



Semeru Volcano of Indonesia

Why in News?

Recently, [Semeru volcano](#) erupted in **Indonesia's Eastern Java Island**.

// Indonesia : eruption of Mount Semeru

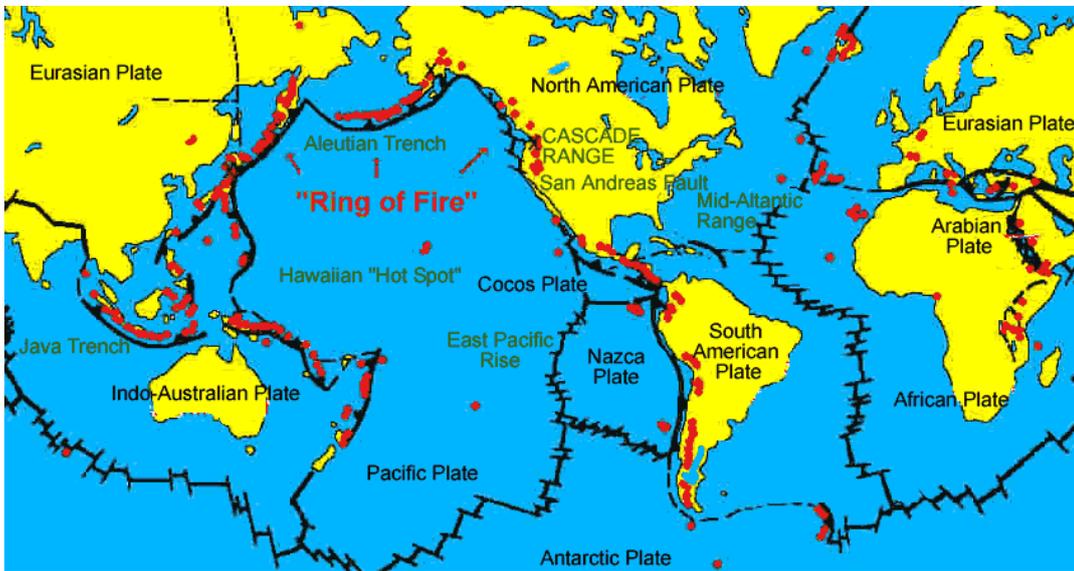


What is Semeru Volcano?

- Semeru - also known as "**The Great Mountain**" - is the **highest volcano** in Java and one of the most active.
- It previously erupted in December, 2021.
- Indonesia, with the maximum number of active volcanoes in the world, is **prone to seismic upheaval** due to its location on the **Pacific's Ring of Fire**.
- Semeru volcano is also part of the **Island arcs** formed by the subduction of the **Indo-Australian plate** below **Sunda Plate** (part of the Eurasian Plate). The trench formed here is called the Sunda trench whose major section is the Java Trench.

What is Pacific Ring of Fire?

- **The Ring of Fire**, also referred to as the **Circum-Pacific Belt**, is a path along the Pacific Ocean characterized by **active volcanoes and frequent earthquakes**.
- It traces boundaries between several tectonic plates—including the Pacific, Cocos, Indian-Australian, Nazca, North American, and Philippine Plates.



What are Island Arcs?

- They are long, curved chains of **oceanic islands** associated with **intense volcanic and seismic activity and orogenic** (mountain-building) processes.
 - An island arc typically has a **land mass or a partially enclosed, unusually shallow sea** on its concave side.
 - Along the convex side there almost invariably exists a long, **narrow deep-sea trench**.
 - The greatest ocean depths are found in these depressions of the seafloor, as in the case of the **Mariana (deepest trench in the world) and Tonga trenches**.
- Prime examples of this form of geologic feature include the **Aleutian-Alaska Arc** and the **Kuril-Kamchatka Arc**.

What are the Other Volcanoes?

- **Recently Erupted:**
 - [Sangay Volcano: Ecuador](#)
 - [Taal Volcano: Philippines](#)
 - [Mt. Sinabung, Merapi volcano: Indonesia](#)
- **Volcanoes in India:**
 - Barren Island, Andaman Islands (India's only active volcano)
 - Narcondam, Andaman Islands
 - Baratang, Andaman Islands
 - Deccan Traps, Maharashtra
 - Dhinodhar Hills, Gujarat
 - Dhosi Hill, Haryana

UPSC Civil Services Examination, Previous Year Question (PYQ)

Prelims

Q. Consider the following statements: (2018)

1. The Barren Island volcano is an active volcano located in the Indian territory.
2. Barren Island lies about 140 km east of Great Nicobar.
3. The last time the Barren Island volcano erupted was in 1991 and it has remained inactive since then.

Which of the statements given above is/are correct?

(a) 1 only

- (b) 2 and 3
- (c) 3 only
- (d) 1 and 3

Ans: (a)

Exp:

- Barren Island is India's only active volcano which is located in the Andaman and Nicobar Islands. **Hence, statement 1 is correct.**
- It is located at about 140 km from Port Blair, southern part of Andaman Island in Andaman Sea. The distance between Barren Island to Great Nicobar is more than the given distance. **Hence, statement 2 is not correct.**
- First recorded eruption of the volcano dates back to 1787. In the past 100 years, it has erupted at least five times. Then for the next 100 years, it remained silent. It re-erupted massively in 1991.
- Since then, the eruption has been recorded every two-three years; the latest in the series was February 2016. **Hence, statement 3 is not correct. Therefore, option A is the correct answer.**

Mains

Q. Discuss the geophysical characteristics of Circum-Pacific Zone. **(2020)**

Q. Mention the global occurrence of volcanic eruptions in 2021 and their impact on regional environment. **(2021)**

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