



Subdued Northeast Monsoon

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Why in News

Rainfall over the southern peninsular region has been deficient so far, indicating that the northeast monsoon has remained subdued this year.

Key Points

- **Pattern of Rainfall in India:** India receives rainfall during **two seasons**:
 - About **75% of the country's annual rainfall** is received from the **Southwest monsoon** between **June and September**.
 - The **Northeast monsoon** occurs during **October to December**, and is a **comparatively small-scale monsoon**, which is confined to the **Southern peninsula**. It is called the **winter monsoon**.
- **Northeast Monsoon and Rainfall:**
 - 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**.
 - 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.

- **Regions associated with Northeast Monsoon:**
 - The rainfall associated with the Northeast monsoon is important for **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.
 - Some South Asian countries such as **Maldives, Sri Lanka and Myanmar**, too, record rainfall during October to December.
- **Reasons for deficient rainfall this Northeast monsoon:**
 - **Prevailing La Niña conditions in the Pacific Ocean:**
 - La Niña conditions **enhance the rainfall associated with the Southwest monsoon**, but has a **negative impact** on rainfall associated with the **Northeast monsoon.**
 - La Niña (Spanish for 'little girl') refers to the **large-scale cooling of the ocean surface temperatures in the central and eastern equatorial Pacific Ocean**, coupled with changes in the tropical atmospheric circulation, namely winds, pressure and rainfall.
 - It usually **has the opposite impacts on weather and climate as El Niño**, which is the warm phase of the so-called **El Niño Southern Oscillation (ENSO).**
 - **El Niño** (Spanish for 'little boy') is the **abnormal surface warming observed along the eastern and central regions of the Pacific Ocean** (region between Peru and Papua New Guinea).
 - La Nina and El Nino are **large-scale ocean phenomena** which influence the global weather winds, temperature and rainfall.
 - They have the **ability to trigger extreme weather events** like droughts, floods, hot and cold conditions, globally.
 - Each cycle can last anywhere **between 9 to 12 months, at times extendable to 18 months** and re-occur after **every three to five years.**
 - **Inter Tropical Convective Zone (ITCZ):**
 - The current position of the ITCZ has also contributed to the poor rainfall during the ongoing monsoon season.
 - The ITCZ is a **low-pressure belt**, whose northward and southward movements along the equator determine the precipitation in the tropics.
 - Currently, the **ITCZ is located to the north of its normal position.**

Other Important Atmospheric Circulation

Madden-Julian Oscillation (MJO): The MJO can be defined as an eastward moving 'pulse' of clouds, rainfall, winds and pressure near the equator that typically recurs every 30 to 60 days.

Source: IE