EARTHQUAKES

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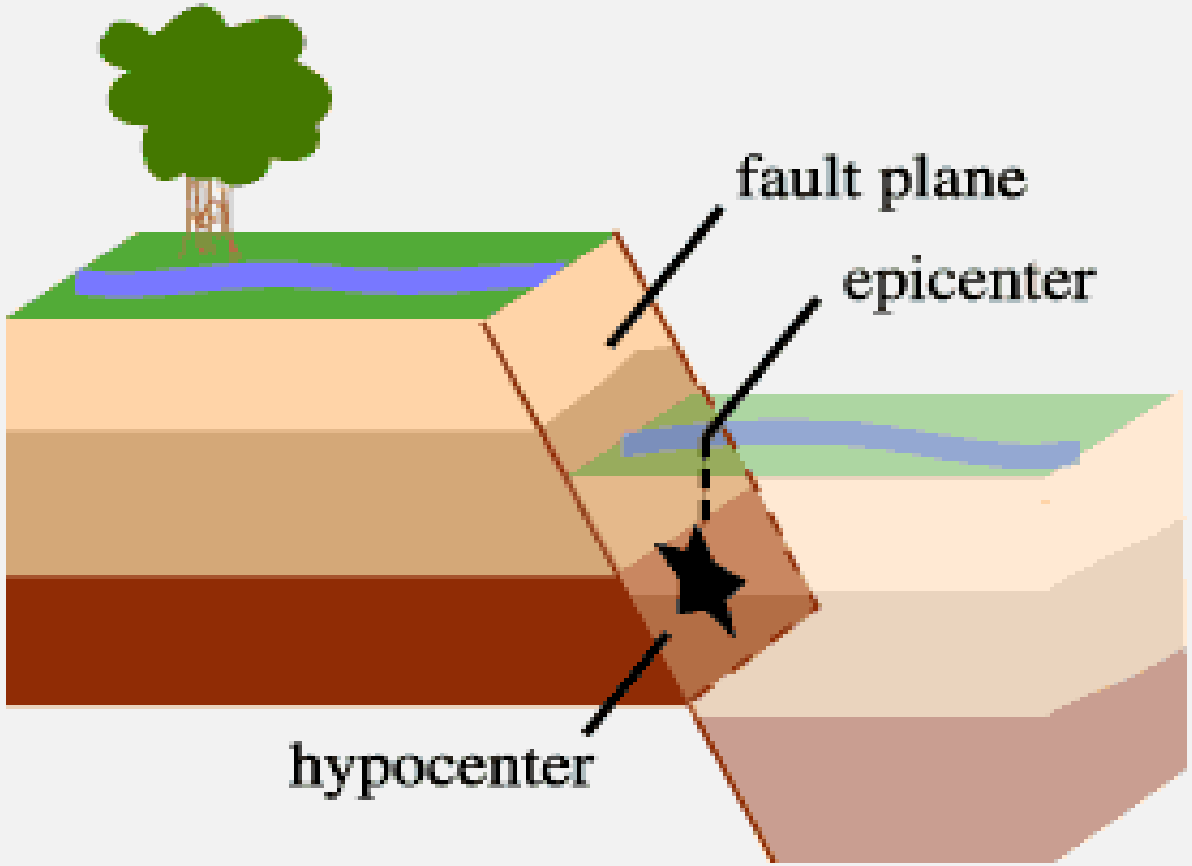
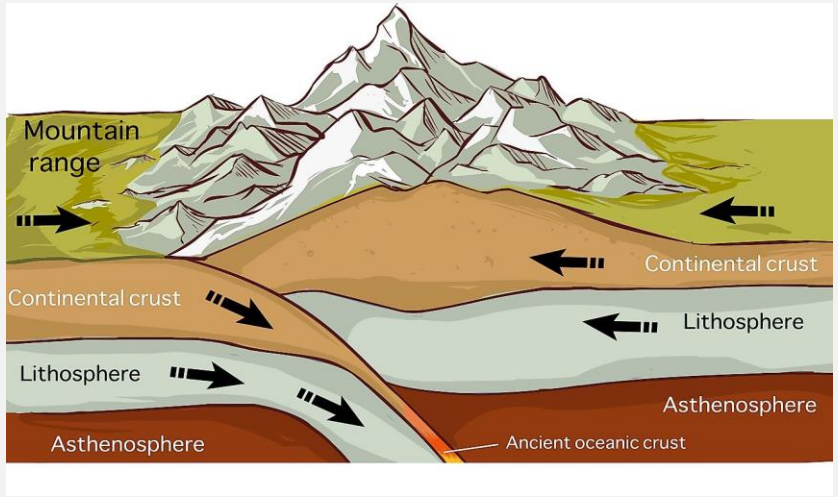
WHAT IS EARTHQUAKE?

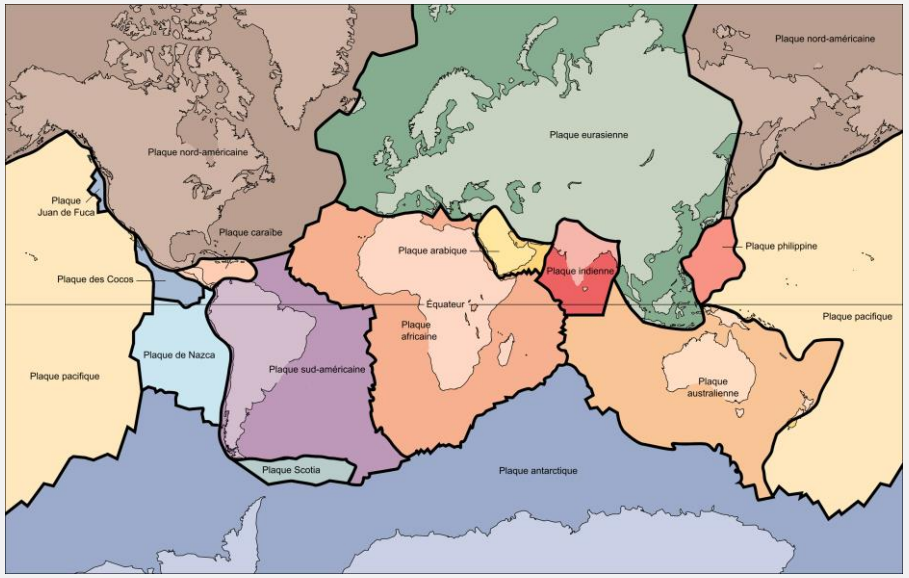


- **earthquake**, any sudden shaking of the ground caused by the passage of seismic waves through Earth’s rocks.

- Seismic waves are produced when some form of energy stored in Earth’s crust is suddenly released, usually when masses of rock straining against one another suddenly fracture and “slip.”

CAUSES OF EARTHQUAKE



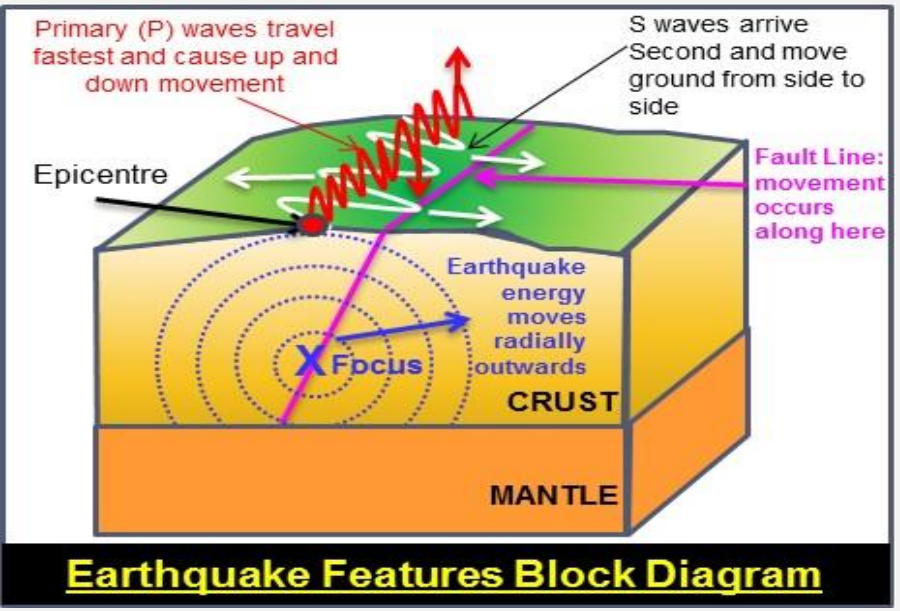


- Earthquakes occur most often along geologic faults, narrow zones where rock masses move in relation to one another. The major fault lines of the world are located at the fringes of the huge tectonic plates that make up Earth’s crust.
- The tectonic plates are always slowly moving, but they get stuck at their edges due to friction. When the stress on the edge overcomes the friction, there is an earthquake that releases energy in waves that travel through the earth's crust and cause the shaking that we feel.
- In California there are two plates - the Pacific Plate and the North American Plate. The Pacific Plate consists of most of the Pacific Ocean floor and the California Coast line. The North American Plate comprises most the North American Continent and parts of the Atlantic Ocean floor.

CONSEQUENCES OF EARTHQUAKES

- Earthquakes can result in the ground shaking, soil liquefaction, landslides, fissures, avalanches, fires and tsunamis. The extent of destruction and harm caused by an earthquake depends on:
- magnitude
- intensity and duration
- the local geology
- the time of day that it occurs
- building and industrial plant design and materials
- the risk-management measures put in place.

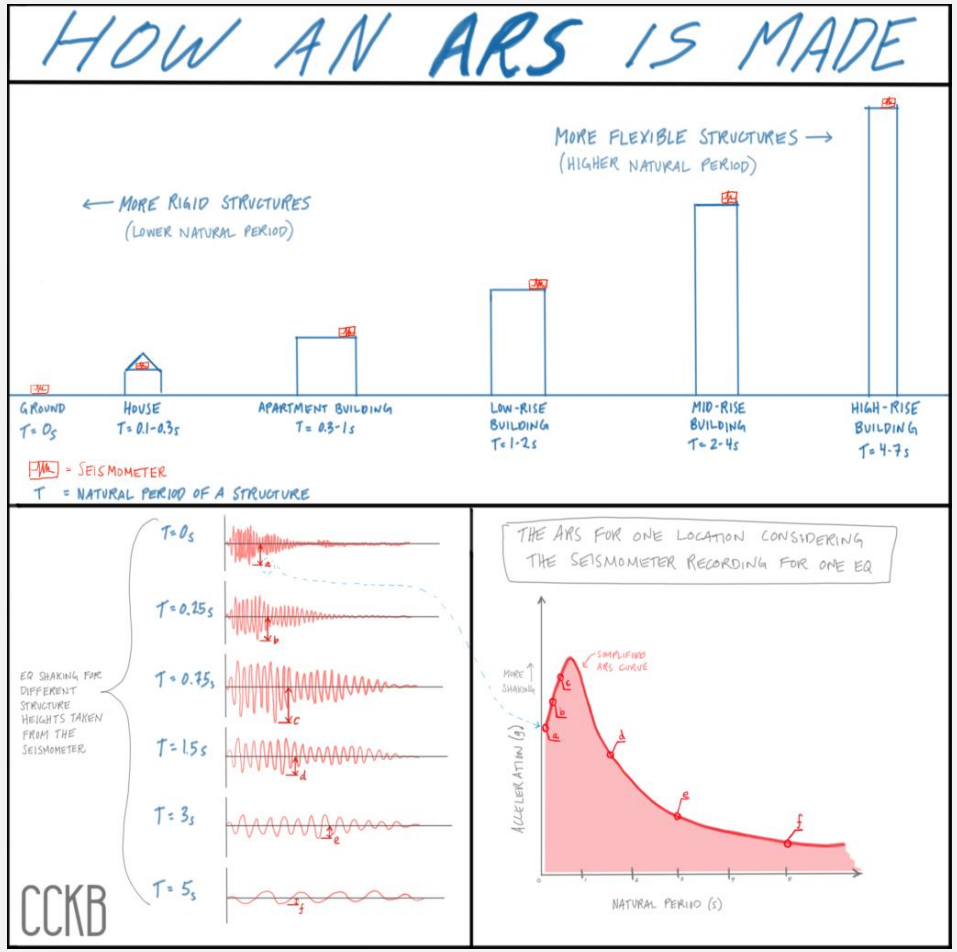
CONSEQUENCES OF EARTHQUAKES



- Earthquakes can also damage health facilities and transportation, which can disrupt service delivery and access to care. Health workers may not be able to reach health facilities that are still functional and medical supplies may be lost.

- Between 1998-2017, earthquakes caused nearly 750 000 deaths globally, more than half of all deaths related to natural disasters. More than 125 million people were affected by earthquakes during this time period, meaning they were injured, made homeless, displaced or evacuated during the emergency phase of the disaster.

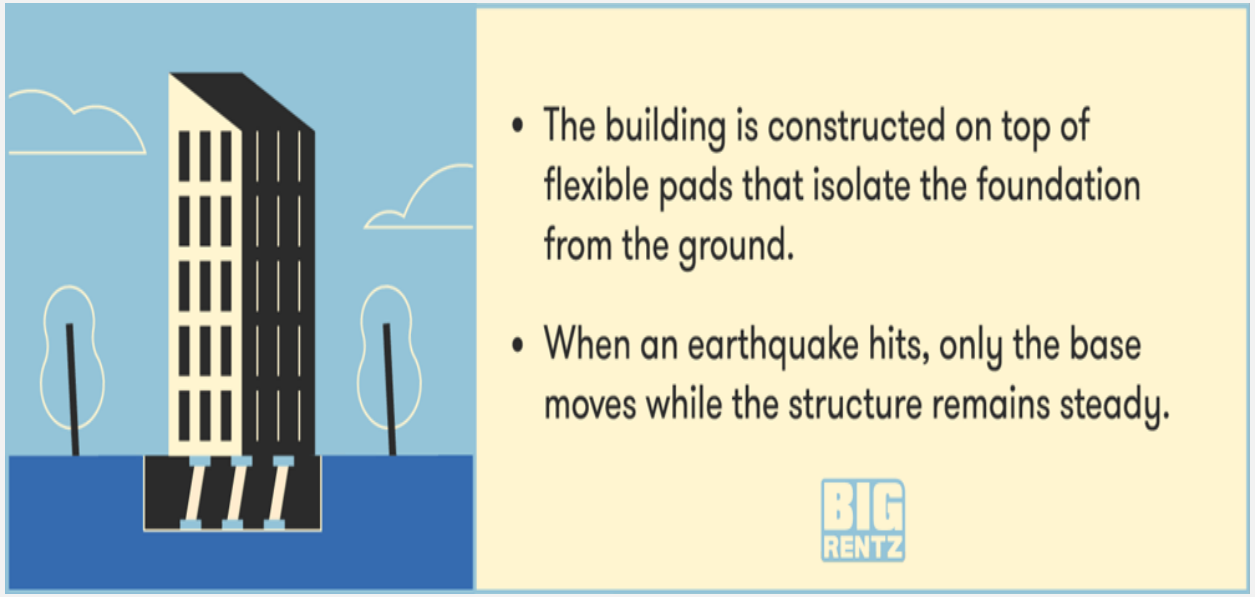
THE FACTORS THAT AFFECT THE INTENSITY AND FREQUENCY OF EARTHQUAKES.

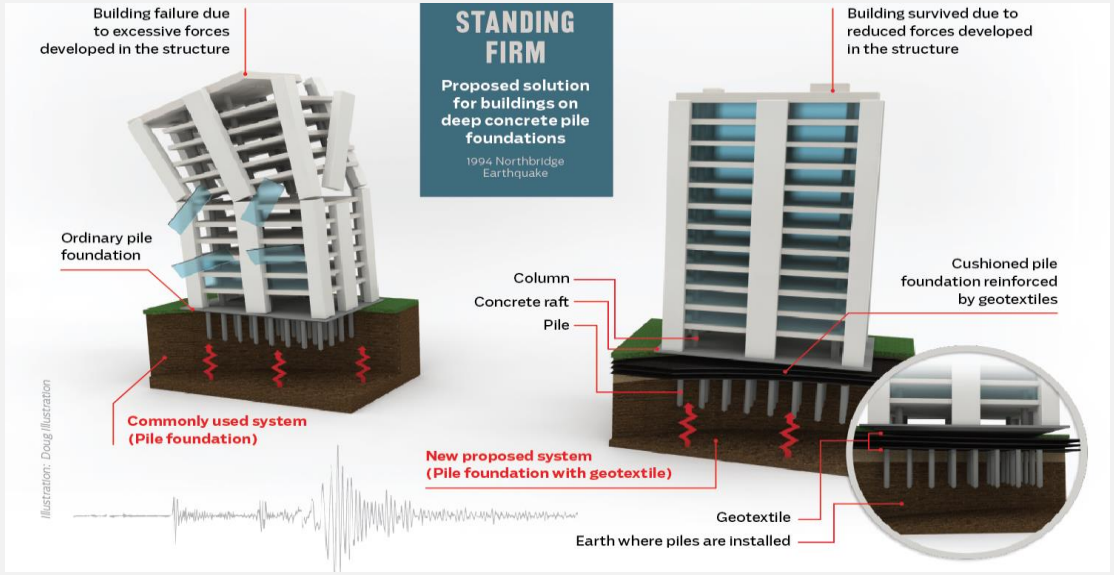


- When an earthquake strikes, the intensity of earthquake shaking determines the severity of damage. In turn, the main factors affecting earthquake shaking intensity are earthquake depth, proximity to the fault, the underlying soil, and building characteristics—particularly height.

- As a comparison, this Magnitude 6.5 earthquake in Nevada caused lower shaking intensity than this Magnitude 5.5 in California, mainly because the M6.5 was centered on hard rock whereas the M5.5 was centered on a soft sandy soil.

SOLUTIONS FOR EARTHQUAKES

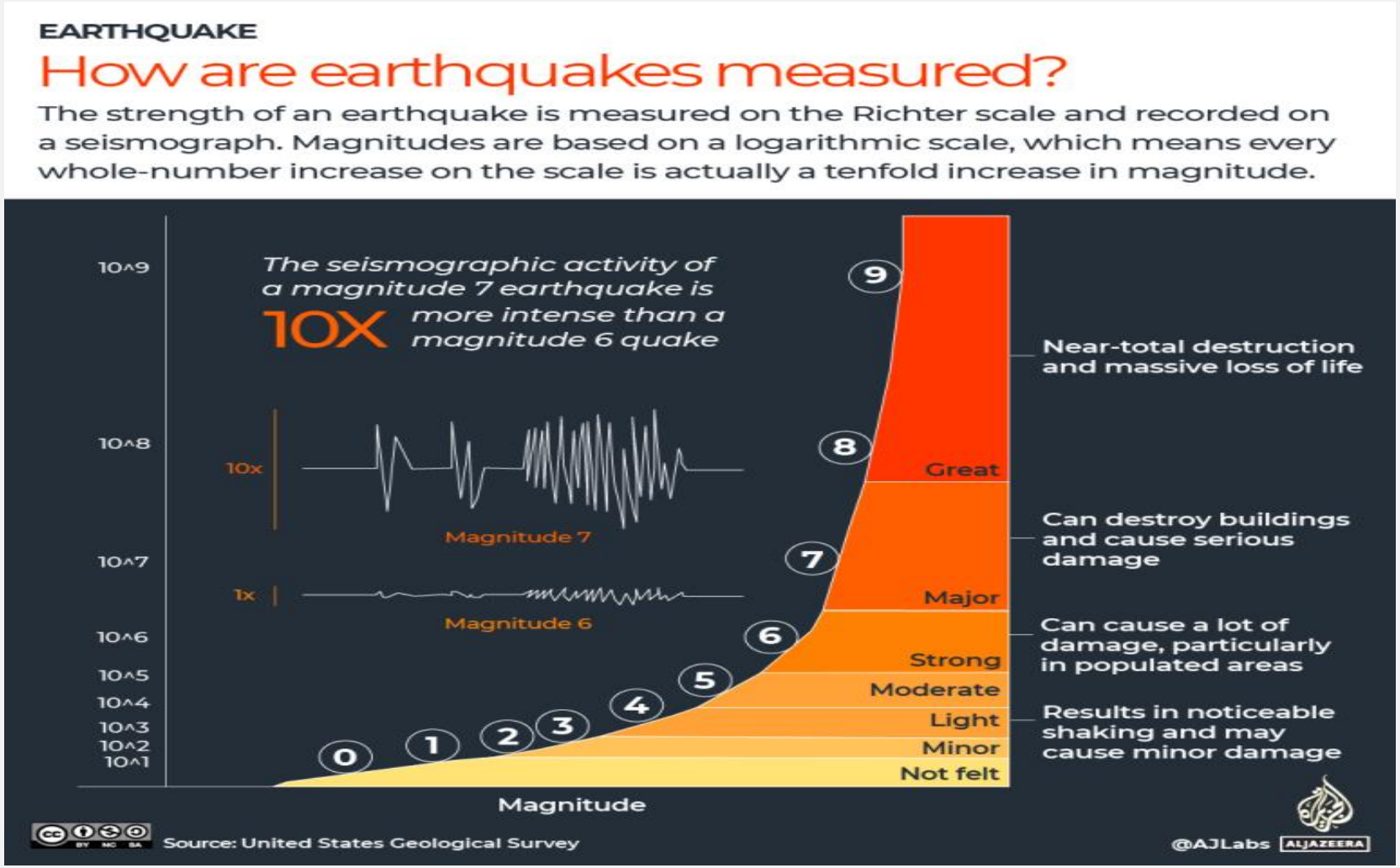




Identifying hazards, building safer structures and providing education on earthquake safety.

METHODS USED TO DETECT, MEASURE AND PREDICTS EARTHQUAKES

Seismometers allow us to detect and measure earthquakes by converting vibrations due to seismic waves into electrical signals, which we can then display as seismograms on a computer screen.



THE IMPACTS OF EARTHQUAKES ON THE NATURAL ENVIRONMENT AND ECOSYSTEM

1.Large earthquake-induced rock avalanches, soil avalanches, and underwater landslides can be very destructive. Rock avalanches originate on over-steepened slopes in weak rocks.

2.Earthquakes are among the most impressive processes with destructive effects on humans and nature. Secondary earthquake environmental effects (EEE) are induced by the ground shaking and are classified into ground cracks, dust clouds, anomalies, tsunamis, trees shaking and jumping stones.

RESOURCES

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