Monsoon

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MONSOON

Drishti IAS

Monsoons are seasonal winds that reverse their direction with the change of season.

Origin of Monsoon

- Thermal Concept
- Dynamic Concept

Thermal Concept by Halley

- **Monsoon result of:**
  - Heterogenous character of globe (Unequal distribution of land and water)
  - Differential seasonal heating and cooling of continents and oceans

South-West (Summer) Monsoon

- Sun shines over Tropic of Cancer
- Brings low-pressure centres (Near Baykal Lake and Peshawar) due to High temperature
- Low temperature in Southern hemisphere brings High pressure centre over Australia and Indian Ocean
- Winds Blow from high (ocean) to low pressure in Asia (land)
- Ferrel's law and Coriolis force turn these wind in south-westerly (SW) direction
- They bring moisture from Indian oceans to Indian subcontinent yielding heavy rainfall

North-East (Winter) Monsoon

- Sun shines over Tropic of Capricorn
- Brings High Pressure centers (near Baykal Lake and Peshawar) due to low temperatures
- High temperature in Southern hemisphere brings Low pressure centre over Australia and Indian Ocean
- Winds Blow from high (land) to low pressure (ocean) in north-easterly (NE) direction called Retreating Monsoon

Dynamic Concept by Flohn

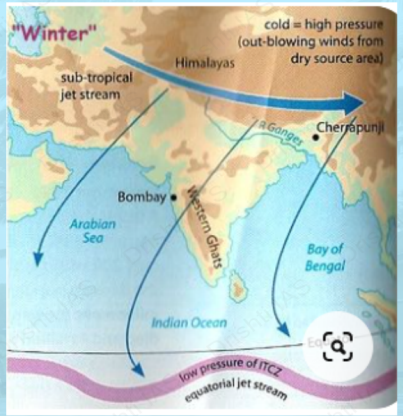
- Monsoon originated due to shifting of pressure and wind belts
- Intertropical Convergence (ITC) formed due to convergence of NE and SE trade winds near equator
- Northern and Southern branches of the ITC, known as NITC and SITC respectively, create a belt of doldrums marked by equatorial westerlies

South-West (Summer) Monsoon

- Sun shines over Tropic of Cancer
- NITC extended up to 30° N latitude covering south and SE-Asia and establishes Equatorial westerlies
- It brings atmospheric depressions (cyclones) with heavy rainfall

North-East (Winter) Monsoon

- Sun shines over Tropic of Capricorn
- Due to Southward shifting of Sun, pressure and wind belts also shifts
- Western cyclonic disturbances (from Mediterranean Sea) enter India from west in winter due to Westerly Jet stream
- Northeast trade winds reestablished over south and SE Asia
- These NE trades become winter monsoons called Retreating Monsoon and rains in Andhra and Tamil Region



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