

UPSC Civil Services Examination

UPSC Notes [GS-I]

Topic: Factors Controlling Temperature Distribution [Geography Notes for UPSC]

Factors Controlling Temperature Distribution

- The temperature of air at every place is influenced by :
 - The latitude of the place
 - The altitude of the place
 - Distance from the sea
 - The air- mass circulation
 - The presence of warm and cold ocean currents
 - Local aspects

The latitude

- The temperature of a place is determined by the insolation received.
- The insolation differs according to the latitude, therefore, the temperature also differs consequently.

The altitude

- The atmosphere is indirectly heated by terrestrial radiation.
- Therefore, the places adjacent to the sea-level record higher temperatures than the places located at higher elevations.
- The temperature usually decreases with increasing height.
- The rate of decrease of temperature with height is called as the normal lapse rate.

Distance from the sea

- The main factor that influences the temperature is the position of a place with respect to the sea.
- The sea gets heated slowly and loses heat slowly compared to land.
- Land heats up and cools down rapidly.
- So, the difference in temperature over the sea is less compared to the terrestrial surface.
- The places located near the sea come under the moderating influence of the sea and land breezes which regulate the temperature.

Air-mass and Ocean currents

- The passage of air masses also affects the temperature like the land and sea breezes.
- The places which come under the effect of warm air-masses experience higher temperature and the places that come under the influence of cold air- masses experience lower temperature.
- Likewise, the places situated on the coast where the warm ocean currents flow record higher temperature than the places situated on the coast where the cold currents flow.

