

Retreating Monsoon

Retreating monsoon, also known as northeast monsoon, is a phenomenon caused by the retreat of the southwest monsoon winds towards the south due to differences in air pressure. During this time, the Indian subcontinent starts to witness a sudden change in weather. Retreating monsoon in India typically begins in September and causes the northern part of the Indian subcontinent to cool down speedily. In the southern states of India, the retreating monsoon season can last till December or early January. It causes heavy rainfall in regions of Andhra Pradesh and Tamil Nadu. Here, we have shared some more information about the northeast monsoon.

Phenomenon	Retreating Monsoon
Also Known As	Northeast Monsoon
Observed In	Indian Subcontinent
Duration	September - December
Impact	Heavy rainfall, temperature drop (in some areas)

Retreating Monsoon Season

The retreating monsoon season typically sets in September in the northern parts of India. During this month, the northern region of the country experiences a sharp drop in temperature after a brief hot and humid period. This is caused by the retreating monsoon winds from the Himalayas that start moving southwards due to differences in air pressure. By October, the retreating monsoon reached the southern regions of the country, causing heavy rainfall in many parts of Andhra Pradesh and Tamil Nadu. Tamil Nadu receives 50-60% of its total annual rainfall from the retreating monsoon in India. This phase of monsoon lasts till late December or early January in southern India.

Causes of Retreating Monsoon

The retreating monsoon season begins around September and brings many changes in the Indian subcontinent. Here are the causes of the retreating monsoon in India:

- When the southwest monsoon winds begin retreating towards the south, air pressure begins to build over the northern parts of India, causing a retreating monsoon.
- This leads to a rapid drop in temperature in parts of the Indian subcontinent.
- During this time, the surrounding atmosphere of the Indian Ocean and the ocean itself hold their heat.
- Cold winds blowing from northern Indian regions of the Himalayas and Indo-Gangetic plains move towards the Deccan peninsula in the south, causing a series of occurrences.
- Retreating monsoon leads to heavy rainfall in some of the southern Indian regions, especially the peninsular regions.

Retreating Monsoon in India: Effects

Retreating monsoon affects the northern and southern parts of the Indian subcontinent with sudden climate change. Here, we have shared the effects that the northeastern monsoon winds have on Indian states:

- The retreating monsoon winds moving towards the south bring the cold Himalayan winds to the northern plains, causing a rapid temperature drop.
- The cold and dry winds blowing from the Himalayas and the northern plains pick up some moisture from the Bay of Bengal and cause rainfall in peninsular India, including Chennai, and even parts of Sri Lanka.
- The southern Indian state of Tamil Nadu receives 50-60% of its total rainfall from the retreating monsoon.
- The season of the northeast monsoon stays from October to December in southern regions of India.

Wind Pressure During Retreating Monsoon Season

Retreating monsoon season causes the monsoon trough to weaken and retreat southwards, causing a drop in the air pressure. Although the retreating monsoon winds generally blow southwards towards the Indian Ocean, local wind pressure also dictates the movement of the winds. When contrasted with the heat of the area surrounding the Indian Ocean, the retreating monsoon winds lead to heavy rainfall in the southern Indian regions.

Precipitation During Retreating Monsoon

In the southern parts of India, the precipitation increases during the retreating monsoon season. The dry and cold winds blowing from the northern plains towards the south carry moisture from the Bay of Bengal and cause heavy rainfall. Retreating monsoon causes rainfall mainly in Andhra Pradesh and Tamil Nadu.

However, the other parts of the country do not experience much rainfall during retreating monsoon. The northern regions stay dry and the only shift that occurs here is in the temperature.

Cyclones During Retreating Monsoon Season

- The frequency of cyclones increase during the months of October and November.
- The region where most cyclones originate during retreating monsoon is the Bay of Bengal.
- Originating between 8°N and 14°N, the cyclones initially move in a northwest direction.
- However, some cyclones recurve and start moving towards the northeast direction.
- The areas that are most affected by cyclones include Andhra Pradesh, Odisha, Tamil Nadu and West Bengal.

Characteristics of Retreating Monsoon

Certain characteristics, including changes in temperature and climate, are indicative of the arrival of the retreating monsoon in India. We have listed some of its characteristics below:

- Before the retreating monsoon season arrives, the skies become clearer and cloudless.

- The climate becomes hot and humid because of the moisture in the air. This phenomenon is known as 'October heat'.
- During the retreating monsoon, northern India remains dry but experiences a sharp temperature drop.
- On the other hand, southern India experiences heavy rainfall during the months of October-December.

Difference Between Monsoon and Retreating Monsoon

The two major monsoon types that India experiences are retreating monsoon and advancing monsoon. Here, we have shared the difference between the two:

Aspects	Retreating Monsoon	Advancing Monsoon
Wind movement	The winds blow from land to sea in retreating monsoon.	The wind blows from sea to land in the advancing monsoon.
Wind Type	Retreating monsoon has extremely cold and dry winds.	Advancing monsoon carries moist winds from the south towards the north.
Wind direction	The winds blow in a Southwest direction.	The winds blow in the Northeast direction.
Duration	Retreating monsoon arrives in early September in the northern states of India. By mid-October, it withdraws from the northern half of the Indian peninsula and affects southern Indian regions instead. By early December, it retreats from the rest of the country.	Advancing winds enter the Northern regions of India from the South by mid-June. Except for the North-West, they cover the entire subcontinent in over a month.

Affected Regions	The southeastern states of India, including Andhra Pradesh and Tamil Nadu, receive maximum rainfall from retreating monsoon.	Northeastern and Western parts of India, Mawsynram, Khasi hills in Meghalaya.
Features	High temperature, clear skies, and high humidity in the Northern plains.	Monsoon troughs, wet and dry spells, and tropical depressions.
Rainfall	Retreating monsoon receives moderate to low rainfall. Most of the rainfall occurs in Southern Indian states and the peninsula.	Advancing monsoon causes high rainfall in North Indian states.

