



# Rainfall Deficiency in Southern Peninsular India

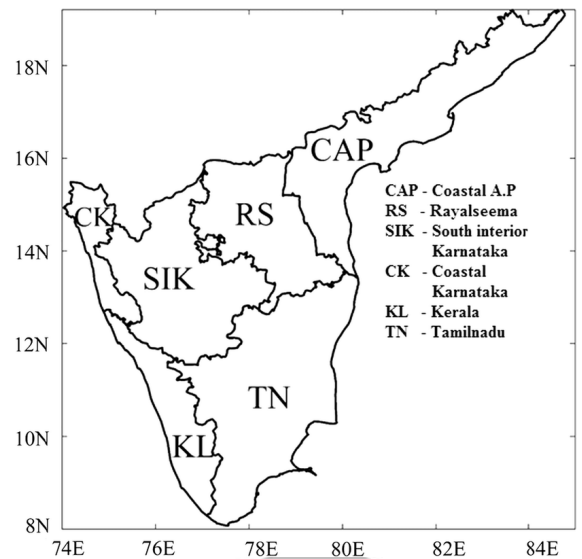
[Source: IE](#)

## Why in News?

The [India Meteorological Department \(IMD\)](#) recent analysis regarding the rainfall patterns in Southern peninsular India, spanning 123 years of records, **exposed that the region encountered its sixth driest October in its meteorological history.**

## What are the Major Factors Influencing Rainfall Deficiency in Southern Peninsular India ?

- **About:**
  - The Southern Peninsular region encompassing **Kerala, Mahe, South Interior Karnataka, Tamil Nadu, Karaikal, Puducherry, coastal Andhra Pradesh, Yanam and Rayalaseema** received only 74.9mm of rain in October, **which was over 60% below normal.**
- **Factors Influencing Rainfall Deficiency:**
  - **Confluence of [Northeast Monsoon](#) and Cyclone Hamoon:** The commencement of the **northeast monsoon** coincided with the genesis of [Cyclone Hamoon](#), causing a **diversion of moisture away from southern peninsular India.**
    - This altered wind flow patterns and weakened the onset of the northeast monsoon.
  - **El Nino and Indian Ocean Dipole (IOD):** 2023 is an [El Nino year](#) combined with a **positive phase of the [Indian Ocean Dipole \(IOD\)](#).**
    - In such conditions, there is **less rainfall over northern Tamil Nadu** and adjoining areas.
      - Whereas, the southernmost areas of Tamil Nadu and Kerala receive good rainfall in October. [//](#)



• **Cyclone Hamoon:**

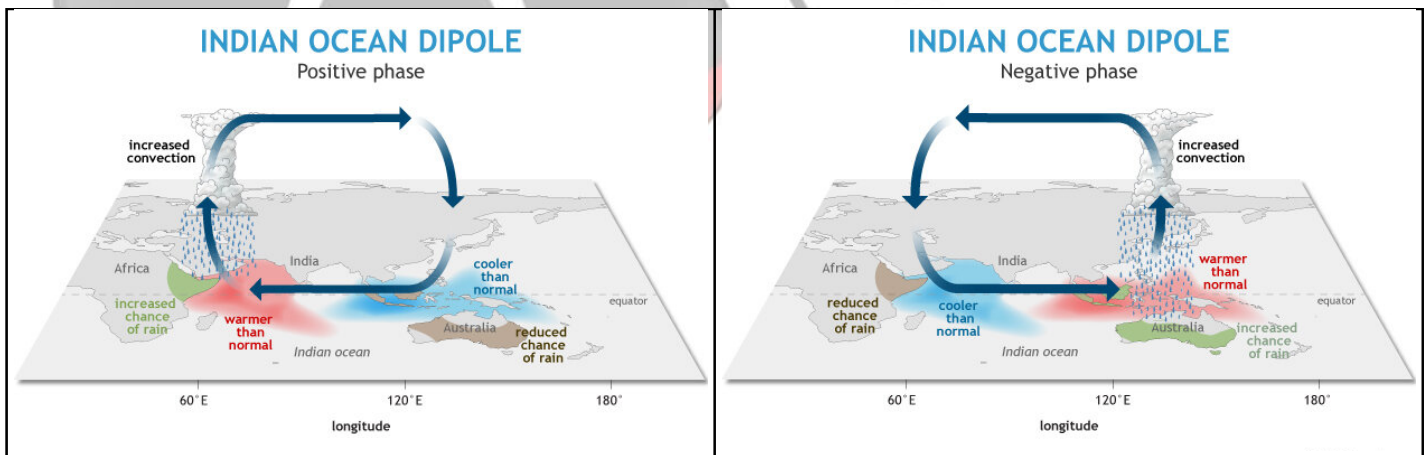
- It was a very severe tropical cyclone that made landfall in Bangladesh on 25th October, 2023.
  - The cyclone formed from a **low-pressure area over the west-central Bay of Bengal.**
- It was **named by Iran**, and the word "Hamoon" is a Persian word that refers to **inland desert lakes or marshlands.**

• **El Nino:**

- It is a natural phenomenon that involves a **periodic warming of the surface waters in the equatorial Pacific Ocean.**
  - The word "El Niño" means "Little Boy" in Spanish.
  - It is one of the two phases of a climate pattern called **El Niño-Southern Oscillation (ENSO)**
- Over India, **it has the effect of suppressing the monsoon rainfall.**

• **Indian Ocean Dipole (IOD):**

- The **IOD** is an **atmosphere-ocean phenomenon** that occurs in the Indian Ocean.
- It's characterized by a **disparity in sea surface temperatures** between the eastern and western Indian Oceans.



▪ **India Meteorological Department:**

- It was established in 1875.
- It is the **National Meteorological Service** of the country and the principal government agency in **all matters relating to meteorology and allied subjects.**

## UPSC Civil Services Examination, Previous Year Question (PYQ)

### Prelims

**Q. With reference to 'Indian Ocean Dipole (IOD)' sometimes mentioned in the news while forecasting Indian monsoon, which of the following statements is/are correct? (2017)**

1. IOD phenomenon is characterized by a difference in sea surface temperature between tropical Western Indian Ocean and tropical Eastern Pacific Ocean.
2. An IOD phenomenon can influence an El Nino's impact on the monsoon.

**Select the correct answer using the code given below:**

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

**Ans: (b)**

PDF Reference URL: <https://www.drishtiias.com/printpdf/rainfall-deficiency-in-southern-peninsular-india>

