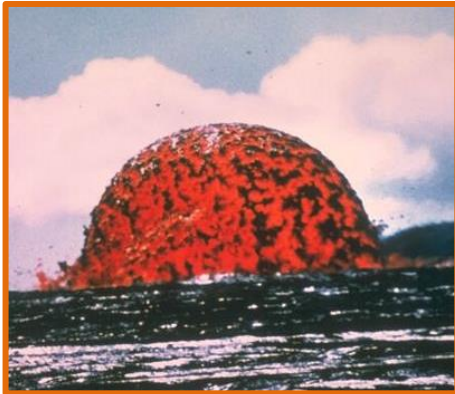
-  : in eruption
-  : minor activity



40 volcanos are active RIGHT NOW!

Notable Volcanoes

- **Mt. Etna, Italy**
Continuous eruption
for almost 110 years!



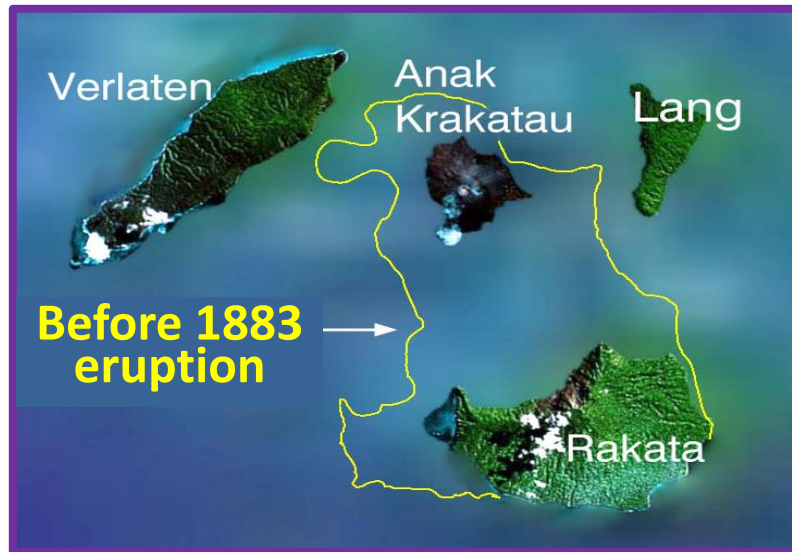
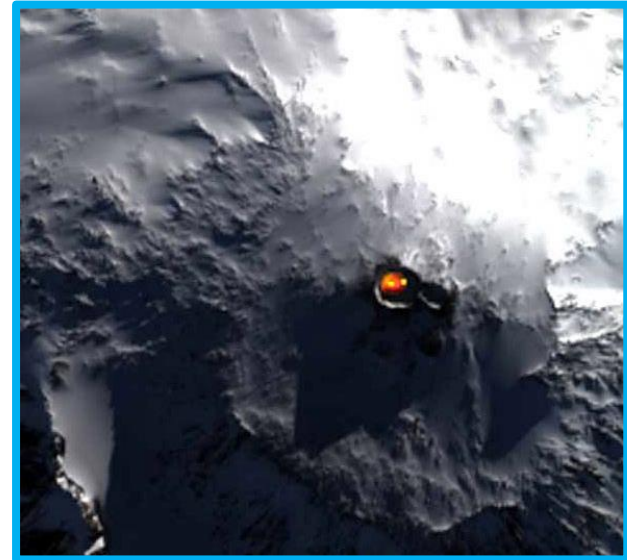
- **Kilauea, Hawaii**
Largest observed lava lake



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

