

FAQs

What is Northeast monsoon, and why is it important?

India receives rainfall during two seasons. About 75 per cent of the country's annual rainfall is received from the Southwest monsoon between June and September. The Northeast monsoon, on the other hand, occurs during October to December, and is a comparatively small-scale monsoon, which is confined to the Southern peninsula.

What is Northeast Monsoon?

- The **northeast monsoon (winter monsoon)** blows from land to sea.
- During this period, rainfall is experienced over **southern states**, mainly **Tamil Nadu, Kerala, Andhra Pradesh along with some parts of Telangana and Karnataka.**
- In areas around **Jammu and Kashmir, Himachal Pradesh, Uttarakhand** and along the **northeast**, precipitation during this period reported is either in the form of **rainfall or snowfall.**
- Also called the winter 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.
- Some South Asian countries such as Maldives, Sri Lanka and Myanmar, too, record rainfall during October to December.
- Tamil Nadu records about 48 per cent (447.4 mm) of its annual rainfall (943.7 mm) during these months, making it the key factor for undertaking agricultural activities and reservoir management in the state.
- 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. Timely information on cyclones thus become vital for governments and disaster management teams to plan contingency.

FAQs

How has the Northeast monsoon season been so far this year?

- The India Meteorological Department (IMD) had forecast below normal rainfall over Tamil Nadu and normal rainfall over the southern peninsula for the current season.
- This year, the Southwest monsoon withdrew completely from the country on October 28, with a delay of a fortnight. On the same day, the IMD declared the onset of the Northeast monsoon over peninsular India.
- However, rainfall thereafter remained largely subdued and remained below normal till around November 10.
- IMD's data records between October 1 and November 23 show significantly below-normal rain over Lakshadweep (minus 42 per cent), Puducherry (minus 39 per cent), Tamil Nadu (minus 25 per cent) and Kerala (minus 30 per cent). The majority of districts in Tamil Nadu remain highly rain-deficient as on November 23.

What is the reason for the deficiency of rainfall this season?

- It is due to the prevailing La Niña conditions in the Pacific Ocean.
- El Niño is the abnormal surface warming observed along the eastern and central regions of the Pacific Ocean (region between Peru and Papua New Guinea), La Niña is an abnormal cooling of these surface waters.
- Together, the El Niño and La Niña phenomena are termed as El Niño Southern Oscillation (ENSO). These 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.
- Meteorologists record the sea surface temperatures for four different regions, known as Niño regions, along this equatorial belt. Depending on the temperatures, they forecast either as an El Niño, an ENSO neutral phase, or a La Niña

But how is La Niña linked with the Northeast monsoon?

- While La Niña conditions enhance the rainfall associated with the Southwest monsoon, it has a negative impact on rainfall associated with the Northeast monsoon.

FAQs

- During La Niña years, the synoptic systems — low pressure or cyclones — formed in the Bay of Bengal remain significantly to the north of their normal position.
- Besides, instead of moving westwards, these systems recurve. As they lie to the north of their normal position, not much rainfall occurs over southern regions like Tamil Nadu.
- In this season, Sri Lanka, too, has experienced subdued rain so far.
- The current position of the Inter Tropical Convective Zone (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.

What is the rainfall forecast for the rest of the Northeast monsoon season?

- Since November 10, the rainfall over the Southern peninsula has picked up; however, overall rainfall remains deficient.
- La Niña conditions are expected to prevail until early 2021, with some weather models forecasting it to last even till March. As a result, there are high chances that the southern peninsular region may end up with deficient rainfall by the end of the Northeast monsoon season in December.