

## UPSC Civil Services Examination

### UPSC Notes [GS-I]

#### Topic: Air [Geography Notes for UPSC]

The earth is surrounded by a blanket of air known as atmosphere. All living beings on this earth depend on this atmosphere for their survival. It provides us the air we breathe and protects us from the harmful sun's rays.

#### COMPOSITION OF THE ATMOSPHERE

- Nitrogen-is the most plentiful gas in the air.
- Plants need nitrogen for their survival.
- Oxygen- is the second most abundant gas in the air.
- Humans and animals take oxygen from the air as they inhale.
- Carbon dioxide- is another most important gas.
- Green plants use carbon dioxide to make their food and release oxygen.
- Argon

#### STRUCTURE OF THE ATMOSPHERE

Our atmosphere is divided into five layers starting from the earth's surface.

- Troposphere-the most important layer of the atmosphere. Its average height is 13 km. The air we inhale exists here. Most weather phenomena like rainfall, hailstorm, etc. occur in this layer.
- Stratosphere- just above the troposphere lies the stratosphere. It extends up to a height of 50 km. Being free from associated weather phenomenon, this layer is most ideal for flying aeroplanes. Contains ozone.
- Mesosphere-: This is the next & third layer of the atmosphere. It lies above the stratosphere. It extends up to the height of 80 km.
- Thermosphere -In thermosphere temperature rises very rapidly with increasing height. Ionosphere is a part of this sphere. It extends between 80-400 km. This layer helps in radio communications.
- Exosphere-The last & upper most layer of the atmosphere is known as exosphere.

#### WEATHER AND CLIMATE

- Weather is day to day condition of the atmosphere.
- The average weather condition of a place for a longer period of time represents the climate of a place.
- Temperature-The degree of hotness and coldness of the air (body) is known as temperature.

- Air Pressure-is defined as the pressure exerted by the weight of air on the earth's surface.
- Wind-The movement of air from high pressure area to low pressure areas is called wind.
- Winds can be broadly divided into three types
  - Permanent winds – The trade winds, easterlies and westerlies are the permanent winds. They blow throughout the year constantly in a particular direction.
  - Seasonal winds – These winds change their direction in different seasons- example monsoon winds in India.
  - Local winds – These winds blow only during a certain period of the day or year in a small area. For example, land breeze and sea breeze. – Ex-hot and dry local wind of northern plains of India is called loo.

