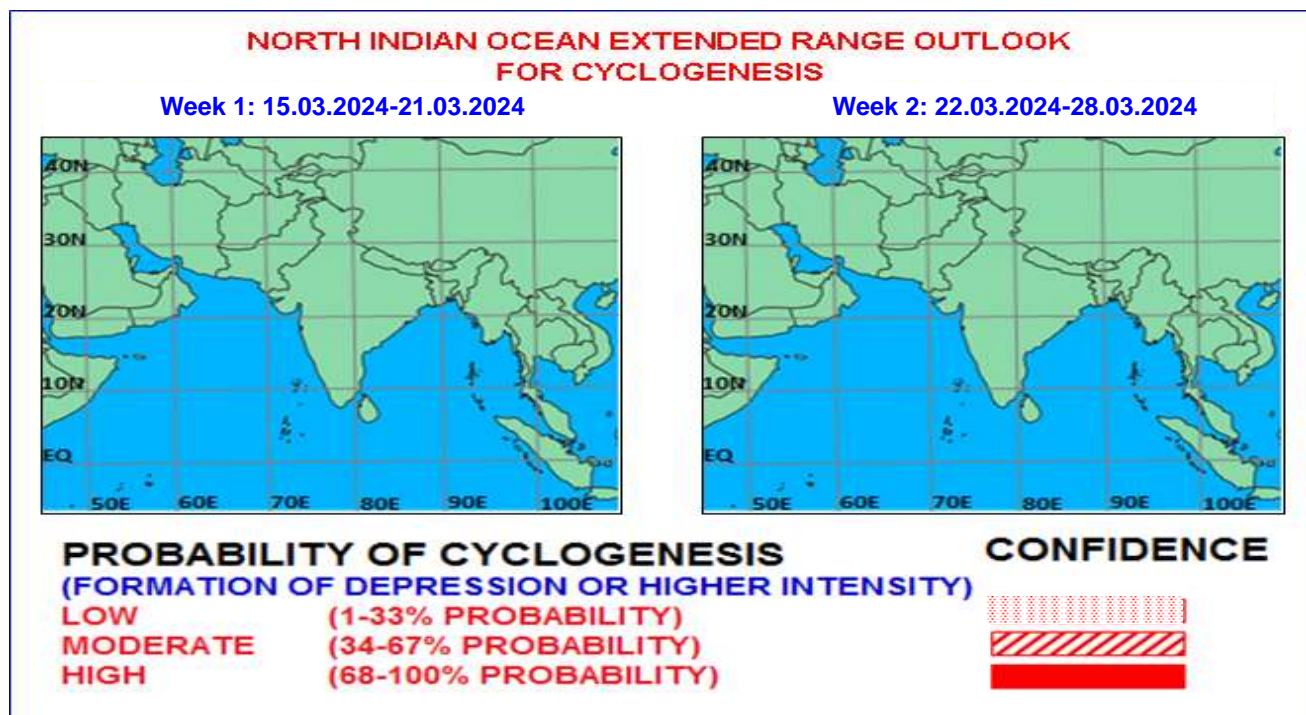




Issued on 14.03.2024



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

## **I. Environmental features:**

Based on ECMM forecast, currently Madden Julian Oscillation (MJO) index is in Phase 5 with amplitude more than 1. It would move across phase 6 with amplitude remaining significantly higher than 1 during first half of week 1. Thereafter, it would move across phases 7 and 8 with amplitude gradually becoming less than 1 during later part of week 2. Thus, the MJO is not likely to contribute to enhancement of rainfall activity or cyclogenesis over the North Indian Ocean (NIO) during the entire forecast period.

NCICS based forecast for equatorial waves indicates weak westerly winds (1-3 mps) over south Bay of Bengal (BoB) and southeast Arabian Sea (AS) during week 1. Easterly winds (1-3 mps) over northwest & westcentral AS and (1-2 mps) over eastcentral BoB are also likely during week 1. During week 2, weak easterly winds (1-3 mps) are likely over southeast AS. Thus, Equatorial waves are not likely to support any convective activity over the North Indian Ocean (NIO) region during the forecast period.

## **II. Model Guidance:**

Various deterministic models including IMD GFS, GEFS, NCUM, NEPS, ECMWF and NCEP GFS are not indicating any cyclonic circulation over the NIO region during next 7-10 days. GPP forecast based on IMD GFS is not indicating any significant zone of cyclogenesis over the NIO region during next 7 days. The extended range forecast (ERF) of mean winds by IMD (CFS V2) is not indicating any cyclogenesis during next 2 weeks.

**Legends:** 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, European Centre for Medium Range

Weather Forecasting (ECMWF), GPP: Genesis Potential Parameter, National Centre for Environment Prediction (NCEP) GFS, ECMM: ECMWF multi model, GEFS: GFS ensemble, NEPS: NCUM ensemble prediction system, CNCUM: Coupled NCUM, CPC: Climate Prediction Centre, NWS: National Weather Service.

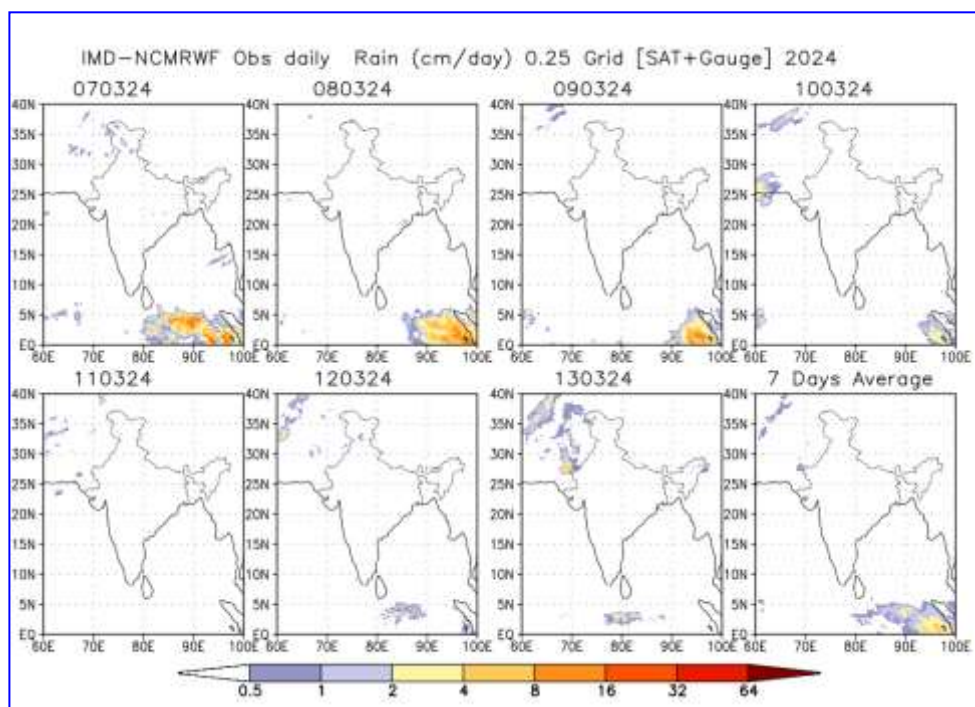
### III. Inference:

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

### IV. Verification of forecast issued during last two weeks:

Forecast issued on 29<sup>th</sup> February for second week (08.03.2024-14.03.2024) and forecast issued on 7<sup>th</sup> March for first week (08.03.2024-14.03.2024) indicated no cyclogenesis over the NIO during the period. Actually, no cyclogenesis occurred over the region during the specified week.

NCMRWF-IMD satellite gauge merged data plots of 24 hours accumulated realized rainfall during, 7<sup>th</sup> March to 13<sup>th</sup> March, 2024 are presented in **Fig. 2**.



**Fig.2: NCMRWF-IMD satellite gauge merged data plots of 24 hours accumulated realized rainfall during 7<sup>th</sup> March to 13<sup>th</sup> March, 2024.**

**Next update: 21.03.2024**