

UPSC Civil Services Examination

UPSC Notes [GS-I]

Topic: Koppen Climate Classification [Geography Notes for UPSC]

Koppen Climate Classification

- Koppen's Group-A climates are found in the unbroken belt around the Earth at low latitudes, typically within 15° North and South.
- Group A climates are regulated largely by the seasonal variations of the trade winds, the Inter-Tropical Convergence Zone (ITCZ), and the Asian monsoon.

Group A: Tropical Humid Climates

- Tropical humid climates exist between Tropic of Cancer and Tropic of Capricorn.
- Inter-Tropical Convergence Zone makes the climate hot and humid.
- The annual range of temperature in this region is very low whereas the annual rainfall is high.
- The tropical group is divided into three types. They are:
 - Af – Tropical wet climate
 - Am – Tropical monsoon climate
 - Aw – Tropical wet and dry climate

Tropical Wet Climate (Af)

- Tropical wet climate is seen near the equator.
- The chief areas that lie in this climate are:
 - Amazon Basin in South America
 - Western Equatorial Africa
 - The islands of East Indies
- A substantial amount of rainfall occurs in every month of the year.
- These regions receive thundershowers in the afternoon.
- The temperature is uniformly high.
- The annual range of temperature is negligible.
- The maximum temperature during daytime is about 30°C whereas the minimum temperature is about 20°C.
- The region is bestowed with Tropical evergreen forests and large biodiversity.

Tropical Monsoon Climate (Am)

- Tropical monsoon climate (Am) is found over:
 - The Indian sub-continent
 - North Eastern part of South America
 - Northern Australia
- These regions receive heavy rainfall in summer.
- Winter in this area seems to be dry.

Tropical Wet and Dry Climate (Aw)

- Tropical wet and dry climate is found in north and south of Tropical Wet Climate (Af) type climate regions.
- It borders with Cf or Cw on the eastern part and dry climate on the western part of the continent.
- Extensive Aw climate is found in
 - Sudan
 - South of Central Africa
 - North and South of the Amazon forest in Brazil
 - Connecting parts of Bolivia and Paraguay in South America
- The annual rainfall in Tropical Wet and Dry Climate is significantly less than that in Af and Am climate types.
- The wet season is shorter in this region.
- The dry season is longer with the drought being more severe.
- The diurnal ranges of temperature are extreme in the dry season.
- Temperature is high throughout the year.
- Deciduous forest and tree-shredded grasslands main flora found in this region.