

THE MAJOR BIOMES

Aim

The aim of this module is to make students acquainted with the major types of biomes found on planet Earth and the kind of climatic conditions which define them.

Learning Points

- What is climate?
- What factors affect climate?
- What are Biomes?
- Characteristics of Biomes:
 - Humidity
 - Sunlight
 - Latitude and Altitude
- Plant and animal communities in Biomes
 - Adaptation
 - Their roles in their respective Biomes

CLIMATE AND THE FACTORS AFFECTING IT

Suppose you are given a flight ticket to travel to Africa to see the famous Sahara desert. If you are adventurous, you'd perhaps say "Great! I'm ready to go."

While packing your suitcase, the first question you might ask yourself is- "What should I take? What is the climate like in Africa?"



The **climate** of a region can be defined as the average weather pattern over a fairly long period of time. Different factors such as **temperature** and **precipitation** affect the climate of a region. These two factors also play an important role in influencing the ecosystem productivity of that region.

Temperature- The cold climate over poles and the hot climate over the equator are due to a low and high temperature respectively, in those regions.

Precipitation- Precipitation has a major role to play in determining the climate of a particular region. The air and land temperatures are regulated by precipitation. It also helps in determining the flora of that area and contributes to the formation of wind. The water cycle gets intensified due to

rising temperature which results in evaporation. Evaporation, in turn, causes storms. Areas which experience less precipitation will face an increased risk of drought.

WEATHER

As *Mark Twain* put it- “**Climate is what we expect, weather is what we get**”. Weather can be defined as the atmospheric condition in a small region which lasts for a short period of time.

DIFFERENCE BETWEEN WEATHER AND CLIMATE

	WEATHER	CLIMATE
1.	The term refers to the atmospheric condition of a small region which lasts for a short period of time.	Climate of a region can be defined as the average weather pattern over a fairly long period of time.
2.	The weather changes very frequently.	Climate of a region remains more or less unchanged
3.	Weather can change due to change in any of its elements such as- Humidity, temperature, etc.	Climate does not change in any of the elements. It is the collective effect of all of its elements.
4.	It is experienced over a small area	It is experienced over a larger area.
5.	The weather conditions of a region can change several times over a year.	A place can experience only one type of climate.

WHAT IS A BIOME

A biome is a large geographical area with distinct communities of organisms having characteristic appearance. Our planet is divided into different climate regions called **Biomes**.

Every biome has a different climate, topography, humidity, temperature, latitude and the amount of sunlight it receives.

Biomes have been broadly divided by the scientists into six main types: Deserts, rainforests, grasslands, temperate deciduous forests, taiga and tundra.

PLANT AND ANIMAL COMMUNITIES IN BIOMES

The plant and animal communities are unique to every biome. There is always some interaction between the animals and plants in a community. These organisms rely on the resources available to them in their environment. In order to survive in a particular environment, the organisms need to adopt themselves to their surroundings.

As every biome has different climatic condition, it poses challenges to the organisms living in it. Therefore, all the plant and animal communities of a biome have some



adaptations that allow them to obtain enough resources and to survive in the environment.