

Class: IX
Subject: Social Science (087) - Geography
Chapter: 4 Climate

Notes

- **Climate**: Climate refers to the sum total of weather conditions and variations over a large area for a long period of time (more than thirty years).
- **Weather** : Weather refers to the state of the atmosphere over an area at any point of time.
- **Monsoon** :The word monsoon is derived from the Arabic word ‘mausim’ which literally means season. ‘Monsoon’ refers to the seasonal reversal in the wind direction during a year.
- **Loo** : Loo are strong, gusty, hot, dry winds blowing during the day over the north and northwestern India.
- **Break in Monsoon** : In advancing monsoon season, there are break in the monsoon rains . It has wet and dry spells. The monsoon rain take place for a few days at a time then they stop for a few days and start again. It happens as a result of movement of the monsoon trough.
- **Mango Showers** : Towards the close of the summer season, pre-monsoon showers are common especially, in Kerala and Karnataka. They help in the early ripening of mangoes, and are often referred to as ‘mango showers’.
- **October Heat** : During retreating / post monsoon season, there is a rise in temperature and humidity known as ‘October Heat’.
- **Six major controls of the climate of any place.**
 - Latitude,
 - Altitude,
 - Pressure and wind system,
 - Distance from the sea (continentality),
 - Ocean currents and relief features

➤ **Factors Affecting India’s Climate**

Latitude

The Tropic of Cancer passes through the middle of the country from the Rann of Kachchh in the west to Mizoram in the east. India’s climate has characteristics of tropical as well as subtropical climates.

Altitude

India has mountains to the north and also has a vast coastal area where the maximum elevation is about 30 metres. Owing to the mountains, subcontinent experiences comparatively milder winters as compared to central Asia.

Pressure and Winds

The climate and weather conditions in India are governed by the following atmospheric conditions:

- Pressure and surface winds
- Upper air circulation
- Western cyclonic disturbances and tropical cyclones

Air moves from the high-pressure area over the southern Indian Ocean, in a south-easterly direction, crosses the equator and turns right towards the low-pressure areas over the Indian subcontinent. These are known as the **Southwest Monsoon winds**. These winds blow over the warm oceans, gather moisture and bring widespread rainfall over the territories of India.

The Seasons

Four main seasons can be identified in India:

1. The cold weather season (Winter)
2. The hot weather season (Summer)
3. The advancing monsoon (Rainy Season)
4. The retreating monsoon with some regional variations (Transition Season)

The Cold Weather Season (Winter)

Winter begins from mid-November in northern India and stays till February.

- December and January are the coldest months in the northern part of India.
- The temperature decreases from south to the north.
- Days are warm and nights are cold.
- The weather is marked by clear sky, low temperatures and low humidity and feeble, variable winds.
- This season is extremely important for the cultivation of 'rabi' crops.

The Hot Weather Season (Summer)

- From March to May, hot weather season is observed in India.
- The summer months experience rising temperature and falling air pressure in the northern part of the country.
- A striking feature of the hot weather season is the 'loo'.
- Towards the close of the summer season, 'mango showers' come.

Advancing Monsoon (The Rainy Season)

- South-east trade winds originate over the warm subtropical areas of the southern oceans.
- They cross the equator and blow in a southwesterly direction entering the Indian peninsula as the south-west monsoon.
- The monsoon winds cover the country in about a month.
- Mawsynram in the southern ranges of the Khasi Hills receives the highest average rainfall in the world.
- The monsoon is known for its uncertainties. The alternation of dry and wet spells vary in intensity, frequency and duration.

Retreating/Post Monsoons (The Transition Season)

- The months of October-November form a period of transition from hot rainy season to dry winter conditions.
- The retreat of the monsoon is marked by clear skies and rise in temperature. While day temperatures are high, nights are cool and pleasant.
- Commonly known ‘**October heat**’ occurs in this season.

Distribution of Rainfall

1. Parts of the western coast and northeastern India receive over about 400 cm of rainfall annually.
2. Rainfall is less than 60 cm in western Rajasthan and adjoining parts of Gujarat, Haryana and Punjab.
3. Rainfall is low in the interior of the Deccan plateau, and east of the Sahyadris.
4. Snowfall is restricted to the Himalayan region.
5. The annual rainfall is highly variable from year to year.

Monsoon as a Unifying Bond

The unifying influence of the monsoon on the Indian subcontinent is quite noticeable. The seasonal alteration of the wind systems and the associated weather conditions provide a rhythmic cycle of seasons. The uncertainties of rain and uneven distribution are very much typical of the monsoons. Year after year, people of India from north to south and from east to west, eagerly await the arrival of the monsoon. These monsoon winds bind the whole country by providing water to set the agricultural activities in motion.