

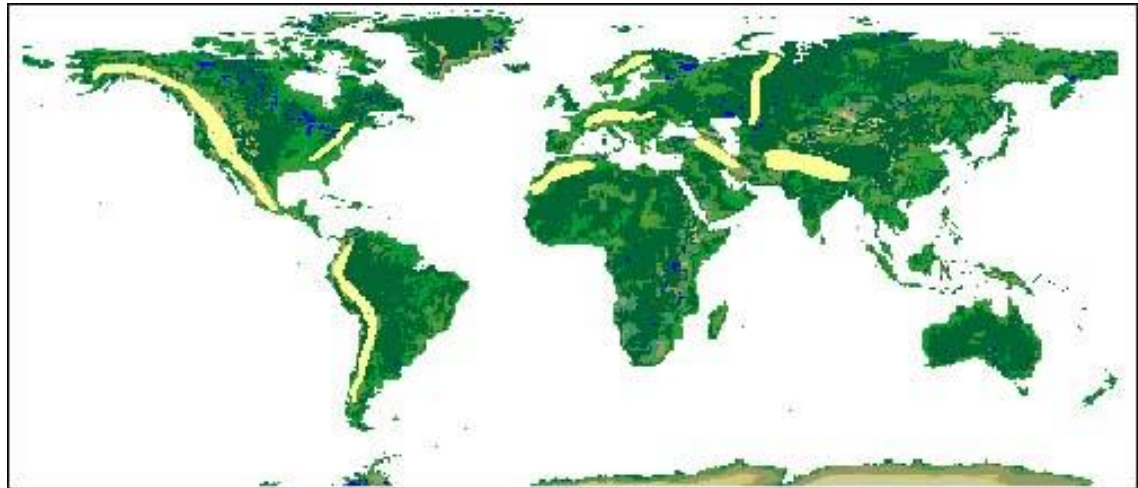
Mountain Building



- Folding
- Faulting
- Volcanoes

Introduction

- Earth's crust isn't one solid piece. It is broken into sections called plates which move very slowly toward or away from each other.
- Most major mountain ranges were formed by the collision of **continental plates**



Mountains by Folding

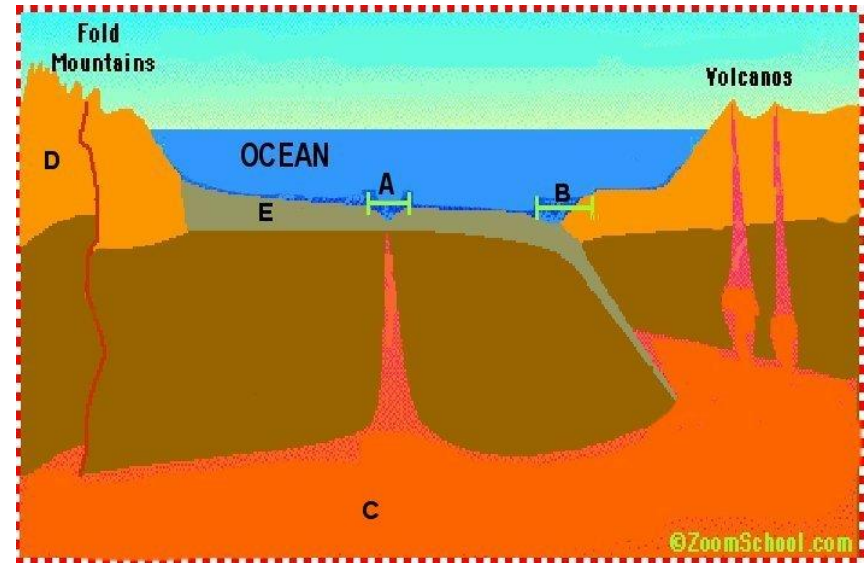
- **Fold mountains** are actually formed by crust which have been **uplifted** and **folded** (buckled or bent) by **compressional forces**.



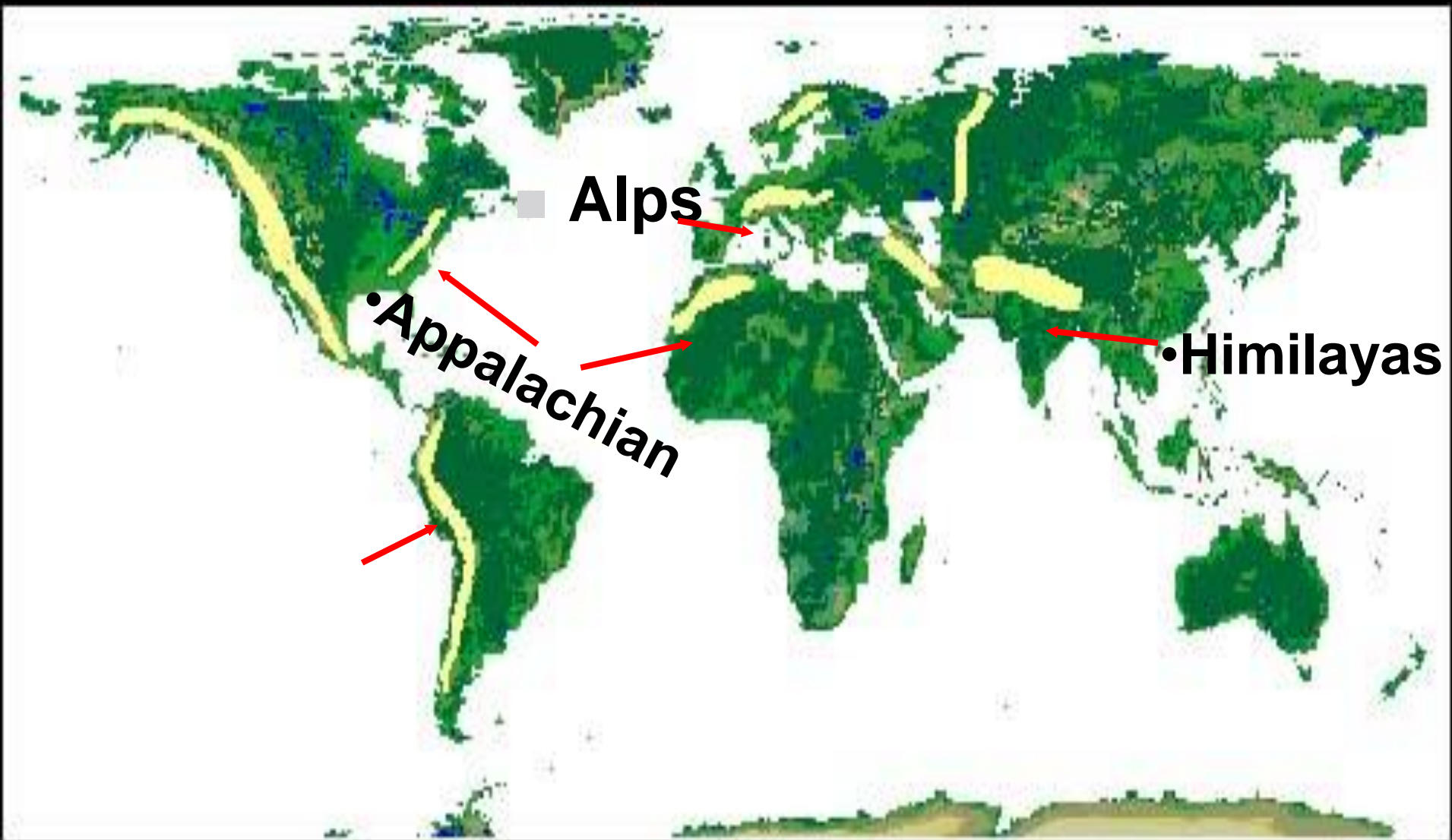
- Rock that is put under extreme pressure for long periods of time (thousands or millions of years) will fold like clay.

Mountains by Folding...cont'd

- Compressional forces occur along plate boundaries where 2 plates move towards each other.
- Can happen between continental plates or between an oceanic and a continental plate.

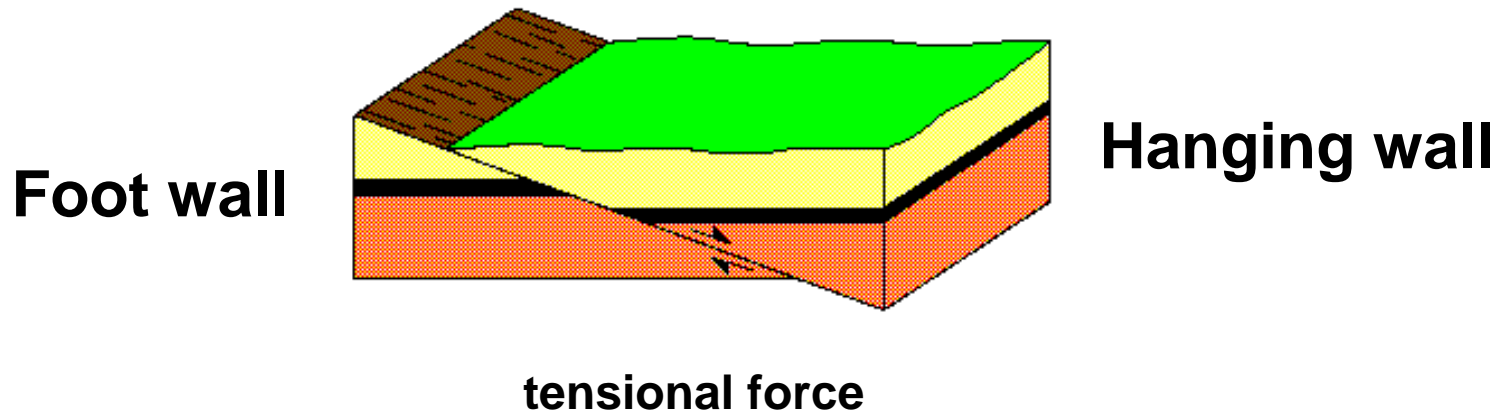


Mountains by Folding...cont'd



Mountains by Faulting

- **Fault lines** are cracks in the Earth's crust.
- Generally caused by **tensional forces**.
- Land **moves apart** at faults.
- **Hanging wall** drops below the **foot wall**.
- This is called a **NORMAL FAULT**.



Mountain Building...Volcanoes



Mountain Building

- In this lesson you will:
- **1.1.8 Explain what causes a volcano to erupt.**
(k)
- **1.1.10 Conclude how the location of active volcanoes is related to places where plates meet.** (a)

What are Volcanoes?

- Volcanoes are built by pressure, heat and gases inside them.
- A volcano is most commonly a **cone-shaped hill or mountain** built around a **vent** that connects with **reservoirs of molten rock** below the surface of the Earth.

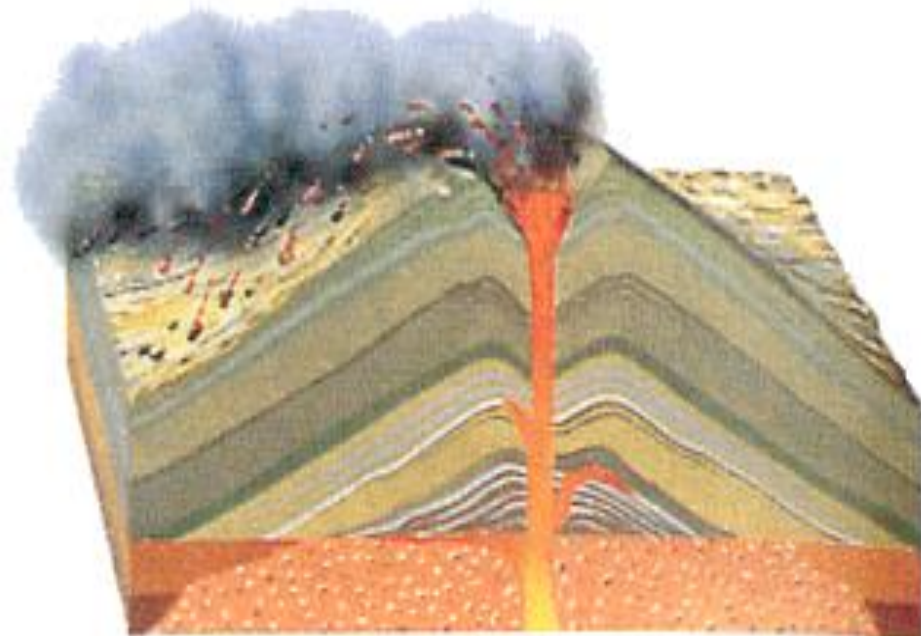
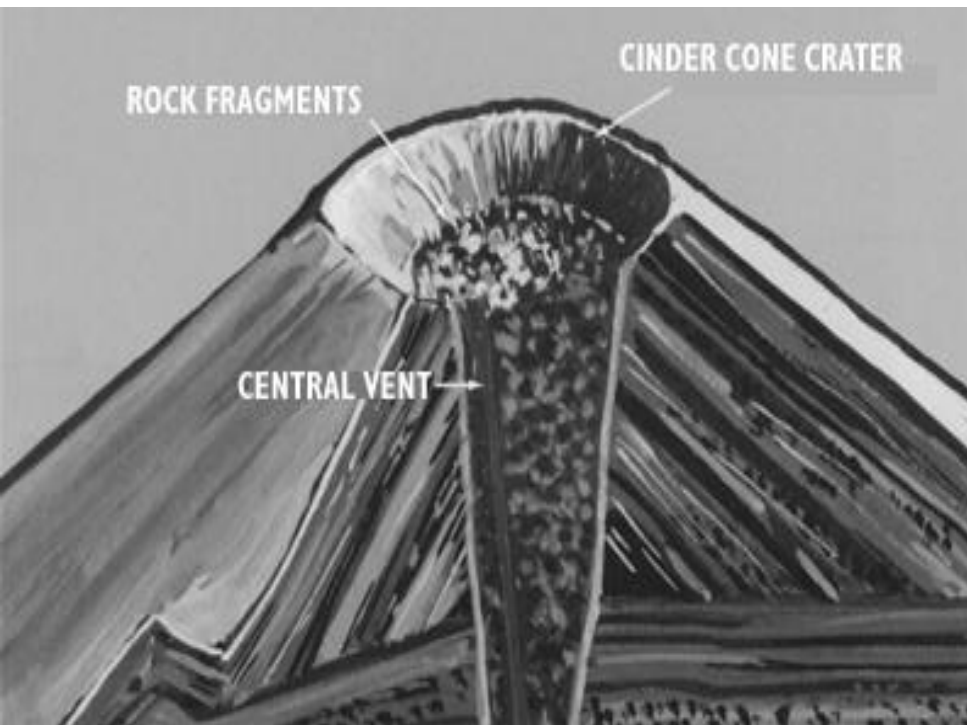
What causes them to erupt?

- Driven by **buoyancy and gas pressure**.
 - 1) **Molten rock**, which is lighter than the surrounding solid rock, forces its way upward and may ultimately break through zones of weaknesses in the Earth's crust.
 - 2) If so, an **eruption** begins:
 - a) The molten rock may **pour from the vent** as non-explosive lava flows or,
 - b) it may **shoot violently into the air** as dense clouds of lava fragments.
- **Molten rock below the surface** of the Earth that rises in volcanic vents is known as *magma*.
- **After it erupts** from a volcano it is called *lava*.

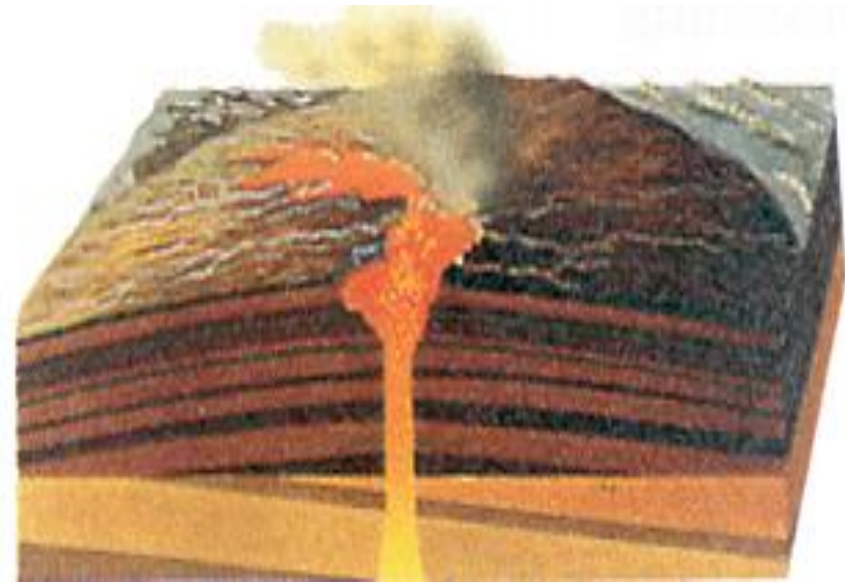
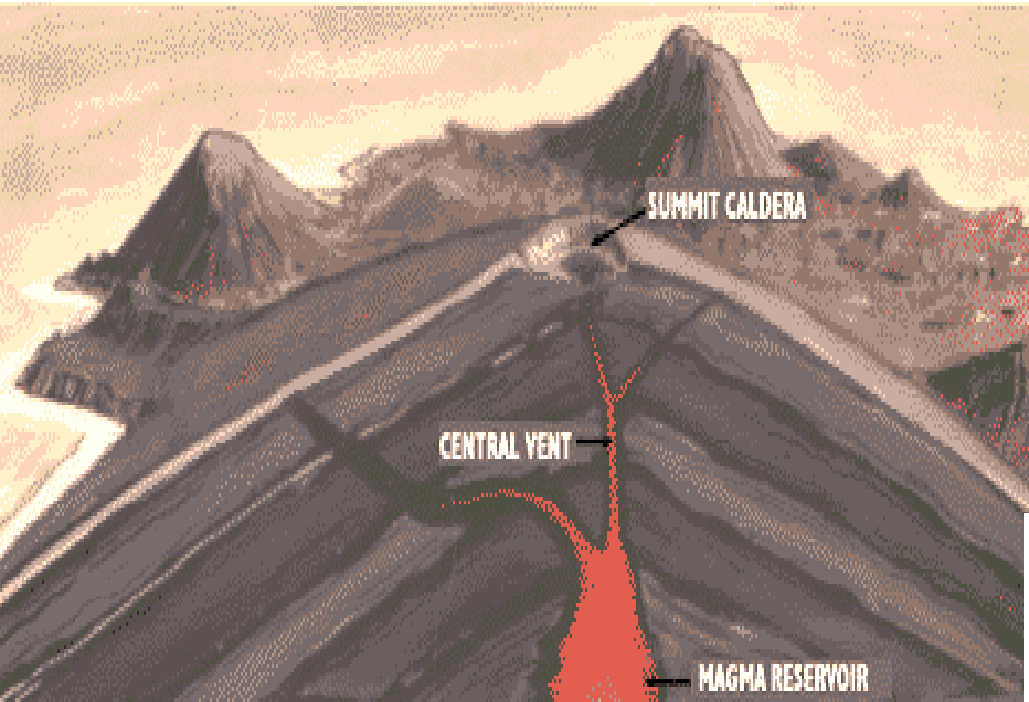
3 types of volcanoes

- Ash and cinder cone
- Shield cone
- Composite cone

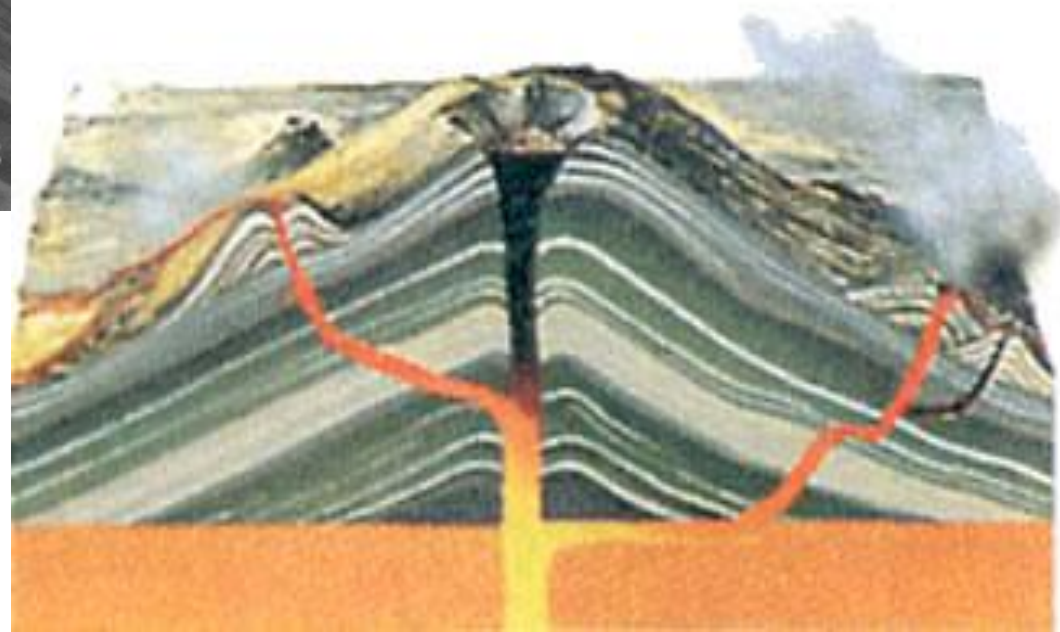
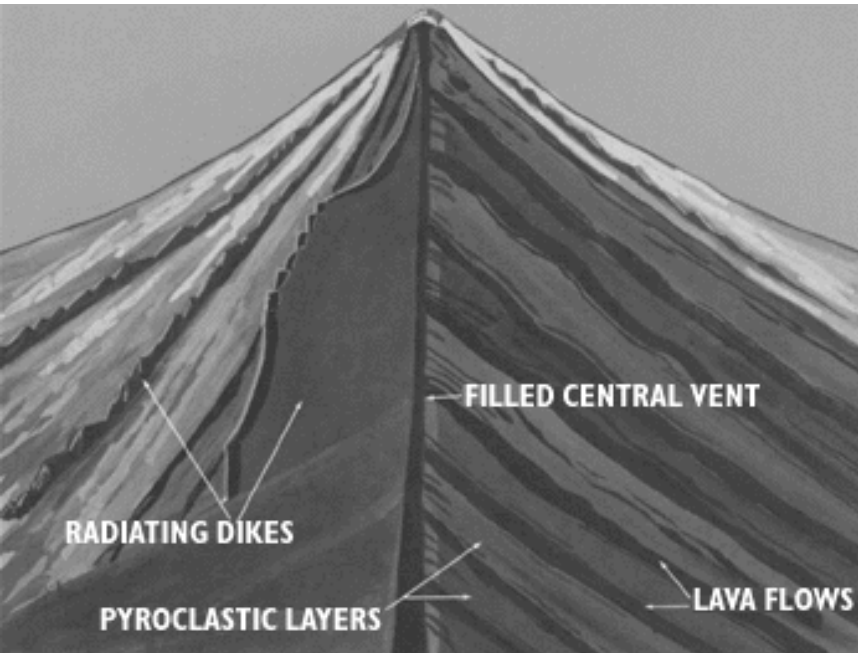
Ash & Cinder Cones



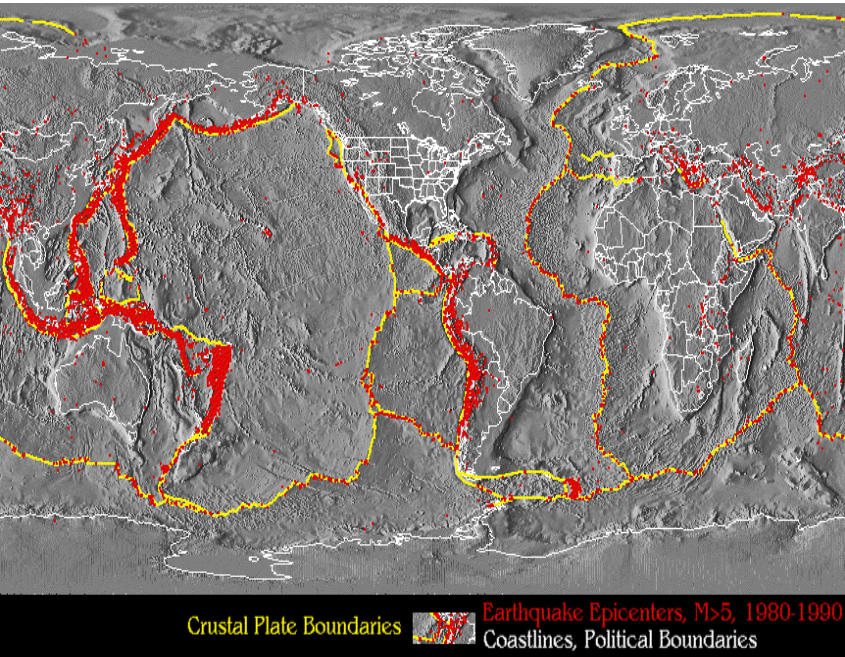
Shield Cones



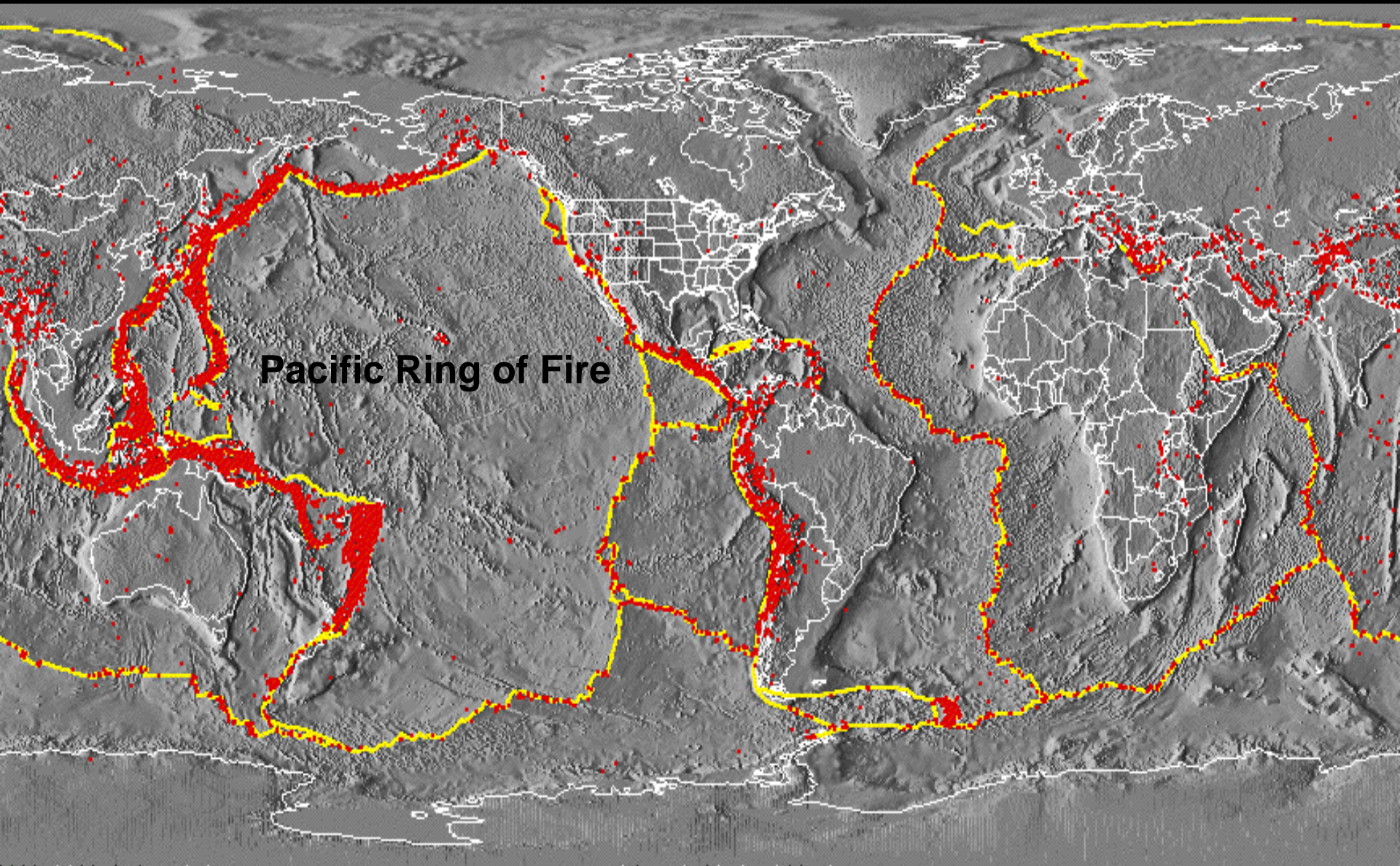
Composite Cones



Pacific Ring of Fire

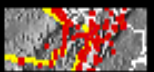


- Volcanoes occur all around the **Pacific Ocean**, at the tectonic plate boundaries.
- Pattern known as the **Pacific Ring of Fire**



Pacific Ring of Fire

Crustal Plate Boundaries



Earthquake Epicenters, M>5, 1980-1990
Coastlines, Political Boundaries