

Monsoon Withdrawal in India: Process, Causes and UPSC Relevance

The **Southwest Monsoon is currently withdrawing from several parts of India**. The India Meteorological Department (IMD) began declaring withdrawal from parts of **West Rajasthan on 19 September 2026**, and the withdrawal line has subsequently moved south and east across parts of north and central India.

The withdrawal process is an important indicator of the transition from the **Southwest Monsoon season to the post-monsoon season**.

What is Monsoon Withdrawal?

Monsoon withdrawal refers to the gradual retreat of the Southwest Monsoon from the Indian subcontinent after the June–September rainy season.

Unlike monsoon onset, which generally progresses from **southwest to northeast**, withdrawal begins from **northwestern India** and gradually progresses towards the south and southeast.

The withdrawal is not simply the absence of rainfall. The IMD uses specific atmospheric indicators to declare it.

Criteria for Withdrawal

According to the IMD, withdrawal from northwestern India requires:

1. **Cessation of rainfall** for about five consecutive days.
2. Establishment of an **anticyclone in the lower troposphere**.
3. A significant **reduction in atmospheric moisture**, observed through satellite water-vapour imagery and atmospheric observations.

For subsequent withdrawal, the IMD considers **spatial continuity, reduced moisture and persistent dry weather**.

Therefore, an occasional rain shower does not necessarily mean that the monsoon has not withdrawn from an area.

Why Does the Southwest Monsoon Withdraw?

The withdrawal occurs because of seasonal changes in atmospheric circulation.

1. Decline in Land Temperature

After the peak summer season, land temperatures gradually decline, reducing the thermal contrast that supports the Southwest Monsoon circulation.

2. Change in Pressure Pattern

The pressure distribution over the Indian subcontinent changes, weakening the southwest monsoon flow.

3. Development of Anticyclonic Conditions

An **anticyclone** develops over northwestern India, promoting descending and relatively dry air.

4. Reduction in Moisture

Atmospheric moisture decreases, resulting in a gradual weakening of widespread monsoon rainfall.

Retreating Monsoon and Northeast Monsoon

The withdrawal of the Southwest Monsoon is closely associated with the development of the **Northeast Monsoon**.

During the Southwest Monsoon, winds generally blow from ocean to land as **southwesterlies**.

During the post-monsoon season, the circulation reverses, producing **northeasterly winds**.

This Northeast Monsoon is particularly important for **Tamil Nadu and parts of southeastern India**, where October–December provides a major share of annual rainfall.

Important Distinction

Retreating Southwest Monsoon refers to the withdrawal phase of the Southwest Monsoon, whereas the **Northeast Monsoon** refers to the subsequent seasonal wind and rainfall regime.

2026 Monsoon Withdrawal: Current Situation

In 2026, withdrawal began from parts of **West Rajasthan in September** and has progressively advanced into northern and central India. By early October, the withdrawal line had reached parts of Maharashtra and other central regions, while rainfall remained active in parts of southern India and the Northeast.

The IMD has also indicated that withdrawal from the Northeast requires the prescribed atmospheric conditions and cannot be declared merely because rainfall has decreased temporarily.

Importance for India

Agriculture

The timing of monsoon withdrawal influences:

- Harvesting of Kharif crops
- Soil moisture
- Rabi sowing
- Water availability

Water Resources

Reservoir levels, groundwater recharge and river flows are strongly influenced by the cumulative monsoon rainfall and its withdrawal pattern.

Disaster Management

The transition period can still produce **heavy rainfall, thunderstorms and cyclones**, particularly over southern and eastern parts of India.

Northeast Monsoon

The withdrawal of the Southwest Monsoon creates conditions for the Northeast Monsoon, which is crucial for agriculture and water resources in Tamil Nadu and adjoining regions.

UPSC Relevance

Prelims

Remember:

- Southwest Monsoon normally begins withdrawing from **northwestern India**.
- IMD considers **rainfall cessation, anticyclone and reduction in moisture**.
- Post-monsoon season: **October-December**.
- Northeast Monsoon is particularly important for **Tamil Nadu**.
- Withdrawal is different from simply having a few rain-free days.

Mains - GS Paper I

The topic can be linked with:

- Indian monsoon mechanism
- Seasonal reversal of winds
- Pressure and temperature patterns
- Northeast Monsoon
- Agriculture and water security
- Climate variability

Possible UPSC Mains Question

“Explain the mechanism of withdrawal of the Southwest Monsoon in India. How does it contribute to the onset of the Northeast Monsoon?”

Conclusion

Monsoon withdrawal is a complex atmospheric transition rather than merely the end of rainfall. Changes in pressure, temperature, moisture and wind circulation collectively determine the retreat of the Southwest Monsoon.

For UPSC aspirants, understanding monsoon withdrawal is essential for connecting **Indian climatology with agriculture, water resources, disaster management and the Northeast Monsoon.**

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