Revision Notes

Class – 9 Social Science Geography

Chapter 4 - Climate

- Climate is the sum total of weather situations and variations over a large area for a long period of time, normally more than 30 years.
- Weather may be described as the state of atmosphere measured at a specific time.
- Components of climate and weather are identical i.e. humidity, precipitation, atmospheric stress, wind and temperature.
- Our earth is split into many climatic zones. India is stated to have the monsoon kind of weather. There is a wellknown pattern of climate in the country however there are visible variations that exist regionally. The most crucial aspects of the climate are temperature and precipitation.

- **Factors Affecting India's Climate**

1. Latitude: From the Rann of Kutch with inside the west to Mizoram in the east passes the Tropic of Cancer, dividing the country into parts. To the south lies the tropical region and to the north lies the subtropical area.
2. Altitude: To the north stands the Himalayan range with a peak of approximately 6000 metres. In the south, there are huge coastal stretches with maximum elevation as much as 30 metres. The Himalayas prevent the cold chilly winds from Central Asia from coming into the country.
3. Wind and Pressure: The pressure and wind system affecting the weather and climate situations in India are ruled through certain parameters. These are pressure and surface winds, western cyclones and tropical cyclones and the top air stream. India is located in the region of the northeasterly winds that begins from the subtropical high-pressure belts of the northern hemisphere

and blow towards the south. These winds get deflected because of the Coriolis effect and circulate toward the equatorial low- stress belt. These winds does not have moisture; for this reason, carry very little rain at all.

During winters, a high-pressure region prevails north of the Himalayas. During summers, there may be a entire reversal of wind direction. As low pressure develops over the landmass causing the wind to blow from oceans to landmass, it collects moisture from the Indian ocean and blows withinside the south-east direction. Upon crossing the equator, the wind turns right in the direction of the region wherein low pressure is created over the Indian subcontinent. This is referred to as the southwest monsoon wind which brings in massive rainfall over the landmass of India. Upper flow referred to as the jet streams are controlled through westerly winds.

- **Indian Monsoons: Arrival and Retreat**

Indian monsoons have a period of one hundred to two hundred days that is from the early of June to the mid of September. On the appearance of monsoons, the regular rainfall will increase suddenly and this heavy rainfall maintains for several days. This phenomenon is referred to as the burst of the monsoons. This climate situation is distinguishable from the pre-monsoon showers. The monsoon approaches the southern tip of the Indian peninsula during the first week of June from in which it is divided into two branches- one the Arabian Sea branch and the other one Bay of Bengal branch. The Arabian Sea branch reaches Mumbai ten days later whereas the Bay of Bengal branch during first week of June.

Mountains are liable for the monsoon winds to deflect West in the direction of the Ganga plains, The Arabian Sea branch through the mid of June seems over Saurashtra and Kutch and central India. The branches of southwesterly monsoons meets at the Ganga plains. Delhi gets showers from Bay of Bengal branch through the end of June, and Punjab, Haryana, Eastern Rajasthan and Western UP enjoy showers through the first week of July. By mid-July, the monsoon winds cover the entire country.

- **Monsoon:**

  The low pressure is created over the northern Gangetic plains intensifies and draws trade winds from the southern hemisphere. These winds originate over the regions of warm subtropical Southern Ocean and pass the equator to blow in a southeasterly path to go into India. The winds are moisture-laden. The windward aspect of the Western ghats is hit through these winds and experience heavy rainfall of more than 250cm. The rain shadow regions of Madhya Pradesh in the Deccan plateau additionally acquire a little rain. The north-eastern part of the country gets the most rainfall for the duration of this period. Mawsynram found in the Khasi hills gets the highest average rainfall in the world. In the Ganga valley, it decreases from east to west which is from Rajasthan and Gujarat receiving scanty rainfall.

- **Retreating monsoon or the transition season:**

  Between October and November the apparent movement of the sun is closer to the south. The monsoon trough will become weaker and is replaced by high-pressure systems. Southwest monsoon initiated retreating from the country by the start of October. It withdraws from the northern parts of the country first. Retreating monsoon is related to clean skies and rise in the temperature. By early November the low-pressure situations get shifted over the Bay of Bengal which creates a cyclonic disturbance that generally originates over the Andaman sea. The cyclone hits the eastern coast of India inflicting massive damage.

- **Monsoons as a Unifying Bond**

  Monsoons are a unifying bond withinside the country.Though the monsoons are marked by seasonal and local variations, the entire country is keen for its arrival. Agriculture is completely depending on the monsoons. India being an agriculture centric country, rainfall and monsoons are necessary for the country.