



India to Receive Normal Monsoon: IMD

For Prelims: IMD, Southwest Monsoon, Long Range Forecast, El Nino, La Nina, Drought.

For Mains: Monsoon and its importance, Changing pattern of monsoon.

Why in News?

Recently, the [India Meteorological Department \(IMD\)](#) released its **first Long Range Forecast (LRF)** for 2022 which says that the **country is likely to receive a normal monsoon for the fourth consecutive year.**

- While forecasting a **'normal' southwest monsoon** for this year, IMD also **revised downwards the definition** of what constitutes average rainfall.
- Every year, the **IMD issues a two-stage forecast:** the first one in April and the second one in the last week of May, which is a more detailed forecast and also illustrates how the monsoon will spread over the country.

What is the India Meteorological Department (IMD)?

- IMD was **established in 1875.**
- It is **an agency of the Ministry of Earth Sciences.**
- It is the principal agency responsible for meteorological observations, weather forecasting and seismology.

What are the Key Highlights of the Forecast?

- **India will get Normal Monsoon:**
 - India would get **99% of the Long Period Average (LPA) rainfall** — changed from 89 cm to 88 cm in 2018, and in the periodic update in 2022, again revised to 87 cm.
 - A monsoon is **considered "normal"** when **rainfall falls between 96% and 104% of the LPA.**
- **EL Nino not Expected:**
 - The IMD does **not expect an El Nino** but **currently La Nina conditions are prevailing over the equatorial Pacific** which will continue during the monsoon.
 - El Nino is a **phenomenon associated with a warming of the Central Pacific** and drying up of the rains over northwest India, the coming monsoon.
 - La Nina **events represent periods of below-average sea surface** temperatures across the east-central Equatorial Pacific.
 - It is **indicated by sea-surface temperature** decreased by more than 0.9°F for at least five successive three-month seasons.
- **"Normal" to "above Normal" Rainfall:**

- Current **indications suggest “normal” to “above normal” rainfall** in the northern parts of peninsular India, central India and the Himalayan foothills.
- Many **parts of northeast India and southern parts of South India** are expected to see a subdued monsoon.

What is the Long Period Average (LPA)?

- According to the IMD, the **“LPA of rainfall is the rainfall recorded over a particular region for a given interval (like month or season) averaged over a long period like 30 years, 50 years, etc”**.
 - The **IMD predicts a “normal”, “below normal”, or “above normal” monsoon** in relation to a benchmark **“Long Period Average” (LPA)**.
- The IMD has in the **past calculated the LPA at 88 cm for the 1961-2010 period**, and at 89 cm for the 1951-2000.
 - It calculated the LPA at 87 cm **for the 1971-2020 period**.
- While this quantitative benchmark refers to the average rainfall recorded from June to September for the entire country, the amount of rain that falls every year varies from region to region and from month to month.
- Therefore, along with the countrywide figure, the **IMD also maintains LPAs for every meteorological region of the country**.
 - This **number ranges from around 61 cm** for the drier Northwest India to more than 143 cm for the wetter East and Northeast India.

Why is LPA Needed?

- **To Smooth Out Trends of Rainfall:**
 - An LPA is needed to smooth out trends so that a reasonably accurate prediction can be made because the IMD records rainfall data at more than 2,400 locations and 3,500 rain-gauge stations.
 - Because annual rainfall can vary greatly not just from region to region and from month to month, but also from year to year within a particular region or month
- **Covers for Large Variations in Either Directions:**
 - A 50-year LPA covers for large variations in either direction caused by freak years of unusually high or low rainfall (as a result of events such as El Nino or La Nina), as well as for the periodic **drought** years and the increasingly common extreme weather events caused by **climate change**.

What is the Range of a Normal Monsoon?

- The **LPA of the season rainfall over the country** as a whole for the period 1971-2020 is 87 cm.
- The **IMD maintains five rainfall distribution categories** on an all-India scale. These are:
 - ***Normal or Near Normal:** When the percentage departure of actual rainfall is +/-10% of LPA, that is, between 96-104% of LPA
 - ***Below Normal:** When departure of actual rainfall is less than 10% of LPA, that is 90-96% of LPA
 - *** Above normal:** When actual rainfall is 104-110% of LPA
 - *** Deficient:** When departure of actual rainfall is less than 90% of LPA
 - *** Excess:** When the departure of actual rainfall is more than 110% of LPA

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. Consider the following statements: (2012)

1. The duration of the monsoon decreases from southern India to northern India.
2. The amount of annual rainfall in the northern plains of India decreases from east to west.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (c)

- The Indian summer monsoon lasts from June to September. The season is dominated by the humid south-west summer monsoon, which slowly sweeps across the country beginning in late May or early June. Monsoon rains begin to recede from North India at the beginning of October.
- The southwest monsoon winds first reach south India and are more active there in comparison to the interior north India. This explains why monsoon in south India has more duration in comparison to north India.
- The amount of rainfall decreases from east to west in Northern India because of the progressive decrease in the humidity of the winds. As the moisture-bearing winds of the Bay of Bengal branch of the southwest monsoon move further and further inland, they exhaust most of the moisture they carry along with them. This consequently leads to a gradual decrease in the amount of rainfall from east to west.

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