

CLIMATIC REGIONS OF THE WORLD

1. Introduction

Climatic regions of the world are classified based on long-term patterns of temperature, precipitation, pressure, and seasonal characteristics. Climate classification helps in understanding vegetation, agriculture, settlement patterns, and economic activities.

2. Basis of Climate Classification

- Temperature (mean annual and monthly values)
- Precipitation (amount and seasonal distribution)
- Pressure and wind systems
- Natural vegetation as climatic indicator

3. Köppen's Climate Classification

Wladimir Köppen classified world climates based on temperature and precipitation with vegetation as an indicator. It is the most widely used empirical classification.

- A – Tropical Climates (Af, Am, Aw)
- B – Dry Climates (BW – Desert, BS – Steppe)
- C – Warm Temperate Climates (Mediterranean, China type, Marine west coast)
- D – Cold Snow Forest Climates (Taiga type)
- E – Polar Climates (Tundra – ET, Ice cap – EF)

4. Major Climatic Regions of the World

- Equatorial Climate – High temperature, heavy rainfall throughout the year (Amazon Basin, Congo Basin).
- Tropical Monsoon Climate – Seasonal reversal of winds with heavy summer rainfall (South and Southeast Asia).
- Tropical Desert Climate – Very low rainfall, high diurnal range (Sahara, Arabian Desert).
- Mediterranean Climate – Dry summers, wet winters (Mediterranean Basin, California).

- Temperate Marine Climate – Moderate temperature, rainfall throughout the year (Western Europe).
- Continental Climate – Extreme temperature range, moderate rainfall (Interior North America, Siberia).
- Tundra Climate – Short cool summer, long severe winter (Arctic regions).
- Ice Cap Climate – Permanent ice cover, very low temperature (Antarctica, Greenland).

5. Thornthwaite's Classification

C.W. Thornthwaite classified climate based on potential evapotranspiration (PET) and moisture index. It emphasizes water balance and is useful in agricultural planning.

6. Importance of Studying Climatic Regions

- Helps in agricultural planning and crop selection
- Explains distribution of natural vegetation and wildlife
- Assists in disaster management (droughts, cyclones)
- Important for climate change studies and environmental management