INDIA - CLIMATE

INTRODUCTION

Weather is the condition of the atmosphere at a particular time; climate is the average weather over a period.

India is a land of varied climates, seasons, rainfall and natural vegetation, but the Himalayas and the monsoonal regime lend unity to this land known for its diversities.

India is a vast country having varied relief.

That is why the climatic conditions vary greatly from place to place. The interior and central parts of India experience a continental type of climate. In these areas the summers are very hot and the winters very cold because they are far from the influence of the sea. The coastal regions, e.g. Mumbai and Chennai, have equable climate all the year round. They have very little variation in the summer and winter temperatures. This is due to the influence of the sea. The southem part of India lies near the equator and so it remains hot throughout the year. Some places like mawsynram in Meghalaya receive heavy rainfall while others remain dry. It snows heavily in certain areas, e.g., Kargil, while others like Rajasthan are hot and dry. Leh receives precipitation in the form of snow.

Inspite of this, India possesses a climatic unity.

It possesses the tropical monsoon type of climate. The Tropic of Cancer passes through the centre of the country and divides It into two halves: the southern half lies in the Tropical Zone while the northern half lies in the Temperate Zone. But the monsoons give a climatic unity to our country. The climate that India generally has is known as the Monsodn Climate. Monsoon is taken from the Arabic word Mausim which means seasons. Rain is brought by monsoon Winds.

The climate of a place is affected by 5 factors -location, altitude, distance from the sea, mountains and relief.

India is an agricultural country. Its agriculture depends 6n the monsoon.

CYCLE OF SEASONS IN INDIA

On the basis of temperature and monsoon variations, there are four seasons in India.

(1) The Cold Weather Season: The cold weather season-'starts in India in early December and lasts upto February. January and February are the coldest months. Then temperature remains cool and dry. It is cool because the sun rays do not fall directly. The atmosphere is dry because the winds blow from the land and have no moisture. The temperature decreases from south to north. It varies from 1 aoc to 25·C. Temperature is between 10°C to 15°C in the northern India and about 25°C in the southern India.

During winter the north-east monsoon winds blow over India. A high pressure area develops In the northern plains due to cold climatic conditions from where the winds start blowing towards the areas of low pressure over the sea. While passing over the sea (Bay of Bengal), they pick up moisture and cause heavy rainfall on the coast of Temil Nadu during this season. The second to receive rainfall in winter is the north-west part of India. It receives rainfall from the 'Western Dlsturbance',Winds originating from the Mediterranean Sea and passing over Iran and Pakistan, reach the north west part of India. The western disturbances are generally followed by cold waves. Thus only two parts of India receive rainfall in winter-Tamil Nadu and north-west part of India, But in other parts of the country the months of January and February are cloudless and r.ainless and the weather is pleasant with clear sky and bright sunshine. The days are somewhat warm while the nights are cold.

(2) The Hot Weather Season: This season lasts from March to May. It is very hot during this season because the sun shines vertically over India. The highest day temperatures occur in the Deccan Plateau (3S·C), Gujarst (43°C) and north-west of India (4S0C) respectively. The rising temperature leads to the formation of low pressure area in the north-west of India. Because of this low pressure the moist winds from the Arabian Sea begin to blow towards land and cause pre-monsoon showers in Chhota Nagpur, Kerala and Westem Ghats. But the north-west areas remain dry and hot winds, called '100', engulf the whole area. Sometimes dust storms in the Punjab, Haryana and U.P. are followed by light rain and cool breeze which lower the temperature to a great extent.

(3) South-West Monsoon Season or Advancing Monsoon Season: This season runs from June to September. During these months the southwest monsoon winds blow northwards In two branches from the Arabinan Sea and the Bay of Bengal. They given rainfall to the whole of northem India. The winds blow from the oceanic high pressure areas towards the low pressure areas of the land and give heavy rainfall. The Arabian Sea branch causes heavy rainfall, exceeding 300 cm along the coastal areas of the Western Ghats, but this rainfall decreases as the monsoons go further. Thus the Deccan Plateau and the Eastern Ghats receive less rainfall as they are situated in the rain shadow area. Another Arabian Sea branch causes good rainfall in Chhota Nagpur Plateau. But the Thar desert gets little rainfall because there are no hills to check these winds. The Bay of Bengal branch strikes against the Himalayas and cau ses heavy rainfall on theh ills of ASia. Mawsynram receives more than 1DDDcmof rainfall annually. Mawsynram receives the highest rainfall in the world. As the monsoon winds take a turn from east to west because of the Himalayas, the rain goes on decreasing. As such, when Kolkata rece,ives a rainfall of 119 cm, Allahabad gets 76 cm and Delhi gets 56 cm. Almost the whole of India gets rain from these monsoons except Tamil Nadu.

(4) The Retreating Monsoon Season: This seaso~ runs from October to November. In this season the sky is usually clear and humidity Is low. At thIS time the monsoons start retreating. The months of October and November form a period of transition from hot rainy season to dry winter conditions. The lower temperatures on the plains give rise to gradual increase in pressure and as such the monsoons retreat from most parts of North India. Tamil Nadu receives high rainfall from these winds during this period (winter).

They strike Kerala in the beginning of June and the entire country comes under their influence in a month's time.

But even during this period the rains are seldom continuous. Rainless intervals may follow heavy showers. Due to uncertainty and uneven distribution of rainfall, floods and droughts are common during this season. We notice water famine even in Konkan area of Maharashtra which otherwise gets heavy rainfall. This is due to rapid , run off and quick evaporation of rainwater.

The retreating monsoons are laden with moisture when they pass over the Bay of Bengal and cause rainfall in Tamil Nadu.

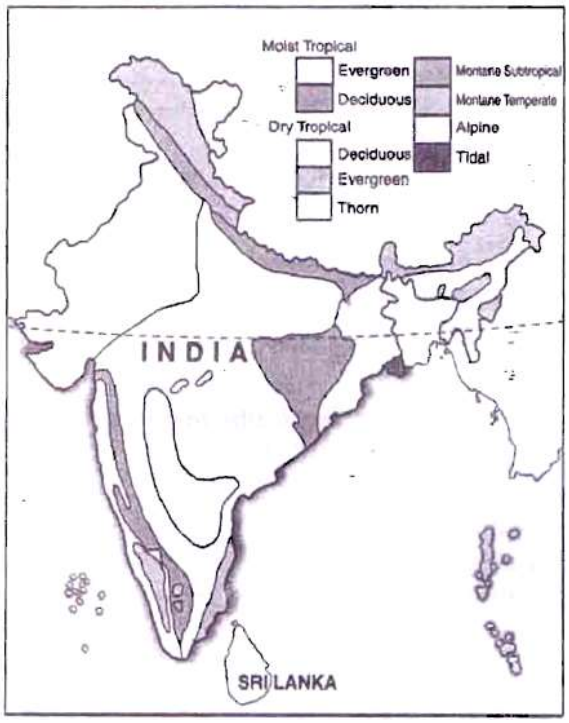
The period of transition When low pressure area is transferred from north-west of India to the Bay of Bengal is marked by the formation of cyclones. Sometimes these cyclones get such great speed that they become devastating. They cause great havoc to life and property when they strike the east coast of India. Sometimes they hit Andhra Pradesh, sometimes Orissa and at other times they strike against the coast of West Bengal and Bangladesh. Every time the bring devastation and death in their wake. They caused havoc in Bangladesh in 1970, Andhra Pradesh in 1977 and then again in 1997. But who can forget the disaster and ruin which they brought to Orissa in October 1999? It left more than ten thousand people dead, besides devastating vast areas.

INDIA - CLIMATE

INDIA - NATURAL VEGETATION AND WILDLIFE

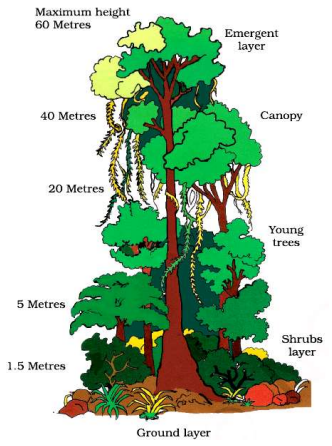
NATURAL VEGETATION

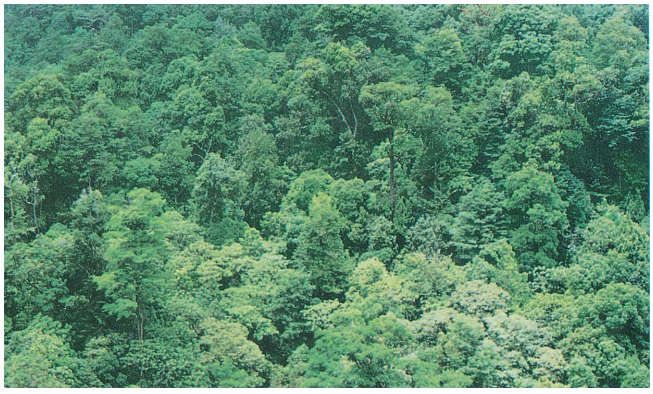
India possesses a-great variety of natural vegetation. We have about 47,000 plant species. According to an estimate India is tenth in the world and fourth in Asia in plant diversity. Flowering plants alone number 15,000 in India. This is due to the difference in climate, soil, physical features and relief of the country. India can be divided into the following vegetation regions.



Natural Vegetation

1. **Tropical Evergreen Rainforests:** Evergreen forests are found in regions with rainfall above 300 cm. The climate is highly moist and humid. The temperature is even. The dry season is very short. These forests are of equatorial type. They are commonly found in the Western Ghats and hills ofAssam. Important trees of evergreen forests are oak, chestnut, deodar, cedar, chir and pine etc. The trees are often very high (about 150 metres). They have hard wood and broad leaves, and remain green all the year round.

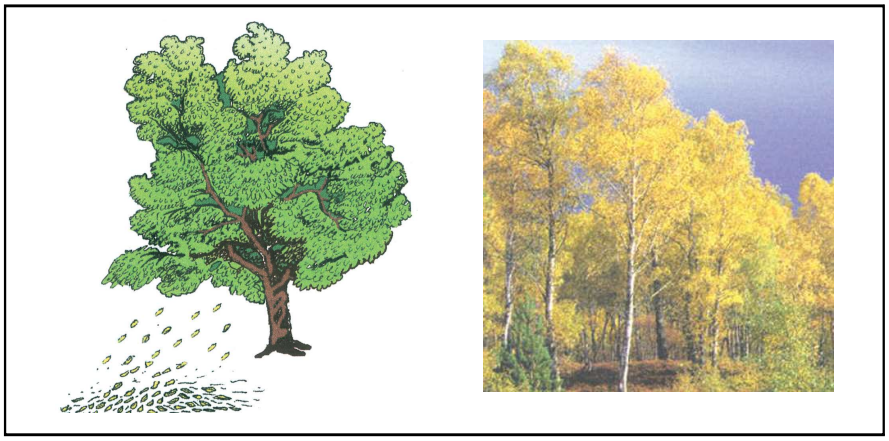




Tropical Rain Forests

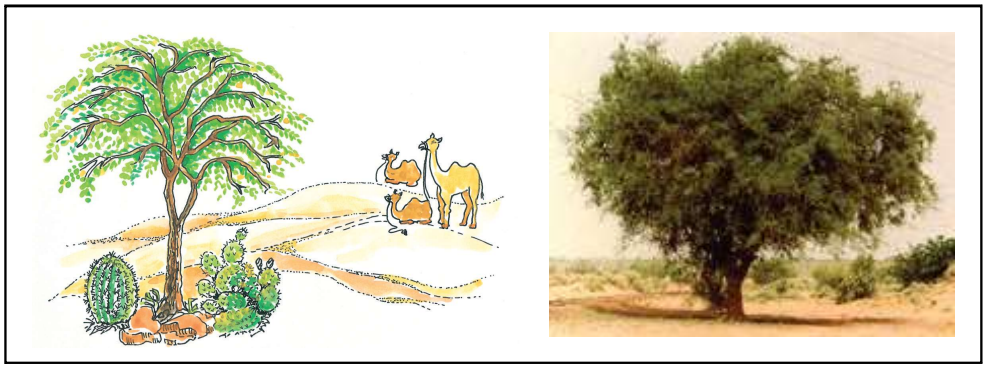
The semi-green forests are found In the regions that have rainfall between 200 and 300 cm. They lie close to the evergreen forests. These forests are commonly found in the Western Ghats, Assam, West Bengal and Orissa.

2. **The Tropical Deciduous Forests or the Monsoon Forests:** These forests are the most widespread forests of India. They extend from the Western Ghats in the south to the Shivalik Hills in the north. They are found in areas where the rainfall is between 100 to 200 em. The trees of these forests shed their leaves during the hot season before the monsoons. The main types of trees include teak, sal, sandalwood, rosewood, ebony, shisham, deodar, khair, mahua, bamboo, etc. These trees provide valuable wood for making furniture and constructing bu ildings.



Tropical Deciduous Forests

3. **The Thorn Forests:** These forests are found in regions with less than 100 cm of rains per year. They often consist of stunted forests and bushes. The trees have long rools, small fleshy leaves and often sharp spines. They are stunted and widely spread. Mainly two kinds of vegetations are found in these forests. Kikar and wild palm are found in areas with moderate rainfall. Scrubs, shrubs and thorny bushes are found in regions having scanty rainfall. This type of vegetation is found in Rajasthan, Punjab, Haryana, Gujarat and the dry parts of the Deccan Plateau and Madhya Pradesh.

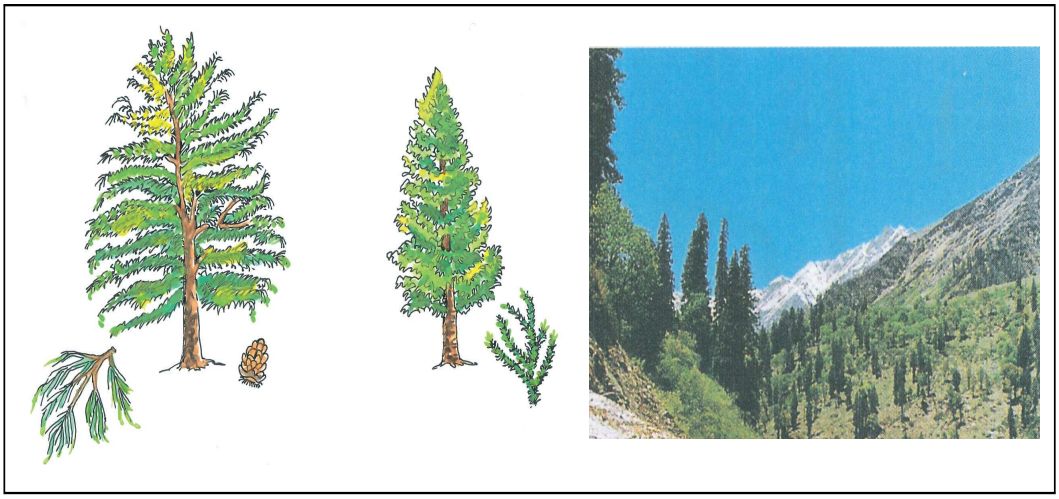


Thorny Bushes

4. **The Tidal Forests or Mangrove forests:** These forests are mainly found along the deltas of the rivers, especially the deltas of the Ganga, Mahanadi, Godavari and Krishna rivers. Their dense growth depends on the tidal waters which w'ood tile land during the high tides. Mangrove and sundari trees are the common trees found in the Ganga delta in Bengal. It is also called the Sundarbans. Casurina is another important tree of these forests. The hard wood of these trees are very useful for building boats.

Mangrove Vegetation

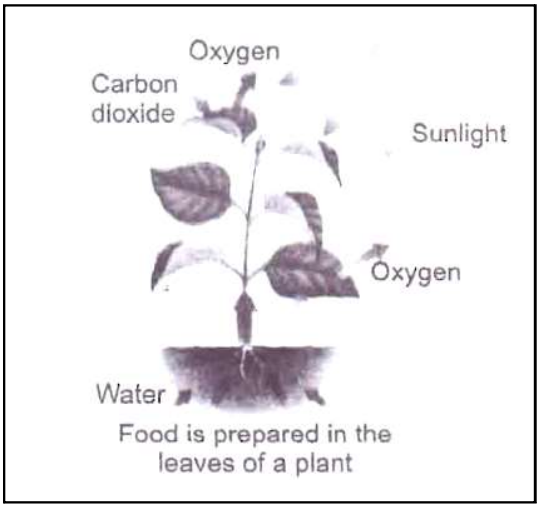
5. **Mountain Forests Vegetation of the Himalayan Region:** The vegetation in the Himalayan region varies with height or altitude. It changes according to altitude upto the snow line. There are tropical deciduous forests at the foothills. Sal is the most common tree of this region. Above the tropical deciduous forests is found the sub-tropical hill vegetation. The green oak, chestnut and chlr-pine are the common trees of this region. Coniferous forests are found at the heights between 1 ,600 and 3,300 metres. Blue pines, cedars, silver firs and deodar are the common trees of this region. Thereafter the alpine variety of plants such as shrubs, scrubs and grass are commonly found. Beyond the height of about 6,000 metres, the mountai.Qs remain snow-clad and no vegetation grows there.



Mountain Vegetation

Importance of Forest:

- Plants keep the air pure. During photosynthesis they release oxygen and use up carbon dioxide. This oxygen is used by living beings while breathing.
- The roots of plants bind the soil and help to stop soil erosion.
- They provide us with food, fruits, vegetables, wood, fodder, medicines and many other things.
- They are the natural homes and habitat for wild animals.



The process of photosynthesis

Trees have been cut down recklessly to clear ground for cultivation and buildings. We need to ponder over this. We must stop this and plant more trees to save our earth, not just cut them down. We must look after the existing ones. The 'Chipko Andolan' helped to save many trees.

Vanmahotsav are being organised to involve more and more people to contribute towards making our earth a green planet.

WILDLIFE

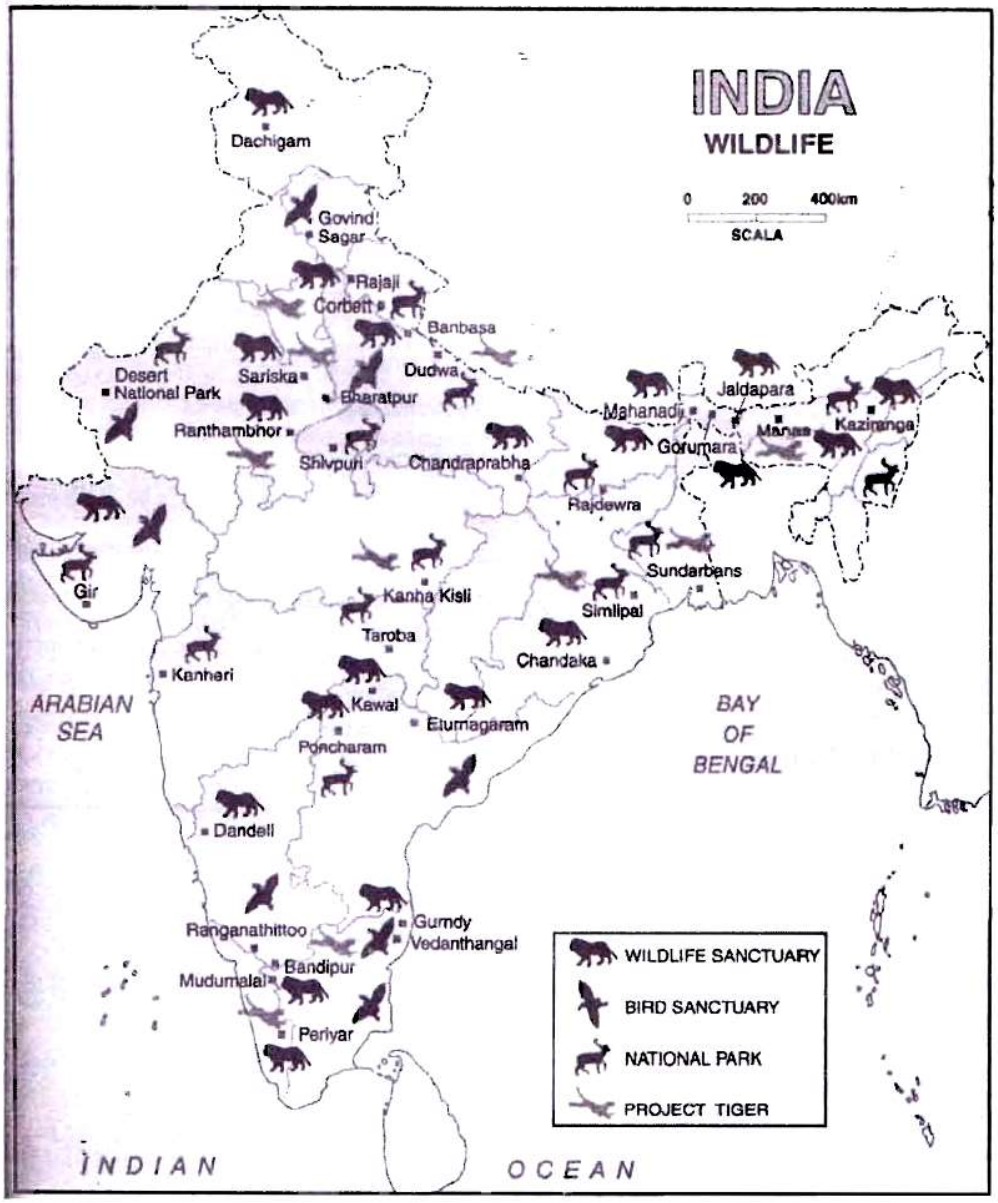
Wild Animals -The wildlife in our country is our national heritage and asset. India has a rich and varied wildlife. Various kinds of wild animals and birds are found in the Indian forests.

Wildlife

There are elephants, rhinoceroses, tigers, lions, etc. India is the only country in the world that has both lions and tigers. Lions of the Gir forests in Gujarat are wellknown all over the world. Tigers are found in the Himalayan region, the forests of Madhya Pradesh and· Sundarbans of West Bengal. A large variety of deer and antelope, monkeys and langurs, wolves, jackals and hyaenas are found in the hills.- We have more than 80,000 species of animals. We have also a large variety of birds (about 1200 species). Among such birds is the peacock which has been declared as our national bird. Thousands of tourists visit India to watch these birds and animals in their natural state. Other'common birds are mynah, bulbul and parrot. Camels, wild asses are found in the Thar region and in Gujarat. Elephants and rhinoceroses roam in Assam, Kerala and Karnataka.

A large number of rare birds and animals have become extinct due to the reckless destruction of forests and guns of the greedy hunters. As a result some beautiful species like cheetah, rhinoceroses, musk-deer, Indian bustard are in danger of total extinction.

In order to save wildlife our government has taken several steps. The government has set up 86 National Parks. In these parks wildlife, natural vegetation and natural beauty are preserved.



Wildlife Sanctuaries in India