Weather, Climate & Rainfall

- **Weather**: The day-to-day condition of the atmosphere, such as how warm, wet, or windy it is on a given day.
- **Climate**: The average weather pattern of a place over a much longer period of time.
- **Relief (Orographic) Rainfall**: Rain formed when moist air is forced to rise over high ground, like hills or mountains.
- **Convectional Rainfall**: Rain created when the ground is heated by the sun, causing warm air to rise, cool, and condense into rain clouds.
- **Frontal Rainfall**: Rain caused when a warm air mass meets a cold air mass, forcing the lighter warm air to rise over the cold air.

Air Pressure & Weather Systems

- **High Pressure**: A weather system where sinking air leads to stable, calm weather with clear skies, low winds, and bright sunshine.
- **Low Pressure**: A weather system where rising air causes unstable weather, bringing wet, windy, and stormy conditions.
- **Arid Conditions**: Extremely dry conditions with very low rainfall, typical of desert regions under high pressure systems.

Reading Weather Maps

- **Synoptic Chart**: A special weather map that uses symbols and lines to map out pressure systems and weather patterns.

- **Isobars**: Lines drawn on a weather map (synoptic chart) that connect areas with equal air pressure.
- **Warm Front**: The boundary where warm air is moving in to replace cold air, shown on a weather map as a red line with semi-circles.
- **Cold Front**: The boundary where cold air is pushing under warm air, shown on a weather map as a blue line with triangles.

Global Biomes & Climate Impact

- **Biome**: A very large global ecosystem (like a rainforest or desert) made up of plants and animals adapted to that region's climate.
- **Climate Graph**: A double-axis graph used to show both the average monthly temperature and precipitation (rainfall) for a specific location over a year.
- **Extreme Environment**: A harsh climate area (such as a dry desert) where living conditions are difficult, resulting in very few people living there.