

Climate Types | Important PYQ Topics

Team Shashank Sajwan

INTRODUCTION

- The **average weather conditions**, prevalent from one season to another in the course of a year, over a large area is known as **climate**.
- Weather is the **atmospheric condition** of a place for a **short duration**.

ELEMENTS OF CLIMATE

- Temperature
- Air (Atmospheric) Pressure
- Wind (Speed & Direction)
- Humidity
- Precipitation
- Visibility
- Clouds (Type & Cover)
- Sunshine Duration

FACTORS AFFECTING CLIMATE

- Latitude or Distance from the Equator
- Altitude or the Height from the mean sea level
- Continentally or the Distance from the Sea
- Nature of the Prevailing Winds
- Cloud Cover
- Ocean Currents
- Direction of Mountain Chains
- Slope and the Aspect
- The Nature of the Soil and Vegetation Cover

TYPES OF WORLD CLIMATE

- **HOT, WET EQUATORIAL CLIMATE:**
 - Between **5° and 10° north and south of the equator**.
 - Greatest extent is found in the **lowlands of Amazon, the Congo, Malaysia and the East Indies**.
 - **Temperature:** uniformity of temperature; mean monthly temperatures are **24 to 27°C**; no winter.
 - **Precipitation:** annual average is always above **150 cm**.

- **Natural Vegetation:** luxuriant tropical rainforest. Multitude of **evergreen trees** that yield tropical hardwood, e.g., mahogany, ebony, dyewoods etc. In coastal areas and brackish swamps, **mangrove forests thrive**.
 - **Economy:** primitive people live as hunters and collectors (shifting cultivation in some areas). **Natural Rubber and cocoa** industry thriving here. Important crops: **coconuts, sugar, coffee, tea, tobacco, spices, and sago**.
- **TROPICAL MONSOON AND MARINE CLIMATE:**
 - **Tropical Monsoon** is found in the zones between **5° and 30 ° latitudes** on either side of the equator.
 - **Indian subcontinent**, Burma, Thailand, Laos, Cambodia, parts of Vietnam and South China and northern Australia.
 - **Tropical Marine** climate is found in Central America, West Indies, the Philippines, parts of East Africa, Madagascar, the Guyana coast and eastern Brazil.
 - **Temperature:** mean annual temperature is fairly high; summer and winter seasons are sharply differentiated.
 - **Precipitation:** annual rainfall occurs through **cyclonic and orographic types of rain**. Annual rainfall occurs through **cyclonic and orographic types of rain**. Monsoonal rainfall is received through moisture laden **South-West monsoon**.
 - **Vegetation:** Trees are normally **deciduous**. The forest is **open and less luxuriant**. Most of the forests yield valuable timber like **teak**.
 - **Economy:** mainly engaged in **agriculture**. **Crops:** include rice, wheat, pulses, cotton, jute, sugarcane, oilseeds, coffee, tea and various types of fruits and vegetables. **Very rich in deposits** of various types of minerals.
 - **SAVANNAH/ SUDAN CLIMATE:**
 - Found between the **equatorial forest and the hot deserts**.
 - Alternate hot, rainy season and cool, dry season.
 - **Temperature:** mean high temperature throughout the year is between **24°C and 27° C**. Annual range of temperature is between **3°C and 8°C**. **Extreme diurnal range of temperatures**.
 - **Precipitation:** annual rainfall between **100 cm and 150 cm**. **Trade Winds** bring rain to the coastal regions.
 - **Vegetation:** characterised by **tall grass and short trees**. Trees are **deciduous** and hard.
 - **Economy:** tribes live as **pastoralists** like the Masai and others as **settled cultivators** like the Hausa. Agriculture is not much developed.

- **HOT DESERT AND MID-LATITUDE DESERT CLIMATE:**
 - Western coasts of continents between **latitudes 15° and 30° N and S**. Sahara Desert, Arabian Desert, Iranian Desert, Thar Desert, Kalahari and Namib Deserts etc.
 - **Temperature: no cold season** in the hot deserts. The average summer temperature is around **30°C**. **Diurnal** range of temperature (**av 14 to 25°C**).
 - **Precipitation:** The hot deserts lie astride the Horse Latitudes or the Sub Tropical High-Pressure Belts where the air is descending, a condition **least favourable for precipitation** of any kind to take place. Relative humidity is extremely low.
 - **Vegetation:** Predominant vegetation of **xerophytic or drought-resistant scrub**. Includes the bulbous cacti, thorny bushes, long-rooted wiry grasses, and scattered dwarf acacias.
 - **Economy:** home to **primitive hunters and gatherers** like Bushmen of the Kalahari desert etc. **Nomadic herdsmen** pursue a **livestock economy** like the Bedouins of Arabia etc. **Settled cultivators** cultivate crops like **wheat, barley, sugarcane, fruits and vegetables**. Gold mines in Australia, Diamond mines in Kalahari, Copper mines in Chile, Silver mines in Mexico, Oil in the Persian Gulf countries.
- **OTHER CLIMATES:** Steppe, Mediterranean, British Type, China Type, Polar, Taiga etc.

PYQs

Q. The seasonal reversal of winds is the typical characteristic of?

- a) Equatorial climate
- b) Mediterranean climate
- c) Monsoon climate**
- d) All of the above climates

Q. Major hot deserts in the northern hemisphere are located between 20-30 deg N latitudes and on the western side of the continents. Why? (200 words)

Q. How does the cryosphere affect global climate? (150 words)