

# Unit 7: Dynamic Planet: Earthquakes & Volcanoes

## Lecture 1

### Objectives:

E3.4A - Use the distribution of earthquakes and volcanoes to locate and determine the types of plate boundaries.

E2.2C - Describe natural processes in which heat transfer in the Earth occurs by conduction, convection, radiation.

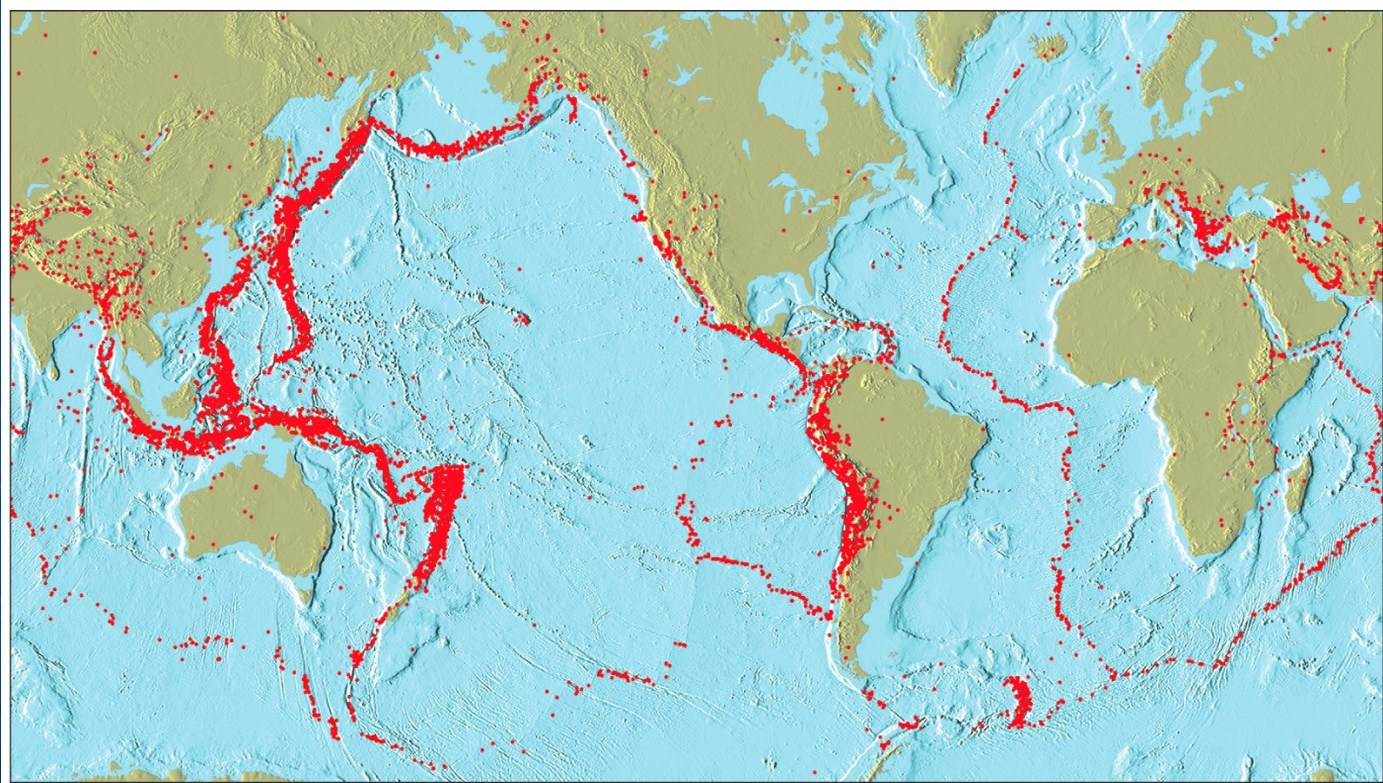
# *Earthquakes*

- Vibration of Earth produced by the rapid release of energy
- Associated with movements along faults
  - Explained by the plate tectonics theory
    - Rocks "spring back" – a phenomena called elastic rebound
    - Vibrations (earthquakes) occur as rock elastically returns to its original shape

# *Earthquakes*

- ❖ Locating an earthquake
  - Earthquake zones are closely correlated with plate boundaries
    - Circum-Pacific belt
    - Oceanic ridge system

# *Magnitude 5 or greater earthquakes over a 10 year period*



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**Figure 7.11**

# *Volcanoes*

- ❖ Global distribution of igneous activity is not random
  - Most volcanoes are located on the margins of the ocean basins (intermediate, andesitic composition)
  - Second group is confined to the deep ocean basins (basaltic lavas)
  - Third group includes those found in the interiors of continents

# *Locations of some of Earth's major volcanoes*



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