

**INDIAN OCEAN DIPOLE NEGATIVE PHASE – GEOGRAPHY**

NEWS: Australia's Bureau of Meteorology (BoM) predicts the potential onset of a negative IOD event.

WHAT'S IN THE NEWS?**Prediction of Negative Indian Ocean Dipole (IOD)**

- IOD index has been below -0.4°C since mid-October, nearing the criteria for a negative IOD classification.
- If the index remains below the threshold for another week, a negative IOD will officially be underway.

Current IOD and Sea Surface Temperature (SST) Trends

- SSTs (week ending November 24):
 - Central and eastern Indian Ocean: $0.8-2^{\circ}\text{C}$ warmer than the 1991-2020 average.
 - Western equatorial Indian Ocean: $0.4-1.2^{\circ}\text{C}$ warmer than average.
- IOD index for the same week was -0.5°C , consistent with a negative IOD phase.

Lifecycle of Negative IOD Events

- A negative IOD phase typically lasts 8 weeks or more.
- Majority of climate models predict the IOD index will return to neutral by December, aligning with the typical lifecycle of IOD events.

Impacts of Negative IOD on Indian Weather

- Decreased rainfall expected in western India.
- Likely increase in cyclonic activity over the Bay of Bengal.
- IMD data (October 1 - November 26) indicates 66% of India experienced deficient or no rainfall during the post-monsoon period.

ENSO Conditions: Current and Forecast

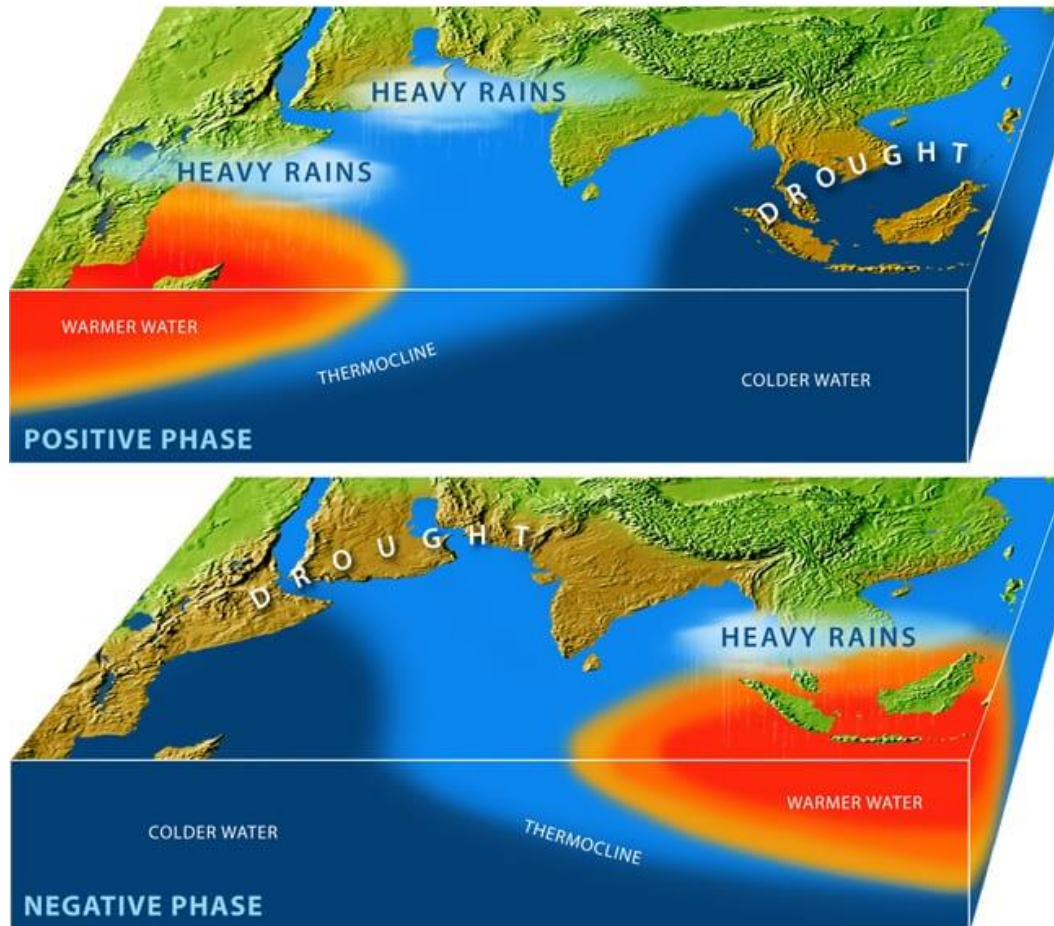
- ENSO (El Niño–Southern Oscillation) currently neutral.
 - SSTs in the central equatorial Pacific remain within ENSO-neutral levels.
 - Atmospheric indicators (pressure patterns, trade winds) also suggest ENSO-neutral.
- SSTs in the central equatorial Pacific have started to warm, moving away from La Niña thresholds but still below historical averages.

Forecast for ENSO Conditions

- BoM models predict SSTs will stay within ENSO-neutral thresholds (-0.8°C to $+0.8^{\circ}\text{C}$) until February 2025.
- Among other surveyed climate models:

- Two indicate potential for La Niña conditions to persist through December to February.
- BoM anticipates ENSO-neutral by March 2025.

Indian Ocean Dipole



Potential La Niña Scenario

- If La Niña develops, it is expected to be weak and short-lived.
- La Niña typically brings heavy rainfall and floods to India, but its impact may be limited this season.

Summary of Key Indicators

- **IOD Index:** Below negative threshold since mid-October, currently -0.5°C .
- **ENSO Status:** Neutral, SSTs below La Niña threshold but warming.
- **Rainfall Deficiency:** Significant during the post-monsoon period in India.
- **Forecast Outlook:** Likely return to ENSO-neutral and IOD-neutral states by early 2025.