

## Physical Regions of India

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**Introduction** - India's geological structure has contributed to regional diversity, resulting in various types of landforms. The physical regions of India include plateaus, plains, high mountains, and deep valleys. About 10.6% of India is mountainous, 18.5% hilly, 27.7% plateau, and 43.2% plain. Based on topographical diversity, India is divided into five physiographic regions:

### 1. The Great Northern Mountains

Divided into two parts:

**(i) Trans-Himalaya:** Located north of the Himalayas, part of the Eurasian Plate, includes Karakoram, Ladakh, and Zaskar ranges. These formed before the Himalayas. It is about 2500 km long and 150–400 km wide with an average height of 6000 meters.

Notable peaks: K-2 (Godwin Austen) and massive glaciers like Baltoro and Siachen.

**(ii) Himalayas:** Extend from the Indus River to the Dihang River. Formed during the Tertiary period due to the collision of the Indian and Eurasian plates. It is the youngest fold mountain range in the world and consists of three parallel ranges from north to south:

**a. Greater Himalayas (Himadri):** Highest and innermost range (avg. 6000m), includes Kangchenjunga (India) and Mount Everest (Nepal).

**b. Lesser Himalayas (Himachal):** Located south of Himadri (avg. 4000–4500m), includes popular hill stations like Shimla, Mussoorie, and Dharamshala.

**c. Shiwaliks:** Outer, youngest and lowest range (1200–1500m), made of unconsolidated sediments. Narrow valleys here are called Doons (e.g., Dehradun).

**d. Eastern Extension - Purvanchal Hills:** Includes hills like Patkai, Naga, Mizo, Khasi, Jaintia, and Lushai, situated along the Myanmar border.

Subdivisions of the Himalayas by river valleys (as per Sydney Burrard):

1. Kashmir/Punjab Himalaya – from Indus to Sutlej
2. Kumaon Himalaya – from Sutlej to Kali River
3. Nepal Himalaya – from Kali to Teesta River
4. Assam Himalaya – from Teesta to Brahmaputra River

**2. Northern Indian Plains:** Located between the Himalayas and the Peninsular Plateau, formed by sediment

deposition in a trough south of the Shiwaliks. Stretching about 2500 km in length, 150–300 km in width. Made of fertile alluvial soil, classified as:

- i. Bhangar: Older alluvium
- ii. Khadar: Newer alluvium

### Sub-regions:

- i. Ganga-Yamuna Plain (UP, Bihar, Bengal):

Divided into upper, middle, and lower Ganga plains.

- i. Brahmaputra Plain (Assam Valley):

Located between Meghalaya Plateau and Himalayas.

**3. Peninsular Plateau:** Situated south of the Ganga plains, part of the ancient Gondwanaland. Formed from old, hard igneous rocks. Divided into:

**(i) Central Highlands:** Extends up to Delhi and Gujarat. Includes Malwa Plateau (lava-based), Bundelkhand and Baghelkhand, and Chotanagpur Plateau (eastern side).

**(ii) Deccan Plateau:** Triangular-shaped, from Vindhyas to southern tip of the peninsula (covers ~5 lakh sq. km). Bounded by:

Western Ghats: Steeper and higher, includes Sahyadri, Nilgiri, Annamalai, and Cardamom Hills. Annamalai is the highest peak (2695 m).

Eastern Ghats: Lower and more dissected.

Deccan Trap: Formed by ancient volcanic activity; covers Maharashtra and parts of Gujarat, MP, Karnataka.

Major rivers:

East-flowing: Godavari, Krishna, Kaveri (into Bay of Bengal)

West-flowing: Narmada, Tapi (into Arabian Sea)

### 4. Coastal Plains:

**Narrow plains along the eastern and western coasts of the plateau:**

**Western Coastal Plain:** Found along Gujarat, Maharashtra, Goa, Karnataka, and Kerala. Broader in the north, narrower in the south. Known as Konkan Coast (Maharashtra), Malabar Coast (Kerala)

Features: estuaries of Narmada, Tapi; backwaters in Kerala.

**Eastern Coastal Plain:** From Ganga Delta to Kanyakumari. Broader and flatter than the west. Known as Northern Circars (north), Coromandel Coast (south) Contains river deltas from large peninsular rivers.

### 5. Island

Located in:

**Arabian Sea:** Off the Kerala coast, Lakshadweep Islands, mostly coral atolls.

**Bay of Bengal:** Andaman and Nicobar Islands, larger and more numerous, some of volcanic origin, others are submerged mountain peaks.

**Indira Point:** Southernmost tip of India (on Great Nicobar), submerged in 2005 tsunami.

**About Indian Islands:** The Indian Islands or the Islands of India refer to the group of islands spread across the Indian Ocean, Arabian Sea, and the Bay of Bengal, which are a part of the Indian territory. Collectively, they form one of the five major physical divisions of India.

The Indian Islands can broadly be classified into two main groups:

- i. Andaman and Nicobar Islands
- ii. Lakshadweep Islands

### Andaman and Nicobar Islands

**Location:** This is a group of islands located in the Bay of Bengal.

**Extent:** These islands are formed in an arc-shaped chain (convex towards the west) and extend from 6°45'2" N to 13°41'2" N latitude and 92°12'2" E to 93°57'2" E longitude.

The islands stretch over a distance of approximately 590 kilometers, with a maximum width of around 58 kilometers.

**Major Islands in the Group:** This island chain comprises 572 large and small islands, covering a total area of about 8,249 square kilometers. The entire chain includes two distinct groups of islands – Andaman Islands and Nicobar Islands.

### Andaman Islands

**Area:** The Andaman Islands form a group that is around 260 kilometers long and 30 kilometers wide.

**Sub-Groups:** These islands are divided into three major groups – North Andaman, Middle Andaman, and South Andaman.

1. Two major island groups – Little Andaman and Great Andaman – are separated by the Duncan Passage, which is 50 km wide.

2. The capital city Port Blair is located in South Andaman.

### Nicobar Islands

**Area:** These islands stretch 262 kilometers in length and have a maximum width of 58 kilometers, covering a total area of about 1,653 square kilometers.

**Sub-Groups:** The Nicobar Islands consist of 7 large and 12 small islands, and are divided into three major groups – Northern, Central, and Southern groups.

**Key islands in each group:**

1. Northern Group: Car Nicobar and Battimalv
2. Central Group: Chowra (or Sanenyo), Teresa (or Luroo), Bompuka (or Poahat), Katchal, Kamorta, Nancowry (or Nankovri), Trinket, Laouk (or Isle of Man), Tillangchong, etc.

3. Southern Group: Great Nicobar (largest island of Nicobar), Little Nicobar, Kondul Island, Pulo Milo (or Pilomilo), Mero, Treis, Menchal, Cabra, and Megapode.

1. Great Nicobar is the largest island with dimensions of about 50 × 25 kilometers. It is the southernmost island of India, located just 147 kilometers from Sumatra Island (Indonesia).

2. The southernmost point of India, 'Indira Point', is located on the southern tip of Great Nicobar.

**Inhabited Islands:** Around 12 islands in this group are inhabited. Indigenous ethnic groups living here include the Nicobarese and Shompens. Local languages include those of the Shompens and the Nicobari linguistic group.

### Other Features:

- The 'Ten Degree Channel' separates the Andaman Islands (north) from the Nicobar Islands (south).
- Most of these islands are volcanic in origin, composed of Tertiary sandstone, limestone, and shale.
- Barren Island and Narcondam Island, located north of Port Blair, are primarily volcanic islands.
- Some islands are surrounded by coral reefs.
- The islands are mostly hilly, with moderate elevation.
- Saddle Peak in North Andaman is the highest peak, with an elevation of 737 meters.
- In 2018, the names of the following three islands were changed:
- Ross Island '!' Renamed as Netaji Subhas Chandra Bose Island
- Neil Island '!' Renamed as Shaheed Island
- Havelock Island '!' Renamed as Swaraj Island
- Location: This is a group of islands located in the Arabian Sea.

**Extent:** These islands stretch between 8°N to 12°20'2" N latitude and 71°45'2" E to 74°E longitude, covering an area of 108.78 square kilometers. They lie approximately 200–500 kilometers southwest of the Kerala coast.

**Major Islands in the Group:** Although the word Lakshadweep literally means "a hundred thousand islands," the group actually consists of only 25 small islands. These islands are divided into three subgroups:

**Amindivi Islands:** Islands located north of 11°N latitude are known as the Amindivi Islands.

**Cannanore Islands:** Islands located south of 11°N latitude are referred to as the Cannanore Islands.

**Minicoy Islands:** This island group is located in the far south. It is the largest and most developed island in the Lakshadweep group.

### Structure and Topography:

- i. All the islands in this group are of coral origin and are surrounded by reefs.
- ii. The topography is flat, with no hills, waterfalls, or valleys – in other words, there is a near-complete absence of elevation and depression features.
- iii. Shallow lagoons can be seen on the western coasts of these islands, while the eastern coasts have steeper

slopes.

iv. Capital: The capital city is Kavaratti.

#### Importance of Indian Islands

**Strategic Importance:**The geographical positioning of India's islands makes them highly strategic:

- i. The Andaman and Nicobar Islands, located near the Malacca Strait, offer India a significant strategic advantage in the Indian Ocean region.
- ii. These islands serve as a forward operating base for the Indian Navy, thereby enhancing India's maritime security and surveillance capabilities in the region.

**Economic Importance:**India's islands contribute to the national economy through tourism, fishing, and agriculture.

**Environmental Importance:**The Indian islands have a tropical climate and are covered with dense forests. These

forests are home to a vast diversity of flora and fauna.

**Conclusion:**More than just a geographical feature, India's islands hold multiple layers of significance. Beyond strategic advantages, they are sources of valuable natural resources.

In recent years, climate change and rising sea levels have posed threats of submergence to some of these islands. Ensuring the sustainability of these islands is crucial—not only for India but also for the marine ecology of the subcontinent. Sustainable development is the only way forward.

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