



INDIA : CLIMATE, VEGETATION AND WILDLIFE

You read in newspapers daily and watch on T.V. or hear others talking about weather. You must know that **weather** is about *day to day changes* in the atmosphere. It includes changes in temperature, rainfall and sunshine etc. For example, as such it may be hot or cold; sunny or cloudy; windy or calm. You must have noticed that when it is hot continuously for several days you don't need any warm clothing. You also like to eat or drink cold things. In contrast there are days together, you feel cold without woollen clothes when it is very windy and chilly, you would like to have something hot to eat.

Broadly, the major seasons recognised in India are:

- Cold Weather Season (Winter) December to February
- Hot Weather Season (Summer) March to May
- Southwest Monsoon Season (Rainy) June to September
- Season of Retreating Monsoon (Autumn) October and November

COLD WEATHER SEASON OR WINTER

During the winter season, the sun rays do not fall directly in the region. As a result the temperatures are quite low in northern India.

HOT WEATHER SEASON OR SUMMER

In the hot weather season sun rays more or less directly fall in this region. Temperature becomes very high. Hot and dry winds called **loo**, blow during the day.

Let's have fun :

1. People in all parts of our country drink delicious cool drinks called *Sharbat* made from fruits available in their regions. They are excellent thirst-quenchers and protect our bodies from the ill-effect of the harsh 'loo'. Have you tried 'Sharbat', made from raw mango, bel, lemon, tamarind, kokum, phalsa, watermelon and buttermilk made from curds; for example chhaachh, mattha, mori, chash, etc? Many make banana and mango milkshakes too.
2. After a hot summer, the first rains bring much joy. All our languages have melodious songs on 'rains'. They sound happy and bring cheer. Learn two songs on rains and sing them together.

Write or collect five poems on rains.

Ask your friends, neighbours and family members for names for rains and other seasons in different languages. For instance,

Varsha – Hindi

Pous – Marathi

Barish – Urdu

Borsha – Bengali



SOUTH WEST MONSOON SEASON OR RAINY SEASON

This season is marked by the onset and advance of monsoon. The winds blow from Arabian Sea and Bay of Bengal towards the land. They carry moisture with them. When these winds strike the mountain barriers, rainfall occurs.

SEASON OF RETREATING MONSOONS OR AUTUMN

Winds move back from the mainland to the Bay of Bengal. This is the season of the retreating monsoons. The southern parts of India, particularly Tamil Nadu and Andhra Pradesh receive rainfall in this season.

However, the **climate** is about the average weather condition, which have been measured *over many years*.

The climate of India has broadly been described as Monsoon type. **Monsoon** is taken from the Arabic word '**mausim**', which means seasons. Due to India's location in the tropical region, most of the rain is brought by monsoon winds. Agriculture in India is dependent on rains. Good monsoons mean adequate rain and a bountiful crop.

What would happen if monsoons were weak, or even worse, failed to occur one year? Tick (✓) the correct answer.

- Crops will be-
affected/not affected
- The level of the water in a well will-
come-up/go-down
- Summer will be-
longer/shorter



Let's Do

On a map of India, locate the places mentioned in the paragraph.

The climate of a place is affected by its **location**, **altitude**, **distance from the sea**, and **relief**. Therefore, we experience regional differences in the climate of India. *Jaisalmer* and *Bikaner* in the desert of Rajasthan are *very hot*, while *Drass* and *Kargil* in Jammu and Kashmir are *freezing cold*. Coastal places like *Mumbai* and *Kolkata* experience *moderate climate*. They are neither too hot nor too cold. Being on the coast, these places are *very humid*. *Mawsynram* in *Meghalaya* receives the *world's highest rainfall*, while in a particular year it might not rain at all in *Jaisalmer* in Rajasthan.

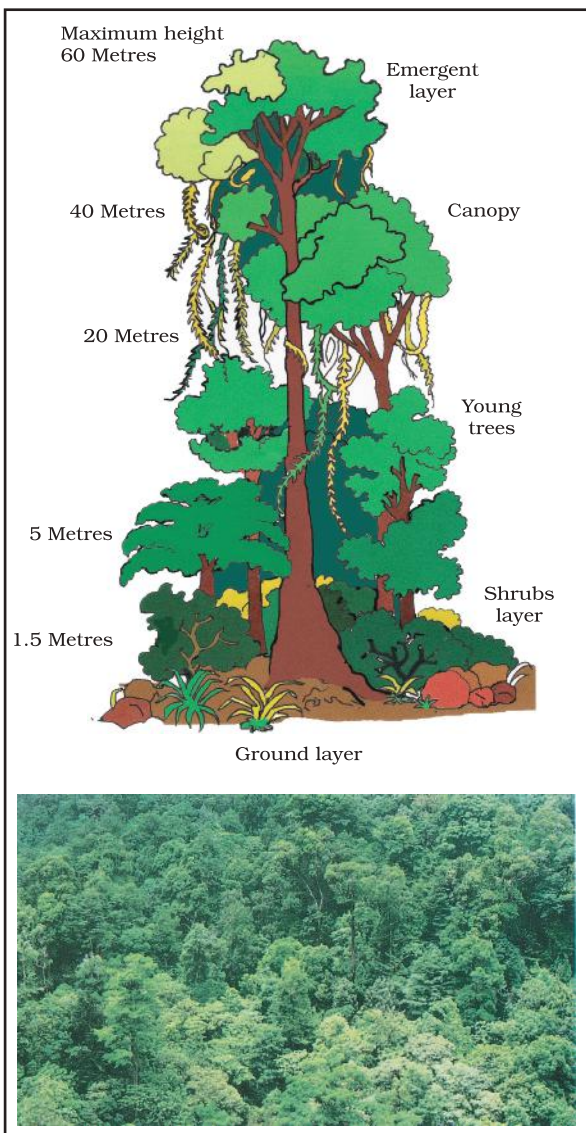


Figure 8.1 : Tropical Rain Forests

NATURAL VEGETATION

We see a variety of plant life in our surroundings. How nice it is to play in a field with green grasses. There are also small plants called bushes and shrubs like cactus and flowering plants etc. Besides there are many tall trees some with many branches and leaves like neem, mango or some which stand with few leaves such as palm. The grasses, shrubs and trees, which grow on their own without interference or help from human beings are called natural vegetation. Do you wonder how these differ from each other. Different types of natural vegetation are dependent on different climatic conditions, among which the amount of rainfall is very important.

Due to varied climatic conditions, India has a wide range of natural vegetation. Vegetation of India can be divided into five types – Tropical evergreen forest, Tropical deciduous forest, Thorny bushes, Mountain vegetation and Mangrove forests.

TROPICAL RAIN FOREST

Tropical Rain Forests occur in the areas which receive heavy rainfall. They are so dense that sunlight doesn't reach the ground. Many species of trees are found in these forests, which shed their leaves at different times of the



year. Therefore, they always appear green and are called evergreen forest as you may notice in Figure 8.1. Important trees found in these forests are *mahogany*, *ebony* and *rosewood*. Andaman and Nicobar Islands, parts of North-Eastern states and a narrow strip of the Western slope of the Western Ghats are home of these forests.

TROPICAL DECIDUOUS FORESTS

In a large part of our country we have this type of forest. These forests are also called monsoon forests. They are less dense. They *shed* their leaves at a particular time of the year. Important trees of these forests are *sal*, *teak*, *peepal*, *neem* and *shisham*. They are found in Madhya Pradesh, Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh, Odisha, and in parts of Maharashtra.

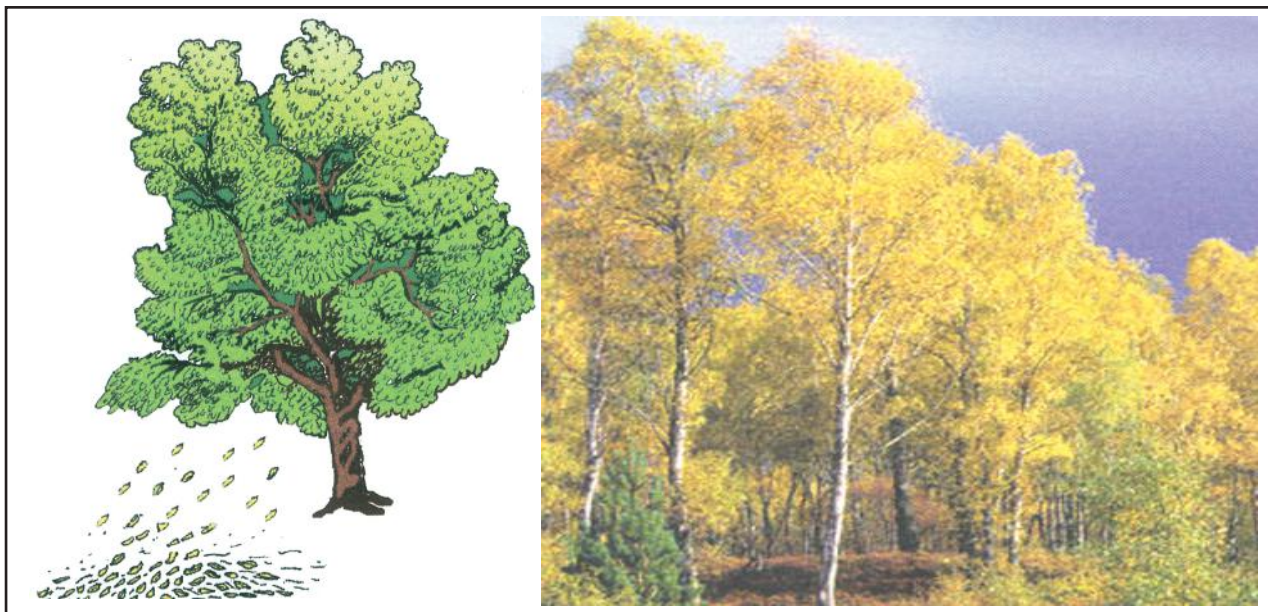


Figure 8.2 : Tropical Deciduous Forests

THORNY BUSHES

This type of vegetation is found in dry areas of the country. The leaves are in the form of spines to reduce the loss of water. *Cactus*, *khair*, *babool*, *keekar* are important and are found in the states of Rajasthan, Punjab, Haryana, Eastern slopes of Western Ghats and Gujarat.



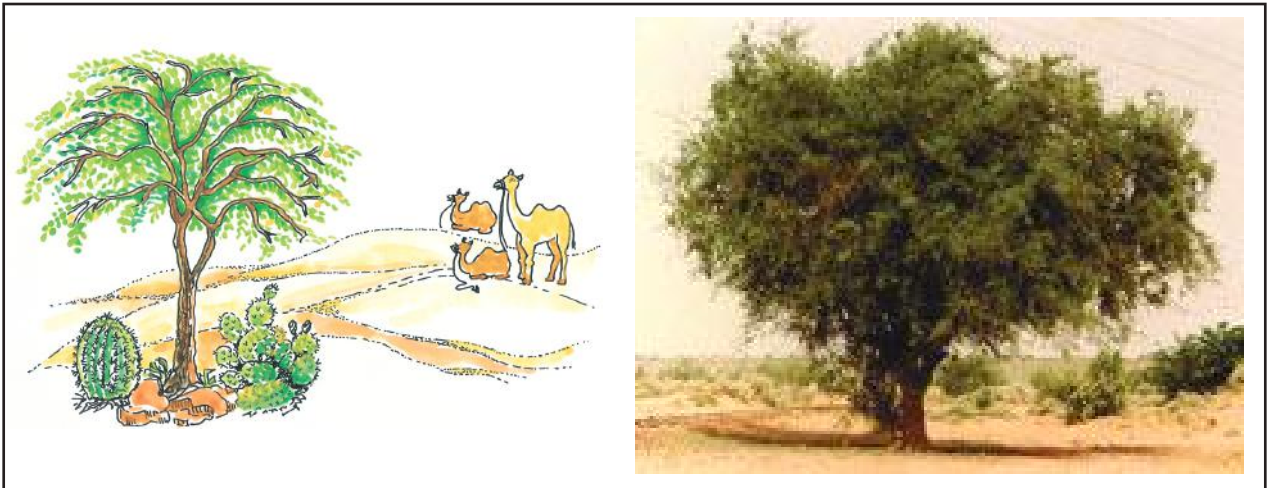


Figure 8.3 : Thorny Bushes

MOUNTAIN VEGETATION

A wide range of species is found in the mountains according to the variation in height. With increase in height, the temperature falls. At a height between 1500

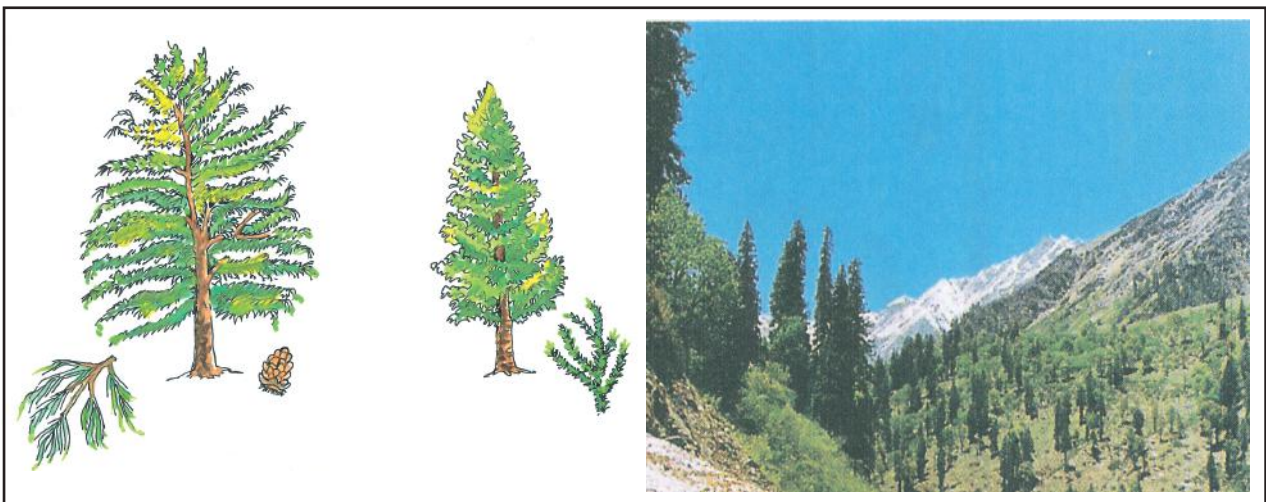


Figure 8.4 : Mountain Vegetation



Figure 8.5 : Mangrove Vegetation

metres and 2500 metres most of the trees are conical in shape. These trees are called coniferous trees. *Chir, Pine and Deodar* are important trees of these forests.

MANGROVE FORESTS

These forests can survive in *saline water*. They are found mainly in *Sunderbans* in

West Bengal and in the *Andaman and Nicobar Islands*. *Sundari* is a well-known species of trees in mangrove forests after which *Sunderbans* have been named.

WHY ARE FORESTS NECESSARY?

Forests are very useful for us. They perform various functions. Plants release oxygen that we breathe and absorb *carbon dioxide*. The roots of the plants bind the soil; thus, they control soil erosion.

Forests provide us with timber for furniture, fuel wood, fodder, medicinal plants and herbs, lac, honey, gum, etc.

Forests are the natural habitat of wild life.

Natural vegetation has been destroyed to a large extent because of the reckless cutting of trees. We should plant more trees and protect the existing ones and make people aware of the importance of trees. We can have special programmes like *Van Mahotsav* to involve more people in making our earth green.

Leela's parents planted a sapling of "neem" to celebrate her birth. On each birthday, a different sapling was planted. It was watered regularly and protected from severe heat, cold and animals. Children took care not to harm it. When Leela was 20, twenty-one beautiful trees, stood in and around her house. Birds built their nests on them, flowers bloomed, butterflies fluttered around them, children enjoyed their fruits, swung on their branches and played in their shade.

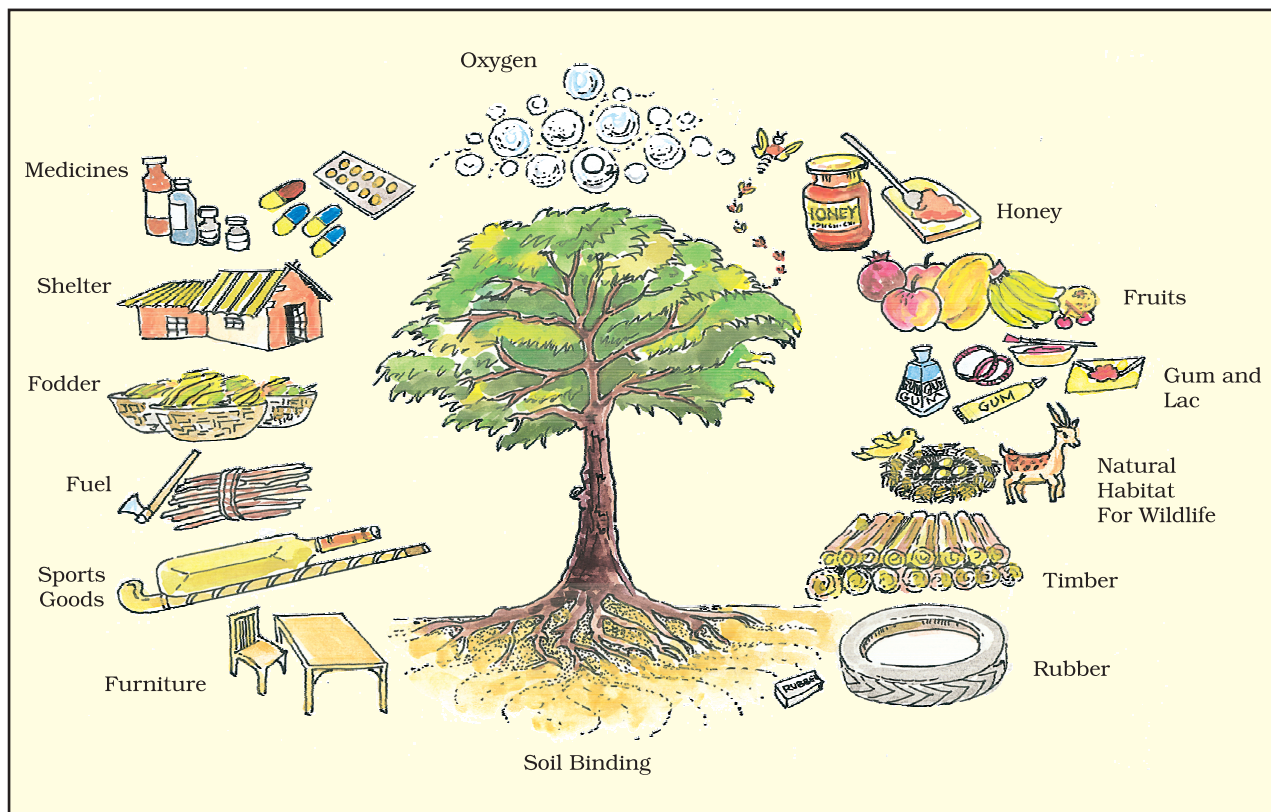


Figure 8.6 : What we get from forests

WILD LIFE

Forests are home to a variety of wild life. There are thousands of species of animals and a large variety of reptiles, amphibians, mammals, birds, insects and worms which dwell in the forest.



Figure 8.7 : Wildlife

The tiger is our **national animal**. It is found in various parts of the country. *Gir* forest in Gujarat is the home of Asiatic lions. Elephants and one-horned rhinoceroses roam in the forests of Assam. Elephants are also found in Kerala and Karnataka. Camels and wild asses are found in the Great Indian desert and the Rann of Kutch respectively. Wild goats, snow leopards, bears, etc. are found in the Himalayan region. Besides these, many other animals are found in our country such as monkey, wolf, jackal, nilgai, cheetah, etc.

India is equally rich in bird life. The peacock is our **national bird**. Other common birds are parrots, pigeons, mynah, geese, bulbul and ducks. There are several bird sanctuaries which have been created to give birds their natural habitat. These provide the birds protection from hunters. Can you name five birds that are commonly found in your area?

Migratory Birds

Some birds such as the Pelican, Siberian Crane, Stork, Flamingo, Pintail Duck and Curlew migrate to our country in the winter season every year. Siberian Cranes migrate from Siberia. They arrive in December and stay till early March.



Stork – a migratory bird

EXERCISES

1. Answer the following questions briefly.

- (a) Which winds bring rainfall in India? Why is it so important?
- (b) Name the different seasons in India.
- (c) What is natural vegetation?
- (d) Name the different types of vegetation found in India.
- (e) What is the difference between evergreen forest and deciduous forest?
- (f) Why is tropical rainforest also called evergreen forest?

2. Tick the correct answers.

- (a) The world's highest rainfall occurs in
 - (i) Mumbai
 - (ii) Asansol
 - (iii) Mawsynram
- (b) Mangrove forests can thrive in
 - (i) saline water
 - (ii) fresh water
 - (iii) polluted water
- (c) Mahogany and rosewood trees are found in
 - (i) mangrove forests
 - (ii) tropical deciduous forests
 - (iii) tropical evergreen forests
- (d) Wild goats and snow leopards are found in
 - (i) Himalayan region
 - (ii) Peninsular region
 - (iii) Gir forests

- (e) During the south west monsoon period, the moisture laden winds blow from

(i) land to sea (ii) sea to land (iii) plateau to plains

3. Fill in the blanks.

- (a) Hot and dry winds known as _____ blow during the day in the summers.
- (b) The states of Andhra Pradesh and Tamil Nadu receive a great amount of rainfall during the season of _____.
- (c) _____ forest in Gujarat is the home of _____.
- (d) _____ is a well-known species of mangrove forests.
- (e) _____ are also called monsoon forests.



FOR FUN

1. Make a list of trees in your neighbourhood and collect pictures of plants, animals and birds and paste them in your copy.
2. Plant a sapling near your home and nurture it and write down the changes you observe for a few months.
3. Does any migratory bird come in your locality? Try to identify that. Be watchful in the winter season.
4. Visit a zoo in your city or visit a nearby forest or sanctuary with your elders. Look carefully at the various types of wildlife there.



State and Union Territories of India

| State | Capital | Union Territory | Capital |
|-------------------|--------------------|-------------------------------------|------------|
| Andhra Pradesh | Hyderabad | Andaman and Nicobar Islands | Port Blair |
| Arunachal Pradesh | Itanagar | Chandigarh | Chandigarh |
| Assam | Dispur | Dadra & Nagar Haveli | Silvassa |
| Bihar | Patna | Daman & Diu | Daman |
| Chhattisgarh | Raipur | Lakshadweep | Kavaratti |
| Goa | Panaji | Puducherry | Puducherry |
| Gujarat | Gandhi Nagar | | |
| Haryana | Chandigarh | National Capital Territory of Delhi | Delhi |
| Himachal Pradesh | Shimla | | |
| Jammu & Kashmir | Srinagar | | |
| Jharkhand | Ranchi | | |
| Karnataka | Bangalore | | |
| Kerala | Thiruvananthapuram | | |
| Madhya Pradesh | Bhopal | | |
| Maharashtra | Mumbai | | |
| Manipur | Imphal | | |
| Meghalaya | Shillong | | |
| Mizoram | Aizawl | | |
| Nagaland | Kohima | | |
| Odisha | Bhubaneswar | | |
| Punjab | Chandigarh | | |
| Rajasthan | Jaipur | | |
| Sikkim | Gangtok | | |
| Tamil Nadu | Chennai | | |
| Uttarakhand | Dehradun | | |
| Uttar Pradesh | Lucknow | | |
| Tripura | Agartala | | |
| West Bengal | Kolkata | | |

Some Internet Sources for more information

www.sci.edu/public.html

www.si.edu and www.nasm.edu

<http://volcanoes.usgs.gov/>

discovery.school.com/dysee

www.futureforests.com/calculators/flightcalculatorshop.asp

www.nationalgeographic.com/earthpulse

<http://www.cpcb.nic.in>