Earthquake in Kamchatka Peninsula

Prelims: *Current events of national and international importance | World Geography.*

Why in News?

Recently, a high magnitude earthquake struck the Kamchatka Peninsula, triggering a tsunami that hit several countries on both sides of the northern Pacific Ocean.

The Recent Earthquake

- The earthquake in ***Kamchatka with magnitude of 8.8*** was the strongest since the 9.1 magnitude quake that had struck Japan in 2011.
- It was rare only five earthquakes of magnitude 8.5 and above have occurred in the past 20 years.
- It sent tsunami waves towards Japan, Hawaii and the US west coast.
- A tsunami with a height of 3-4 metres (10-13 feet) was also recorded in parts of Kamchatka.

Geography of Kamchatka Peninsula

- It is a large peninsula in the ***Russian Far East***, located between the Sea of Okhotsk to the west and the Pacific Ocean and Bering Sea to the east.
- **Mountain Ranges -** The Sredinny and Vostochny that run along its length.
- **Kamchatka River -** It flows through a valley separating the two main mountain ranges.
- **Volcanoes -** Kamchatka is known for its high density of volcanoes, with about 160 volcanoes, including *29 active volcanoes.*
    - Many are included in the Volcanoes of Kamchatka UNESCO World Heritage Site.
- **Glaciers -** The higher parts of Kamchatka are glaciated.
- **Kuril-Kamchatka Trench -** Immediately offshore of the peninsula and below the Bering Sea runs the 9,600-meter-deep Kuril–Kamchatka Trench.
- **Siesmic activity -** It lies on the ***Circum-Pacific seismic belt***, more popularly known as the “Ring of Fire”.

Pacific Ring of Fire

• It witnesses the maximum number of earthquakes and volcanic eruptions on Earth.
• This seismically active belt encircles almost the entire Pacific Ocean, on its eastern side is the western coast of the Americas, and on its western side lies the Far East and Oceania.
• It touches countries like the United States, Mexico, Chile, Peru, New Zealand, Australia, Indonesia, the Philippines, Japan and Russia.
• According to the United States Geological Survey (USGS), the Ring of Fire accounts for ***more than 80%*** of the planet's largest earthquakes.
• It is home to multiple subduction processes, in which the Pacific tectonic plate is clashing against continental land.
• **Subduction –** It is a geological process in which one tectonic plate, put simply, a large section of the Earth's crust — presses against another.
• Usually, the heavier or denser plate, that is, the one with more mass per unit of area, tends to go below the lighter plate.
• But this process results in deformities and creates a huge stress at the plate boundaries. It is this stress that is released in the form of earthquakes.
• The Himalayas were created due to subduction, as a result of the Indian plate pushing against the Eurasian plate.



*The **Klyuchevskoy volcano**, one of the highest active volcanoes in the world, erupts in Russia's northern Kamchatka peninsula in 2023.*

Reference

The Indian Express| Earthquake in Kamchatka Peninsula

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