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# ENVIRONMENT AND DISASTERS

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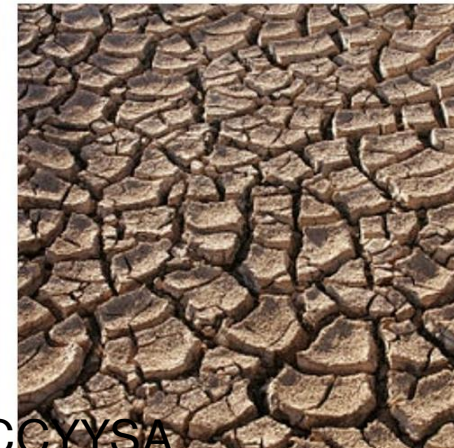
# — ENVIRONMENT

- Environment refers to sum total of all the factors including biotic and abiotic factors which affects the surrounding of an organism or a particular geographical area.



# DISASTERS

- Disasters are refer as sudden catastrophic events that can have devastating impact on the environment and human population.



# **RELATION BETWEEN ENVIRONMENT AND DISASTERS**

- It is a complex and interconnected relationship:

Environment degradation, such as deforestation and climate change, can increase disaster risk.

Disasters, in turn can also have devastating impacts on the environment, such as pollution and habitat destruction.

Human activities, such as urbanization and industrialization,, can also exacerbate disaster risk.



The background image shows a scene of significant structural failure. A large concrete structure, possibly a bridge or a high-rise building, has collapsed. The debris is a massive pile of broken concrete blocks, rebar, and other construction materials. In the background, there are green trees and a clear blue sky. A satellite dish is visible on a structure in the distance. The overall scene is one of destruction and the aftermath of a seismic event.

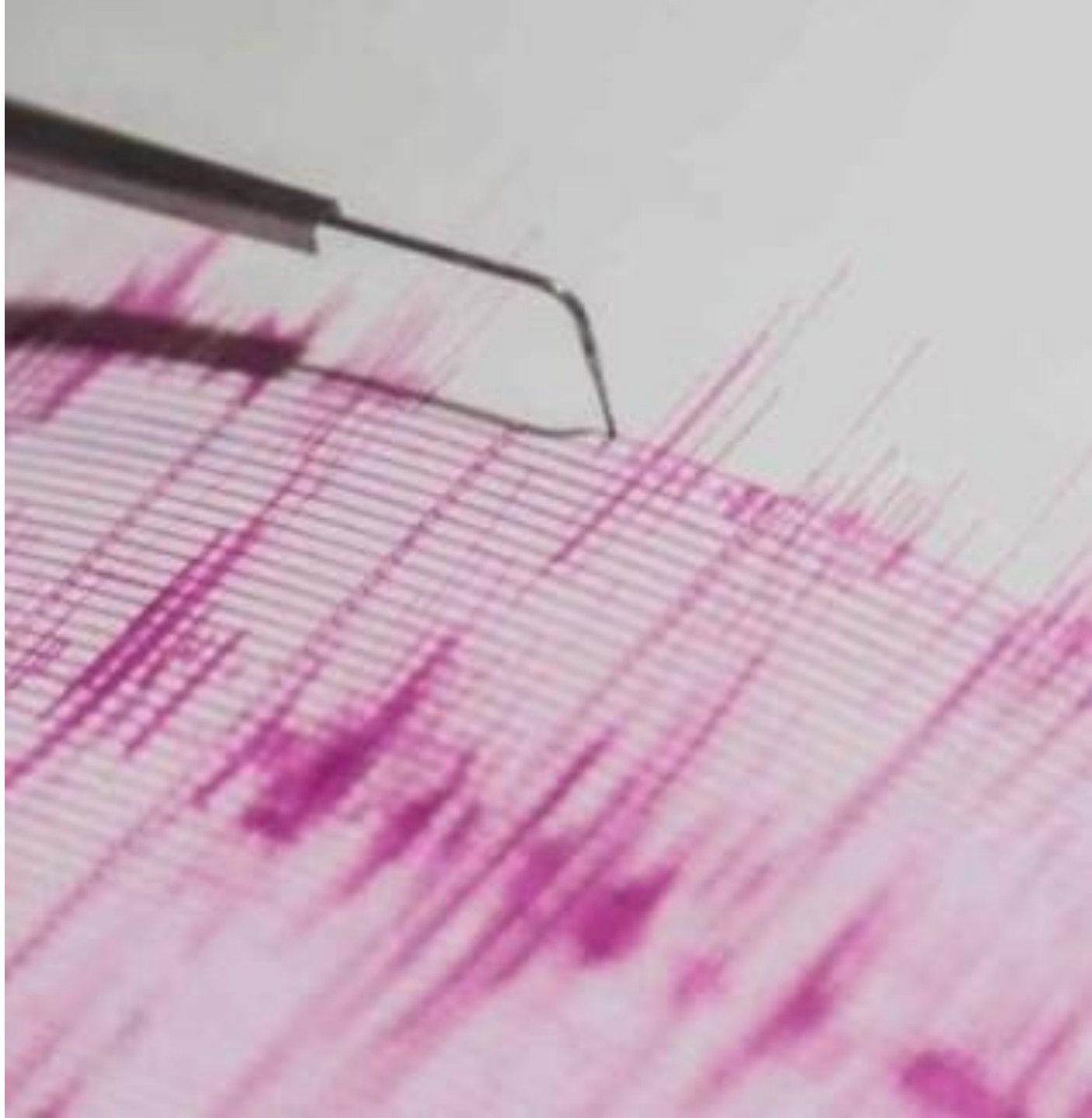
# — Earthquake

- It is shaking of the earth's surface resulting from sudden release of energy in the lithosphere that creates seismic waves.



# Seismic waves

- **Seismic waves are vibrations or oscillations that travel through the Earth, often as a result of sudden energy release due to geological processes. These waves play a crucial role in understanding the Earth's interior.**

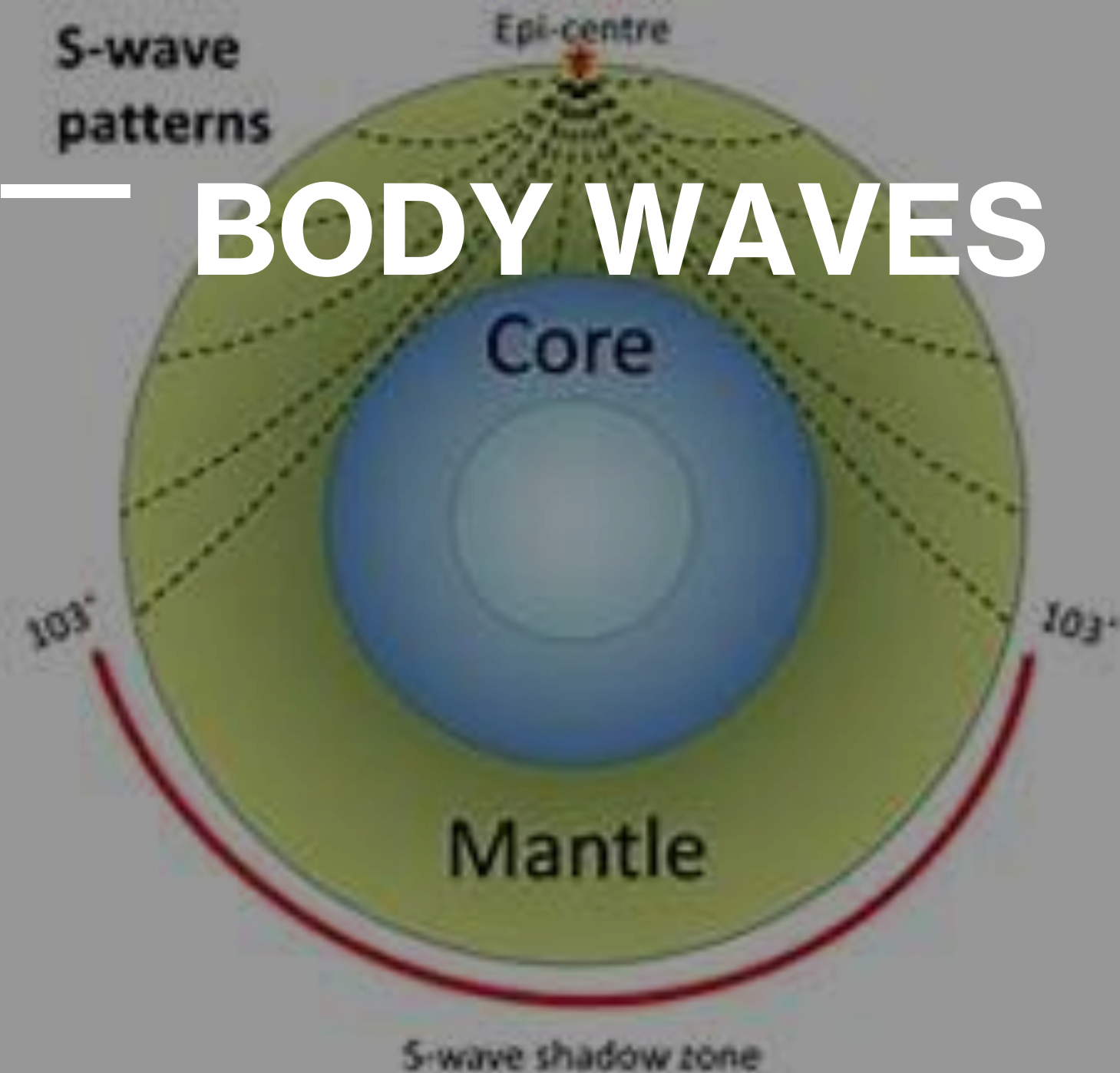


# EARTHQUAKE WAVES

- On the basis of the medium they travel IN, EARTHQUAKES waves can be classified into two categories.
- BODY WAVES
- SURFACE WAVES
- BODY WAVES: travel through Earth's interior along path controlled by material properties in terms of density and modulus(stiffness).
- SURFACE WAVES: travels on the earth surface of the Earth. The destruction is caused by these waves.

## S-wave patterns

# BODY WAVES



## P-wave patterns

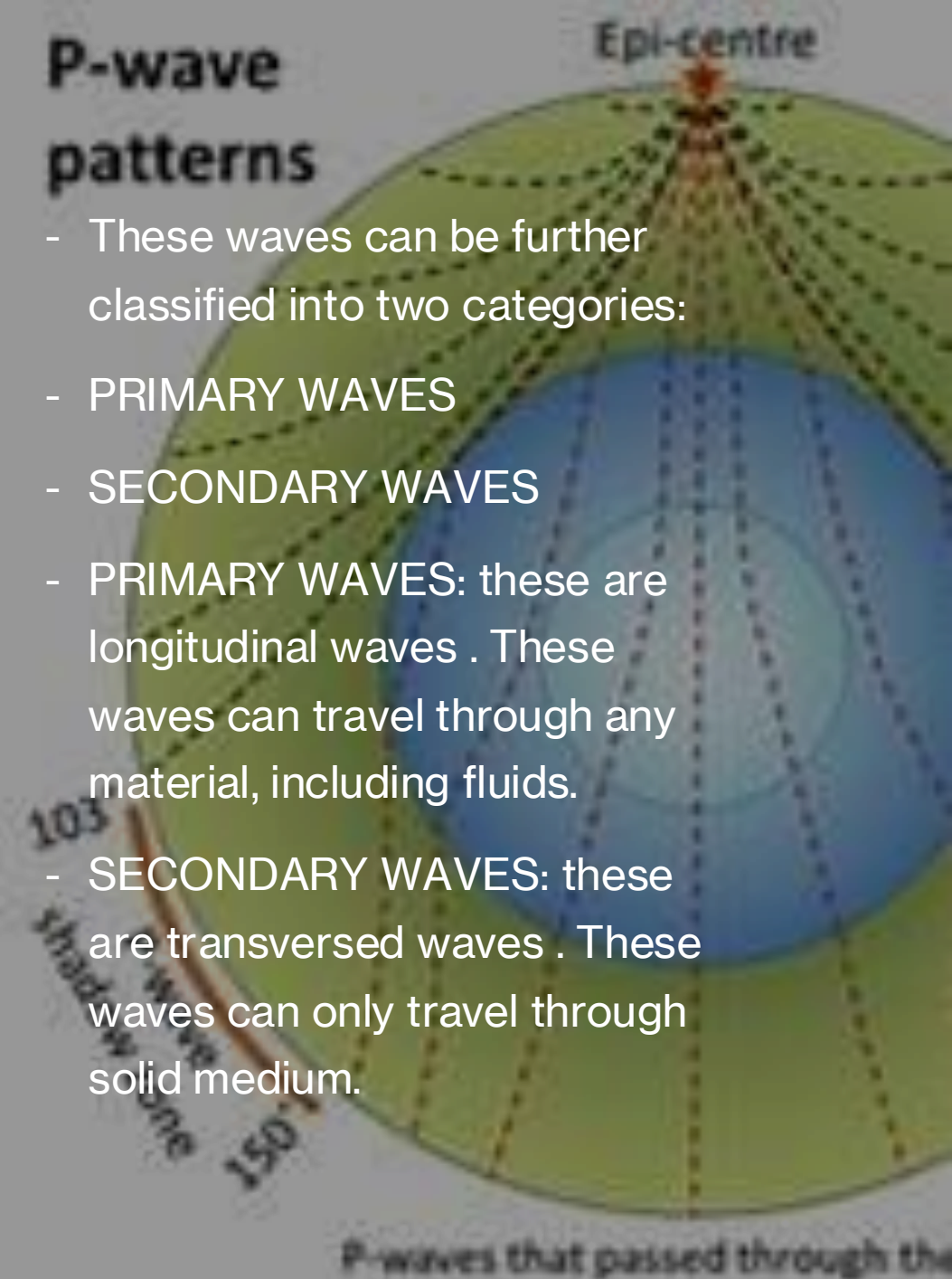
- These waves can be further classified into two categories:

- PRIMARY WAVES

- SECONDARY WAVES

- PRIMARY WAVES: these are longitudinal waves . These waves can travel through any material, including fluids.

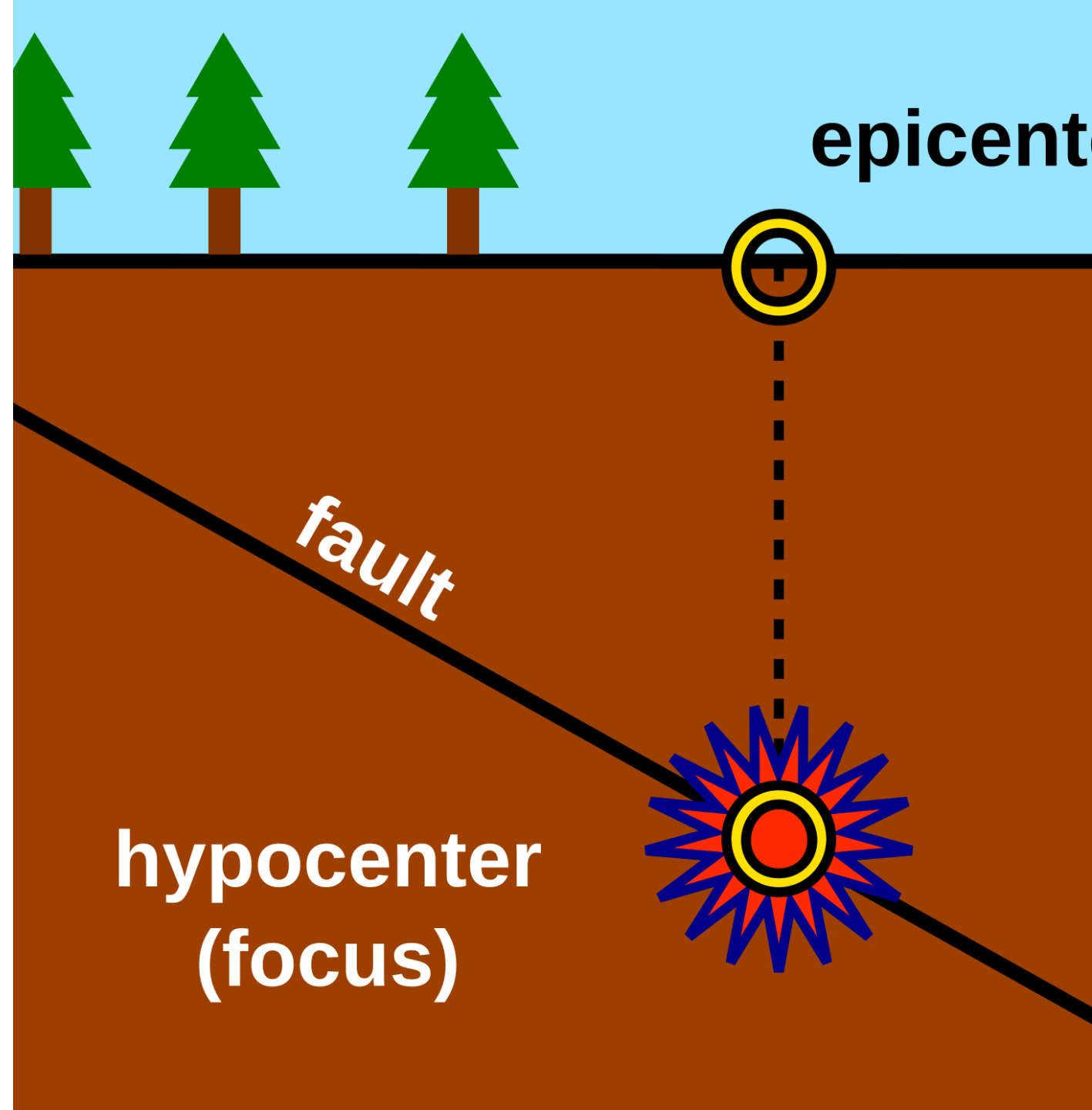
- SECONDARY WAVES: these are transversed waves . These waves can only travel through solid medium.





# FOCUS AND EPICENTER

- FOCUS: The point inside the interior of the earth where the energy is released is called focus.
- EPICENTRE: The point on earth surface, nearest to the focus, is called epicenter. It is first one to experience the waves .It is a point directly above focus.





# National Center for Seismology (NCS)

- National Center for Seismology (NCS) is the nodal agency of the Government of India for monitoring of earthquake activity in the country.
- Besides earthquake monitoring, NCS is engaged in Seismic Hazard Microzonation (SHM) .