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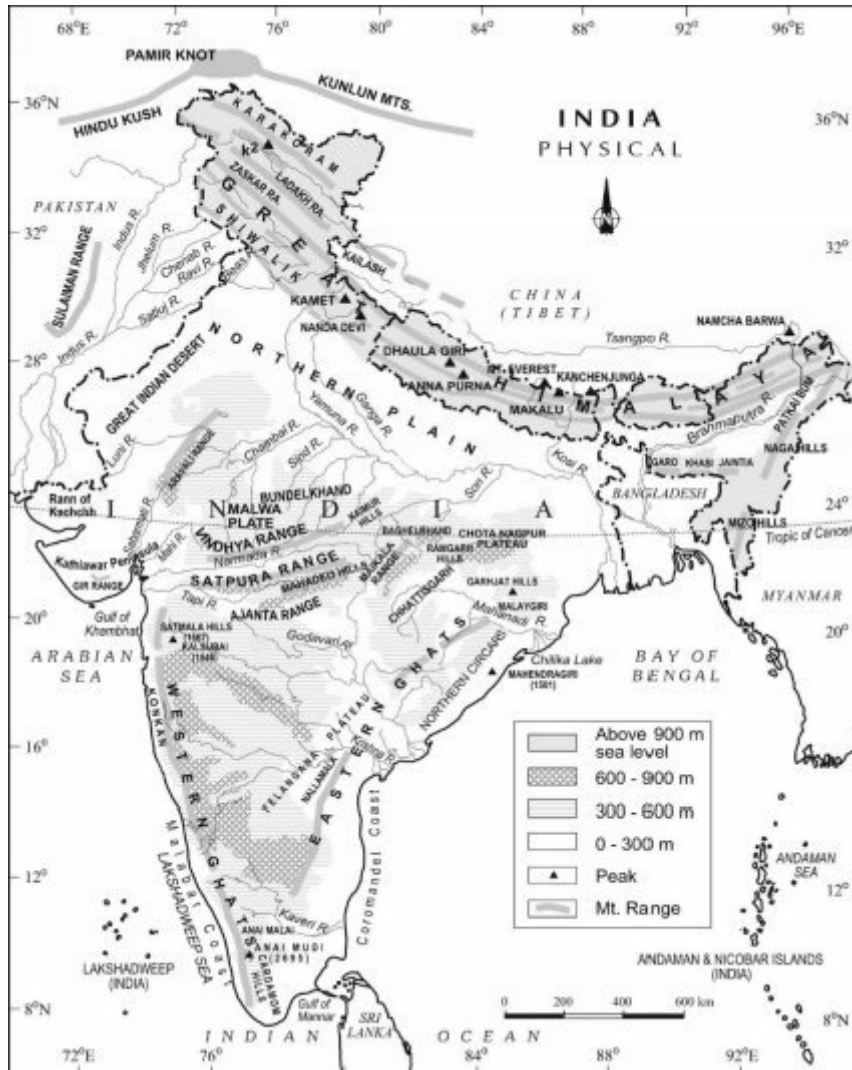
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INDIAN GEOGRAPHY

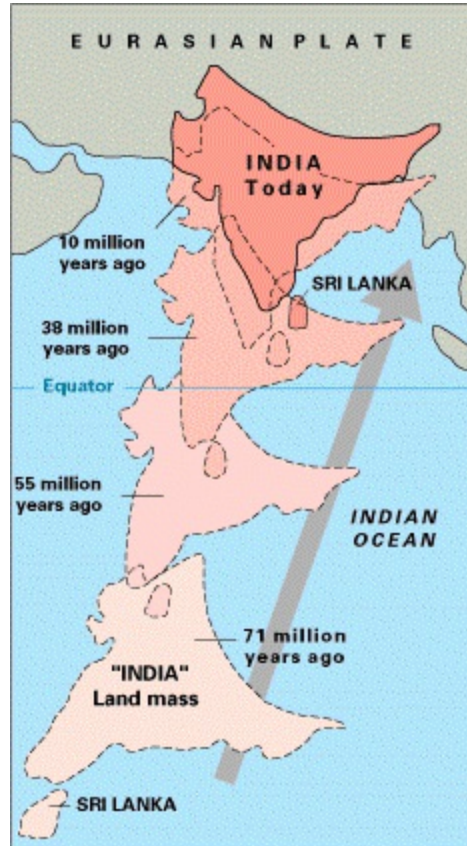


FAST FACTS OF INDIAN GEOGRAPHY

Continent & Region	Asia, South Asia, Indian subcontinent
Tectonic plate	Indian Plate; is moving northeast at 5 cm/yr
Longitude	68° 7' and 97° 25' east longitude
Latitude	8° 4' and 37° 6' north latitude
Area	3,287,263 km ² , 7th in World Rank

Population	1,210,193,422, <i>2nd in World Rank (2011 census)</i>
No. of States	29
No. of UTs	7
Territorial Sea	12 nm (nautical miles)
Contiguous Zone	24 nm
National park	103
Wildlife sanctuaries	515
North-South extent	3,214 km
East-West extent	2,933 km
Land Frontiers	15,200 km
Highest point	Kanchenjunga: 8,586 m (28,169 ft)
Lowest point	Kuttanad, Kerala : -2.2 m (-7.2 ft)
Northern most point	Karakoram Pass, near the Siachen Glacier, <i>Indian-administered Kashmir</i>
Southern most point	Indira Point, Great Nicobar, <i>Andaman & Nicobar Islands</i>
Southern most point of India (Mainland)	Cape Comorin near Kanyakumari, <i>Tamil Nadu</i>
Eastern most point	Kibithu, <i>Arunachal Pradesh</i>
Western most point	Guhar Moti in Kutch, <i>Gujarat</i>
Coastline length	7,517 km ; 5,423 km belong to peninsular India and 2,094 km to the Andaman, Nicobar, and Lakshadweep island chains.
Land boundaries	13,888 km
Border Countries	Afghanistan and Pakistan to the north-west; China , Bhutan and Nepal to the north; Myanmar to the east; and Bangladesh to the east of West Bengal. Sri Lanka is separated from India in the south by a narrow channel of sea, formed by Palk Strait and the Gulf of Mannar.
Terrain	The mainland comprises of four regions, namely the great mountain zone, plains of the Ganga and the Indus, the desert region, and the southern peninsula.

Longest River	The Ganges or Ganga (Length 2,525 km)
Largest Lake	Chilika Lake, Odisha (Length 64.3 km)
Largest than other countries	4 times largest than Pakistan 12 times larger than UK 8 times larger than Japan
State with maximum borders states	Uttar Pradesh border maximum number of states : 8 (Uttarakhand, Himachal Pradesh, Haryana, Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand and Bihar)
Tropic of Cancer passes through	8 states: Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand, West Bengal, Tripura and Mizoram.



Border Countries with Indian States

Country	Indian States situated on the border
Afghanistan	Jammu and Kashmir
Bangladesh	West Bengal, Mizoram, Meghalaya, Tripura and Assam

Bhutan	West Bengal, Sikkim, Arunachal Pradesh and Assam
China	Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim & Arunachal Pradesh
Myanmar	Arunachal Pradesh, Nagaland, Manipur and Mizoram
Nepal	Bihar, Uttarakhand, Uttar Pradesh, Sikkim and West Bengal
Pakistan	Jammu and Kashmir, Punjab, Rajasthan and Gujrat

PHYSICAL DIVISIONS OF INDIA

India is a country of physical diversity.



There are high mountain peaks in some areas while in others, lie the flat plains formed by rivers. On the basis of physical features, India can be divided into following six divisions:

1. The Northern Mountains
2. The Northern Plains or *Indo Gangetic Plains*
3. The Peninsular India
4. The Indian Desert
5. The Coastal Plains
6. The Islands

THE NORTHERN MOUNTAINS

- The northern mountains were formed by the ongoing tectonic collision of the Indian and Eurasian plates.
- It contains of the **Himalayas**, **Hindu Kush**, and **Patkai ranges** which marks the northern Indian subcontinent.
- These mountains are the boundary between two of the Earth's great ecozones: the **temperate Palearctic** that covers most of Eurasia and the **tropical and subtropical Indomalaya ecozone** which includes the Indian subcontinent, Southeast Asia and Indonesia.
- It is divided into three groups. These are : the **Himalayas**, the **Trans Himalayas** and the **Puranchal hills**

Important Features of Mountains

- **Pass** is a natural gap or a route between a ridges, hill.
- **Range** is the large landmass consisting of mountains, ridges and peaks.
- **Peak** is the highest point or tip of a mountain range.
- **Valley** is a depression or a flat land between two elevated areas.
- **Dun** is the longitudinal valleys existing between Himachal and Shiwaliks.

The Himalayas and its Origin

- The Himalayas is the highest and one of the youngest mountain ranges in the world. It acts as natural barrier.
- The extreme cold, snow and rugged topography discourage the neighbors to enter India through Himalayas.
- They run from west-east direction from Indus to Brahmaputra along the northern boundary of India covering a distance of 2500 km. Their width varies from 400 in the west and 150 km in the East.
- Its origin can be traced in the Jurassic Era, which is about 80 million years ago.
- This mountain ranges are mostly formed of sedimentary and metamorphic rocks, it has been subjected to intense folding and faulting.
- The Geosynclinal Origin has been supported by **Argand**, **Kober** and **Suess**.
- The Plate Tectonic Origin of the Himalayas was put forward by **W.J. Morgan** in 1967.

The Himalayas may be divided into three parallel ranges:

1. **Greater Himalayas** or *Himadari*
2. **Lesser Himalayas** or *Himachal*
3. **Outer Himalayas** or *Siwaliks*.

The Greater Himalayas or Himadari

- It comprises of the northern most ranges and peaks.
- It has an average height of 6000 metres and width lies between 120 to 190 Km.
- It is the most continuous range. It is snow bound and many glaciers descend from this range.
- It has high peaks like Mt. Everest, Kanchenjunga, Makalu, Dhaulagiri, Nanga Parbat etc.

having a height of more than 8000 metres.

- Mt. Everest (8848 m) is the highest peak of the world and Kanchenjunga is the highest peak of Himalaya in India.
- High Mountain passes also exist in this range, namely, Bara Lacha-La, Shipki-La, Nathu-La, Zoji-La, Bomidi-La etc. The Ganga and Yamuna rivers originates from this Himalayas.

The Lesser Himalayas or Himachal

- The altitude of this range lies between 1000 and 4500 metres and the average width is 50 km.
- The Prominent ranges in this are Pir Panjal, Dhaula Dhar and Mahabharata ranges.
- It compresses of many famous hill stations like Shimla, Dalhousie Darjeeling, Chakrata, Mussoorie, Nanital etc.
- It also comprises of famous valleys like Kashmir, Kullu, Kangra etc.

The Outer Himalayas or the Siwaliks

- It is the outer most range of the Himalayas.
- The altitude varies between 900 to 1100 meters and the width lies between 10 to 50 km.
- They have low hills like Jammu Hills, etc.
- The valleys lying between Siwalik and Lesser Himalayas (Himachal) are called 'Duns' like Dehra Dun, Kotli Dun and Patli Dun.

The Trans-Himalayan ranges

- It extends north of greater Himalaya and parallel to it is called **Zaskar Range**.
- North of Zaskar range lies Ladakh range. The Indus River flows between Zaskar and Ladakh range.
- The Karakoram range lie extreme north of the country. K2 is the second highest peak of the world.

The Purvanchal hills

- It comprises Mishami, Patkoi, Naga, Mizo hills which are located in eastern side.
- The Meghalaya plateau is also part of these hills which includes the hills of Garo, Khasi and Jaintia.

The Significance of the Himalayas

The Himalayas comprise the most dominating geographical feature of India. The Himalayas are the **body and soul of India**.

The following few points are the significance of the Himalayan Mountains to India.

Climatic Influence

- By virtue of their high altitude, length and direction, they effectively intercept the summer monsoons coming from the Bay of Bengal and Arabian Sea and cause precipitation in the form of rain or snow.
- Besides, they prevent the cold continental air masses of central Asia from entering into India.

- According to the latest meteorological studies, the Himalayas are responsible for splitting the jet stream into two branches and these in turn play an extremely important role in bringing monsoons in India.

Defence

- The Himalayas have been protecting India from outside invaders since the early times thus serving as a defence barrier.
- But the Chinese aggression on India in October, 1962 has reduced the defence significance of the Himalayas to a considerable extent.
- In spite of advancement in modern warfare technology, the defence significance of the Himalayas cannot be ignored altogether.

Source of Rivers

- Almost all the great rivers of India have their sources in the Himalayan ranges.
- Abundant rainfall and vast snow-fields as well as large glaciers are the feeding grounds of the mighty rivers of India.
- Snow melt in summer provides water to these rivers even during dry season and these are perennial rivers.
- The Himalayan Rivers, along with hundreds of their tributaries, form the very basis of life in the whole of north India.

Fertile Soil

- The great rivers and their tributaries carry enormous quantities of alluvium while descending from the Himalayas. This is deposited in the Great Plain of North India in the form of fertile soil, making the plain one of the most fertile lands of the world.
- It has been estimated that the Ganga and the Indus carry 19 and 10 lakh tonnes of silt, per day respectively and the silt carried by the Brahmaputra is even more.

Hydroelectricity

- The Himalayan region offers several sites which can be used for producing hydroelectricity.
- There are natural waterfalls at certain places while dams can be constructed across rivers at some other places.

Forest Wealth

- The Himalayan ranges have vegetal cover from the tropical to the Alpine, in their altitude.
- The Himalayan forests provide fuel wood and a large variety of raw materials for forest based industries.
- Many medicinal plants grow in the Himalayan region.

Agriculture

- The Himalayas do not offer extensive flat lands for agriculture but some of the slopes are terraced for cultivation. Rice is the main crop on the terraced slopes.
- The other crops are wheat, maize, potatoes, tobacco and ginger.

- Tea is a unique crop which can be grown on the hill slopes only.
- A wide variety of fruits such as apples, pears, grapes, mulberry, walnut, cherries, peaches, apricot, etc. are also grown in the Himalayan region.

Tourism

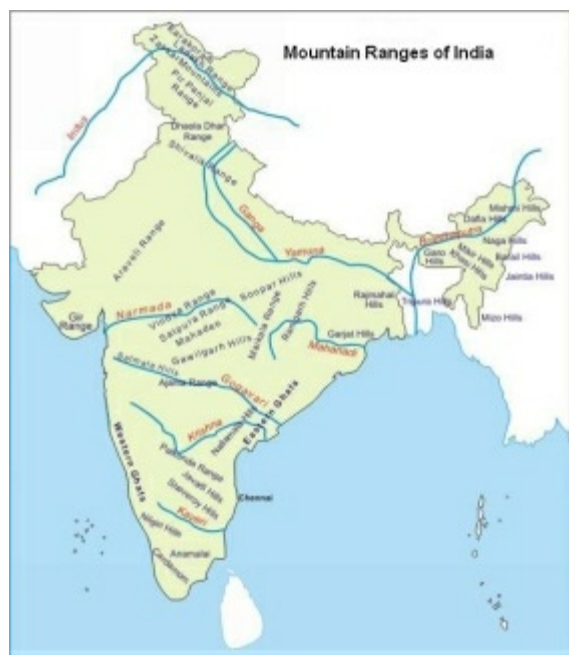
- By virtue of their scenic beauty and healthy environment, the Himalayan ranges have developed a large number of tourist spots.
- Srinagar, Dalhousie, Dharamshala, Chamba, Shimla, Kulu, Manali, Mussoorie, Nainital, Ranikhet, Almora, Darjeeling, Mirik, Gangtok, etc. are important tourist centres in the Himalayas.

Pilgrimage

- The Himalayas are proud of being studded with sanctified shrines which are considered to be the abodes of the Gods. Large number of pilgrims trek through difficult terrain to pay their reverence to these sacred shrines.
- Kailas, Amarnath, Badrinath, Kedamath, Vaishnu Devi, Jwalaji, Uttarkashi, Gangotri, Yamunotri, etc. are important places of pilgrimage.

Minerals

- There are vast potentialities of mineral oil in the tertiary rocks.
- Coal is found in Kashmir.
- Copper, lead, zinc, nickel, cobalt, antimony, tungsten, gold, silver, limestone, semi-precious and precious stones, gypsum and magnesite are known to occur at more than 100 localities in the Himalayas.

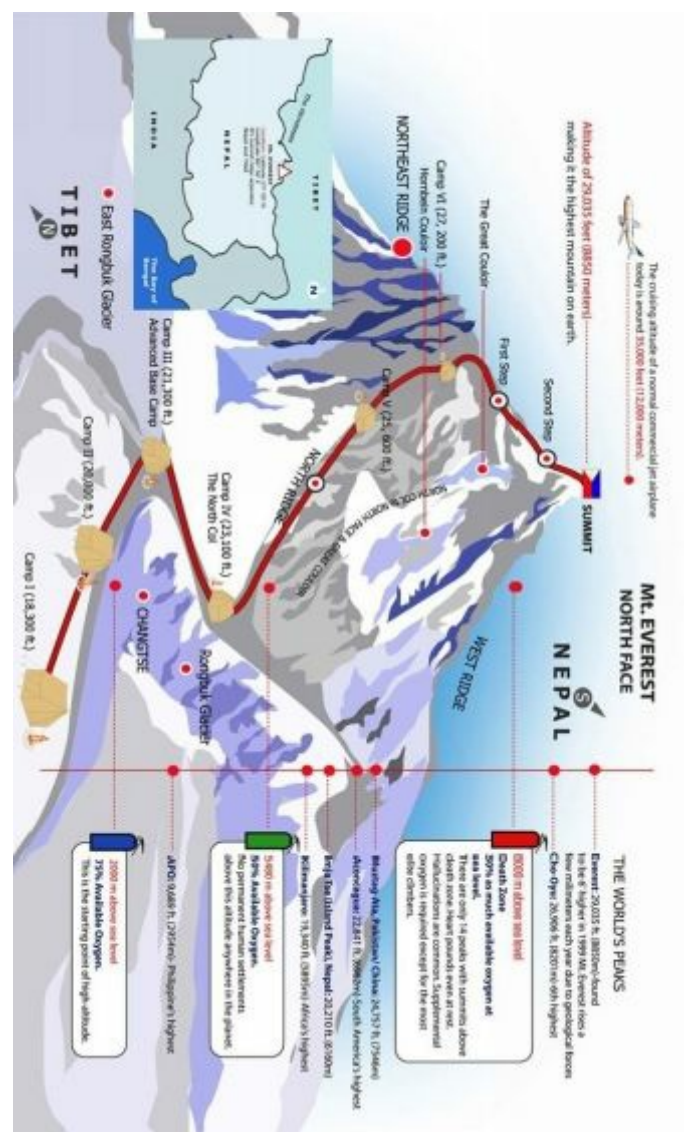


Major Himalayan peaks

Peak Name	Elevation	Peak Name	Elevation
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	in (m)		in (m)
Everest	8,848	Gyachung Kang	7,952
K2 (Godwin Austen)	8,611	Gasherbrum IV	7,925
Kangchenjunga	8,586	Nuptse	7,861
Lhotse	8,516	Masherbrum	7,821
Makalu	8,462	Nanda Devi	7,817
Cho Oyu	8,201	Rakaposhi	7,788
Dhaulagiri	8,167	Tirich Mir	7,708
Manaslu	8,156	Gangkhar Puensum	7,570
Nanga Parbat	8,126	Ismoil Somoni Peak	7,495
Annapurna	8,091	Langtang Lirung	7,227
Gasherbrum I	8,080	Machapuchare	6,993
Broad Peak	8,047	Dorje Lakpa	6,966
Gasherbrum II	8,035	Ama Dablam	6,848
Shishapangma	8,013	Kailash	6,638

Mt. Everest base camp MAP



Major Himalayan Passes and Routes

Pass or route	Elevation in (m)	Location and facts
Aghil Pass	5000	Situated to the north of K2 in the Karakoram; joins Ladakh with the Xinjiang (Sinkiang) Province of China.
Banihal Pass	2835	Situated in the Pir-Panjal Range; joins Jammu with Srinagar. Jawahar Tunnel (inaugurated in December 1956) or Banihal Tunnel is a road tunnel of Jammu and Kashmir.
Bara Lacha	4843	Situated in Jammu and Kashmir ; connecting Manali and Leh.
Bomdi La	4331	Situated to the east of Bhutan; connects Arunachal Pradesh with Lhasa, the capital of Tibet.
Burzail Pass	4100	It is an ancient pass and caravan

route between Srinagar in Kashmir and Gilgit. This route was active up to Pakistan's independence.

Chang-La	5360	It is a high mountain pass in Ladakh
Debsa Pass	5360	It is a high mountain pass in Greater Himalayas between the Kullu and Spiti districts of Himachal Pradesh
Diphu Pass	4587	It is a mountain pass at the tri-point of the borders of India, China, and Myanmar.
Gangtok	4310	It is in Sikkim to Lhasa in Tibet, via the Nathu La and Jelep La Passes
Jelep La	4538	It connects Sikkim with Lhasa. It passes through Chumbi Valley.
Khardung La	6000	It is the highest motorable pass in the country. It joins Leh with Siachin glacier.
Khunjerab Pass	4693	It is a high mountain pass in the Karakoram Mountains in a strategic position on the northern border of Pakistan's Gilgit-Baltistan Hunza - Nagar District on the southwest border of the Xinjiang region of China.
Lanak La	5466	Situated in the Aksai-Chin (Ladakh); connects Ladakh with Lhasa.
Lipu Lekh	5334	Situated in the Pithoragarh District (Uttarakhand); connects Uttarakhand with Tibet. The pilgrims of Manasarovar Lake travel through this pass. It is one of the most important border post for trade with China.
Mana Pass	5545	Located in Uttarakhand, it is a border between India and Tibet.
Mohan Pass	800	Located in the Siwalik Hills, the southernmost and geologically youngest foothills running parallel to the main Himalayas in Sikkim.

Nathu La	4310	Situated on the Indo-China border; connects the Indian state of Sikkim with China's Tibet Autonomous Region. After the 1962 war it was opened in 2006.
Pensi La	4400	Situated in the Ladakh region of Jammu and Kashmir, which is known as the Gateway to Zaskar. It connects the Valley of Kashmir with Kargil (Ladakh).
Rohtang Pass	3979	Located on the eastern Pir Panjal Range of the Himalayas; connects the Kullu, the Lahul and Sipti valleys of Himachal Pradesh. s
Shipki La	5669	Located in Kinnaur district in the state of Himachal Pradesh, India, and Tibet, China. The Sutlej river enters India through this pass.
Thang La	5328	It is a mountain pass in Ladhak. It is the second highest motorable mountain pass in Indian after Khardung La.
Traill's Pass	5212	Located between Nanda Devi and Nanda Kot peaks in the Uttarakhand.
Zoji La	3528	It joins Srinagar with Kargil and Leh.

THE NORTHERN PLAINS or INDO GANGETIC PLAINS

- The Northern Plains are located between south of the Himalayas and north of the Peninsular plateau.
- It is formed by the deposition of the sediments brought by three main river systems namely : the Indus, the Ganga and the Brahmaputra.
- The plains encompass an area of 700,000 km².
- From Punjab in the west to Assam in the east, this plain is about 2400 km long.
- Its width varies from about 300 km in the west to about 150 km in the east.
- It mainly includes the states of Punjab, Haryana, Uttar Pradesh, Bihar, West Bengal and Assam. This plain is very fertile due to alluvial sediments brought by the rivers from the Himalayas.
- This plain is one of the largest and most fertile plains of the world. Major crops such as wheat, rice, sugarcane, pulses, oil seeds and jute are grown here.
- The major rivers of this system are the Ganga and the Indus along with their tributaries; Beas, Yamuna, Gomti, Ravi, Chambal, Sutlej and Chenab.

- The northern plain is divided into three sections, i.e. the **Punjab Plain**, the **Ganga Plain** and the **Brahmaputra Plain**.

Punjab Plains

- This plain is formed by five important rivers of Indus system. Punjab literally means “(The Land of) Five Waters” referring to the following rivers: the Jhelum, Chenab, Ravi, Sutlej, and Beas.
- The plain is primarily made up of ‘doabs’ - the land between two rivers.
- The total area of this plain is about 1.75 lakh sq km.
- The average elevation of the plain is about 250 m above mean sea level.
- The area between the Ghaggar and the Yamuna rivers lies in Haryana and often termed as ‘Haryana Tract’. It acts as water-divide between the Yamuna and the Satluj rivers.
- The only river between the Yamuna and the Satluj is the Ghaggar which is considered to be the present day Successor of the legendary Saraswati River.

Ganga Plains

- This is the largest unit of the Great Plain of India stretching from Delhi to Kolkata (about 3.75 lakh sq km).
- The northern states, Haryana, Delhi, UP, Bihar, part of Jharkhand and West Bengal in the east lie in the Ganga plains.
- The general slope of the entire plain is to the east and south east.
- Almost all the rivers keep on shifting their courses making this area prone to frequent floods. The Kosi river is very notorious in this respect. It has long been called the ‘Sorrow of Bihar’.

Brahmaputra Plains

- This is also known as the Brahmaputra valley or Assam Valley or Assam Plain as most of the Brahmaputra valley is situated in Assam.
- Its western boundary is formed by the Indo-Bangladesh border as well as the boundary of the lower Ganga Plain. Its eastern boundary is formed by Purvanchal hills.
- It is an aggradation plain built up by the depositional work of the Brahmaputra and its tributaries.

Physical Features of the Northern plains

Bhabar Region or belt

- It is 8 to 16 km wide, region lies along the foothills of Himalayas between Indus and Teesta rivers.
- It contains pebbles & stones which are extremely pervious.
- Small river and streams disappear underground on reaching this region.

Terai Region or belt

- 15 to 30 km wide belt found south of the Bhabar region is called as Terai.

- It is a marshy tract and zone of excessive dampness with the thick grown of forests and high biological diversity.
- The speed of river flow in Terai region is slow.
- In Terai region rice is grown mostly of the lands for cultivation. *e.g.*: Sitapur, Rampur, Lakhimpur, Philibhit, Bareilly region of Uttar Pradesh.

Bangar Region or belt

- It is the higher part of the plains, where the floodwater cannot reach.
- It is made up of old alluvium and it contains pebbles and coarser sediments.
- These plains are less fertile. In this region, whenever the high lands are created by stones and sand, it is locally called as 'Bhur'. *e.g.* Bhurs are found in the upper parts of Ganga-Yamuna doab.

Khadar Region or belt

- It lies in lowland areas after the Bangar belt.
- It is made up of new alluvium. In this region, floods bring new alluvium every year.
- It is mainly found along the river banks and contains fine particles or clays so it is fertile region.

Deltaic Plain

- It is an extension of the Khadar land.
- It covers about 1.9 lakh sq km of area in the lower reach of the Ganga River.
- It formed by very fine alluvial soils formed by river deltas contain mainly clays.
- The uplands are called '**Chars**' while the marshy areas are known as '**Bels**' in the delta regions.
- These are very fertile and are suitable for jute & rice cultivation. *e.g.* The Ganga-Brahmaputra delta, spread in India and Bangladesh.

Significance of the Great Plains of India

- It is the most productive region of India and literally called as the '**Granary of India**'.
- Farming on the Indus-Ganga Plain primarily consists of rice and wheat grown in rotation. Other crops include maize, sugarcane, and cotton.
- These plains have sedimentary geological structure, these plains have large deposits of fossil fuels. Road and rail transport can be developed in this region, relatively with ease, due to its little or no slope gradient.
- The great plain of India with its deep, fertile, stoneless, alluvial soil and its many rivers, is the most favourable and most desirable part of the sub-continent. The five rich states of the plain (Punjab, Haryana, Uttar Pradesh, Bihar and West Bengal), which contain about one-third of the total land area, but in which about 40% of the country's population lives, support one of the densest populations in the world.
- The plains have a fertile soil and because of the slow moving perennial water courses and favourable climate and they are, the great agricultural tracts of the country, raising bumper crops of rice, wheat, oilseeds, sugarcane, tobacco and jute.

- These plains have given birth to and nursed and nourished the unique Hindu civilizations in its river valleys—the Harappa, Mohenjodaro, Pilibanga, Lothal civilizations.

THE PENINSULAR INDIA

- It is the largest physiographic division of India, covering an area of about **16 lakh sq km**.
- It constitutes an irregular triangle with its base lying between the **Delhi Ridge** and the **Rajmahal Hills** and the apex formed by **Kanyakumari**.
- It is bounded by the Aravallis in the north-west, Maikal Range in the north, Hazaribagh and Rajmahal Hills in the northeast, the Western Ghats (Sahayadri Mountains) in the west, the Eastern Ghats in the east.
- The highest peak of peninsular India is **Anamudi** (Elevation : 2695 m) in Kerala.

Physical Features of the Peninsular India

The Peninsular India is divided into **Central Highlands** and the **Deccan Plateau**.

Central Highlands

Aravallis Range

It is a range that runs from north-east to south-west for about 800 km between Delhi to Palanpur (Gujarat). Its highest peak **Guru-Sikhar** is only 1722 metres in height.

Malwa Plateau

- It is bordered by the Aravallis in the South, the Vindhyan Range in the south and the Bundelkhand Plateau in the east.
- It is spread across Rajasthan, Madhya Pradesh and Gujarat. The average elevation of the Malwa plateau is 500 metres, and the landscape generally slopes towards the north.
- Most of the region is drained by the **Chambal River** and its tributaries; the western part is drained by the upper reaches of the **Mahi River**.

Vindhya Range

- It extends from Jobat (Gujarat) and Chittorgarh (Rajasthan) to Sasaram in Bihar. It extends for about 1050 km with the average elevation of these hills is from 300 m to 600 m and rarely goes above 700 meters.
- Apart from the Kaimur Hills in the east, the Maikal Range forms a connecting link between the Vindhyan and the Satpura mountains.
- It separates northern India from southern India.

Satpura Range

- It begins in eastern Gujarat near the Arabian Sea coast and runs east across Maharashtra, Madhya Pradesh and Chhattisgarh.

- It extends 900 km with many peaks rising above 1,000 m (3,300 ft).
- It is triangular in shape, with its apex at Ratnapuri and the two sides being parallel to the Tapi and Narmada rivers.
- It runs parallel to the Vindhya Range, which lies to the north, and these two east-west ranges divide the Indo–Gangetic plain from the Deccan Plateau located north of River Narmada.

Chotanagpur Plateau

- It is situated in eastern India, covering much of Jharkhand and adjacent parts of Odisha, Bihar and Chhattisgarh. Its total area is approximately 65,000 km² and is made up of three smaller plateaus — the Ranchi, Hazaribagh, and Kodarma plateaus.
- The plateaux at the highest elevation of about 1100m in the mid-western part are known as Pat lands. The average elevation of the plateau is 700 m above sea level.
- The Kathiawar peninsula in western Gujarat is bounded by the Gulf of Kutch and the Gulf of Khambat.
- The Barakar, the Damodar, the Subarnarekha and Koel rivers drain the Chhotnagpur Plateau.

The Meghalaya Plateau and Mikir Hills

- It has been separated from the main block of the peninsular plateau by a wide gap known as the Garo-Rajmahal Gap.
- It slopes down to Brahmaputra valley in the north and the Surma and Meghna valleys in the south.
- Its western boundary more or less coincides with the Bangladesh border.
- The western, central and the eastern parts of the plateau are known as the Garo Hills (900 m), the Khasi-Jaintia Hills (1500 m) and the Mikir Hills (700 m).
- **Shillong** (1961 m) is the highest point of the plateau.
- **Norkek** (1515 m) is the highest peak of the Garo Hills.
- **Mawsynram** about 16 km of Cherrapunji records the highest rainfall in the world.

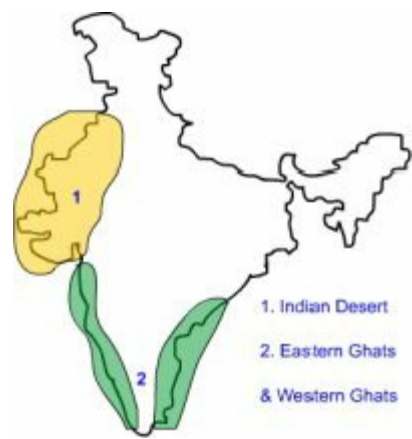
Deccan Plateau

- It is a large triangular plateau, bounded by the Vindhyas to the north and flanked by the Eastern and Western Ghats.
- It covers a total area of 1.9 million km².
- It is mostly flat, with elevations ranging from 300 to 600 m.
- It is divided into two parts such as north Deccan Plateau or Maharashtra plateau and the south Deccan consisting of Karnatak, Telangana and Tamil Nadu Plateaus.
- It slopes gently from west to east and gives rise to several peninsular rivers such as the Godavari, the Krishna, the Kaveri and the Mahanadi which drain into the Bay of Bengal.

Western Ghats and Eastern Ghats

	Western Ghats	Eastern Ghats
Known as	Sahyadri	Purva Ghat or Mahendra Parvatam

Length	1,600 km	1,450 km
Average elevation	1000 m	520 m
States	Gujarat, Maharashtra, Goa, Karnataka, Kerala and Tamil Nadu	Odisha, Andhra Pradesh, Karnataka and Tamil Nadu
Highest point	Anamudi (2,695 m)	Arma Konda (1,680 m)
Peaks	Kudermukh (1892m) Puspagiri (1714m) Kalsubai (1646 m) Salher (1567 m) Mahabaleshwar (1438 m) Harischandra (1424 m)	Deomali (1672 m) Gali Konda (1643 m) Sinkram Gutta (1620 m) Dewodi-Munda (1598 m) Singa-Raju (1561 m) Mahendragiri (1,501 m)
Rivers flowing through	Godavari, Tungabhadra, Krishna, Thamiraparani and Kaveri.	Godavari, Kaveri, Krishna, Mahanadi and Tungabhadra
Major Waterfalls	Thoseghar Falls, Jog Falls, Kunchikal Falls, Dudhsagar Falls, Sivasamudram Falls, Unchalli Falls.	Barehipani Falls, Kiliyur Falls, Nuranang Falls, Lalguli Falls, Thalaiyar Falls
Highest waterfall	Thoseghar Falls (500 m)	Barehipani Falls (399)
* <i>In the Nilgiris the Western Ghats joins the Eastern Ghats.</i>		



Major Passes in Peninsular India

Pass	Location
Amba Ghat	Ratnagiri-Kolhapur road (NH 204) in Maharashtra
Bhor Ghat or Bor Ghat	Karjat and Khandala in Maharashtra
Chorla Ghat	It is a nature destination located on the intersection of the borders of Goa, Karnataka and Maharashtra.
Haldighati pass	connects Rajsamand and Pali district of Rajasthan
Kasara Ghat or Thal Ghat	Kasara in Maharashtra, is located on the busy Mumbai–Nashik route
Kumbharli Ghat	Connects the coastal Ratnagiri District of Maharashtra with the Satara District in Desh region.
Malshej Ghat	Thane district of Maharashtra
Nane Ghat	Junnar in Pune district of Maharashtra
Palakkad Gap or Palghat Gap	between Coimbatore in Tamil Nadu and Palakkad in Kerala
Varandha Ghat	located between NH4 and Konkan in Maharashtra

Significance of Peninsular Plateau

- The Peninsular region of India is rich in both the metallic and non-metallic minerals. About 98% of the Gondwana coal deposit of India is found in the peninsular region.
- A substantial part is covered by black earth (Regur soil) facilitating rich harvest of cotton, millet, maize, pulses, oranges etc.

- Some areas are also useful for cultivation of rubber, tea, coffee, citrus fruits, spices, tobacco, groundnut and oilseeds.
- On the southern and eastern parts of Peninsular India are large stretches of Archaean, Dharwar, Cuddapah and Vindhyan formations in which red, brown and laterite soils have developed over time.
- The Western Ghats, Nilgiris and the Eastern Ghats are covered by thick tropical moist deciduous and semi-evergreen forests.
- The rivers flowing eastward into the Bay of Bengal make several gorges, waterfalls, rapids and cataracts, which have been harnessed for the generation of hydro-electricity. The rivers originating from the Western Ghats offer great opportunity for the generation of hydel power and irrigation of agricultural crops and orchards.
- There are numerous hill stations and hill resorts, of which Ooty, Udhagamandalam, Kodaikonal, Mahabaleshwar, Khandala, Matheron, Pachmarhi, and Mount Abu are the most important.
- The hilly and mountainous areas of the Peninsula are the abodes of many scheduled tribes. South of the Vindhyan is a predominance of Dravidian culture.

THE INDIAN DESERT or THAR DESERT

- It is the world's 17th largest desert, and the world's 9th largest subtropical desert.
- In India, it covers about 320,000 km², of which 60% is in Rajasthan and extends into Gujarat, Punjab, and Haryana.
- About 85% of the Thar Desert is in India, and the remaining part in Pakistan.
- The desert continues into Pakistan as the **Cholistan Desert**.
- Annual temperatures can range from 0°C in the winter to over 50°C during the summer.
- This region gets very less rainfall which is less than 150 mm in a year.
- Luni is the only large river but some streams appear during rainy season.
- The Luni is a river of western Rajasthan. It originates in the Pushkar valley of the Aravalli Range, near Ajmer and ends in the marshy lands of Ran of Kutch in Gujarat.
- Crescent-shaped dunes (barchans) are found in this area.

Great Rann of Kutch

- It is a seasonal salt marsh located in the Thar Desert in the Kutch District of Gujarat, India.
- In India's summer monsoon, the flat desert of salty clay and mudflats, which average 15 meters above sea level, fills with standing water. In very wet years, the wetland extends from the Gulf of Kutch on the west through to the Gulf of Cambay on the east.



Great Rann of Kutch

- This is one of the hottest areas of India - with summer temperatures averaging and peaking at 49.5 °C. Winter temperatures reduce dramatically and can go below 0 °C (32 °F).

THE COASTAL PLAINS

- The coastal plains of India are located along the Arabian Sea coast in the west and along the Bay of Bengal coast in the east.
- The coastal plains were formed by the depositional action of the rivers and the erosional and depositional actions of the sea-waves.
- According to their location to the east or west of the peninsular, they are called: East coastal plain, and West coastal plain.

Eastern and Western Coastal Plain

	Eastern Coastal Plain	Western Coastal Plain
Located	From Tamil Nadu in the south to West Bengal in the north.	From Gujarat in the north and end at Kerala in the south.
Length	1100 km	1400 km
Width	100 to 130 km	10 to 80 km
Parts	Northern part = Northern Circars ; between Mahanadi and Krishna Southern part = Coromandel Coast ; between Krishna and	Northern part = Konkan (Mumbai-Goa) Central stretch = Kanara (Coastal Karnataka) Southern stretch = Malabar

Kaveri rivers

Coast (Western Konkan – Kanyakumari)

Rivers Mahanadi, Godavari, Kaveri, Tapi (Tapati), Narmada, and Krishna
Mandovi and Zuari.

** **Chilika Lake** (Length : 64.3 km) is the largest brackish water in the country is located on the East Coast. It is the largest coastal lagoon in India and the second largest lagoon in the world.*

THE ISLANDS

India has two group of islands (i.e. **Lakshadweep** in the Arabian Sea and **Andaman & Nicobar Islands** in the Bay of Bengal).

Lakshadweep Islands

- It lie 200 to 300 km off the coast of Kerala in the Arabian Sea with an area of 32 km².



- They consist of twelve **atolls**, three **reefs**, and five **submerged banks**, with a total of about 36 islands and islets.

Andaman and Nicobar Islands

- It located 1,255 km from Kolkata and 193 km from Cape Negrais in Burma.
- This group of islands can be divided into two groups. The Andaman is in the north and the Nicobar is in the south.
- These islands are located close to equator and thus, experience equatorial type of climate and also have thick forest cover.



- These islands too have rich biodiversity (flora & fauna).
- The **Barren Island** in the Andaman has an active volcano. **Narcondam** is another volcanic island in the Bay of Bengal.

Major islands of India

- **Chorao** is an island along the river Mandovi near Panaji, Goa, India.
- **Elephanta** Island is one of the islands in Mumbai Harbor.
- **Kalpeni** is an island in the Union Territory of Lakshadweep, India.
- **Rameswaram** Island is a small island in the Gulf of Munnar.
- **Willingdon** Island is the home of the modern port that serves Kochi in Kerala, India.
- **Majuli** is a river island of the Brahmaputra river, Assam, India.
- **Sriharikota** is a barrier island in Andhra Pradesh.
- **Salsette** Island is India's most populated island on which the city of Mumbai is located.
- Forty-two islands in the Gulf of Kutch constitute the **Marine National Park**.

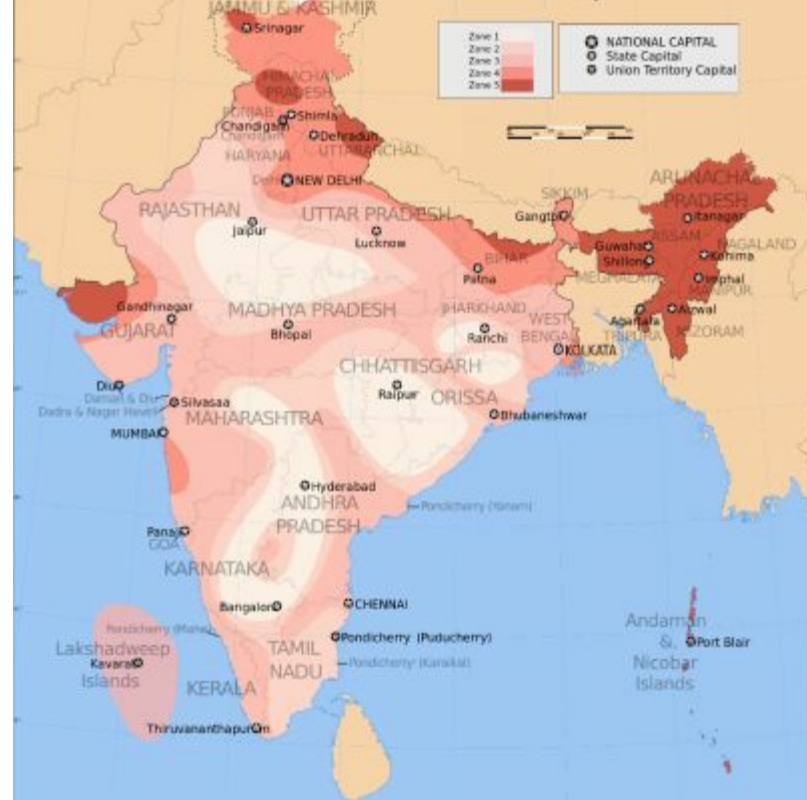
EARTHQUAKES IN INDIA

- The major reason for the high frequency and intensity of the earthquakes is that the Indian plate is driving into Asia at a rate of approximately 47 mm/year.
- Center for Seismology, Ministry of Earth Sciences is nodal agency of Government of India dealing with various activities in the field of seismology and allied disciplines.
- The earthquake zoning map of India divides India into 4 seismic zones (Zone 2, 3, 4 and 5)
- The **Modified Mercalli** (MM) intensity, which measures the impact of the earthquakes on the surface of the earth, broadly associated with various zones, is as follows:

Seismic Zone	Intensity on MMI scale
II (Low intensity zone)	VI (or less)
III (Moderate intensity zone)	VII
IV (Severe intensity zone)	VIII
V (Very severe intensity zone)	IX (and above)

Indian Earthquake Zones

India Earthquake Zone Map



Major Earthquakes in India

Dates	Location	Magnitude
December 26, 2004	off west coast northern Sumatra India Sri Lanka Maldives	9.3
August 15, 1950	Arunachal Pradesh	8.6
June 12, 1897	Shillong, Assam	8.3
June 16, 1819	Gujarat	8.2
June 26, 1941	Andaman Islands	8.1
June 12, 1897	Shillong	8.1
December 31, 1881	Andaman Islands	7.9
April 25, 2015	Northern India, North East India	7.8
April 4, 1905	Himachal Pradesh	7.8
October 26, 2015	Northern India	7.7
August 10, 2009	Andaman Islands	7.7
May 31, 1935	Quetta, Baluchistan	7.7
October 8, 2005	Kashmir	7.6
January 26, 2001	Gujarat	7.6
September 18, 1737	Kolkata	7.6
May 12, 2015	Northern India, North East India	7.3
October 20, 1991	Uttarkashi, Uttarakhand	7.0

September 18, 2011	Gangtok, Sikkim	6.9
January 3, 2016	North East India	6.7

RIVER SYSTEM IN INDIA

River System	Length (km)	Originates From	Ends in	Places Benifited
Indus	3100	In Tibet Kalish Range 5080 mts.	Arabian sea	India and Pakistan
Ganga (Bhagirati)	2480	Gangothri	Bay of Bengal	Uttar Pradesh, Uttarakhand, Bihar, West Bengal
Yamuna (Jamuna)	1370	Garhwall in Yamunotri	Bay of Bengal	Delhi, Haryana and UP
Brahmaputra	725	Lake Manasarovar	Bay of Bengal	North Eastern state
Kaveri (Dakshina Ganga" or Ganges of the south)	805	Hills of Coorg, Karnataka	Bay of Bengal	Karnataka and Tamilnadu
Godavari	1465	Nasik Hills	Bay of Bengal	South-easterly part of Andhra Pradesh
Krishna	1400	Near Mahabaleshwar in Maharashtra	Bay of Bengal	Maharastra & Andhrapradesh
Narmada	1312	Amarkantak hill in Madhya Pradesh	Arabian sea	Madhya Pradesh and Maharastra
Tapti	724	Bettul	Arabian sea	Madhya Pradesh and Maharastra
Mahanadi	858	Amarkantak Plateau	Bay of Bengal	Jharkhand, Chhattisgarh, Odisha
Vaigai	240	Cardaman Hills	Bay of Bengal	Madurai and Ramanathapuram in Tamil Nadu
Periyar	244	Cardaman Hills	Bay of Bengal	Tamil Nadu and Kerala
Thamiraparani	123	Agasthiyar Hills	Gulf of Mannar	Thirunelveli in Tamil Nadu

India Rivers and Lakes Map

Fresh Water Lake
River
Salt Water Lake
Coastline



INDIAN MAJOR CITIES ON RIVER BANKS

State	City	River
Andhra Pradesh	Nellore	Pennar
Andhra Pradesh	Rajahmundry	Godavari
Andhra Pradesh	Vijayawada	Krishna
Assam	Dibrugarh	Brahmaputra
Assam	Guwahati	Brahmaputra
Bihar	Bhagalpur	Ganges
Bihar	Hajipur	Ganges
Bihar	Patna	Ganges
Daman	Daman	Daman Ganga River
Delhi	New Delhi	Yamuna
Gujarat	Ahmedabad	Sabarmati
Gujarat	Bharuch	Narmada
Gujarat	Surat	Tapi

Gujarat	Vadodara	Vishwamitri
Jammu & Kashmir	Srinagar	Jhelum
Karnataka	Bagalkot	Ghataprabha
Karnataka	Bangalore	Vrishabhavathi
Karnataka	Bhadravathi	Bhadra
Karnataka	Honnavar	Sharavathi
Karnataka	Hospet	Tungabhadra
Karnataka	Karwar	Kali
Karnataka	Mangalore	Netravati, Gurupura
Karnataka	Shimoga	Tunga River
Madhya Pradesh	Gwalior	Chambal
Madhya Pradesh	Jabalpur	Narmada
Madhya Pradesh	Ujjain	Shipra
Maharashtra	Karad	Krishna, Koyna
Maharashtra	Karjat	Ulhas
Maharashtra	Kolhapur	Panchaganga
Maharashtra	Mahad	Savitri
Maharashtra	Malegaon	Girna River
Maharashtra	Nanded	Godavari
Maharashtra	Nashik	Godavari
Maharashtra	Pune	Mula, Mutha
Maharashtra	Sangli	Krishna
Odisha	Banki	Mahanadi
Odisha	Brahmapur	Rushikulya
Odisha	Chhatrapur	Rushikulya
Odisha	Cuttack	Mahanadi
Odisha	Rourkela	Brahmani
Odisha	Sambalpur	Mahanadi
Punjab	Ferozpur	Sutlej
Rajasthan	Kota	Chambal
Tamil Nadu	Chennai	Cooum, Adyar
Tamil Nadu	Coimbatore	Noyyal
Tamil Nadu	Erode	Kaveri
Tamil Nadu	Madurai	Vaigai
Tamil Nadu	Thiruchirapalli	Kaveri
Tamil Nadu	Tiruchirapalli	Kaveri
Tamil Nadu	Tirunelveli	Thamirabarani
Telangana	Hyderabad	Musi
Telangana	Nizamabad	Godavari
Uttar Pradesh	Agra	Yamuna
Uttar Pradesh	Allahabad	Ganges

Uttar Pradesh	Auraiya	Yamuna
Uttar Pradesh	Ayodhya	Saryu
Uttar Pradesh	Chakeri	Ganges
Uttar Pradesh	Etawah	Yamuna
Uttar Pradesh	Farrukhabad	Ganges
Uttar Pradesh	Fatehgarh	Ganges
Uttar Pradesh	Gorakhpur	Rapti
Uttar Pradesh	Jaunpur	Gomti
Uttar Pradesh	Kannauj	Ganges
Uttar Pradesh	Kanpur	Ganges
Uttar Pradesh	Kanpur Cantonment	Ganges
Uttar Pradesh	Lucknow	Gomti
Uttar Pradesh	Mathura	Yamuna
Uttar Pradesh	Mirzapur	Ganga
Uttar Pradesh	Shuklaganj	Ganges
Uttar Pradesh	Varanasi	Ganges
Uttarakhand	Badrinath	Alaknanda
Uttarakhand	Haridwar	Ganges
West Bengal	Kolkata	Hugli

MAJOR LAKES OF INDIA

1. Largest fresh water lakes India : Wular Lake, Jammu and Kashmir (Length: 16 km)
2. Largest artificial lake in India : Bhojtal or Upper lake, Madhya Pradesh (Length: 31.5 km)
3. Largest saline water lake in India : Chilika Lake, Odisha (Length : 64.3 km)
4. Highest Lake in India : Cholamu Lake or Tso Lhamo lake, Sikkim (Altitude : 5,330 m)

Other state-wise lakes

State	Lakes
Andhra Pradesh	Kolleru Lake, Pulicat Lake
Assam	Deepor Beel, Chandubi Lake, Haflong Lake, Son Beel
Bihar	Kanwar Lake
Gujarat	Hamirsar Lake, Kankaria Lake, Nal Sarovar, Narayan Sarovar, Thol Lake, Vastrapur Lake, Lakhota Lake, Sursagar Lake
Himachal Pradesh	Brighu Lake, Dashir Lake, Dhankar Lake, Kareri (Kumarwah) lake, Khajjiar Lake, Macchial Lake, Maharana Pratap Sagar, Manimahesh Lake, Suraj Taal, Chandra Taal
Haryana	Badkhal Lake, Brahma Sarovar, Karna Lake,

Sannihit Sarovar, Surajkund Lake, Tilyar Lake, Blue Bird Lake

Jammu and Kashmir

Dal Lake, Pangong Tso, Tso Moriri, Wular Lake, Manasbal Lake, Mansar Lake, Sheshnag Lake

Karnataka

Bellandur Lake, Ulsoor Lake, Sankey Lake, Hebbal Lake, Lalbagh Lake, Agara Lake, Pampa Sarovar

Kerala

Ashtamudi Lake, Maanaanchira Lake, Padinjarechira Lake, Paravur Kayal, Punnamada Lake (Vembanad lake), Shasthamkotta lake, Vadamkanchira, Vellayani Lake

Madhya Pradesh

Upper Lake, Lower Lake

Uttar Pradesh

Moti Jheel, Kanpur

Maharashtra

Gorewada Lake, Lonar Lake, Pashan Lake, Powai Lake, Rankala Lake, Shivajisagar lake, Talao Pali Lake, Upvan Lake, Venna Lake

Meghalaya

Umiam Lake

Manipur

Loktak Lake

Mizoram

Palak Dil Lake, Tam Dil Lake

Odisha

Chilka Lake, Anshupa Lake, Kanjia lake

Punjab

Kanjli Wetland, Harike Wetland, Ropar Wetland

Rajasthan

Dhebar Lake, Kaylana Lake, Nakki Lake, Pachpadra Lake, Pushkar Lake, Ana Sagar Lake, Rajsamand Lake, Sambhar Salt Lake, Ramgarh Lake, Siliserhlake, Alwar, Man Sagar lake, Lake Salusagar, Dudh Talai, Fateh Sagar Lake, Pichola lake, Rangsagar lake, Swaroopsagar lake

Sikkim

Gurudongmar Lake, Khecheopalri Lake, Lake Tsongmo, Lake Cholamu

Telangana

Hussain Sagar, Osman Sagar, Himayat Sagar, Shamirpet Lake, Mir Alam Tank, Durgam Cheruvu (Secret Lake), Saroornagar Lake, Alwal Cheruvu Lake

Tamil Nadu

Berijam Lake, Chembarambakkam Lake, Kodaikanal Lake, Ooty Lake, Red Hills Lake (Puzhal lake), Singanallur Lake, Sholavaram Lake, Veeranam Lake

Uttar Pradesh

Ramgarh Taal Lake, Keetham Lake, Belasagar Lake, Barua Sagar Tal, Sheikha Jheel

Uttarakhand	Bhimal Lake, Dodital, Nainital Lake, Naukuchiatal, Sat Tal
West Bengal	Rabindra Sarobar (Dhakuria Lake), Senchal Lake, East Calcutta Wetlands, Santragachhi Lake

Major River Projects and their Beneficiary States

Project	River	Purpose	Beneficiary States
Beas Project	Beas	Power and Irrigation	Rajasthan, Haryana, Punjab and Himachal Pradesh
Bhakra Nangal Project	Sutlej	Power and Irrigation	Punjab, Himachal Pradesh, Haryana and Rajasthan
Chambal Project	Chambal	Power and Irrigation	Madhya Pradesh and Rajasthan
Damodar valley	Damodar	Power, Irrigation and flood control	Jharkhand and Paschim Banga, shared by Madhya Pradesh
Durgapur Barrage	Damodar	Irrigation and navigation	Karnataka, Paschim Banga and Jharkhand
Farakka Project	Ganga, Bhagirathi	Power, Irrigation	Paschim Banga
Gandak River Project	Gandak	Power and Irrigation	Bihar, Uttar Pradesh, Nepal (Joint Venture of India and Nepal)
Hirakud	Mahanadi	Power and	Odisha

Iddukki Project	Periyar	Irrigation Hydroelectricity	Kerala
Kakrapara Project	Tapti	Irrigation	Gujarat
Kosi Project	Kosi	Flood Control, Power and Irrigation	Bihar and Nepal
Kundah Project	Kundah	Hydroelectricity and Irrigation	Tamil Nadu
Mahanadi Delta Project	Mahanadi	Irrigation	Odisha
Mahi Project	Mahi	Irrigation	Gujarat
Malaprabha Project	Malaprabha	Irrigation	Karnataka
Mandi Project	Beas	Irrigation	Himachal Pradesh
Matatilla Project	Betwa	Multipurpose Power and Irrigation	Uttar Pradesh and Madhya Pradesh
Nagarjunasagar Project	Krishna	Power and Irrigation	Andhra Pradesh and Telangana
Poochampad Project	Godavari	Irrigation	Telangana
Rajasthan Canal Project	Sutlej, Beas and Ravi	Irrigation	Rajasthan, Haryana, Punjab
Ramganga Multipurpose Project	Chisot stream near kala	Power and Irrigation	Uttar Pradesh
Rihand Scheme	Rihand	Hydroelectricity	Uttar Pradesh
Shivasamudram Project	Cauveri	Irrigation	Karnataka
Tata Hydel Scheme	Bhima	Hydroelectricity	Maharashtra
Tawa Project	Tawa (Narmada)	Irrigation	Madhya Pradesh
Tehri Dam Project	Bhilagana, Bhagirathi	Hydroelectricity	Uttarkhand
Thein Project	Ravi	Irrigation	Punjab
Tugabhadra	Tungabhadra	Power and	Andhra

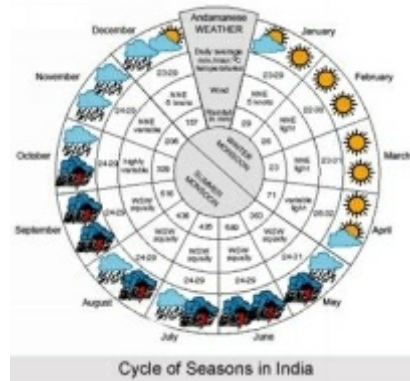
Project		Irrigation	Pradesh and Karnataka
Ukai Project	Tapti	Power and Irrigation	Gujarat

CLIMATE IN INDIAN SUBCONTINENT

- India has 'Tropical Monsoon' type of climate. The word monsoon has been derived from the Arabic word 'Mausim' which means seasonal reversal of the winds during the course of the year.
- The whole of India has a tropical monsoonal climate, since the greater part of the country lies within the tropics, and the climate is influenced by the monsoons.
- The position of the mountain ranges and direction of the rain-bearing winds are the two main factors that determine the climate of India.
- The climate in Indian is strongly influenced by the **Himalayas** and the **Thar Desert**.
- During the winter season, the winds generally blow from northeast to southwest (land to sea), while in summer season the winds blow from southwest to northeast (sea to land).
- The average annual rainfall is less than **13 cm** over the **western Rajasthan**, while at **Mawsynram** in the Meghalaya has as much as **1141 cm**. It is the **wettest place** on the earth.

Seasons in India

Ritu	Season	Gregorian month
Vasanta	Spring	~ March to May
Grishma	Summer	~ May to July
Varsha	Monsoon	~ July to September
Sharad	Autumn	~ September to November
Hemanta	Fall winter	~ November to January
Shishira	Winter	~ January to March



Factors Affecting the Climate of India

Latitude

India lies between 8° 4' N and 37° 6' N latitudes. The Tropic of Cancer passes through the middle of India, thus making the southern half of India in the **Torrid Zone** and the northern half in the **Temperature Zone**.

Himalaya Mountains

The Himalayas play an important role in lending a sub-tropical touch to the climate of India. The lofty Himalaya Mountains form a barrier which effects the climate of India. It prevents the cold winds of north Asia from blowing into India, thus protecting it from severely cold winters. It also traps the Monsoon winds, forcing them to shed their moisture within the sub-continent.

Altitude

Temperature decreases with height. Places in the mountains are cooler than places on the plains.

Distance from the sea

With a long coastline, large coastal areas have an equable climate. Areas in the interior of India are far away from the moderating influence of the sea. Such areas have extremes of climate.

Geographical Limits

Western Disturbances: The low pressure systems that originate over the eastern Mediterranean region in winter and move eastwards towards India passing over Iran, Afghanistan and Pakistan are

responsible for the winter rain in northern India.

Conditions in the Regions Surrounding India: Temperature and pressure conditions in East Africa, Iran, Central Asia and Tibet determine the strength of the monsoons and the occasional dry spells. For example, high temperatures in East Africa may draw the monsoon winds from the Indian Ocean into that region thus, causing a dry spell.

Conditions over the Ocean: The weather conditions over the Indian Ocean and the China Sea may be responsible for typhoons which often affect the east coast of India.

Jet Streams: Air currents in the upper layers of the atmosphere known as jet streams could determine the arrival of the monsoons and departure of the monsoons. The Scientists are studying the jet streams and how it may affect the climate of India but much remains to be learned about this phenomena.

Climatic Regions of India

Tropical Rain Forest

- This type of climate is found on the west coastal plain and Sahyadris and in parts of Assam
- The temperatures are high, not falling below 18.2 degree c even during winter and rising to 29 degree C in April and May, the hottest months.

Tropical savanna

- Most of the peninsula, except the semiarid zone in the leese of the Sahyadris experiences this type of climate.
- A long dry weather lasting through winter and early summer and high temperature remaining above 18.2 degree C even during the winter seasons and rising as high as 32 degree C in summer are the chief characteristics of this climate.
- Nagpur has a mean temperature of 35.4 degree C for May which is the hottest month and 20.7 degree C for December the coldest month in the year.
- The natural vegetation all over the area is savanna.

Tropical Semi-Arid Steppe Climate

- The rain-shadow belt, running southward from central Maharashtra to Tamil Nadu, in the leese of the Sahyadris and Cardamom Hills come under this type of climate of low and uncertain rainfall.
- Temperature varying from 20 degree C to 23.8 degree C for December and 32.8 degree C for May. Agriculturally, the climate is suitable only for dry farming and livestock rearing.

Tropical and Sub-Tropical Steppe

- This type of climate occurs over a broad crescent from Punjab to Kachchh between the Thar Desert to its west and the more humid climates of the Ganga Plain and the Peninsula to its east and south respectively.
- The climate, therefore, is transitional between these two areas. The annual rainfall is not only

low but it is also highly erratic.

Tropical Desert

- The western part of Barmer, Jaisalmer and Bikaner districts of Rajasthan and most of the part of Kachchh form the sandy wastes of the Thar which experiences a typical desert climate.
- Ganganagar has recorded a maximum temperature of 50 degree C, the highest record.

Humid Sub-Tropical with Winter

- A large area to the south of the Himalayas, east of the tropical and sub-tropical steppe and north of the tropical savanna running in a long belt from Punjab to Assam with a south-westward extension into Rajasthan east of the Aravalli Range, has this type of climate.
- Winters are dry except for a little rain received from the westerly depressions.

Mountain Climate

- The Himalayan and Karakoram ranges experience this type of climate with sharp contrasts between the temperatures of the sunny and shady slopes, high diurnal range of temperatures and high variability of rainfall.
- The trans-Himalayan region, Ladakh, where the south-west monsoon fails to reach, has a dry and cold climate and a sparse and stunted vegetation.

Drought in India

- The dry areas of Rajasthan and the adjoining part of Haryana and Gujarat are liable to frequent drought conditions.
- Another area liable to frequent drought lies on the leeward side of the Western Ghats.

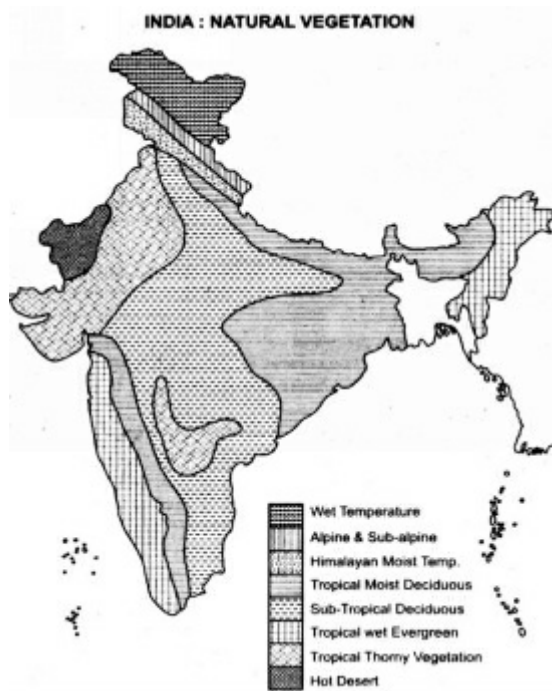
Characteristics of Rainfall in India

Type of Rainfall	Areas
Areas of very little rainfall (lower than 50 cm)	Western Rajasthan, northern part of Kashmir, the Deccan Plateau and Punjab.
Areas of low precipitation (50-100 cm)	Eastern Rajasthan, Upper Ganga basin, Southern plains of Karnataka, Punjab, Tamil Nadu, and Andhra Pradesh.
Areas of comparatively heavy rainfall (100-200 cm)	Southern areas of Gujarat, north-eastern Peninsular region, east Tamil Nadu, eastern Maharashtra, Western Ghats, Orissa, Madhya Pradesh, and the central Gangetic basin.
Areas of heavy rainfall (more than 200 cm)	The western seashores, the Western Ghats, Hills of Meghalaya, and the Sub-Himalayan range territories in North East. West Bengal, Assam,

Western Coast, and southern part of east Himalayas.

FOREST AND NATURAL VEGETATION

India's forest cover to be about 68 million hectares, or 24% of the country's area.



The types of forests in India can be divided into five major types on the basis of certain common features like dominant natural vegetation, climatic regions etc. These are (1) Tropical Evergreen and Semi-Evergreen forests, (2) Tropical Deciduous Forests, (3) Tropical Thorn Forests, (4) Montane Forests and (5) Littoral and Swamp Forests.

Tropical Evergreen and Semi-Evergreen Forests

- **Tropical Evergreen forests** are typically found in warm and humid areas with rainfall more than 200cm and mean annual temperature more than 22 degrees.
- These forest are found in western slopes of Western Ghats, hilly areas of N.E states, Andaman and Nicobar islands.
- No fixed seasons for flowering, shedding or fruiting in these forests. They are green all the year round.
- Very dense forests and well stratified. Very tall Trees which can go upto **60m** or above are found in Tropical Evergreen forests.
- Major Species of Evergreen forests are **Rosewood, Ebony, Mahogany** etc.
- **Tropical Semi-Evergreen Forests** are found in less rainy areas of the region. These forests have mix of Evergreen and Deciduous varieties.
- Major species of Semi-evergreen forests are **White Cedar, Hillock or Jhalna, Kail, Oak, Chestnut** etc.

Tropical Deciduous Forests

These are the most widespread forests out of all the types of forests in India, and also known as

Monsoon Forests.

They are found in the regions having rainfall between 70-200 cm.

Tropical Deciduous Forests are further classified into two types of forests on the basis of rainfall- **Tropical Moist Deciduous Forests** and **Tropical Dry Deciduous Forests**.

Tropical Moist Deciduous Forests are present in the areas having rainfall between 100-200 cm and found in eastern slopes of Western Ghats, foothills of Himalayas in North-eastern states and Odisha.

Major Species : *Teak, Sal, Sheshum, Amla, Kusum, Mahua, Sandalwood etc.*

Tropical Dry Deciduous Forests are present in the areas having rainfall between 70-100 cm and found in rainier areas of peninsula and the plains of Uttar Pradesh and Bihar. During Dry seasons, Trees shed their leaves completely and the forest appears like a **Grassland**. **Major Species:** *Khair, Tendu, Palas, axlewood, bel etc.*

Tropical Thorn Forests

- These forests are found in areas having less than **50 cm** of Rainfall.
- Variety of Grasses and Shrubs are found in these thorn forests.
- They are present in dry and semi-dry areas of south-west Punjab, Haryana, Gujarat, Rajasthan, Madhya Pradesh and Uttar Pradesh.
- Trees remain leafless for most part of the year.
- Tussocky Grass grows upto 2m in these areas.

Montane Forests

This type of Forest is found in the **Mountainous** or **Hilly regions**.

Montane Forests in India can be classified in two types of forests – the **Northern Montane Forests** and the **Southern Montane Forests**.

Northern Montane Forests

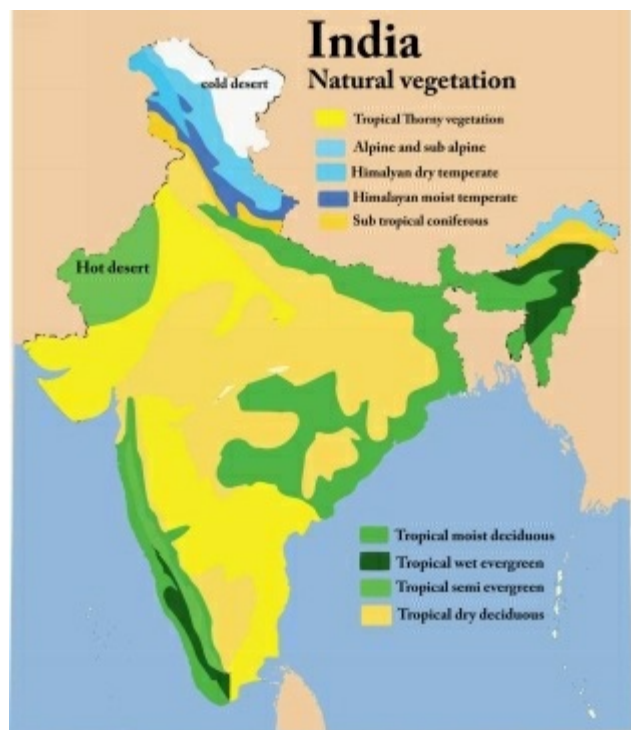
- These forests are found in the Himalayan ranges.
- The vegetation type changes with increase in altitude from Tropical To Tundra.
- Deciduous forests are found at the foot-hills of the mountains.
- Between 1000 – 2000 m, wet-temperate type of Forests are found.
- Evergreen broad-leaf trees such as Oak, Chestnut are commonly found in some areas at this height.
- Between 1500 – 1750 m, Pine and Deodar trees are found in some areas. Chinar and Walnut trees are present in Kashmir Himalayas at this altitude.
- Between 2200 – 3000 m, Blue Pine and Spruce appear.
- At an altitude of 3000 – 4000 m, Silver firs, Junipers, pines, birch and rhodendrons are found.
- At Higher altitudes, Mosses and Lichens are present.

Southern Montane Forests

- They are found in three major areas in Southern India – Hills of Western Ghats, Nilgiri Hills and Vindhya.
- As, the Hills in Southern India are closer to the tropics and with average height of 1500m , they only show two types of vegetation – Temperate in higher regions at sub-tropical in lower regions.
- The Temperate Forests of Nilgiri, Annamalai and Panini Hills are called as **Sholas**.
- **Major Species:** *Magnolia, Laurel, cinchona* and *wattle*.

Littoral and Swamp Forests or Wetland Forests

- India has rich variety of these types of forests.
- These forests are mainly found in reservoirs of Deccan Plateau, saline coastline of Gujarat, Rajasthan and Gulf of Kachchh, eastern coast deltas, lake and rivers of Kashmir and Ladakh, swamps in north-east India etc.
- Mangroves Forests grow along coast in the salt-marshes, tidal creeks and estuaries.
- Mangroves are home to a large variety of Birds.
- Also, contains a number of Salt-tolerant species of plants.
- Mangroves in India are largely present in Andaman and Nicobar Island,
- Sunderban Deltas and Mahanadi, Godavari, Krishna deltas.



Top 5 states of Forest Area

State	Forest Area (in million hectares)
Madhya Pradesh	7.75
Arunachal Pradesh	6.73
Chhattisgarh	5.6

Maharashtra	5.06
Odisha	5.03

SOILS IN INDIA



In India, various types of soils are found and their formations are influenced by certain factors such as altitude, climate disproportionate rainfall and many others. The major types of soils found in India are:

Soil type	Occurrence States	Compositions	Crops Grow
Alluvial	Punjab, Haryana, Uttar Pradesh Bihar, Jharkhand	Rich in potash and lime, but deficient in nitrogen and phosphoric acid	Large variety of Rabi and Kharif crops such as wheat, rice, sugarcane, cotton and jute
Black or <i>Regur</i>	Deccan Plateau, Valleys of Krishna and Godavari, Andhra Pradesh, Madhya Pradesh and Tamil Nadu	Rich in iron, lime, aluminum, magnesium, calcium, but lacks in nitrogen, phosphorus and humus.	Cotton, sugarcane, jowar, tobacco, wheat, rice
Red	Eastern parts of Deccan Plateau, Tamil Nadu, Goa, Odisha and Meghalaya	Rich in iron and potash, but deficient in lime, nitrogen phosphorus and humus	Wheat, rice, cotton, sugarcane and Pulses

Laterite	Summits of Eastern and Western Ghats, Assam hills, Andhra Pradesh, Karnataka, West Bengal and Odisha	Rich in iron but poor in silica, lime, phosphorus, potash and humus	Tea, coffee, rubber, cashew and millets
Desert	West and North-West India, Rajasthan, North Gujarat and Southern Punjab.	Rich in soluble salts, but deficient in organic matter. rich enough in phosphate though poor in nitrogen	lime, millets, barley, cotton, maize and pulses (with irrigation)
Mountain	Hills of Jammu and Kashmir Uttarakhand and Assam hills	Rich in iron and humus, but deficient in lime	tea, fruits and medicinal plants (with fertilizers)
Saline and Alkaline	Drier parts of Bihar, Jharkhand, Uttar Pradesh, Haryana, Punjab, Rajasthan and Maharashtra	Many salts such as sodium, magnesium and calcium	Unfit for agriculture
Peaty and Marshy	Kerala, coastal regions of Odisha, Tamil Nadu and Sundarbans of West Bengal	Contain large amount of soluble salts and organic matter, but lack in potash and phosphates	Rice and jute

AGRICULTURE IN INDIA

India is the world's largest producer of many fresh fruits and vegetables, milk, major spices, select fibrous crops such as jute, staples such as millets and castor oil seed. India is the second largest producer of wheat and rice, the world's major food staples.

The **Indian Council of Agricultural Research (ICAR)** is the principal authority in farming and ancillary industries, which comprise learning and research.

*For more details about AGRICULTURE, please go to **Indian Economy (Chapter – AGRICULTURE)** and **General Science – Biology (Chapter – AGRICULTURE)** in this book.*

MAJOR CROPS OF INDIA

Crop	Major Crop Producing States
	Cereals

Wheat	Uttar Pradesh, Punjab and Haryana
Rice	West Bengal and Tamil Nadu
Gram	Madhya Pradesh and Tamil Nadu
Barley	Maharashtra, Uttar Pradesh and Rajasthan
Bajra	Maharashtra, Gujarat and Rajasthan
Cash Crops	
Sugarcane	Uttar Pradesh and Maharashtra
Poppy	Uttar Pradesh and Himachal Pradesh
Oil Seeds	
Coconut	Kerala and Tamil Nadu
Linseed	Madhya Pradesh and Uttar Pradesh
Groundnut	Andhra Pradesh, Gujarat and Tamil Nadu
Rape and mustard	Rajasthan and Uttar Pradesh
Sesame	Uttar Pradesh and Rajasthan
Sunflower	Maharashtra and Karnataka
Spices	
Pepper	Kerala, Karnataka and Tamil Nadu
Cashewnuts	Kerala, Tamil Nadu and Andhra Pradesh
Ginger	Kerala and Uttar Pradesh
Turmeric	Andhra Pradesh and Odisha
Fibre Crops	
Cotton	Maharashtra and Gujarat
Jute	West Bengal and Bihar
Silk	Karnataka and Kerala
Hemp	Madhya Pradesh and Uttar Pradesh
Plantations	

Coffee	Karnataka and Kerala
Rubber	Kerala and Karnataka
Tea	Assam and Kerala
Tobacco	Gujarat, Maharashtra and Madhya Pradesh



MINERAL RESOURCES OF INDIA

Mineral	Mines
	Metallic Mineral Mines
Iron	Karnataka, Odisha, Chhattisgarh, Goa
Manganese	Karnataka, Odisha, Madhya Pradesh, Maharashtra
Chromite	Odisha, Bihar, Karnataka, Maharashtra and Andhra Pradesh
Copper	Madhya Pradesh, Jharkhand
Bauxite	Odisha, Gujarat, Jharkhand, Maharashtra, Chhattisgarh
Gold	Karnataka, Andhra Pradesh
	Non-Metallic Mineral Mines
Limestone	Andhra Pradesh, Rajasthan, Madhya Pradesh, Gujarat, Chhattisgarh
Dolomite	Madhya Pradesh, Chhattisgarh, Odisha, Gujarat, Karnataka, West Bengal
Asbestos	Rajasthan, Andhra Pradesh and Karnataka
Gypsum	Rajasthan, Jammu and Kashmir

Graphite Odisha, Bihar

Atomic Mineral Mines

Uranium Jharkhand, Bihar, Uttar Pradesh

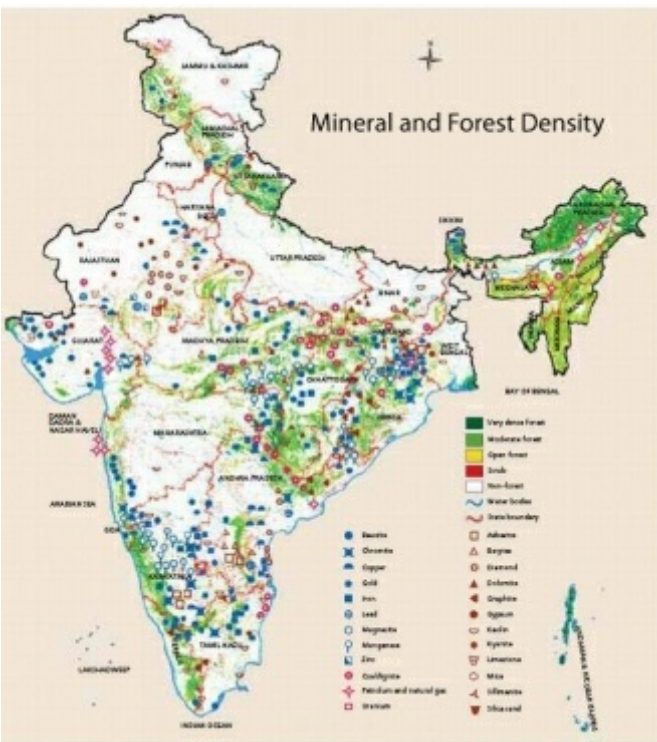
Thorium Kerala, Jharkhand, Bihar, Tamil Nadu and Rajasthan

Lithium Jharkhand, Madhya Pradesh, and Rajasthan

Zirconium Kerala and Jharkhand

Beryllium Andhra Pradesh, Sikkim, Jammu and Kashmir

Antimony Himachal Pradesh and Madhya Pradesh



TRANSPORT, COMMUNICATION AND TRADE

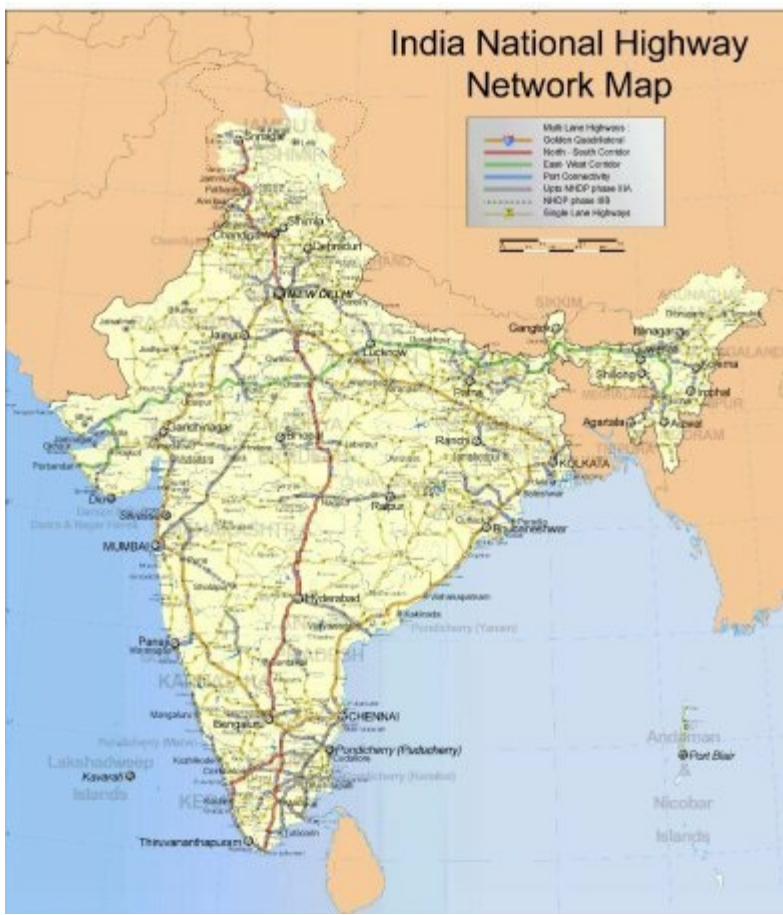
The transport system in India includes: Road, Rail, Inland waterways, Coastal shipping and Airways

ROAD

India has a road network of about 46 lakh kilometres.

India has the second largest road network in the world.

India National Highway Network Map



Indian Road Network

Types of Roads in India	Length (km)
Expressways	1,208
National Highways	92,851
State Highways	1,63,898
Major and other district roads	17,05,706
Rural & other roads	27,49,805

National Highways Authority of India (NHAI)

The National Highways Authority of India was constituted by an act of Parliament, the National Highways Authority of India Act, 1988. It is responsible for the development, maintenance and management of National Highways entrusted to it and for matters connected or incidental thereto. The Authority was operationalised in Feb, 1995.

National Highway Development Programme (NHDP)

The National Highways Development Project is a project to upgrade, rehabilitate and widen major highways in India to a higher standard. The project was implemented in 1998 under the leadership of Atal Bihari Vajpayee.

Golden Quadrilateral connects Four Metropolitan Cities (i.e. Delhi-Mumbai-Chennai-Kolkata-Delhi).

NS (North-South) Corridor Connects Srinagar to Kanniakumari and EW (East-West) Corridor

Connects Porbandar to Silchar.

The project-wise details NHDP all Phases as below.

NHDP Phase	Particulars	Length
NHDP-I & II	Balance work of GQ and EW-NS corridors	13,000 km
NHDP-III	4-laning	10,000 km
NHDP-IV	2-laning	20,000 km
NHDP-V	6-laning of selected stretches	5,000 km
NHDP-VI	Development of expressways	1,000 km
NHDP-VII	Ring Roads, Bypasses, Grade Separators, Service Roads etc.	700 km

Major National Highways

NH No.	Route	Distance in km
NH-1	New Delhi - Ambala - Jalandhar - Amritsar	456
NH-2	Delhi - Mathura - Agra - Kanpur - Allahabad - Varanasi - Kolkata	1465
NH-3	Agra - Gwalior - Nasik - Mumbai	1161
NH-4	Mumbai - Pune - Bangalore - Chennai	1235
NH-5	Jharpokharia - Bhubaneshwar - Vijaywada - Chennai	1533
NH-6	Hajira - Kolkata	1949
NH-7	Varanasi - Nagpur - Hyderabad - Bangalore - Kanyakumari	2369
NH-8	Delhi - Jaipur - Ahmedabad - Mumbai	1428
NH-9	Pune - Hyderabad - Vijaywada	841
NH-10	Delhi - Fazilka	403
NH-11	Agra - Jaipur - Bikaner	582
NH-12	Jabalpur - Bhopal - Jaipur	890
NH-15	Pathankot - Bikaner - Samakhiali	1526
NH-17	Panvel - Mangalore - Edapally	1269
NH-31	Barhi - Guwahati	1125
NH-76	Pindwara - Allahabad	1007
NH-86	Kanpur - Dewas	674
NH-200	Raipur - Chandikhole	740
NH-217	Raipur - Gopalpur	508

RAILWAYS

- Rail operations in India are handled by **Indian Railways**, a state-owned organization of the Ministry of Railways.

- It is one of the world's largest railway networks comprising 115,000 km of track over a route of 65,808 km and 7,112 stations.



FAST FACTS OF INDIAN RAILWAYS

First Passenger Train Ran On	16th April 1853 (between Bombay to Thane)
First Railway Bridge	Dapoorie Viaduct on the Mumbai-Thane route
First Rail Tunnel	Parsik Tunnel (1865) near Thane
First Ghats Covered by the Rail lines	Thal and Bhore Ghats
First Underground Railway	Calcutta METRO
First Computerized Reservation System started in	New Delhi (1986)
First Electric Train ran on	3rd Feb' 1925 (between Bombay VT and Kurla)
Toilets on Trains were introduced in	1891 (1st Class) & 1907 (lower classes)
Shortest Station Name	Ib (Odisha)
Longest Station Name	Venkatanarasimharajuvariapeta

	(Tamil Nadu)
Longest Railway Platform in the World	Gorakhpur Junction railway station (1.35 km length)
Longest Railway Bridge	Vembanad Rail Bridge (4,620 m length)
Longest Tunnel	Pir Panjal Railway Tunnel (11,215 m length)
Oldest Preserved Locomotive	Fairy Queen (1855), still in working order
Indian Railway's Fastest Train	Bhopal-Shatabdi (runs at a speed up to 195 km/h)
Train with Maximum Number of Halts	Howrah-Amritsar Express (115 halts)

- The manufacture of steam locomotives in the country was stopped in **1972**.
- The **Rail Museum in Delhi** is the largest in Asia.
- The longest running train covers a distance of 4273 km between Dibrugarh and Kanyakumari: It's called the **Vivek Express**.
- The shortest distance covered between two successive stations is **3 kilometers**
- The railway station of **Navapur** is built in two states; half in Maharashtra and the rest is in Gujarat.
- Indian Railways has a mascot – **Bholu**, the **Guard Elephant**.
- **The Maharajas' Express** is a luxury train owned and operated by Indian Railway Catering and Tourism Corporation. The Maharajas' Express was voted "The World's Leading Luxury Train" thrice, in a row at The World Travel Awards, 2012, 2013 and 2014.
- **Diamond Quadrilateral** is a project of the Indian railways to establish high speed rail network in India. It will connect the four metro cities in India, i.e. Delhi, Mumbai, Chennai and Kolkata.

Railway Zones in India

There are **16 zones** and the **68 divisions** in Indian Railways.

Name Railway :	Length in	Date
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Abbreviation	km	Established	Headquarters
Central : CR	3905	05-11-1951	Mumbai
East Central : ECR	3628	01-10-2002	Hajipur
East Coast : ECoR	2572	01-04-2003	Bhubaneswar
Eastern : ER	2414	14-04-1952	Kolkata
North Central : NCR	3151	01-04-2003	Allahabad
North Eastern : NER	3667	14-04-1952	Gorakhpur
North Western : NWR	5459	01-10-2002	Jaipur
Northeast Frontier : NFR	3907	15-01-1958	Guwahati
Northern : NR	6968	14-04-1952	Delhi
South Central : SCR	5803	02-10-1966	Secunderabad
South East Central : SECR	2447	05-04-2003	Bilaspur
South Eastern : SER	2631	01-08-1955	Kolkata
South Western : SWR	3177	01-04-2003	Hubli
Southern : SR	5098	14-04-1951	Chennai
West Central : WCR	2965	01-04-2003	Jabalpur
Western : WR	6182	05-11-1951	Mumbai

WATER TRANSPORT

The Central Water Transport Corporation (CIWTC) formed in 1967, headquartered in Kolkata, is mainly involved in transportation of goods, and the Inland Waterways Authority of India (IWAI) formed on October 27, 1986 for the development and regulation of inland waterways for shipping and navigation.

Number	Stretch	Estd. In	Distance covered
NW 1	Allahabad - Haldia stretch of the Ganges - Bhagirathi - Hooghly river system	October 1986	1620 km
NW 2	Sadiya - Dhubri stretch of Brahmaputra river	September 1988	891 km

NW 3	Kottapuram - Kollam stretch of the West Coast Canal, Champakara Canal and Udyogmandal Canal	February 1993	205 km
NW 4	Kakinada - Pondicherry stretch of canals and the Kaluvelly Tank, Bhadrachalam - Rajahmundry stretch of River Godavari and Wazirabad - Vijayawada stretch of River Krishna	November 2008	1095 km
NW 5	Talcher - Dhamra stretch of the Brahmani River, the Geonkhali - Charbatia stretch of the East Coast Canal, the Charbatia - Dhamra stretch of Matai river and the Mangalgadi - Paradip stretch of the Mahanadi River Delta	November 2008	623 km
NW 6	Lakhipur to Bhanga of river Barak	2013	121 km

* *NW = National Waterway*

PORTS

- Indian coastline is about 7516.6 kilometers and it is one of the biggest peninsulas in the world.
- India has 12 Major ports that handle large volume of traffic and 200 minor ports in India.
- The **Major Ports** are administered by the central government's shipping ministry.
- The **Minor and Intermediate ports** are administered by the relevant departments or ministries in the nine coastal states.
- The Coastal States in India are *Andhra Pradesh, Odisha, West Bengal, Tamil Nadu, Kerala, Karnataka, Goa, Maharashtra and Gujarat.*

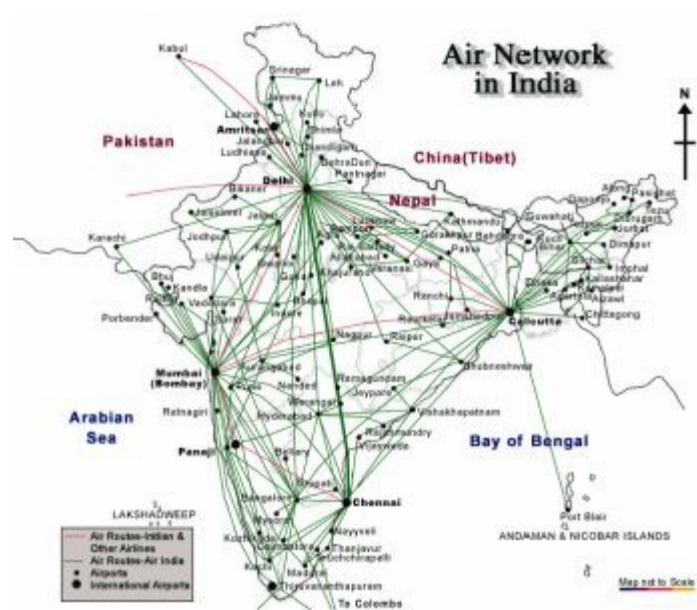
Major Ports in India

Name and State	Sea	Facts
Chennai - EC Tamil Nadu	Bay of Bengal	Second largest port
Cochin - WC Kerala	Arabian Sea	Natural Harbour
Ennore - EC Tamil Nadu	Bay of Bengal	Most modern-in private hands
Jawaharlal Nehru - WC Maharashtra	Arabian Sea	Largest container port
Kandla - WC Gujarat	Arabian Sea	First special economic zone
Kolkata - EC West Bengal	Bay of Bengal	Oldest operating port
Maormugoa - WC Goa	Arabian Sea	Goa's main port
Mumbai - WC Maharashtra	Arabian Sea	Busiest and biggest port
New Mangalore - WC Karnataka	Arabian Sea	Exports Kudremukh iron-ore
Paradip - EC Odisha	Bay of Bengal	Exports raw iron to Japan
Tuticorin - EC Tamil Nadu	Bay of Bengal	Southernmost
Vishakhapatnam - EC Andhra Pradesh	Bay of Bengal	Deepest Port

* **WC** : *Western Coast* & **EC** : *Eastern Coast*

AIR TRANSPORT

- India has bilateral Air Service Agreement with 103 countries.
- There are 450 airports in the country in various stages of development.
- Airports Authority of India (AAI), constituted in April 1995, manages a total of 125 Airports, which include 14 International Airports, 08 Customs Airports, 81 Domestic Airports and 25 Civil Enclaves at Defence Airfields.
- Ahmedabad, Amritsar, Bengaluru, Chennai, Delhi, Guwahati, Hyderabad, Jaipur, Kochi, Kolkata, Mumbai, Panaji, Srinagar, and Thiruvananthapuram are international airports.
- The Government of India has introduced 'Open Air Policy' for cargo in 1992.
- The Air India was established in 1947 deals mainly with international air service. Indian Airlines set up in 1953, is a major domestic air career of the country.



International Airports in India

Airport	City	State/Union Territory
Veer Savarkar International Airport	Port Blair	Andaman and Nicobar Islands
Visakhapatnam Airport	Visakhapatnam	Andhra Pradesh
Rajiv Gandhi International Airport	Hyderabad	Andhra Pradesh
Lokpriya Gopinath Bordoloi International Airport	Guwahati	Assam
Indira Gandhi International Airport	New Delhi	Delhi
Goa International Airport	whole state	Goa
Sardar Vallabhbhai Patel International Airport	Ahmedabad	Gujarat
Bengaluru International Airport	Bengaluru	Karnataka
Mangalore International Airport	Mangalore	Karnataka
Cochin International Airport	Kochi	Kerala
Calicut International Airport	Kozhikode	Kerala
Trivandrum International Airport	Thiruvananthapuram	Kerala
Chhatrapati Shivaji International Airport	Mumbai	Maharashtra
Dr. Babasaheb Ambedkar International Airport	Nagpur	Maharashtra
Tulihal Airport	Imphal	Manipur
Biju Patnaik International Airport	Bhubaneswar	Odisha
Sri Guru Ram Dass Jee International Airport	Amritsar	Punjab
Jaipur International Airport	Jaipur	Rajasthan
Chennai International Airport	Chennai	Tamil Nadu
Coimbatore International Airport	Coimbatore	Tamil Nadu
Tiruchirapalli International Airport	Tiruchirapalli	Tamil Nadu
Chaudhary Charan Singh Airport	Lucknow	Uttar Pradesh
Lal Bahadur Shastri Airport	Varanasi	Uttar Pradesh
Netaji Subhash Chandra Bose International Airport	Kolkata	West Bengal

GEOGRAPHICAL EPITHETS OF INDIA (NICKNAME AND PLACES)

Nickname	Place	Nickname	Place
Abode of the God	Prayag (Allhabad)	HITECH City	Hyderabad
Athens of the East	Madurai	Hollywood of India	Mumbai
Auto Hub of India	Chennai	Holy City	Varanasi
Banking Capital of India	Chennai	Land of Black Diamond	Asansol
Bengal's Sorrow	Damodar River	Land of Five Rivers	Punjab
Blue City	Jodhpur	Land of Sunrise	Arunachal Pradesh
Blue Mountains	Nilgiri Hills	Leather City of the World	Kanpur
Boston of India	Ahmedabad	Little Tibet	Ladakh
California of India	Nasik	Manbhum City	Purulia
Capital of Dravida	Chennai	Manchester of India	Ahmedabad
Capital of Kongu Nadu	Coimbatore	Manchester of North India	Kanpur
Cashew Capital of the World	Kollam	Manchester of South India	Coimbatore
City of Buildings	Kolkata	Mango City	Malda, Salem
City of Castles	Kolkata	Old Ganga	Godavari
City of Destiny	Visakhapatnam	Oldest living city on Earth	Varanasi
City of Diamonds	Surat	Orange City	Nagpur
City of Dreams	Mumbai	Paris of India	Jaipur
City of Festivals	Madurai	Paris of the East	Pondicherry
City of Four Junctions	Madurai	Pensioners Paradise	Kakinada
City of Ghats and Temples	Varanasi	Pink City	Jaipur
City of Golden Temple	Amritsar	Pittsburg of India	Jamshedpur
City of Handloom	Panipat	Poorman's Ooty	Yercaud
City of Hospitality	Siliguri	Power Hub City	Mundi
City of Learning	Varanasi	Prince of Arabian sea	Kollam
City of Lights	Varanasi	Queen of Arabian sea	Cochin
City of Nawabs	Lucknow	Queen of Deccan	Pune
City of Palaces	Kolkata and Chandigarh	Queen of the Hills	Darjeeling
City of Pearls	Hyderabad	Queen of the Mountains	Mussoorie
City of Rallies	New Delhi	Religious capital of India	Varanasi

City of Sages	Rishikesh	Royal City	Patiala
City of Seven Islands	Mumbai	Ruhr of India	Durgapur
City of Weavers	Panipat	Sacred river	Ganga
City of Wrestlers	Kolhapur	Scotland of India	Coorg
Cosmopolitan City	Coimbatore	Siliccn Vallaey of India	Bangalore
Dakshin Queen	Godavari	Sleepless City	Madurai
Detroit of India	Chennai	Sorrow of Bihar	Kosi river
Egg bowls of India	Andhra Pradesh	Soya region	Madhaya Pradesh
Electronic City of India	Bangalore	Space city	Bangalore
Engineering City of India	Coimbatore	Spice Garden of India	Kerala
Garden City of India	Bangalore	Spiritual capital of India	Varanasi
Gateway of India	Mumbai	Steel City of India	Jamshedpur (Tatanagar)
Gateway of North East India	Siliguri	Sun City	Jodhpur
Gateway of South India	Chennai	Switzerland of India	Kashmir
Gateway to backwaters	Kollam	Taj Nagri	Agra
Gateway to Kerala	Kochi	Temple City of India	Bhubaneswar
Gateway to the Dooars	Siliguri	Textile City of India	Surat
God's Own Country	Kerala	Twin Cities	Hyderabad- Secunderabad
Golden City	Amritsar	Venice of East	Cochin
Grape city of India	Nasik	White City	Udaipur
Health Capital of India	Chennai	Wine capital of India	Nasik
Heaven of India	Jammu & Kashmir	Yoga City	Rishikesh

INDIAN TOWN ASSOCIATED WITH INDUSTRIES

Town	State	Industries
Ahmedabad	Gujarat	Cotton Textiles
Agra	Uttar Pradesh	Stoneware, Marble, Leather, & Carpets
Aligarh	Uttar Pradesh	Locks
Ankleshwar	Gujarat	Oil
Ambarnath	Maharashtra	Machine Tools, Prototype Factory
Amritsar	Punjab	Shawls, acid, Carpet, Woollen
Anand	Gujarat	Butter, Cheese & Baby Foods

Alwaye	Kerala	Aluminium, Monazite, Rare Earths
Ambala	Haryana	Scientific goods
Aliabet	Gujarat	Oil Well
Arvi	Maharashtra	T.V. Reception Station
Avadi	Tamil Nadu	Heavy Vehicles Factory
Bokaro	Jharkhand	Steel Plant
Bangaluru	Karnataka	Telephone, Aircraft, Motors, Information Technology, Toy
Batanagar	West Bengal	Shoes
Bareilly	Uttar Pradesh	Resin, Industries, Woodwork
Bhilai	Chhattisgarh	Steel Plant
Barauni	Jharkhand	Silk
Burnpur	West Bengal	Iron & Steel
Bhurkunda	Jharkhand	Glass Industries
Bhagalpur	Bihar	Silk industries
Bhandara	Maharashtra	Explosives
Bhadravati	Karnataka	Alloy Steel
Bongaigaon	Assam	Petroleum
Bhadoi	Uttar Pradesh	Carpets
Bhopal	Madhya Pradesh	Heavy Electricals
Bailadila	Madhya Pradesh	Iron ore, Mechanised mine
Bodra	West Bengal	Oil Refinery
Churk	Madhya Pradesh	Cement
Cyberabad	Andhra Pradesh	Electronics, Computers, Information technology
Chittaranjan	West Bengal	Locomotives
Cochin	Kerala	Ship building, coconut oil, rubber
Calicut	Kerala	Coffee, coconut
Coimbatore	Tamil Nadu	Cotton industries
Cambay	Gujarat	Petroleum
Chindwara	Madhya Pradesh	Limestone, Coal

Chennai	Tamil Nadu	Information Technology, Car Manufacturing
Dhariwal	Punjab	Woolen goods
Durgapur	West Bengal	Steel Plant, Dry Ice
Digboi	Assam	Petroleum
Delhi	Delhi	DDT, Textiles & Housing Factory
Dalmianagar	Bihar	Cement
Darjeeling	West Bengal	Tea
Dindigul	Tamil Nadu	Cigar, Tobacco
Damanjodi	Orissa	Aluminium
Debari	Rajasthan	Zinc
Dhuvaran	Gujarat	Thermal Power
Digboi	Assam	Petroleum
Ernakulam	Kerala	Cables
Firozabad	Uttar Pradesh	Glass
Guntur	Andhra Pradesh	Cotton Manufacture, Tobacco
Gwalior	Madhya Pradesh	Pottery, Textiles
Gomia	Jharkhand	Explosives
Haridwar	Uttarakhand	Heavy electricals
Hatia	Jharkhand	Heavy Engineering Corporation
Haldia	West Bengal	Chemical fertilizer
Hazira	Gujarat	Artificial Rayon
Hissar	Haryana	Indo - Australian sheep farm
Hirzapur	Uttar Pradesh	Carpet, pottery, stoneware
Hoshangabad	Madhya Pradesh	Security Paper Mill
Jamshedpur	Jharkhand	Iron & Steel goods
Jalandhar	Punjab	Surgical goods and sports articles
Jaipur	Rajasthan	Embroidery
Jharia	Jharkhand	Coal
Jabalpur	Madhya Pradesh	Bidi industry

Jainakot	Jammu & Kashmir	H.M.T watch
Japla	Jharkhand	Cement
Jaduguda	Jharkhand	Uranium Ore Mill
Jalsindhi	Maharashtra	Hydro - electric
Jalahalli	Karnataka	Machine Tool Factory
Jharia	Jharkhand	Coal
Kolkata	West Bengal	Jute Manufacture, Electric lamps
Kanpur	Uttar Pradesh	Leather, Shoes
Katni	Madhya Pradesh	Cement
Korba	Chhattisgarh	Coal Mine, Aluminium
Koyna	Maharashtra	Aluminium
Koyali	Maharashtra	Power Generation
Kolar	Karnataka	Gold mine
Kota	Rajasthan	Atomic power plant
Kanchipuram	Tamil Nadu	Silk clothes
Karnal	Haryana	Dairy product
Kandla	Gujarat	Fertilizer
Khetri	Rajasthan	Copper industries
Kakrapara	Gujarat	Atomic Power Plant
Kalol	Gujarat	Fertiliser
Kalpakkam	Tamil Nadu	Atomic Power Plant
Kavalur	Tamil Nadu	Telescopic Observatory
Khari	Rajasthan	Lignite
Kirloskarvadi	Maharashtra	Agricultural Implements
Kochi	Kerala	Ship building
koodankulam	Tamil Nadu	Atomic Power Plant
Kozhikode	Kerala	Calico, Rubber coir
Kurukunta	Karnataka	Cement Plant
Ludhiana	Punjab	Hosiery

Lucknow	Uttar Pradesh	Gold, Silver, Lac
Madurai	Tamil Nadu	Cotton and Silk Weaving
Mirzapur	Uttar Pradesh	Carpet, Pottery, Brass industries
Moradabad	Uttar Pradesh	Utensils
Mathura	Uttar Pradesh	Oil refinery
Mysooru	Karnataka	Silk
Meerut	Uttar Pradesh	Publication work, Sports goods, Scissors making
Mumbai	Maharashtra	Cotton Textile & Industries
Modinagar	Uttar Pradesh	Nylon thread
Moorie	Jharkhand	Aluminium
Majhagaon	Maharashtra	Ship building
Manali	Tamil Nadu	Fertiliser / Oil Refinery
Mithapur	Gujarat	Fertiliser
Motipur	Uttar Pradesh	Mechanised Farming
Nagpur	Maharashtra	Cotton mills, Oranges
Nepanagar	Madhya Pradesh	Newsprint
Nasik	Maharashtra	Security Printing Press
Neyveli	Tamil Nadu	Lignite
Noonmati	Assam	Oil refinery
Narora	Uttar Pradesh	Atomic Power Plant
Nangal	Punjab	Fertilizer, Heavy Water Plant
Nagapattinam	Tamil Nadu	Oil Refinery
Ogalewadi	Maharashtra	Hurricane lanterns, Stoves
Panna	Madhya Pradesh	Diamond mining
Pinjore	Haryana	Machines Tools
Perambur	Tamil Nadu	Integral coach factory
Pimpri, Pune	Maharashtra	Antibiotics
Pilani	Rajasthan	Thermal Power
Panki	Uttar Pradesh	Fertilizer

Pinjore	Haryana	Machine Tools
Ranigunj	Jharkhand	Coal mining
Rourkela	Odisha	Steel plant
Rana Pratap Sagar	Rajasthan	Hydro Power Plant
Renukoote	Uttarakhand	Aluminium
Roopnarayanpur	W. Bengal	Cables
Rishikesh	Uttarakhand	Antibiotic Plant
Rangapur	Andhra Pradesh	Observatory
Renukoot	Uttarkhand	Aluminium
Rupanagar	West Bengal	Telephone Cables
Saharanpur	Uttar Pradesh	Mangoes, Cigarette factory
Sindri	Jharkhand	Chemical fertilizers
Srinagar	Kashmir	Woolen shawl, embroidery
Surat	Gujarat	Textiles
Surajpur	Haryana	Cement factory
Suratgarh	Rajasthan	Agriculture implements
Singhbhum	Jharkhand	Copper
Singareni	Andhra Pradesh	Coal
Salem	Tamil Nadu	Stainless Steel
Samastipur	Bihar	Jute, Paper, Tobacco, Sugar
Sivakasi	Tamil Nadu	Fire Works, Printing
Sriharikota	Andhra Pradesh	Satellite Station
Suriyur	Tamil Nadu	Small Arms
Tarapur	Maharashtra	Nuclear Power
Titagarh	West Bengal	Paper
Thiruvananthapuram	Kerala	Wood Carving, Coir matting
Trombay Plant	Maharashtra	Atomic Reactors, Plutonium, Fertilizer, Thorium
Tiruchirapalli	Tamil Nadu	Cigar, B.H.E.L

Tirupati	Andhra Pradesh	Scooter
Tanjore	Tamil Nadu	Silk clothes
Thumba	Kerala	Rocket launching
Tirupur	Tamil Nadu	Textiles
Tiruverumbur	Tamil Nadu	Pressure Boiler
Tuticorin	Tamil Nadu	Fertilizer, Thermal Power, Copper smelter plant
Udaipur	Rajasthan	Zinc Project
Vijaypur	Madhya Pradesh	Fertilizers
Viiaynagar	Karnataka	Steel Plant
Visakhapatnam	Andhra Pradesh	Ship building
Varanasi	Uttar Pradesh	Rail Engines and Saari industries
Worli	Maharashtra	Baby food
Zainkot	Jammu & Kashmir	HMT Watches

WIND ENERGY POWER PLANTS IN INDIA

Power plant	Location	State
Puthlur RCI	Puthlur	Andhra Pradesh
Jasdan	Jasdan	Gujarat
Lamda Danida	Lamba	Gujarat
Jogmatti BSES	Chitradurga District	Karnataka
Shah Gajendragarh	Gadag	Karnataka
Shah Gajendragarh	Gadag	Karnataka
Acciona Tuppadahalli	Chitradurga District	Karnataka
Ramakkalmedu	Ramakkalmedu	Kerala
Jamgudrani MP	Dewas	Madhya Pradesh
Brahmanvel windfarm	Dhule	Maharashtra
Dhalgaon windfarm	Sangli	Maharashtra
Vankusawade Wind Park	Satara District.	Maharashtra
Vaspet	Vaspet	Maharashtra
Jath	Jath	Maharashtra
Welturi	Welturi	Maharashtra
Damanjodi Wind Power Plant	Damanjodi	Odisha
Jaisalmer Wind Park	Jaisalmer	Rajasthan
Dangiri Wind Farm	Jaiselmer	Rajasthan

Muppandal windfarm	Kanyakumari	Tamil Nadu
Cape Comorin	Kanyakumari	Tamil Nadu
Kayathar Subhash	Kayathar	Tamil Nadu
Gudimangalam	Gudimangalam	Tamil Nadu
Chennai Mohan	Chennai	Tamil Nadu
Perungudi Newam	Perungudi	Tamil Nadu
Kethanur Wind Farm	Kethanur	Tamil Nadu
Muppandal Madras	Muppandal	Tamil Nadu
Poolavadi Chettinad	Poolavadi	Tamil Nadu
Shalivahana Wind	Tirupur	Tamil Nadu
Hyderabad TSRTC	Hyderabad	Telangana

GEOTHERMAL FIELDS IN INDIA

State	Power plant
Chhattisgarh	Tattapani
Gujrat	Cambay Garben
Himachal Pradesh	Manikaran Kullu, Kasol Kullu
Jammu and Kashmir	Puga
Jharkhand	Surajkund Hazaribagh
Uttarakhand	Badrinath Chamoli, Tapoban Chamoli

TIDAL, WAVE and SOLAR ENERGY PLANTS IN INDIA

Tidal Energy	Gulf of Khambat, Gulf of Kuchchh (Gujarat) Sunderban (West Bengal)
Wave Energy	Vizhinjam (Kerala)
Solar Energy	Tirupati (Andhra Pradesh)

THERMAL PLANTS IN INDIA

States	Plants
Andhra Pradesh	Nellore, Vijayawada, Ramagundam
Assam	Kamrup, Bongaigaon
Bihar	Barauni

Chhattisgarh	Korba, Bhilai
Delhi	Badarpur, Indraprastha
Gujarat	Ukai, Sikka, Ahmedabad, Sabarmati
Haryana	Faridabad, Panipat
Jammu and Kashmir	Pampore
Jharkhand	Bokaro
Madhya Pradesh	Satpura, Amarkantak, Pench
Maharashtra	Nashik, Uran, Chandrapur, Trombay, Dabhol
Odisha	Talcher, Rourkela
Punjab	Bhatinda, Ropar
Rajasthan	Kota
Tamil Nadu	Ennore, Tuticorin, Neyveli
Telangana	Kothagudam
Tripura	Rokhia
Uttar Pradesh	Obra, Panki, Singrauli
West Bengal	Kolkata, Titagarh, Durgapur

FAMOUS TOURIST SITES IN INDIA

Tourist Sites	Location	Tourist Sites	Location
Adina Mosque	Pandua (West Bengal)	Lalgarh Palace	Bikaner
Ajanta Caves	Aurangabad (Maharashtra)	Lingaraj Temple	Bhubaneswar
Akbar's Tomb	Sikandra, Agra	Mahakaleshwar Temple	Ujjain
Aksherdham	Gandhinagar, Gujarat	Maheshmurti (Trimurti)	Elephanta Caves
Amarnath Cave	Kashmir	Mahmud Gawan's Mosque	Bidar
Amber Palace	Jaipur (Rajasthan)	Malabar Hill	Mumbai
Anand Bhawan	Allahabad	Marble Rocks	Jabalpur
Bibi Ka Maqbra	Aurangabad	Marina	Chennai
Birla Planetarium	Kolkata	Minakshi Temple	Madurai
Black Pagoda	Konarak	Mt Girnar (Jain)	Junagadh

	(Odisha)	Temples)	
Bodhistava	Ajanta Caves	Nagin Lake	Srinagar
Brihadeeswara	Tanjore Temple	Nataraja	Chennai
Brindaban Gardens	Mysore	Nishat Bagh	Srinagar
Buland Darwaza	Fatehpur Sikri	Padmanabha Temple	Thiruvanthapuram
Char Minar	Hyderabad	Palitana	Junagadh
Cheena Kesava Temple	Bellur	Panch Mahal	Fatehpur Sikri
Chilka Lake	Odisha	Pichola Lake	Udaipur
Dal Lake	Srinagar	Qutab Minar	Delhi
Dilwara Temples	Mt Abu	Raj Ghat	Delhi
Elephanta Caves	Mumbai	Rashtrapati Bhawan	Delhi
Ellora Caves	Aurangabad	Red Fort	Delhi
Gateway of India	Mumbai	Sanchi Tope (The Great Stupa)	Sanchi, Bhopal
Golden Temple	Amritsar	Santa Cruz	Mumbai
Gol Gumbaz	Bijapur	Shakti Sthal	Delhi
Hanging Gardens	Mumbai	Shalimar Bagh	Srinagar
Hawa Mahal	Jaipur	Shahi Chashma	Srinagar
Howrah Bridge	Kolkata	Shanti Van	Delhi
Island Palace	Udaipur	Shore Temple	Mahabalipuram
Itmad-ud- Daulah's Tomb	Agra	Sidi Sayyid Mosque	Ahmedabad
Jagannath Temple	Puri	Somnathpur Temple	Mysore
Jahaz Mahal	Mandu	Statue of Gomateswara	Mysore
Jai Stambha (Tower of Victory)	Chittorgarh	Statue of Ugra	Hampi
Jama Masjid	Delhi	Sunderbans	West Bengal
Jantar Mantar	New Delhi	Sun Temple	Konarak
Jog (Gersoppa) Falls	Mysore	Taj Mahal	Agra
Kailasa Temple	Ellora	Tehzeeb Mahal	Srinagar
Kalan Masjid	Delhi	Tirupati Temple	Andhra Pradesh
Kanyakumari Temple	Cape Comorin (Tamil Nadu)	Tower of Silence	Mumbai (of the Parsis)
Khajuraho	Bhopal	Victoria	Kolkata

Lakshmi Palace	Vilas Baroda	Memorial Victoria Garden	Mumbai
Lal Bagh Garden	Bengaluru	Vijay Ghat	Delhi

TRIBAL GROUPS IN INDIA

Tribal Group	State(s)
Abor	Arunachal Pradesh
Adiyan	Karnataka, Kerala, Tamil Nadu
Agaria	Madhya Pradesh, Maharashtra
Andh	Arunachal Pradesh, Madhya Pradesh, Maharashtra
Apatani	Arunachal Pradesh
Arakh	Madhya Pradesh, Maharashtra
Asur (Gond)	Bihar, Madhya Pradesh, Maharashtra, West Bengal
Baiga	Bihar, Madhya Pradesh, Maharashtra, West Bengal
Bakarwal	Jammu & Kashmir
Barda	Gujarat, Karnataka, Maharashtra
Bhagalia	Gujarat, Karnataka, Maharashtra, Rajasthan
Chakma	Assam, Meghalaya, Mizoram, Tripura, West Bengal
Chenchu	Andhra Pradesh, Karnataka, Odisha
Gaddi	Himachal Pradesh, Jammu & Kashmir
Galong	Arunachal Pradesh
Garo	Assam, Meghalaya, Mizoram, Nagaland, West Bengal
Gond	Andhra Pradesh, Bihar, Gujarat, Karnataka, MP, Maharashtra, Odisha, West Bengal
Gujjar	Himachal Pradesh, Jammu & Kashmir
Ho	Bihar, Odisha, West Bengal
Jaintia	Assam, Meghalaya, Mizoram
Juang	Odisha

Kanikkar	Kerala, Tamil Nadu
Kawar	Madhya Pradesh, Maharashtra, Odisha
Kharia	Bihar, Madhya Pradesh, Maharashtra, Odisha, (Lodha) West Bengal
Khasi	Assam, Meghalaya, Mizoram
Khond	Bihar, Madhya Pradesh, Maharashtra, Odisha, West Bengal
Kol	Madhya Pradesh, Maharashtra, Chhattisgarh
Kolam	Andhra Pradesh, Madhya Pradesh, Maharashtra
Kolha	Odisha
Kota	Karnataka, Kerala, Tamil Nadu
Koya	Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Odisha
Lahaula	Himachal Pradesh
Lepcha	Sikkim, Tripura, West Bengal
Mahali	Odisha, West Bengal
Munda	Bihar, Madhya Pradesh, Odisha, Tripura, West Bengal
Naga	Assam, Arunachal Pradesh, Meghalaya, Mizoram, Nagaland
Onges	Andaman & Nicobar Islands
Oraon	Bihar, Madhya Pradesh, Maharashtra, Odisha, West Bengal
Santal	Bihar, Odisha, Tripura, West Bengal
Saora	Odisha
Sema	Manipur
Shom Pens	Andaman & Nicobar Islands
Sitlhou	Assam, Meghalaya, Mizoram
Sonr	Madhya Pradesh
Tadvi	Gujarat, Maharashtra, Odisha, Rajasthan
Thoti	Andhra Pradesh, Maharashtra
Uibuh	Assam, Meghalaya, Mizoram
Uraly	Kerala, Tamil Nadu

Varli	Gujarat, Karnataka, Maharashtra, Goa, Daman & Diu, Dadra & Nagar Haveli
Wade Maria	Madhya Pradesh, Maharashtra
Zou	Manipur

DIFFERENCE BETWEEN NATIONAL PARK, WILDLIFE SANCTUARY AND BIOSPHERE RESERVE

National Park	Wildlife Sanctuary	Biosphere Reserve
It is a reserved area for preservation of natural vegetation, wild life and natural beauty.	It is a reserved area for preservation of endangered species.	It is a Multipurpose projected area to preserve genetic diversity in representative ecosystem.
Protected area; No human activity is allowed; under Wildlife Protection Act 1972 (India)	Protected area; Limited human activity is allowed; under Wildlife Protection Act 1972 (India)	It is voluntary, cooperative, conservation reserve created to protect the biological and cultural diversity of a region while promoting sustainable economic development.
Boundaries are fixed by legislation.	Boundaries are not sacrosanct.	Boundaries are fixed by legislation.

NATIONAL PARKS IN INDIA

State	National Parks	Started	Area (in km ²)	Attractions
Andaman Nicobar Islands	Wandur National Park	1983	281.50	Estuarine Crocodiles, Coconut Crab
Arunachal Pradesh	Namdapha National Park	1983	1985.23	Leopard, Himalayan Gaur, Black Bear
Assam	Kaziranga National Park	1974	471.71	Rhinos, Elephants, Tigers
	Manas National Park	1990	500	Assam Roofed Turtle, Golden Langur, Tiger, Leopard, Blue

Chhattisgarh	Indravati National Park	1981	1258.37	Bull,
Gujarat	Gir National Park	1975	258.71	Asiatic Lion
	Marine National Park	1980	162.89	
Himachal Pradesh	Great Himalayan National Park	1984	754.40	
	Pin Valley National Park	1987	675	Himalayan Snowcock, Chukar
Jammu And Kashmir	Dachigam National Park	1981	141	Himalayan Black Bears, Leopard
	Hemis National Park	1981	4100	Snow Leopard
	Kishtwar National Park	1981	400	Himalayan Jungle Crow
Jharkhand	Hazaribagh National Park	1976	186	Tigers, Wild Boar, Nilgai
	Palamu National Park	1974	1123	Tigers, Dhole, Elephants
Karnataka	Bandipur National Park	1974	874.20	Asian Elephants, Tiger
	Bannerghatta National Park	1974	104.27	Tiger, Lion
	Nagarhole National Park	1988	643.39	Elephant, Jackal, Tiger
Kerala	Eravikulam National Park	1978	97	Nilgiri Tahr, Atlas Moth, Elephant
	Periyar National Park	1982	350	Nilgiri Langur, Flying Squirrel
	Silent Valley National Park	1984	89.52	Nilgiri Tahr, Niligiri Langur, Tiger
Madhya Pradesh	Bandhavgarh National Park	1982	448.85	Tigers, Leopards, Bears
	Kanha National Park	1955	940	Tigers, Leopards, Elephant
	Madhav National Park	1959	375.22	Indian Gazelle, Nilgai, Sambar
	Panna National Park	1973	542.67	Tiger, Wolf, Chital, Sloth Bear
Maharashtra	Pench National Park	1975	292.85	Tiger, Leopard, Sloth Bear
	Navegaon National Park	1975	133.88	Tiger, Panther, Bisons
	Tadoba National Park	1955	116.55	Tiger, Leopards, Sloth Bears
	Chandaka Elephant			Elephant, Hital,

	Reserve	1982	175.79	Bear, Pea-Fowl
Odisha	Nandan Kanan National Park	1960	4.006	White Tiger, Asiatic Lion, Crocodiles
	Simlipal National Park	1980	845.70	Tiger, Leopard, Elephants
	Desert National Park	1980	3162	Great Indian Bustard, Harriers
Rajasthan	Keoladeo National Park	1981	28.73	Siberian Cranes, Ruddy Shelducks
	Ranthambore National Park	1980	392	Tigers, Leopards, Boars
	Sariska National Park	1982	273.80	Four-Horned Deer, Carecal, Leopard
Sikkim	Khangchendzonga National Park	1977	1829	Wild Ass, Snow Leopard, Musk Deer, Himalayan Tahr
Uttar Pradesh	Dudhwa National Park	1977	490.29	Tiger, Rhinoceros
	Corbett National Park	1936	520.82	Tigers, Leopards, Elephants
	Govind National Park	1990	472.08	Black Bear, Leopard, Snow Cock
Uttarakhand	Nandadevi National Park	1988	5,860.69	Tiger, Leopard
	Rajaji National Park	1983	820.42	Tigers, Leopards, Elephants,
	Valley of Flowers National Park	1980	87.50	Snow Leopard, Musk Deer, Red Fox
West Bengal	Sundarbans National Park	1984	1330.10	Royal Bengal Tiger; Fishing Cats

NATIONAL WILDLIFE CONSERVATION PROJECTS

Project	Year
Project Hangul	1970
Project Gir	1972
Project Tiger	1973
Project Olive Ridley Turtles	1975
Crocodile Breeding Scheme	1975
Project Manipur Thamin	1977

Project Rhino	1987
Project Elephant	1992
Project Red Panda	1996
Project Vulture	2006

MAJOR SANCTUARIES IN INDIA

State/UTs	Name
Andaman and Nicobar Islands	Spike Island Wildlife Sanctuary
Andhra Pradesh	Nelapattu Bird Sanctuary, Gundla Brahmeswaram Wildlife Sanctuary
Arunachal Pradesh	Dibang Wildlife Sanctuary
Assam	Hoollongapar Gibbon Sanctuary
Bihar	Kaimur Wildlife Sanctuary, Bhimbandh Wildlife Sanctuary
Chandigarh	Sukhna
Chhattisgarh	Achanakmar Wildlife Sanctuary
Delhi	Indira Priyadarshini
Goa	Bhagwan Mahavir
Gujarat	Kutch Desert Wildlife Sanctuary, Indian Wild Ass Sanctuary
Haryana	Chautala
Himachal Pradesh	Rupi Bhabha Sanctuary, Sechu Tuan Nala Wildlife Sanctuary, Tundah Wildlife Sanctuary
Jammu and Kashmir	Karakoram Wildlife Sanctuary, Lachipora, Changtang Wildlife Sanctuary
Karnataka	Dandeli Wildlife Sanctuary
Kerala	Periyar National Park, Waynad
Madhya Pradesh	Bori Wildlife Sanctuary, Nauradehi Wildlife Sanctuary, Pachmarhi Sanctuary
Maharashtra	Great Indian Bustard Sanctuary
Manipur	Yagoupokpi Lokchao
Meghalaya	Nongkhyllem
Mizoram	Dampa Tiger Reserve
Nagaland	Intanki
Odisha	Badrama Sanctuary, Baisipalli Wildlife Sanctuary, Chilika Bird Sanctuary, Nalbana Bird Sanctuary, Satkosia Gorge Wildlife Sanctuary, Sunabeda Wildlife Sanctuary
Punjab	Abohar

Rajasthan	Keladevi Wildlife Sanctuary, Kumbhalgarh
Sikkim	Barsey Rhododendron Sanctuary
Tamil Nadu	Sathyamangalam Wildlife Sanctuary
Telangana	Eturnagaram Wildlife Sanctuary, Kawal Wildlife Sanctuary
Tripura	Gumti Wildlife Sanctuary
Uttar Pradesh	Kaimoor Sanctuary
Uttarakhand	Askot Musk Deer Sanctuary
West Bengal	Murti Wildlife

BIOSPHERE RESERVES OF INDIA

Name	State	Type
Great Ramn of Kutch	Gujarat	Desert
Gulf of Mannar	Tamil Nadu	Coasts
Sundarbans	West Bengal	Gangetic Delta
Cold Desert	Himachal Pradesh	Western Himalayas
Nanda Devi National Park & Biosphere Reserve	Uttarakhand	Western Himalayas
Nilgiri Biosphere Reserve	Tamil Nadu, Kerala and Karnataka	Western Ghats
Dihang-Dibang	Arunachal Pradesh	Eastern Himalaya
Pachmarhi Biosphere Reserve	Madhya Pradesh	Semi-Arid
Seshachalam Hills	Andhra Pradesh	Eastern Ghats
Simlipal	Odisha	Deccan Peninsula
Achanakamar - Amarkantak	Madhya Pradesh, Chhattisgarh	Maikala Hills
Manas	Assam	East Himalayas
Khangchendzonga	Sikkim	East Himalayas
Agasthyamalai Biosphere Reserve	Kerala, Tamil Nadu	Western ghats
Great Nicobar Biosphere Reserve	Andaman and Nicobar Islands	Islands
Nokrek	Meghalaya	East Himalayas
Dibru-Saikhowa	Assam	East Himalayas
Panna	Madhya Pradesh	Catchment area of the Ken River

TIGER RESERVES IN INDIA

The largest tiger reserve by area is 3,568 km² Nagarjunsagar-Srisaillam Tiger Reserve in Andhra

Pradesh.

State	Tiger Reserve (TR)
Andhra Pradesh	Nagarjunsagar-Srisailem TR
Arunachal Pradesh	Namdapha TR, Pakhui TR
Assam	Manas TR, Nameri TR, Kaziranga TR
Bihar	Valmiki TR
Chhattisgarh	Udanti and Sitanadi TR, Achanakmar TR, Indravati TR
Jharkhand	Palamau TR
Karnataka	Bandipur TR, Bhadra TR, Dandeli-Anshi TR, Nagarhole TR, Biligiri Rangaswamy Temple TR
Kerala	Periyar TR, Parambikulam TR
Madhya Pradesh	Kanha TR, Pench TR, Bandhavgarh TR, Panna TR, Bori-Satpura TR, Sanjay Dubri TR
Maharashtra	Melghat TR, Tadoba-Andhari TR, Bor TR, Pench TR, Sahyadri TR, Nawegaon-Nagzira TR
Mizoram	Dampa TR
Odisha	Simlipal TR, Satkosia TR
Rajasthan	Ranthambhore TR, Sariska TR, Mukundara Hills TR
Tamil Nadu	Kalakad-Mundathurai TR, Mudumalai TR, Sathyamangalam TR, Anamalai TR
Telangana	Kawal TR
Uttar Pradesh	Dudhwa TR, Amangarh TR, Pilibhit TR
Uttarakhand	Jim Corbett TR
West Bengal	Buxa TR, Sunderbans TR

ELEPHANT RESERVES IN INDIA

Range	Reserve Name	State
Eastern India	Mayurjharna ER	West Bengal
(South West Bengal – Jharkhand – Odisha)	Singhbhum ER	Jharkhand
	Mayurbhanj ER	Odisha
	Mahanadi ER	Odisha
	Sambalpur ER	Odisha
	Baitarni ER	Odisha
	South Odisha ER	Odisha

North Brahmaputra (Arunachal – Assam)	Kameng ER Sonitpur ER	Arunachal Assam
South Brahmaputra (Assam – Arunachal)	Dihing-Patkai ER Deomali ER	Assam Arunachal
Kaziranga (Assam – Nagaland)	Kaziranga – Karbi Anglong ER Dhansiri-Lungding ER	Assam Assam
Eastern Dooars (Assam - W. Bengal)	Chirang-Ripu ER Eastern Dooars ER	Assam W. Bengal
E. Himalayas (Meghalaya)	Garo Hills ER Khasi Hills ER	Meghalaya Meghalaya
Nilgiri–Eastern Ghat (Karnataka – Kerala – Tamil Nadu – Andhra)	Mysore ER Bhadra ER Wayanad ER Nilgiri ER Rayala ER	Karnataka Karnataka Kerala Tamil Nadu Andhra
South Nilgiri (Kerala - Tamil Nadu)	Nilambur ER Coimbatore ER	Kerala Tamil Nadu
Western Ghat (Tamil Nadu – Kerala)	Anamalai ER Anamudi ER	Tamil Nadu Kerala
Periyar (Kerala - Tamil Nadu)	Periyar ER Srivilliputtur ER	Kerala Tamil Nadu
Northern India (Uttarakhand-Uttar Pradesh)	Shivalik ER	Uttarakhand

RAMSAR SITES IN INDIA

Location	Name
Andhra Pradesh	Kolleru Lake
Assam	Deepor Beel
Gujarat	Nalsarovar Bird Sanctuary
Himachal Pradesh	Pong Dam Lake, Renuka Wetland, Chandra Taal
Jammu and Kashmir	Hokera Wetland, Surinsar-Mansar Lakes, Tsomoriri, Wular Lake
Kerala	Sasthamkotta Lake, Vembanad-Kol Wetland, Ashtamudi Wetland
Madhya Pradesh	Bhoj Wetland
Manipur	Loktak Lake
Odisha	Chilika Lake, Bhitarkanika Mangroves
Punjab	Harike Wetland, Kanjli Wetland, Ropar
Rajasthan	Keoladeo National Park, Sambhar Lake

Tamil Nadu	Point Calimere Wildlife and Bird Sanctuary
Tripura	Rudrasagar Lake
Uttar Pradesh	Upper Ganga River (Brijghat to Narora Stretch)
West Bengal	East Calcutta Wetlands

CRITICALLY ENDANGERED ANIMAL SPECIES OF INDIA

Birds	Jerdon's Courser, Forest Owlet, White-bellied Heron, White-backed Vulture, Slender-billed Vulture, Long-billed Vulture, Red-headed Vulture, Bengal Florican, The Himalayan Quail, Pink-headed Duck, Sociable Lapwing, Spoon Billed Sandpiper, Siberian Crane, Great Indian Bustard
Mammals	Pygmy Hog, Andaman White-toothed Shrew, Jenkin's Andaman Spiny Shrew, Nicobar White-tailed Shrew, Kondana Rat, Large Rock Rat, Namdapha Flying Squirrel, Malabar Civet, Sumatran Rhinoceros, Javan Rhinoceros, Red Panda, Snow Leopard, Asiatic Lion, Nilgiri Langur, Indian Wild Dog, Black buck, Bengal Tigers
Reptiles	Gharial, Hawksbill Turtle, Leatherback Turtle, River Terrapin, Red-crowned Roofed Turtle, Sispara day gecko
Amphibians	Anamalai Flying Frog, Gundia Indian Frog, Kerala Indian Frog, Charles Darwin's Frog, Amboli Bush Frog, Chalazodes Bubble-Nest Frog, Small Bush Frog, Green-eyed Bush Frog, Resplendent Shrub Frog, Tiger toad
Fish	Pondicherry Shark, Ganges Shark, Knife-tooth Sawfish, Large-tooth Sawfish, Ganges River Dolphin
Spiders	Rameshwaram Parachute Spider, Peacock Tarantula
Corals	Fire corals

