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## Widespread Northeast Monsoon: IMD

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### Why in News

According to the India Meteorological Department (IMD), the northeast monsoon, which makes up for most of Tamil Nadu's annual rainfall, has arrived.

- Normally, the northeast monsoon sets in around 20<sup>th</sup> October.
- The prolonged southwest monsoon has led to the delay in onset this year.



## Key Points

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- **About the Monsoon:**
  - Generally, across the world, the **monsoons** are experienced in the **tropical area** roughly between 20° N and 20° S.
  - The climate of India is described as the '**monsoon**' type.
  - In Asia, this type of climate is found mainly in the **south and the southeast**.
  - **Rainfall in India:**
    - **Southwest monsoon:** About 75% of the country's annual rainfall is received from the Southwest monsoon between **June and September**.
    - **Northeast monsoon:** It occurs during **October to December**.
- **NorthEast Monsoon (NEM):**
  - **Winter Monsoon:** It is a comparatively **small-scale monsoon**, which is confined to the Southern peninsula.  
It is called the **winter monsoon**.
  - **Factors Behind Northeast Monsoon:**
    - **Change in Wind pattern:** After the complete withdrawal of the Southwest monsoon from the country takes place by mid-October, the **wind pattern rapidly changes** from the **south-westerly** to the **north-easterly** direction.
    - **Cyclonic Activities:** The period after the Southwest monsoon season, from October to December, is the peak time for cyclonic activity in the North Indian Ocean region covering the Arabian Sea and the Bay of Bengal.  
The winds associated with the formation of low pressure systems, depressions, or cyclones **influence this monsoon**, and therefore, the rainfall.
    - **Global Climate Parameters:** The NEM rainfall is influenced by global climate parameters such as **ENSO** (El Nino/La Nina & Southern Oscillation Index - SOI), **Indian Ocean Dipole** (IOD) and **Madden-Julian Oscillation (MJO)**.
      - El Nino, positive IOD and MJO in phase 2-4 with amplitude greater than one are generally associated with good NEM rainfall.
      - Also, La Nina & positive SOI during the second half of the season is also favourable for good NEM activity.
  - **Regions Associated:**
    - Tamil Nadu, Puducherry, Karaikal, Yanam, coastal Andhra Pradesh, Kerala, north interior Karnataka, Mahe and Lakshadweep.
    - Tamil Nadu records about 48% of its annual rainfall during these months, making it the key factor for undertaking agricultural activities and reservoir management in the state.

**Source: TH**