



Issued on 07.03.2024

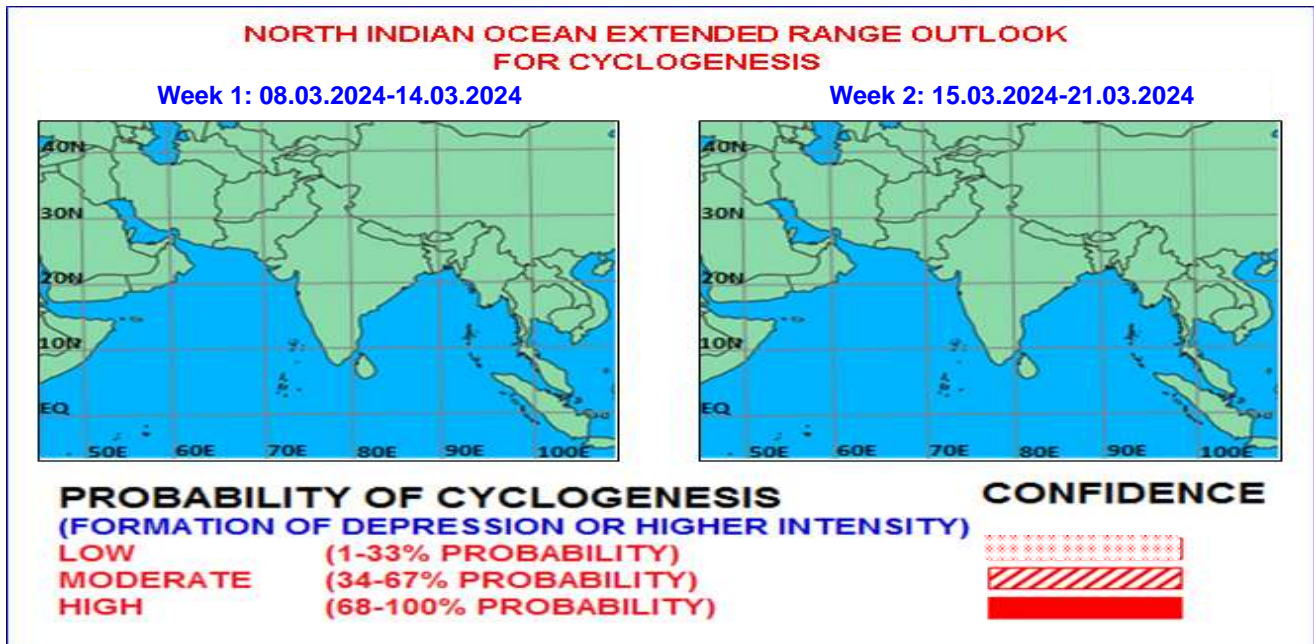


Fig. 1: Graphical Cyclogenesis over north Indian Ocean during next two weeks

### I. Environmental features:

Based on ECMM forecast, currently Madden Julian Oscillation (MJO) index is in Phase 4 with amplitude more than 1 and would continue in same phase during first half of week 1. It is likely to propagate eastwards and enter into Phase 5 in later half of week 1. Thereafter during week 2, it is likely to enter into Phase 6 with amplitude remaining more than 2. Thus, the MJO is likely to support enhancement of rainfall activity over Bay of Bengal (BoB) region during week 1 only. NCICS based forecast for equatorial waves indicates weak easterly winds (1-3 mps) over entire BoB, during week 1. During the same period, weak westerly winds (1-3 mps) are likely to prevail over south, eastcentral and north AS. Similarly, during week 2 weak westerly winds (1-3 mps) are likely over south Arabian Sea (AS) and south Andaman Sea. Equatorial waves are thus not likely to support any convective activity over the North Indian Ocean (NIO) region.

### 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) depicts an anticyclonic flow over Coastal Andhra Pradesh & adjoining BoB and another over westcentral AS with easterly winds over south BoB and AS during week 1. Only, the anticyclone over westcentral AS is likely to shift westward over Oman during week 2. The anomaly wind field in week 1 indicates an anticyclone over westcentral AS, northerly winds over BoB and a north-south trough along Myanmar coast. The anomaly field is likely to change over AS with northeasterly wind flow over western part of AS and formation of a trough along west coast of India. IMD ERF does not suggest any cyclogenesis over NIO during the entire forecast period. However, ERF model indicates rainfall over South BoB and adjoining East Equatorial Indian Ocean region. The ECMWF extended range forecast is also 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.

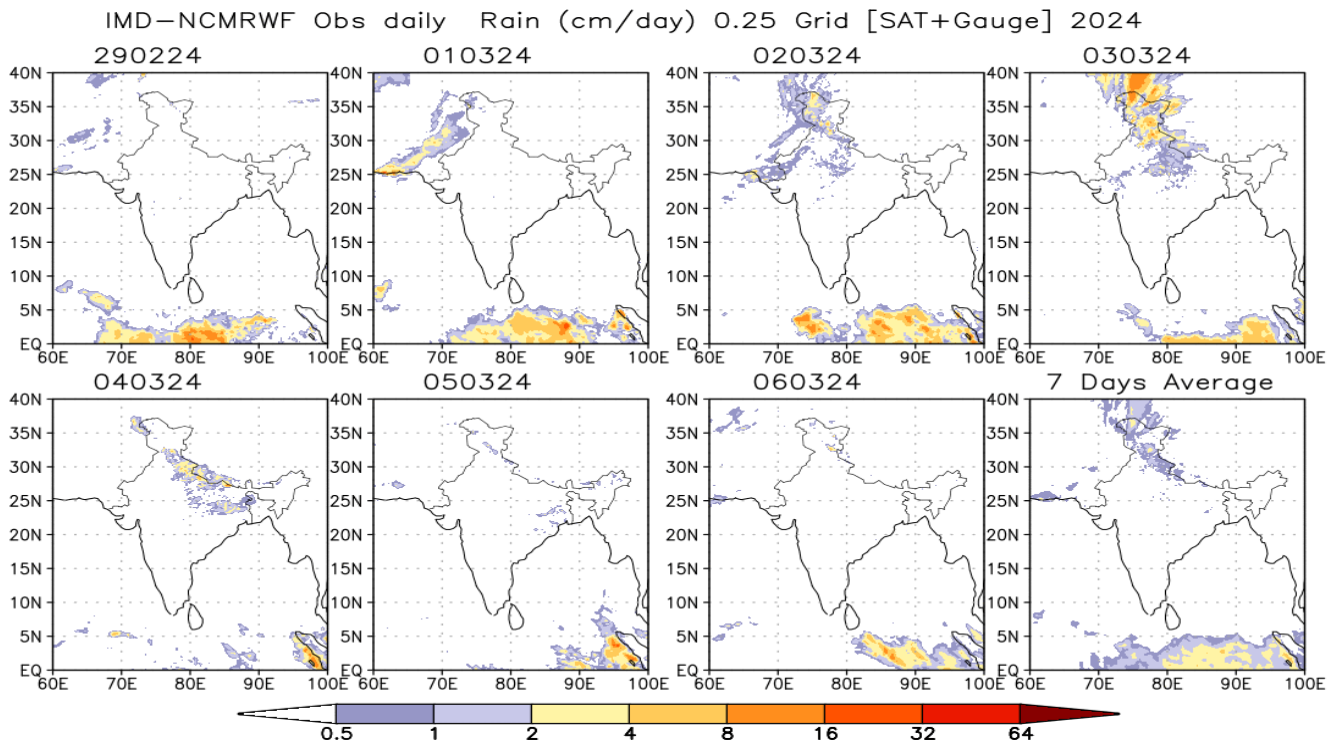
**III. Inference:**

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 22<sup>nd</sup> February for second week (01.03.2024-07.03.2024) and forecast issued on 29<sup>th</sup> February for first week (01.03.2024-07.03.2024) 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, 29<sup>th</sup> February to 6<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 29<sup>th</sup> February to 6<sup>th</sup> March, 2024.**

**Next update: 14.03.2024**