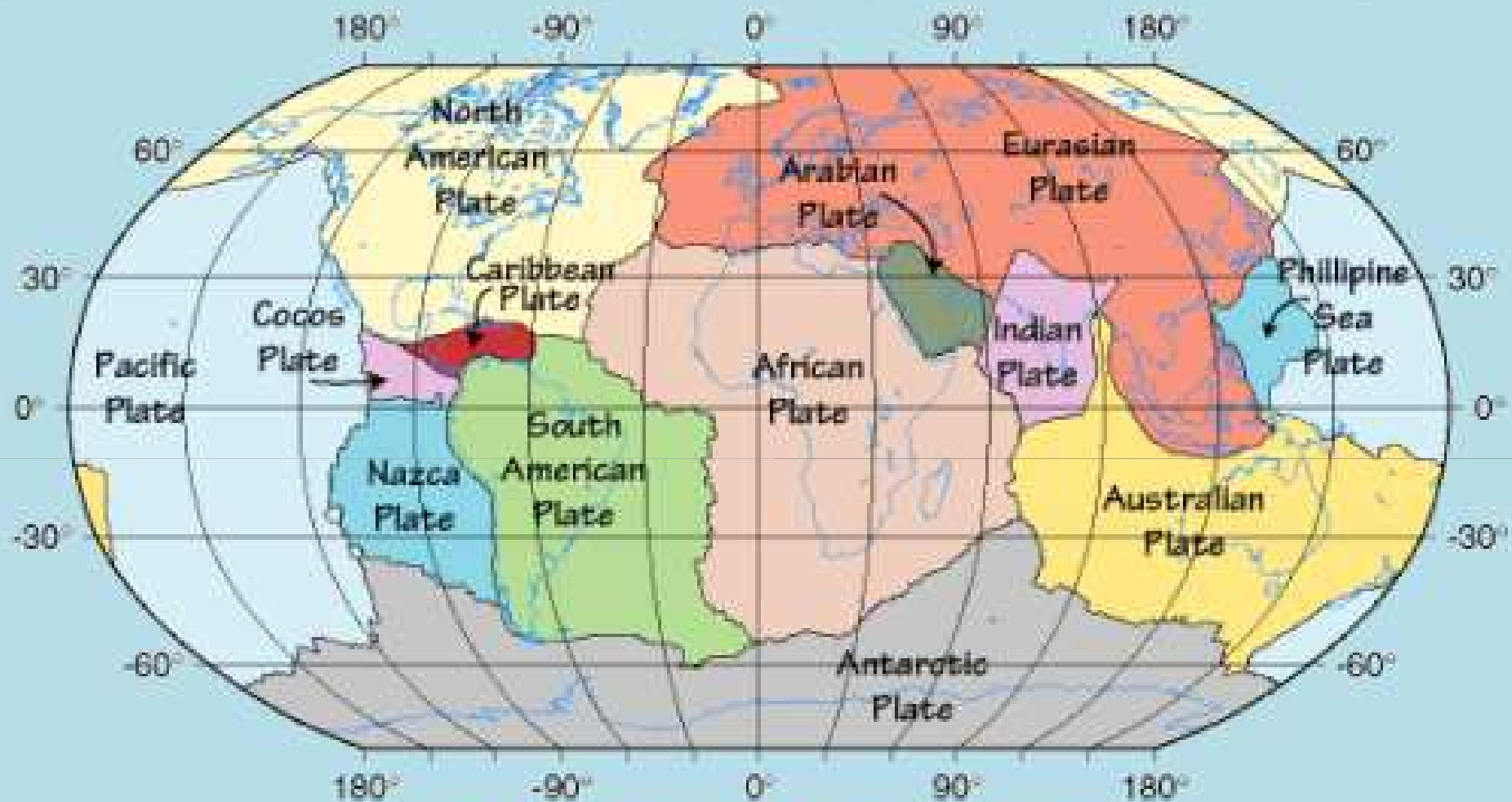
The background is a composition of geometric shapes. A large, light gray triangle occupies the left and bottom-left portions of the frame. The remaining area is a dark gray trapezoid. In the bottom-right corner of this dark gray area, there is a small, bright magenta triangle pointing towards the center.

**EARTHQUAKE**

# WHAT IS EARTHQUAKE?

- ⦿ Earthquake, a geological disaster
- ⦿ A phenomenon of sudden shaking of earth's crust
- ⦿ The earth has major layers:
- ⦿ **INNER CORE**
- ⦿ **OUTER CORE**
- ⦿ **MANTLE**
- ⦿ **CRUST.**

# PLATES OF THE EARTH



## Major plates of earth

Source: [http://eqseis.geosc.psu.edu/~cammon/HTML/Classes/IntroQuakes/Notes/plate\\_tectonics.html](http://eqseis.geosc.psu.edu/~cammon/HTML/Classes/IntroQuakes/Notes/plate_tectonics.html)

- ⦿ Earthquakes result from crustal strain, volcanism, landslides, and collapse of caverns.
- ⦿ Stress accumulates in response to tectonic forces until it exceeds the strength of the rock.
- ⦿ The rock then breaks along a pre-existing or new fracture called a fault.
- ⦿ The rupture extends outward in all directions along the fault plane from its point of origin (focus).

- ◎ The rupture travels in an irregular manner until the stress is relatively equalized.
- ◎ If the rupture disturbs the surface, it produces a visible fault on the surface.
- ◎ Earthquakes are recorded by seismograph consisted of seismometer, a shaking detector and a data recorder.

- ❖ The moment magnitude of an earthquake is conventionally reported, or the related and mostly obsolete RICHTER MAGNITUDE, with magnitude 3 or lower earthquakes being mostly imperceptible and magnitude 7 causing serious damage over large areas.
- ❖ INTENSITY of shaking is measured on the modified Mercalli scale.
- ❖ In India Medvedev-Sponheuer-Karnik scale, also known as the MSK or MSK-64, which is a macroseismic intensity scale, is used to evaluate the severity of ground shaking on the basis of observed effects in an area of the earthquake occurrence.
- ❖ Due to earthquake seismic waves are generated and measurements of their speed of travel are recorded by seismographs located around the planet.

# CAUSES

## ◎ NATURAL CAUSES

- Rock Displacements
- Landslide
- Avalanche
- Volcanic Eruption
- Meteoritic Impact
- Sub-marine
- Sea Faulting, etc.

# ANTHROPOGENIC CAUSES

- ⦿ Explosions due to chemical blasts
- ⦿ Nuclear blasts
- ⦿ Rock burst due to mining activities
- ⦿ Reservoir induced earthquakes
- ⦿ Construction activities
- ⦿ Infrastructural activities etc.