

A Few Minutes Series

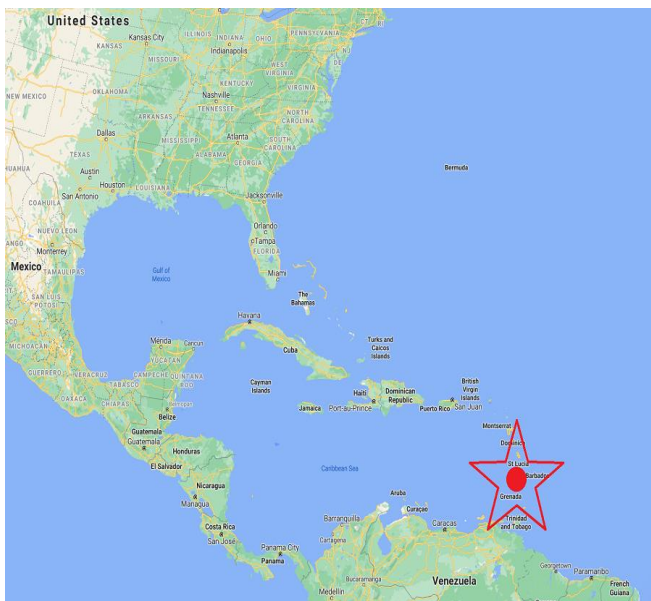
Subject - Geography

Date - 10th February 2023

Click [here](#) to watch the following topics on YouTube

Volcanoes and Hidden GS

1. La Soufriere Volcano - SO₂ emissions from volcano eruption in the Caribbean have reached all the way to India



Hidden GS

- Global temperatures may be cooled by volcanic emissions that reach the stratosphere.
- The transformation of **Sulphur dioxide into Sulphuric acid**, which **condenses** quickly in the stratosphere to generate fine **sulphate aerosols**, is what has the biggest effects on climate from volcanic injections into the stratosphere.
- The aerosols increase the amount of solar radiation that is reflected back into space, cooling the troposphere, or lower atmosphere, of the Earth.
- **UPSC PYQ - Geoengineering**

Technique

Q. In the context of which of the following do some scientists suggest the use of cirrus cloud thinning technique and **the injection of sulphate aerosol into stratosphere?** (2019)

- Creating the artificial rains in some regions
- Reducing the frequency and intensity of tropical cyclones
- Reducing the adverse effects of solar wind on the Earth
- Reducing the global warming

2. Hawaii's - Kilauea Volcano



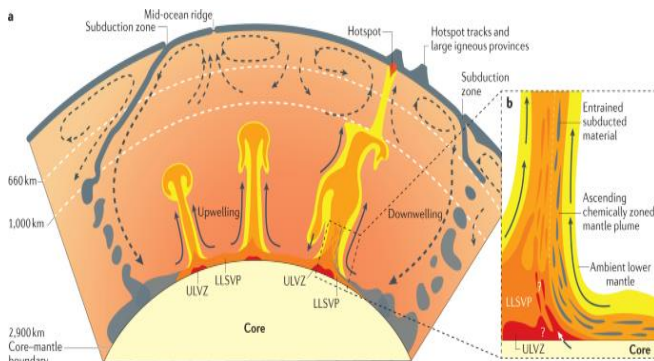
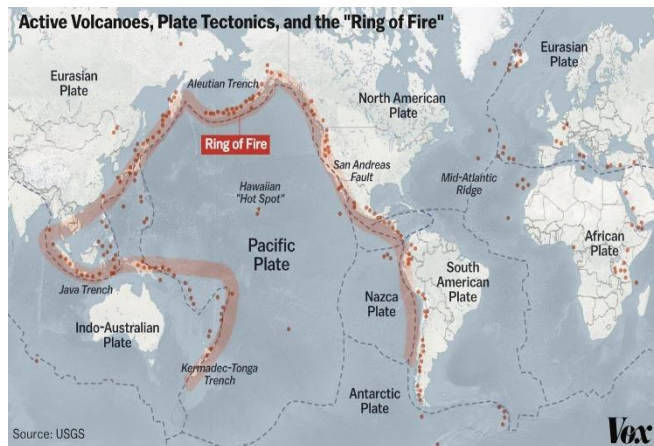
In addition to Kilauea, the Island of Hawaii is made up of four other volcanoes:



3. Mauna Loa Volcano

Mauna Loa, the world's largest active volcano

Hidden GS : Hotspot Volcanism, Hawaiian Hotspot



NCERT Map

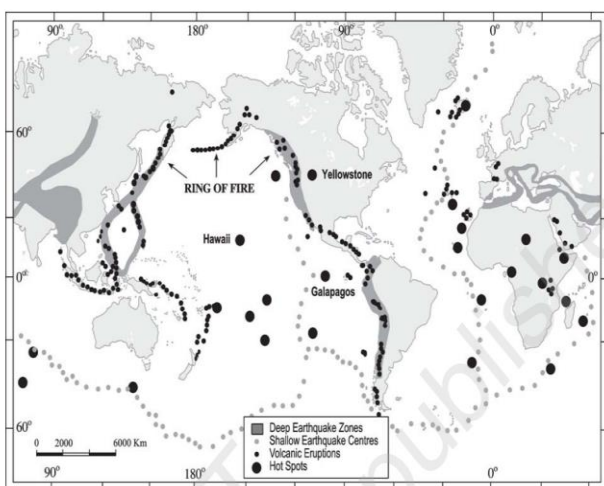
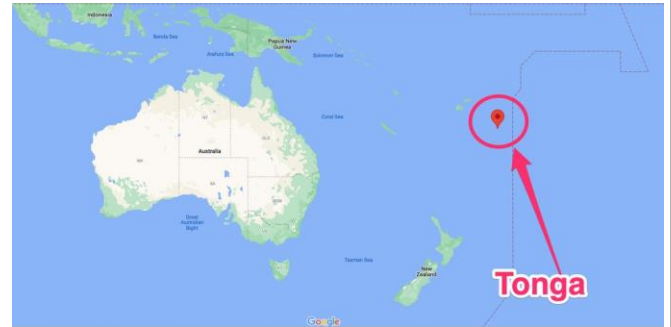


Figure 4. 2 : Distribution of earthquakes and volcanoes

4. Volcanic Eruption in Tonga



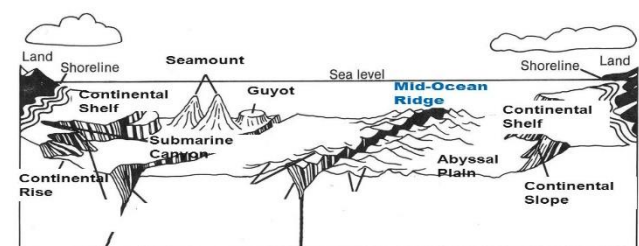
Hidden GS - triggered Tsunami waves around the Pacific.

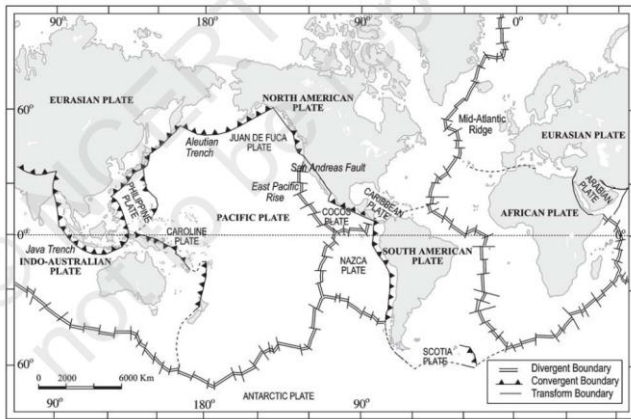
- The series of extremely long waves, Tsunami are very long wavelengths of water caused by a large and sudden displacement of the ocean due to earthquakes, volcanic eruptions etc.



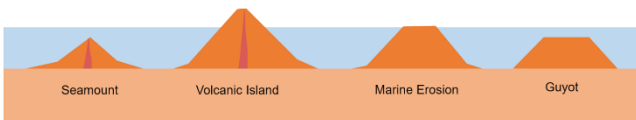
Hidden GS - Undersea Volcano eruption Eruption.

- Relief of Ocean Floor – Sea Mounts and Mid Oceanic Ridges
- Seamounts are individual volcanoes on the ocean floor. They are distinct from the plate-boundary volcanic system of the mid-ocean ridges, because seamounts tend to be circular or conical.





Please Note



Hidden GS - Ring of Fire

5. Sangay Volcano- Ecuador, part of the Pacific Rim's "Ring of Fire" region, has eight volcanoes such as Cotopaxi (5,897m), Cayambe (5,790m), Pichincha (4,784m) etc. in its territory.



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6. Cotopaxi Volcano



7. Mount Sinabung- Indonesia's Sumatra



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Hidden GS - Indonesia - Pacific Ring of Fire

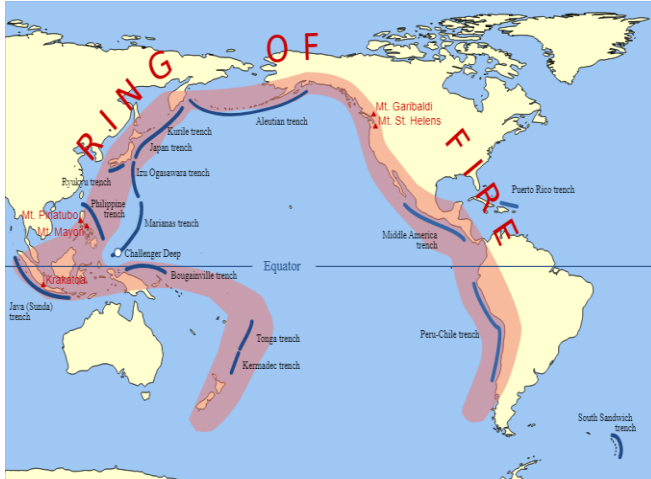
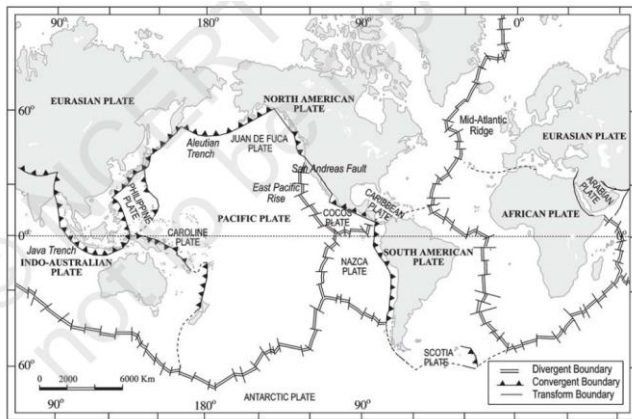


Plate Interactions



9. Semeru Volcano - Indonesia

Indonesia : eruption of Mount Semeru



10. Mt. Merapi of Indonesia



11. Taal Volcano: Philippines



12. Pinatubo Volcano: Philippines

13. Fukutoku-Okanoba Volcano: Japan



14. Sakurajima Volcano Japan



NCERT Map

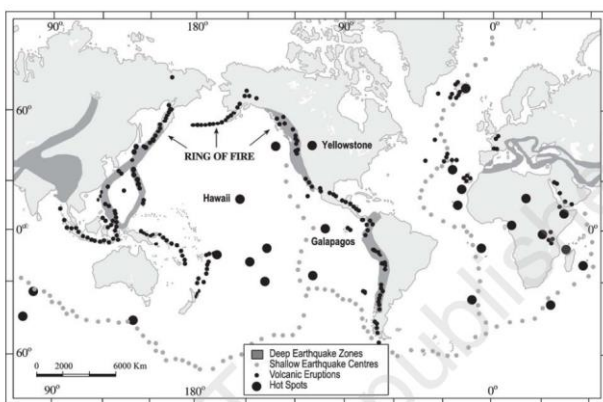


Figure 4.2 : Distribution of earthquakes and volcanoes

Island Arc + Ring of Fire (Convergence of Plates)

Points to Know :

15. Cumbre Vieja volcano in La Palma - Spain



15. Mount Nyiragongo - Eastern DR Congo



16. Mount Nyiragongo - Eastern DR Congo



Hidden GS - It is one of the 16 Decade Volcanoes.



- The Decade Volcanoes are 16 volcanoes identified by the International Association of Volcanology and Chemistry of the Earth's Interior (IAVCEI).
- They are considered worthy of particular study in light of their history of large, destructive eruptions and proximity to densely populated areas.
- They are named Decade Volcanoes because the project was initiated in the 1990s as part of the United Nations-sponsored International Decade for Natural Disaster Reduction.