

Chichón Volcano

Prelims: Current events of national and international importance | Geography

Why in News?

Recent unusual activity at Chichón volcano, including crater lake changes and underground signals, points to an active hydrothermal system.

- **Name** - Derived from the local Chiapas term “Chichón,” meaning little bump, reflecting the volcano’s shape.
- **Location** - **Southern Mexico.**
- **Type** - Stratovolcano. It is a tall, cone-shaped mountain made of layers of ash and lava. They are famous for **steep sides** and **powerful eruptions**, like Mount Fuji or Mount St. Helens.
- **Geological Setting** - Part of the **Trans-Mexican Volcanic Belt.**
- **Lies above a subduction zone, where the Cocos Plate subducts beneath the North American Plate.**
- A stratovolcano with a crater lake formed after the 1982 eruption.
- **History** - One of Mexico’s deadliest volcanoes. Its 1982 eruption killed over 2,000 people and buried towns under pyroclastic flows and ash.
- It caused a **global temperature dip from sulfur dioxide emissions** and reshaped the summit, forming the current crater and lake.
- It has remained mostly dormant but geochemically active since then.
- **Activity - Alert Level** - Yellow alert, phase 2 (abnormal but non-eruptive activity)
- **Crater Lake Observations** - High temperature (up to 118°C), with chemical changes (sulfates, chloride, H₂S and CO₂).
- **Seismic & Underground Activity** - Shallow, low-magnitude quakes indicate an active hydrothermal system beneath the crater, with the potential for sudden phreatic (steam-driven) explosions.
- **Hazards** - Possible phreatic (steam-driven) explosions.
- Toxic gas emissions (hydrogen sulfide H₂S and carbon dioxide CO₂).
- Localized hydrothermal hazards around the crater lake.
- **Monitoring** - The National Autonomous University of Mexico (UNAM) is deploying drones and remote sensing platforms for heat and gas monitoring.
- Limited real-time seismic, gas, and thermal surveillance.
- **Permanent danger zone** - The crater and immediate surroundings remain restricted due to residual hazards from the 1982 eruption and ongoing hydrothermal activity.



Reference

[Indian Defence Review | Chichón Volcano](#)



SHANKAR
IAS PARLIAMENT
Information is Empowering