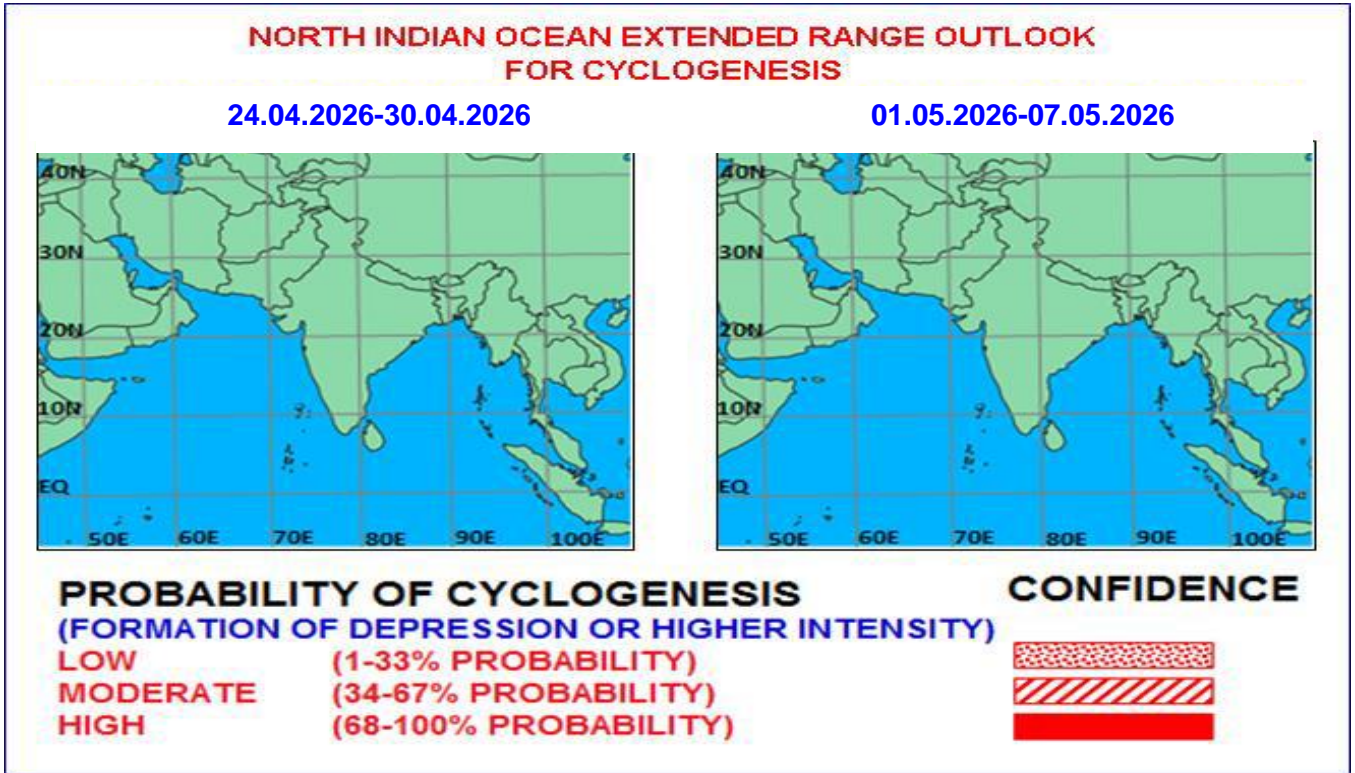




Issued on 23.04.2026



**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 2 with amplitude greater than 1. It is very likely to move across phases 2 and 3 during week 1 and 2 with amplitude gradually becoming less than 1 from middle of week 2. Thus, MJO is favourable for enhancement of convective activity over the Arabian Sea (AS) during both the weeks and Bay of Bengal (BoB) from later half of week 1 onwards.

The guidance from the NCICS model indicates prevalence of easterly wind anomaly (2-3 mps) over the entire BoB, AS and India alongwith an Equatorial Rossby wave (ERW) over the southwest BoB & adjoining Comorin & Gulf of Mannar areas during first half of week 1. Thereafter, the ERW is seen moving away westwards with prevalence of easterly wind anomaly (2-3 mps) over south AS & westerly wind anomaly to its north over central AS during later part of week 1. During week 2, predominantly easterly wind anomaly (5-7) mps is seen over south BoB & adjoining Equatorial Indian Ocean (EIO). Over the AS, easterly wind anomaly (2-3 mps) is seen over EIO & adjoining south AS with westerly wind anomaly over central India & ERW over southeast AS during week 2. Thus, equatorial waves may support enhancement of convective activity over the southwest BoB & adjoining southeast AS and EIO during first half of week 1.

Currently based on 19<sup>th</sup> April 2026 guidance, weak La Niña-like conditions (with NINO 3.4 Index as -0.06°C) are prevailing. Trends indicate transition to ENSO neutral conditions by the end of forecast period. Neutral Indian Ocean Dipole (IOD with index value 0.01°C) conditions are likely to prevail over the Indian Ocean during the forecast period.

## 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 a prominent anti-cyclonic circulation over central AS and weaker anticyclonic circulation over North Andaman Sea with ridge passing along 15°N during week 1. Similar conditions are likely to continue during week 2. Corresponding anomaly field is indicating anticyclonic flow pattern over AS, central India and northeast BoB with easterly over south & central parts of BoB & AS during week 1. During week 2, it is indicating cyclonic anomaly over south AS. The precipitation anomaly field during week1 is indicating, above normal activity over southeast AS off Kerala & Karnataka coast and over northeast India, West Bengal & adjoining Bihar region, Bangladesh, Nepal & Bhutan. Similar features are indicated during week 2 with above normal rainfall activity over the northeastern states of India & North Bangladesh, Nepal & Bhutan and over southeast AS, and Comorin area. Similar wind circulation features are indicated by the NCMRWF ERF model during the two weeks. However, precipitation anomaly is indicating below normal over southeast AS and above normal rainfall activity is indicated over the northeast India.

The ECMWF Ensemble model forecast is indicating a feeble probable zone for cyclogenesis (05-10% probability) over southeast AS off North Kerala & adjoining Karnataka coasts during middle of week 2.

With respect to cyclogenesis IMD MME-CFSV2 model is indicating a 30-40% probability of cyclogenesis over east EIO & adjoining south Andaman Sea during week 1 and 20-30% probability of cyclogenesis over east EIO and adjoining areas of South BoB & a feeble zone off Kerala coast during week 2.

### (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, east-west ridge across peninsular India, North-South trough from Vidarbha to South Tamil Nadu during week 1. Thereafter, a northeast-southwest trough extending from north-interior Karnataka across Kerala, coastal Karnataka & southeast AS to Lakshadweep is likely to prevail during middle of week 2. The NCMRWF AI models (Pangu, GraphCast and FourCastNet), EC-AIFS and NCEP GFS AI are also indicating similar features.

### (c) Climatological Guidance:

Climatologically, during the forecast period, the daily probability of cyclogenesis 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. However, there is likelihood of establishment of a North-South trough from central India to South TamilNadu during week 1 and another northeast-southwest trough extending from north-interior Karnataka to Lakshadweep during middle of week 2.

### Verification of forecast issued during the previous two weeks:

The extended range outlooks issued on 09<sup>th</sup> April for week 2(17.04.2026-23.04.2026) and on 16<sup>th</sup> April for week 1(17.04.2026-23.04.2026) indicated that no probability of cyclogenesis over the North Indian Ocean during the entire forecast period.

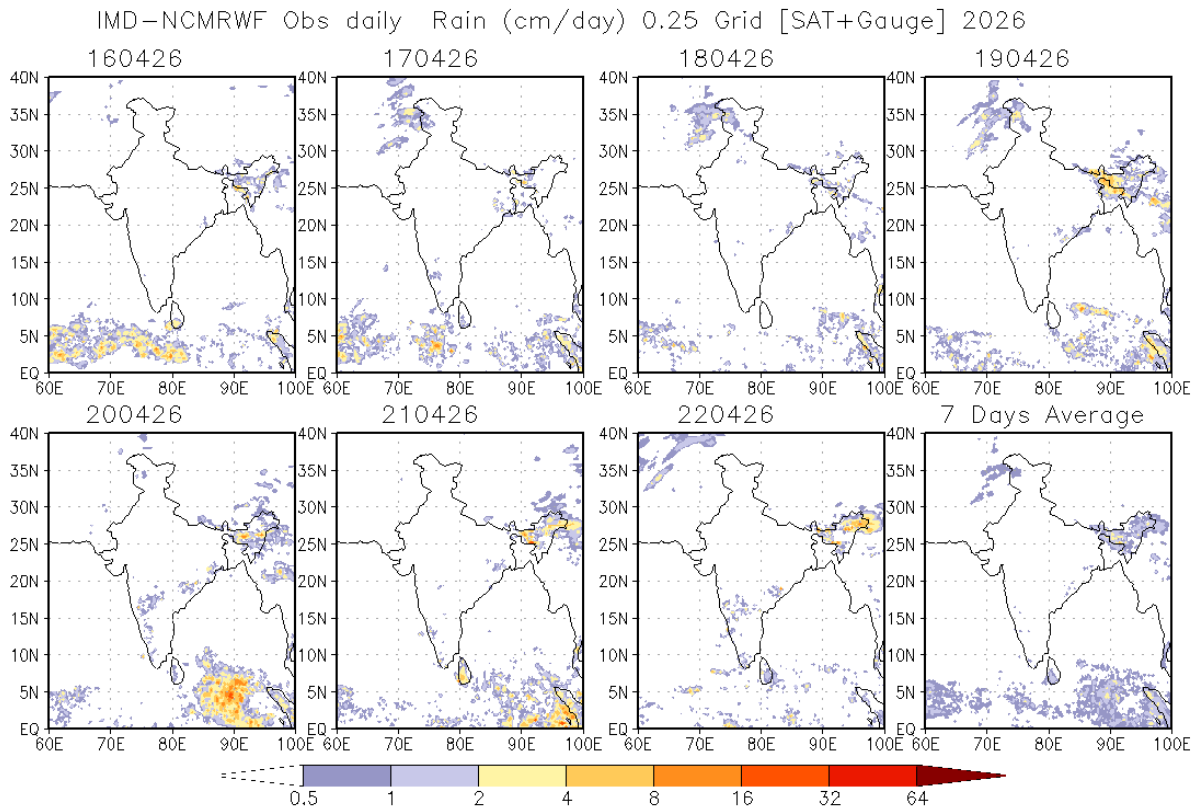
### Realized weather:

Actually, no cyclogenesis occurred over the region during the specified week.

**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 16<sup>th</sup> – 22<sup>nd</sup> April,

2026 is presented in **Fig. 2**.



**Fig. 2:** NCMRWF-IMD satellite gauge merged data plots of 24-hour accumulated rainfall from 16<sup>th</sup> - 22<sup>nd</sup> 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: 30.04.2026**