

Climate

1. Different climatic phenomena experienced in India are given below. To which season each of them are related and complete the table.

- Snowfall in the Himalayan Valleys
- The highest rainfall season in India.
- In North India, days are generally warm and nights are severely cold.
- In Barmer, the highest temperature is felt. • October heat.
- Heavy rainfall along the Coromandal coast. • Western disturbance.
- Heavy rainfall in the Brahmaputra plains • Local winds such as loo, mangoshowers etc are experienced.

Seasons	Climatic phenomena
Winter season	<ul style="list-style-type: none"> • Snowfall in the Himalayan Valleys • In North India, days are generally warm and nights are severely cold. • Western disturbance.
Summer season	<ul style="list-style-type: none"> • In Barmer, the highest temperature is felt. • Local winds such as loo, mango-showers etc. are experienced.
South-west monsoon season	<ul style="list-style-type: none"> • The highest rainfall season in India. • Heavy rainfall in the Brahmaputra plains.
North-east monsoon season	<ul style="list-style-type: none"> • October heat. Heavy rainfall along the Coromandal coast

2. What are the factors influencing the climate of India.

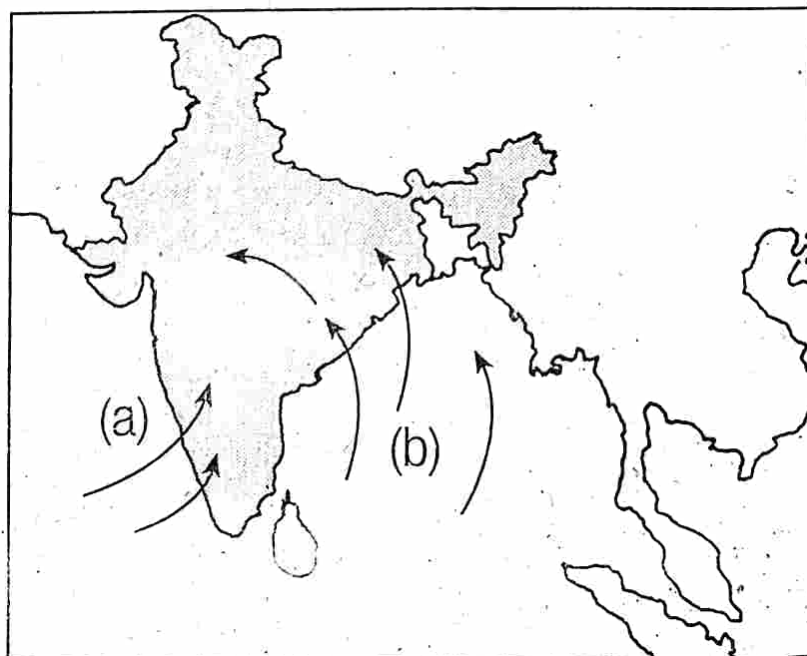
- Latitude
- Physiography
- Nearness to ocean
- Altitude

3. Western disturbance is a climatic phenomenon of India. Explain this phenomenon.

The phenomenon called western disturbance is a peculiarity of the winter season in India.

The cyclones originating in the Mediterranean Sea during winter, gradually shifts towards the east and reaches India. This causes winter rainfall in the northern plains, especially in the Punjab region. This rain is much beneficial for the winter crops. Jet streams, the strong upper air currents in the troposphere have a significant role in bringing the influence of the western disturbance to India.

4. What does the following figure show? What do the letters a, b, show? How do these winds change the atmospheric condition of India?



When the sun is over the northern hemisphere, North Indian regions experience intense low pressure owing to the high pressure over the oceans, wind blows from high pressure to low pressure regions, that is, from the Indian Ocean. The picture shows the south-west monsoon winds.

Because of the peculiar shape of the Indian peninsula, the south-west monsoon winds bifurcate into two branches before entering the land.

- Arabian sea branch
- Bay of Bengal branch

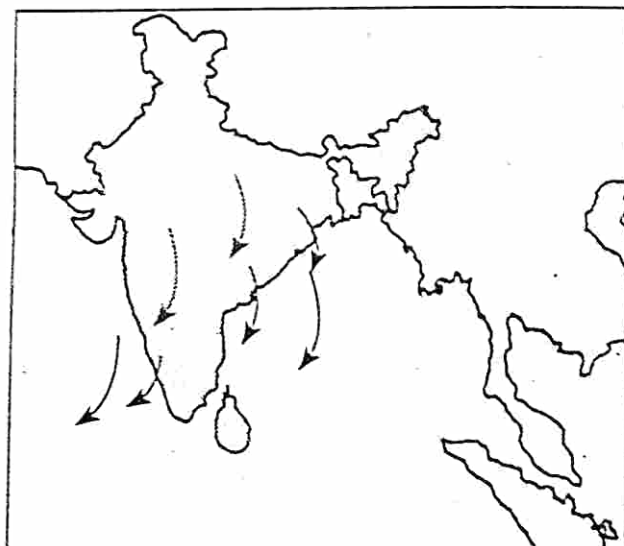
The Arabian Sea branch that reaches the coast of Kerala by early June causes heavy rainfall here. Then it advances to the states of Karnataka, Goa, Maharashtra, and Gujarat and causes rainfall in the western parts.

Rainfall is scarce in the Rajasthan region because the monsoon branch entering through Gujarat blows parallel to the Aravalli mountain ranges.

Bay of Bengal branch of the monsoon advances northward by absorbing more moisture from the Bay of Bengal. On reaching West Bengal, crossing the Sundarban delta, it bifurcates into two branches. One branch reaches the north-eastern states through the Brahmaputra plains and causes heavy rainfall there.

The other branch enters the Ganga plains and causes rainfall in West Bengal, Bihar, Uttar Pradesh, etc. This branch merging with the Arabian Sea branch in the Punjab plains advances north further and causes heavy rainfall along the foothills of the Himalayas.

5. Analyse the picture given below and prepare a note.



These winds known as north-east monsoon winds are dry winds that do not generally cause any rain in India. This season termed as retreating monsoon is actually a transition period between the rainy season and the forthcoming winter. This season experienced during the months of October and November makes the days unbearable due to high temperature and humidity. This phenomenon is known as October heat. The winds blowing from land to sea due to the attraction of low pressure over the Bay of Bengal takes a north-east to south-west direction. It absorbs moisture from the Bay of Bengal and causes rainfall along the Coromandal coast, especially the Tamil Nadu coast. This is the main rainy season of Tamil Nadu. Kerala and some parts of Karnataka also receive north-east monsoon rains.

6. Answer the following questions based on the seasons in India.

a) Which are the winter months in India?

December, January and February are the winter months in India.

b) The coastal regions experience comparatively less temperature. Why?

Due to the nearness to sea the coastal regions experience comparatively less temperature. Land breeze and sea breeze influence the temperature in coastal regions. So moderate temperature is experienced there.

c) Which are the months of south-west monsoon season in India?

In India south-west monsoon is experienced from June to September.

d) Rainfall is comparatively less along the eastern slopes of the Western Ghats. Why?

The eastern slopes of the Western Ghats situate in the rain shadow region. So rainfall is less there.

e) By what name is the south-west monsoon rain known in Kerala?

Edavappathi (Kalavarsham)

f) What is the role of Eastern Highlands for causing the heavy rainfall in the North Eastern states?

The Bay of Bengal branch of the south-west monsoon blows from south and south east direction and enters West Bengal. When it enters West Bengal bifurcates into two. One branch enters the Brahmaputra plains and gives heavy rainfall in the north eastern states. It is the eastern highlands that prevent the winds and cause rainfall.

g) What causes the rightward deflection of the North East monsoon winds?

Coriolis effect is the reason for the reflection of the north-east monsoon winds.

h) By what name is the north-east monsoon rain known in Kerala?

Thulavarsham