

Classification of forests

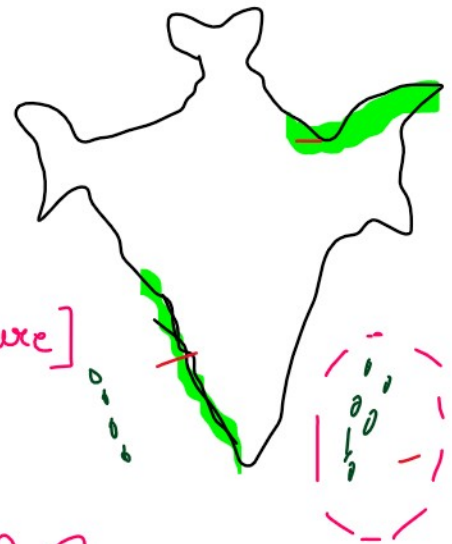
- Tropical Evergreen & Semi-Evergreen forests.
- " Deciduous forests
- " Thorny forests
- Montane "
- Littoral and Swamp forests.

Tropical Evergreen Forests.

Climate - warm and humid.

200 cms.

22°C [mean annual temperature]



Height - above 60 cms.

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Ex - rosewood, mahogany, ebony...

Tropical semi-evergreen forests.

evergreen + moist deciduous.

E.g - climbers

white cedar, hollock, kail.

The oak forests - Garhwal & Kumaon
were replaced by pine trees.

cleared for setting up plantation crops.

Tropical Deciduous forests. / Monsoon Forests.

70 - 200 cm of rainfall.

Moist
Deciduous

100 - 200 cms.

- north - eastern states.
- foothills of Himalayas.
- eastern slopes of Western Ghats.
- Odisha.

E.g. → teak, sal, shisham, mahua, arla, kurum, sandalwood.

Dry
Deciduous.

70 - 100 cms.

- Peninsular region
- U.P (plains).
- Bihar. ↓
parkland landscape

E.g. Bel,
Tendu,
palas.

Tropical Thore forest

tropical monsoon

↳ less than 50 cms of rainfall.

↳ semi-arid areas.

south west Punjab, Haryana,
Rajasthan, Gujarat, [M.P. · UP]

E.g - Babool, ber, wild dates palm,
neem,

Tussocky grass (2m).

Montane Forests.



|
Deciduous

forests /

↳ foothills of
Himalayas.

1000 - 2000 m (altitude).

Uttaranchal +

hilly areas of

West Bengal.

Evergreen broad leaf
trees

↳ oak, chestnut.

Pine forests. [1500 - 1750 m]
altitude

✓ Chir Pine

✓ Deodar. ↳ western part of
the Himalayas.

✓ Chir Pine

✓ Deodar } western part of
the Himalayas.

Chinese
walnut

2225 - 3048 m

↳ Blue pine
↳ spruce

↳ temperate grasslands.

3000 - 4000 m.

Alpine forests and pastures.

Silver firs,
Junipers,
pines,
birch,

{ Gypses
of
Bakarwals
- Bhotia
Graddis

mosses, lichens



Tundra Vegetation.

Southern Mountain Forests

Western Ghats
Vindya
Nilgiris

Satpura
Maikal

1500 m.

temperate is higher regions.

subtropical on the lower regions of the Western Ghats

Kerala, Tamil Nadu and Karnataka.

Temperate Forests (Sholas)



Nilgiris

Anaimalai

- ↳ Anaimalai
- ↳ Palani hills.
- ↳

E.g magnolia, laurel,
cinchona, wattle.

Littoral / Swamp Forests.

↳ wetland habitats.

↳ paddy cultivation.

↳ 3.9 million hectares.

Chillika Lake (Odisha).
Keoladeo National Park. } protected habitats

Convention of wetlands
of International
Importance.

8 categories:

1. ↳ Reservoirs of the Deccan plateaus.
↳ lagoons.
2. Saline expanses of Rajasthan, Gujarat, Gulf of Kachch.
3. Freshwater lakes and reservoirs
[Gujarat, Rajasthan, M.P.]
4. Delta wetlands and lagoons.
— E.g. Chilika Lake
5. Freshwater
Marshy lands of the Gargetic Plain.
6. Lakes and rivers of Kashmir and Ladakh.
7. Floodplains of Brahmaputra,
marshes and swamps in the northeast

marshes and swamps in the northeast
Indian hills.

8. Mangrove forests and other wetlands of
Andaman and Nicobar Islands.

Mangroves

↳ along the coasts in the salt marshes,
tidal creeks, moor flats, estuaries.

↳ stagnant water

↳ salt-tolerant species of plants.

Andaman + Nicobar Islands +
Sunderban Delta of west Bengal.

Mahanadi, the Godavari and the
Krishna river Deltas.

1. M.P.
 2. A.P
 3. Chattisgarh.
 4. Odisha
 5. Maharashtra
-

Variation in Natural Vegetation of India

India is a land of great variety of natural vegetation depending upon the variations in the climate and the soil.

Himalayan heights are marked with temperate vegetation.

Western Ghats and the Andaman Nicobar Islands have tropical rain forests.

Deltaic regions have tropical forests and mangroves.

Desert and semi-desert areas of Rajasthan are known for cacti, a wide variety of bushes and thorny vegetation.

Classification of Forests

On the basis of certain common features such as predominant vegetation type and climatic regions, Indian forests can be divided into the following groups:

Tropical Evergreen and Semi-Evergreen forests.

Tropical Deciduous forests.

Tropical Thorn forests.

Montane forests.

Littoral and Swamp forests.

Tropical Evergreen Forest

Regions: These forests are found in the western slope of the Western Ghats, hills of the north-eastern region and the Andaman and Nicobar Islands.

Climatic Conditions: They are found in warm and humid areas with annual precipitation of over 200 cm and a mean annual temperature above 22°C.

These are well stratified, with layers closer to the ground and are covered with shrubs and creepers, with short, structured trees followed by a tall variety of trees.

In these forests, trees reach great heights up to 60 m or above.

There is no definite time for trees to shed their leaves, flowering and fruition. As such these forests appear green all the year-round.

Tree Species: Rosewood, mahogany, aini, ebony, etc.

Tropical Semi-Evergreen Forest

Regions: These forests are found in the less rainy parts of evergreen regions.

These have a mixture of evergreen and moist deciduous trees. The undergrowing climbers provide an evergreen character to these forests.

Tree Species: White cedar, hollock and kail etc.

The British were aware of the economic value of the forests in India; hence, large scale exploitation of these forests was started.

The oak forests in Garhwal and Kumaon were replaced by pine (chirs) which was needed to lay railway lines.

Forests were also cleared for introducing plantations of tea, rubber and coffee.

The British also used timber for construction activities as it acts as an insulator of heat.

The protectional use of forests was, thus, replaced by commercial use.

Tropical Deciduous Forest

These are the most widespread forests in India and are also called the monsoon forests. They spread over regions which receive rainfall between 70-200 cm. On the basis of the availability of water, these forests are further divided into moist and dry deciduous.

The Moist Deciduous Forests:

- These are more pronounced in the regions which record rainfall between 100-200 cm.

- These forests are found in the north-eastern states along the foothills of Himalayas, eastern slopes of the Western Ghats and Odisha.

Tree Species: Teak, sal, shisham, hurra, mahua, amla, semul, Kusum, and sandalwood.

Dry deciduous forest:

These forest covers vast areas of the country, where rainfall ranges between 70 -100 cm.

On the wetter margins, it has a transition to the moist deciduous, while on the drier margins to thorn forests.

These forests are found in rainier areas of the Peninsula and the plains of Uttar Pradesh and Bihar.

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- In the higher rainfall regions of the Peninsular plateau and the northern Indian plain, these forests have a parkland landscape with open stretches in which teak and other trees interspersed with patches of grass are common.

Characteristics: As the dry season begins, the trees shed their leaves completely and the forest appears like a vast grassland with naked trees all around.

Tree Species: Tendu, palas, amaltas, bel, khair, axle wood, etc

Tropical Thorn Forest

Regions: It grows in areas which receive rainfall less than 50 cm.

It includes semi-arid areas of south west Punjab, Haryana, Rajasthan, Gujarat, Madhya Pradesh and Uttar Pradesh.

In these forests, plants remain leafless for most part of the year and give an expression of scrub vegetation and it also consists variety of grasses and shrubs.

Tree Species: Babool, ber, and wild date palm, khair, neem, khejri, palas.

Tussocky grass grows up to a height of 2 m as the under growth.

Montane Forest

In mountainous areas, the decrease in temperature with increasing altitude leads to a corresponding change in natural vegetation.

The Himalayan ranges show a succession of vegetation from the tropical to the tundra which change in with the altitude.

Mountain forests can be classified into two types namely the northern mountain forests and the southern mountain forests.

Northern Mountain Forest

Deciduous forests are found in the foothills of the Himalayas.

Wet temperate type of forests between an altitude of 1,000-2,000 m.

- These trees found in the higher hill ranges of north-eastern India, hilly areas of West Bengal and Uttaranchal.

Evergreen broad leaf trees such as oak and chestnut are predominant.

Pine forests are also well-developed between 1500-1750 m altitude.

Chir Pine is very useful commercial tree.

Deodar, a highly valued endemic species grows mainly in the western part of the Himalayan range. Deodar is a durable wood mainly used in construction activity.

Similarly, the chinar and the walnut, which sustain the famous Kashmir handicrafts, belong to this zone.

Between heights of 2,225-3048 m:

Blue pine and spruce appear.

At many places in this zone, temperate grasslands are also found.

Between 3000-4000 m:

There is a transition to Alpine forests and pastures.

Silver firs, junipers, pines, birch and rhododendrons, etc are found.

These pastures are used extensively for transhumance by tribes like the Gujjars, the Bakarwals, the Bhotia's and the Gaddis.

The southern slopes of the Himalayas carry a thicker vegetation cover because of relatively higher precipitation than the drier north-facing slopes.

Southern Mountain Forests

It includes the forests found in three distinct areas of Peninsular India viz; the Western Ghats, the Vindhyan and the Nilgiris.

As they are closer to the tropics, and only 1,500 m above the sea level, vegetation is temperate in the higher regions, and subtropical on the lower regions of the Western Ghats, especially in Kerala, Tamil Nadu and Karnataka.

The temperate forests are called Sholas in the Nilgiris, Anaimalai and Palani hills.

Forest of economic significance include magnolia, laurel, cinchona and wattle.

Such forests are also found in the Satpura and the Maikal ranges.

Littoral and Swamp Forests

India has a rich variety of wetland habitats. About 70 per cent of this comprises areas under paddy cultivation.

The total area of wet land is 3.9 million hectares.

Two sites namely Chilika Lake (Odisha) and Keoladeo National Park (Bharatpur) are protected as water-fowl habitats under the Convention of Wetlands of International Importance (Ramsar Convention).

The country's wetlands have been grouped into eight categories,

The reservoirs of the Deccan Plateau in the south together with the lagoons and other wetlands of the southern west coast.

The vast saline expanses of Rajasthan, Gujarat and the Gulf of Kachchh.

Freshwater lakes and reservoirs from Gujarat eastwards through Rajasthan (Keoladeo National Park) and Madhya Pradesh.

The delta wetlands and lagoons of India's east coast (Chilika Lake).

The freshwater marshes of the Gangetic Plain.