



# Earthquake in Sikar

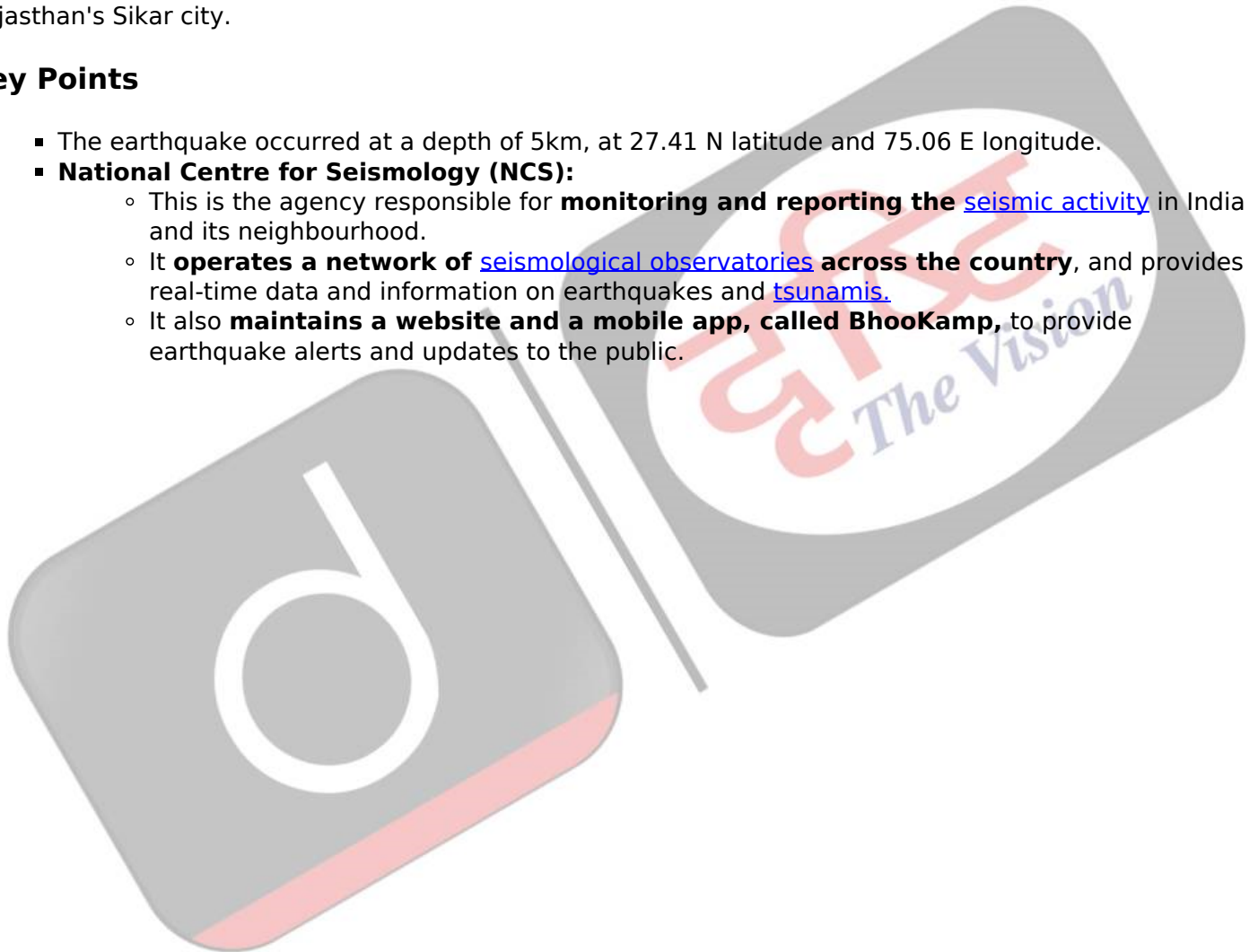
## Why in News?

According to the [National Center for Seismology \(NCS\)](#), recently a **3.9 magnitude earthquake** occurred in Rajasthan's Sikar city.

## Key Points

- The earthquake occurred at a depth of 5km, at 27.41 N latitude and 75.06 E longitude.
- **National Centre for Seismology (NCS):**
  - This is the agency responsible for **monitoring and reporting the seismic activity** in India and its neighbourhood.
  - It **operates a network of seismological observatories across the country**, and provides real-time data and information on earthquakes and [tsunamis](#).
  - It also **maintains a website and a mobile app, called BhooKamp**, to provide earthquake alerts and updates to the public.

//



# EARTHQUAKE



## ABOUT

- Shaking of the earth; caused due to release of energy, generating seismic waves in all directions

## EARTHQUAKE WAVES

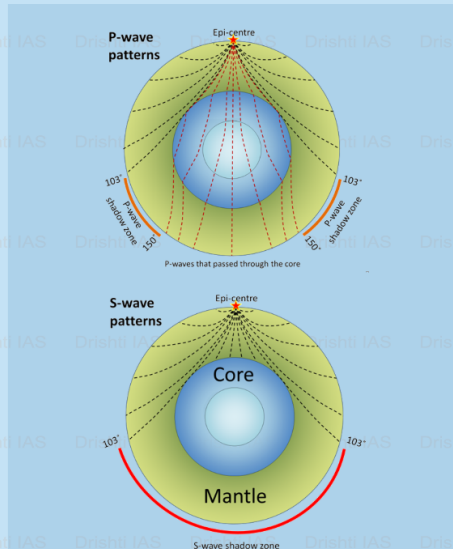
- Body Waves:** Move in all directions travelling through the body of the earth
  - P Waves:** Move faster, First to arrive at surface, Similar to sound waves, Travel through gaseous, liquid and solid materials
  - S Waves:** Arrive at surface with some time lag, Travel only through solid materials
- Surface Waves:** Last to report on seismographs, More destructive, Cause displacement of rocks
  - Love Waves:** Same motion as S-waves (horizontal) without vertical displacement, Sideways motion perpendicular to the direction of propagation, Faster than Rayleigh waves
  - Rayleigh Waves:** Cause the ground to shake in an elliptical pattern, Spread out the most of all seismic waves, Move vertically and horizontally in a vertical plane

## HYPOCENTER

- Location where the earthquake starts (below earth's surface)

## EPICENTER

- Location right above the Hypocenter (on the earth's surface)



## CAUSES OF EARTHQUAKES

- Release of energy along a Fault/Fault Zones (break in the crustal rocks)
- Movement of tectonic plates (most common)
- Volcanic eruption (stress changes in rock-injection/withdrawal of magma)
- Human activities (mining, explosion of chemical/nuclear devices etc.)

## EARTHQUAKE IN INDIA

- India is one of the highly earthquake affected countries due to the presence of technically active mountains - the Himalayas.
- India has been divided into 4 seismic zones (II, III, IV, and V)

## MEASURING EARTHQUAKE

- Seismometers** - Measures seismic waves
- Richter Scale** - Measures magnitude (energy released; range: 0-10)
- Mercalli** - Measures intensity (visible damage; range: 1-12)

## DISTRIBUTION

- Circum-Pacific Belt** - 81% of earthquakes
- Alpide Earthquake Belt** - 17% of the largest earthquakes
- Mid-Atlantic Ridge** - Mostly submerged underwater

