



Issued on 16.04.2026

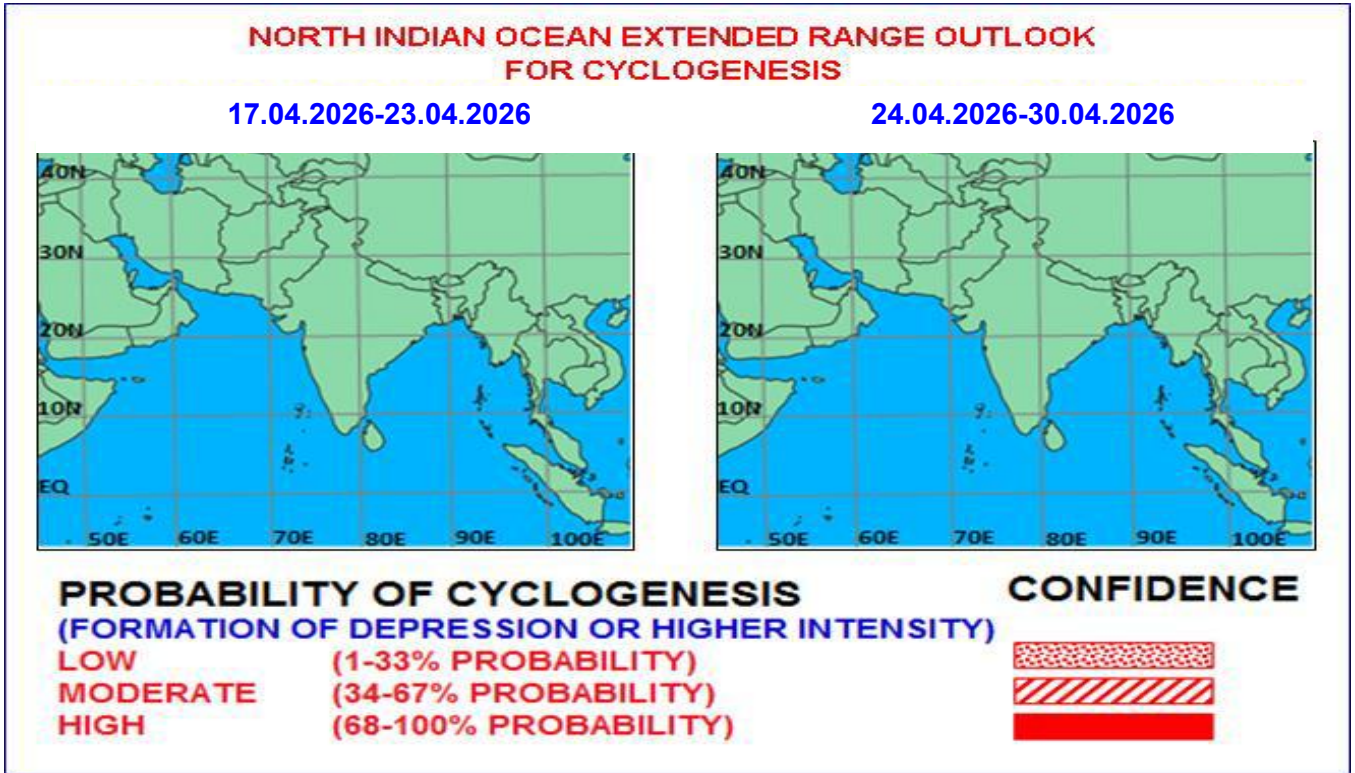


Fig. 1: Graphical Cyclogenesis over the north Indian Ocean during the next two weeks

I. Environmental features and Equatorial waves:

The guidance from ECMM model indicates that the Madden-Julian Oscillation (MJO) index is currently in phase 8 with amplitude greater than 1. It is likely to move across phases 8 and 1 during week 1 and first half of week 2 with amplitude remaining more than 1. Thereafter, it is likely to move across phase 2 with gradual decreasing trend in amplitude, but remaining more than 1. Thus, MJO is likely to support enhancement of convective activity over the Arabian Sea (AS) during later part of week 1.

The guidance from the NCICS model indicates prevalence of westerly wind anomaly (5-7 mps) over Equatorial Indian Ocean (EIO) and adjoining southwest Bay of Bengal (BoB) & adjoining areas of Comorin & southeast AS along with prevalence of Equatorial Rossby wave (ERW), & Low frequency background wave (LW) and easterly wind anomaly (1-3mps) over north BoB during first half of the week 1. Over the AS, westerly wind anomaly (5-7 mps) over North AS alongwith easterly wind anomaly over Northwest India, Pakistan & Afghanistan during first half of the week 1. During later half of week 1, similar features are indicated over EIO & adjoining south BoB & AS alongwith an approaching Kelvin wave (KW) over southeast AS and westerly wind anomaly over westcentral AS with easterly wind anomaly to its north over north AS. This may lead to downwelling over southeast AS during later part of week 1 and may cause increase in sea surface temperature (SST) over southeast AS. During first half of week 2, predominantly easterly wind anomaly (5-7 mps) over South BoB and eastcentral AS. During later half of week 2, predominantly easterly wind anomaly (5-7 mps) over South BoB and westcentral AS & westerly wind anomaly (2-3 mps) over north AS. Hence, to conclude, equatorial waves may contribute development of a cyclonic circulation over south BoB or northwest AS during week 1 only.

Currently, weak La Niña-like conditions are transitioning to ENSO-neutral conditions over the equatorial Pacific and neutral Indian Ocean Dipole (IOD) conditions are prevailing over the Indian Ocean.

II. Model Guidance:

(a) Guidance for Extended Range models:

The 850 hPa mean wind field forecast of IMD Extended Range model (MME-CFSV2) is indicating prevalence of an extended anti-cyclonic circulation over central AS and predominantly easterly winds over south & adjoining central BoB during week 1. During week 2, the seasonal anticyclone over central AS is more defined compared to last week. Over the BoB, a northeast to southwest oriented trough extending from Myanmar to central BoB is seen during week 2. Corresponding anomaly field is indicating predominantly easterly/northeasterly winds over major parts of BoB and south AS during week 1. During week 2, it is indicating easterly wind anomaly over most parts of south & adjoining central BoB alongwith a feeble cyclonic circulation over northeast BoB and predominantly easterly wind anomaly over the AS. The precipitation anomaly field during week1 is indicating, below normal rainfall activity over south & eastcentral BoB & Myanmar, Bangladesh, northeastern states of India, Himalayan region, Nepal & Bhutan. Similar features over BoB are indicated during week 2. However, above normal rainfall is indicated over eastcentral AS off Kerala coast, Indo-Gangetic Plains & northeastern states (Assam, Meghalaya). The prevalence of anticyclonic circulation over central AS, as captured by the model may further lead to subsidence over the region and hence increase in SST over AS which also supports the forecast by NCICS model.

NCMRWF ERF model indicates prevalence of north-westerlies over Indo-Gangetic Plains during the next 2 weeks. Strong anticyclone over the Arabian Sea and comparatively weaker anticyclone over North Andaman Sea & adjoining Myanmar is seen in week-1 and 2.

The ECMWF ERF model (ensemble and sub-seasonal) forecast is also not indicating any probable zone for cyclogenesis during the entire forecast period.

With respect to cyclogenesis IMD MME-CFSV2 model is indicating a 30-40% probability of cyclogenesis over east EIO & adjoining south BoB during week 1 and 20-30% probability of cyclogenesis over east EIO off Indonesia coast.

(b) Guidance from Medium-Range NWP models:

Most of the NWP models (IMD-GFS, GFS, BFS, ECMWF, NCUM, and NCMRWF) indicate seasonal anticyclonic wind patterns at 850 hPa over the central parts of AS and another over the northern parts of BoB on most days of week 1. However, the anticyclonic circulation over AS is likely to become well-established over central AS during the first half of week 2. No significant cyclonic circulation is likely over both the basins during both the weeks as per the deterministic model guidance.

The AI models (Pangu, GraphCast and FourCastNet) of NCMRWF are also not indicating any significant weather systems over BoB and AS, except for the seasonal anticyclonic circulations over both the sub-basins. The EC-AIFS and NCEP GFS AI models are also not predicting any cyclogenesis over the entire NIO during the forecast period.

(c) Climatological Guidance:

Climatologically, till 10th April, the probability of cyclogenesis is almost NIL. Thereafter, during the forecast period, it is about 4-6% based on the data during the period 1891-2000.

III. Inference:

Considering various large-scale environmental features, climatology and model guidance, it is inferred that there is no probability of cyclogenesis over the North Indian Ocean during the entire forecast period.

Verification of forecast issued during the previous two weeks:

The extended range outlooks issued on 02nd April for week 2 (10.04.2026-16.04.2026) and issued on 09th April for week 1(10.04.2026-16.04.2026) indicated no probability of cyclogenesis over the North Indian Ocean during the entire forecast period.

Actually, no cyclogenesis occurred over the region during the specified weeks. **Thus, the non-occurrence of cyclogenesis was correctly predicted two weeks in advance.**

NCMRWF-IMD satellite gauge merged data plots of 24-hour accumulated rainfall from 09th – 15th April, 2026 is presented in **Fig. 2**.

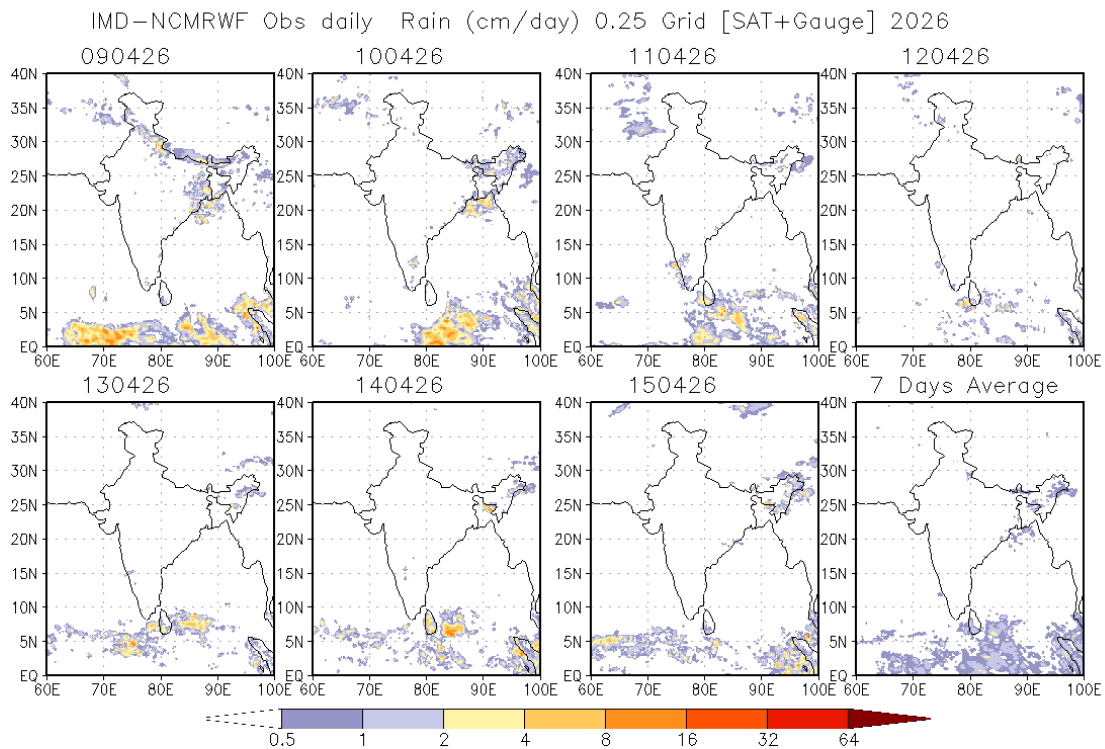


Fig. 2: NCMRWF-IMD satellite gauge merged data plots of 24-hour accumulated rainfall from 09th – 15th April, 2026

Legends: MJO: Madden Julian Oscillation, ERW: Equatorial Rossby Waves, KW: Kelvin Waves, NCICS: North Carolina Institute for Climate Studies (for Equatorial waves Forecast), IMD GFS: India Meteorological Department Global Forecast System, NCUM: National Centre for Medium-Range Weather Forecasting Centre (NCMRWF) Unified Model, ECMWF: European Centre for Medium-Range Weather Forecasting, BOMM: Bureau of Meteorology, Australia, EC-AIFS: ECMWF Artificial Intelligence Forecasting System, ECMM: ECMWF-Ensemble System Bias Corrected, BFS: Bharat Forecast System, GPP: Genesis Potential Parameter, NCEP GFS/GEFS/CFS: National Centre for Environment Prediction GFS/GEFSv12/CFSV2, CPC: Climate Prediction Center (for MJO update), IMD-GEFS: GFS ensemble forecast system of IMD, NEPS: NCUM ensemble prediction system, CNCUM: Coupled NCUM, CPC: Climate Prediction Centre, NWS: National Weather Service, INCOIS: Indian National Centre for Ocean Information Services.

Next update: 23.04.2026