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## MAYON VOLCANO

*This article covers "Daily Current Affairs" and the topic details "Mayon Volcano". The topic "Mayon Volcano" has relevance in the Geomorphology section of the UPSC CSE exam.*

### **Relevance:**

#### **For Prelims:**

*Where is Mayon Volcano?*

*Facts about Mayon Volcano?*

#### **For Mains:**

*GS 1: Geomorphology*

*Types of Volcanoes?*

*Major Volcano Areas around the world?*

*Volcanoes in India?*

#### **Why in the News**

*A gentle eruption of the Philippines' most active volcano, Mayon Volcano, has forced nearly 18,000 people to flee to emergency shelters, could last for months and create a protracted crisis*

#### **Where is Mayon Volcano?**

Mayon Volcano is an active stratovolcano located in the province of Albay in the Philippines.

#### **Facts about Mayon Volcano?**

Mayon Volcano is renowned for its near-perfect cone shape, making it one of the most iconic and picturesque volcanoes in the world. It is situated in the southeastern part of Luzon Island, approximately 330 kilometers southeast of Manila, the capital city of the Philippines.

- **Height and shape:** Mayon Volcano stands at an elevation of 2,462 meters (8,077 feet) above sea level. Its symmetrical cone shape is a result of the accumulation of layers of hardened lava flows, pyroclastic deposits, and volcanic ash.
- **Volcanic activity:** Mayon Volcano is highly active and is known for its frequent eruptions. It has erupted more than 50 times in the past 400 years, with the previous most recent eruption occurring in January 2018. These eruptions range from minor steam-driven explosions to more significant explosive events that produce pyroclastic flows and ash plumes.
- **Volcanic hazards:** The eruptions of Mayon Volcano pose various volcanic hazards, including pyroclastic flows, ashfall, lava flows, and volcanic gases. These hazards can endanger the local communities living in close proximity to the volcano

## Types of Volcanoes?

- **Stratovolcanoes (Composite Volcanoes):** Stratovolcanoes are large, steep-sided volcanoes composed of alternating layers of solidified lava, volcanic ash, and other volcanic materials. These volcanoes are typically cone-shaped and can reach great heights. They are characterized by explosive eruptions that produce pyroclastic flows, ash clouds, and lava flows. Examples of stratovolcanoes include Mount Fuji in Japan, Mount Vesuvius in Italy, and Mount Rainier in the United States.
- **Shield Volcanoes:** Shield volcanoes are broad, gently sloping volcanoes formed by the accumulation of fluid basaltic lava flows. These lava flows spread out in thin layers, creating a shield-like shape. Shield volcanoes have a low viscosity lava that allows it to flow easily and cover long distances. They are known for their relatively quiet eruptions, with lava flows being the primary volcanic activity. Examples of shield volcanoes include Mauna Loa and Kilauea in Hawaii, and Piton de la Fournaise in Reunion Island.
- **Cinder Cone Volcanoes:** Cinder cone volcanoes are small, steep-sided volcanoes characterized by loose, fragmental material called cinders or scoria. These volcanoes typically form as a result of explosive eruptions of gas-rich magma. Cinder cone volcanoes are often found in clusters or along the flanks of larger volcanoes. They have short eruption durations and tend to be relatively short-lived. Examples of cinder cone volcanoes include Paricutin in Mexico and Sunset Crater in the United States.
- **Calderas:** Large, basin-shaped volcanic depressions that form when a volcano collapses after a massive eruption or magma withdrawal.
- **Complex Volcanoes:** Volcanoes with a combination of different volcanic features, such as stratovolcano-like and shield-like characteristics.
- **Fissure Volcanoes:** Linear volcanic vents that erupt from long cracks or fissures in the Earth's surface, often producing extensive lava flows.

## Major Volcano Areas around the world?

- **Ring of Fire:** The Pacific Ring of Fire is the most volcanically active region in the world, stretching along the coasts of the Pacific Ocean. This area is characterized by intense tectonic activity, including subduction zones where one tectonic plate sinks beneath another. It includes countries such as Japan, Indonesia, the Philippines, Chile, and the western coast of the United States, including Alaska and California.
- **Mid-Atlantic Ridge:** The Mid-Atlantic Ridge is an underwater mountain range that runs down the middle of the Atlantic Ocean. It marks the boundary between two tectonic plates and is associated with volcanic activity. Notable volcanic features in this region include Iceland, the Azores, and parts of the Caribbean.
- **Mediterranean and Aegean:** The Mediterranean and Aegean regions are also tectonically active, with several volcanoes present. Examples include Mount Etna and Stromboli in Italy, Santorini in Greece, and Mount Vesuvius near Naples, Italy.
- **East African Rift System:** The East African Rift System is a series of rift valleys extending from the Red Sea down to Mozambique in southeastern Africa. This region is associated with volcanic activity, with notable volcanoes including Mount Kilimanjaro and Mount Nyiragongo.
- **Central America:** Central America is located along the Pacific Ring of Fire and is home to several active volcanoes. Countries such as Guatemala, Costa Rica, and Nicaragua have notable volcanic features, including Arenal, Poas, and Masaya volcanoes.

- **Indonesia:** Indonesia is the world's largest archipelago and has a high concentration of active volcanoes. It is located on the Pacific Ring of Fire and experiences frequent volcanic activity. Mount Merapi, Krakatoa, and Mount Bromo are some well-known volcanoes in Indonesia.
- **Kamchatka Peninsula and Kuril Islands:** The Kamchatka Peninsula in far eastern Russia and the Kuril Islands form part of the Pacific Ring of Fire. This region has a significant number of active volcanoes, including Klyuchevskaya Sopka, Bezymianny, and Shiveluch.
- **Hawaii:** The Hawaiian Islands are a volcanic archipelago located in the central Pacific Ocean. They are the result of a hotspot in the Earth's mantle, with the most active volcano being Kilauea. Other notable volcanoes include Mauna Loa and Mauna Kea.

### Volcanoes in India?

India is primarily located on the Indian Plate, which is relatively distant from the tectonic boundaries associated with volcanic activity. As a result, there are no active volcanoes in mainland India. However, there are some volcanic features and past volcanic activity in certain regions of India. Here are a few notable examples:

- **Barren Island:** Located in the Andaman Sea, Barren Island is the only active volcano in India. It is a stratovolcano that has experienced intermittent eruptions over the years. The most recent eruption occurred in 2017. Access to Barren Island is restricted due to its active nature.
- **Narcondam Island:** Also situated in the Andaman Sea, Narcondam Island is a volcanic island with an extinct volcano at its center. The volcano is believed to be around 6,000 years old and is no longer active.
- **Western Ghats:** The Western Ghats mountain range, which stretches along the western coast of India, contains several volcanic remnants. These remnants are the result of ancient volcanic activity that occurred millions of years ago. Examples include the Malabar Hill in Mumbai, the Yercaud Hills in Tamil Nadu, and the Gilbert Hill in Mumbai.
- **Deccan Traps:** The Deccan Traps, a large igneous province, are a significant geological feature in India. They were formed by extensive volcanic activity around 65 million years ago. The Deccan Traps cover a vast area, including parts of Maharashtra, Madhya Pradesh, Karnataka, and Gujarat. The volcanic eruptions associated with the Deccan Traps are believed to have played a role in the mass extinction event that occurred around the same time, including the extinction of dinosaurs.

**Source:**

<https://indianexpress.com/article/world/philippine-volcanos-eruption-displaced-8662809/>

### Q.1 Which of the following statements about Mayon Volcano is correct?

- Mayon Volcano is an extinct volcano located in the Philippines.
- Mayon Volcano is the tallest volcano in the world.
- Mayon Volcano is a stratovolcano known for its near-perfect cone shape.
- Mayon Volcano is situated in the southeastern part of Japan.

**Answer: (c)**

### Q.2 Which of the following types of volcanoes is characterized by broad, gently sloping sides and fluid basaltic lava flows?

- Shield Volcanoes
- Stratovolcanoes

- (c) Cinder Cone Volcanoes
- (d) Calderas

**Answer: (a)**

**Q.3 Discuss the global distribution of volcanoes and the factors influencing their occurrence. Explain the different types of volcanoes and their characteristics, citing examples from different regions of the world.**

**Rishabh**



**Yojna IAS**

योजना है तो सफलता है