



Climate Situation Summary (March-May, 2025)

In this seasonal summary, we examine the key oceanic and atmospheric drivers—such as the El Niño-Southern Oscillation (ENSO), Indian Ocean Dipole (IOD), and Madden-Julian Oscillation (MJO)—that influence seasonal climate variability in Bangladesh, including temperature, rainfall, floods, sea level rise/fall, and tropical cyclones. The information presented is derived from a combination of model outputs from various international climate centers, synthesized through visual analysis/downscaling, and local expertise. [This product is currently experimental.](#)

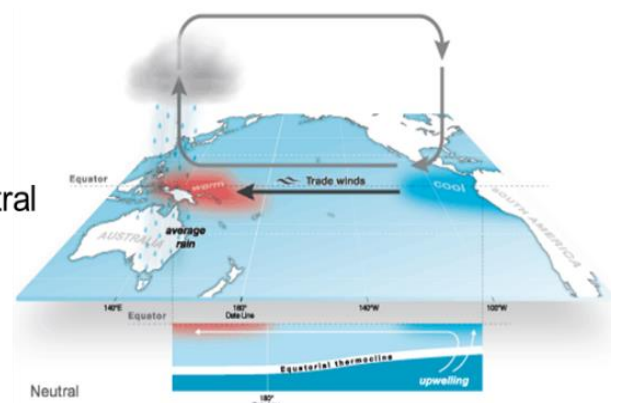
Overview of the Current ENSO, IOD, and MJO Situation: According to global climate prediction centers¹, the ongoing La Niña event for 2024-25 is currently very weak and is expected to dissipate soon, transitioning to an ENSO-neutral condition (65% chance) by March-May (MAM) 2025. Forecasts indicate that sea surface temperatures (SST) in the Niño 3.4 region are slightly negative (La Niña-like) at present, with a shift toward near-neutral, though slightly positive, conditions expected through August 2025. However, longer-range forecasts for the September-December periods suggest a range of possibilities, from a potential return of La Niña later in the year to the gradual development of El Niño, or a prolonged neutral ENSO phase. As a result, predicting the climate patterns for the remainder of the year remains highly uncertain and challenging for now.

The IOD is currently at near-normal levels, and model forecasts suggest that, despite being slightly negative, it will still be within the near-normal range. The MJO is currently centered over Africa, and an active MJO pattern (enhanced convection with a period of increased thunderstorm activity and rainfall) is expected to propagate across the Indian Ocean and Maritime Continent over the next two weeks.

Climate Summary for March-May (MAM): Considering the historical relationships between ENSO, IOD, MJO, and climate patterns in Bangladesh, rainfall and pre-monsoon flash flooding are projected to be near to slightly above normal during the MAM period. Sea levels at Hiron Point are also expected to be near to slightly above normal. However, this summer is expected to be warmer than normal, with increased concern over the likelihood of tropical cyclones, as Bangladesh has historically experienced several cyclonic storms during ENSO transition phases, such as Cyclonic Storm Bijli, which struck on April 14-15, 2009.

Fig. 1: The typical behavior of the coupled ocean-atmosphere system during ENSO-neutral events (here we see atmospheric pressure is low in the warmer western tropical Pacific, and relatively higher in the cooler central/eastern tropical Pacific, and air moves from areas of high pressure to low pressure. This is known as the trade winds, flowing from the coast of South America toward the western Pacific Ocean).

La Niña to
ENSO Neutral



Study Team:

Dr. Rashed Chowdhury, Principal Investigator and Team Leader
S M Mahbubur Rahman, Adviser
Md. Sohel Masud, Adviser
Md. Abdulla Hel Kafi, Hydrologist and Project Supervisor
Md. Ashraf Islam, Project Leader and Data Analyst
Shamoeta Zaman, Junior Research Engineer
Adiba Mosharraf, Junior Climate Change Analyst

¹ https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.pdf
<http://www.bom.gov.au/climate/enso/?ninoIndex=nino3.4&index=nino34&period=weekly>
<https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/>
<https://mausam.imd.gov.in/>

N.B: In cooperation with Dr. Rashed Chowdhury, an application scientist at Arizona State University in the United States, this climate perspective was created as part of IWM's ongoing research. The study's goal is to investigate the impact of large-scale atmospheric and oceanic events (including ENSO, IOD, MJO, PDO, cloudbursts, translation speed, and tidal information) and how they affect flooding in Bangladesh.