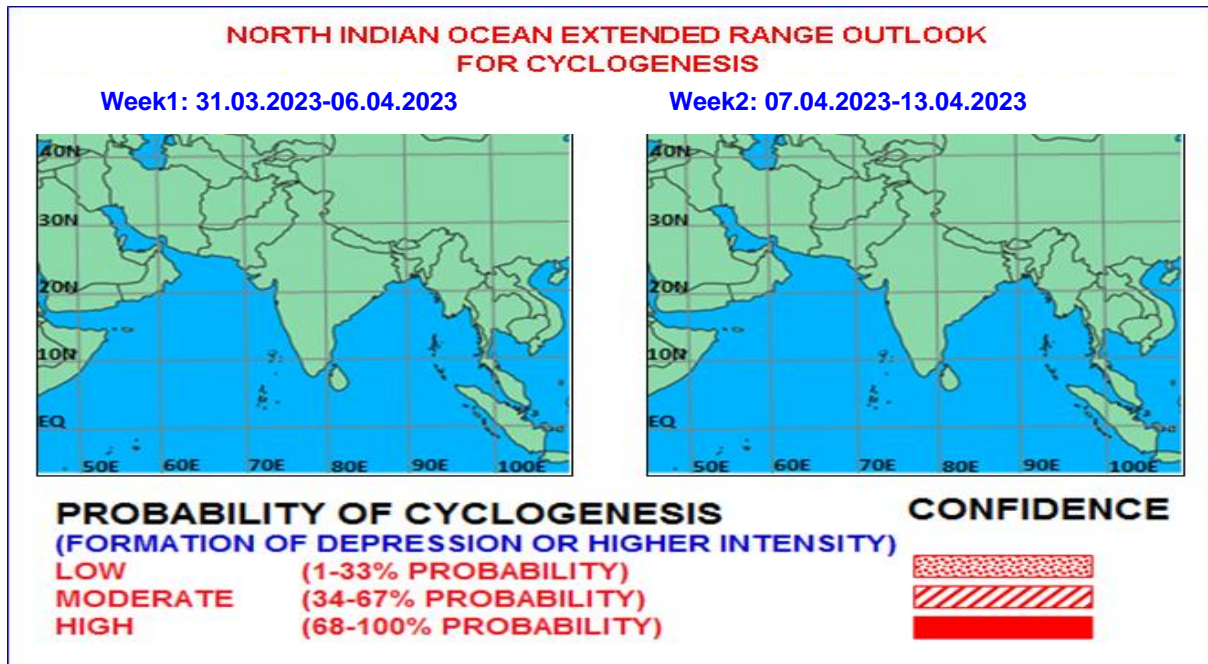




Issued on 30.03.2023



## I. Environmental features:

The Madden Julian Oscillation (MJO) Index is currently in Phase 5 with amplitude close to 1. It will continue in same phase during first half of week 1. Thereafter, it will move to phase 7 across phase 6 from later part of week 1 onwards. Hence, MJO would support enhancement of convective activity over the North Bay of Bengal (BoB) only during first half of week 1.

During week 1, weak westerly winds (1-3 mps) are likely over Equatorial Indian Ocean (EIO) and weak easterly winds (1-3 mps) are likely over central BoB, central India and central AS. However, over the southeast EIO, westerly winds (1-3 mps), Equatorial Rossby Waves (ERW) and MJO waves are likely during week 1. Similar features are likely over both the basins during week 2. And over the southeast EIO, ERW, westerly winds (3-5 mps) are likely during week 2.

Considering collectively, both MJO and equatorial waves are likely to contribute towards enhancement of convective activity over south EIO during the forecast period. These waves are not likely to contribute towards enhancement of convective activity over the North Indian Ocean (NIO) including BoB and Arabian Sea (AS).

## II. Model Guidance:

Various models including IMD GFS, NCUM, ECMWF, ECMM, NEPS, GEFS and GPP are not indicating any cyclogenesis over the region during next 7-10 days.

IMD's Coupled Forecast System Version 2 (IMD CFS V2), IMD GPP and NCMRWF CNCUM are not indicating any cyclogenesis over the North Indian Ocean (NIO) region.

(Legends: IMD GFS: India Meteorological Department Global Forecast System, NCUM: National Centre for Medium Range Weather Forecasting Centre Unified Model, European Centre for Medium Range Weather Forecasting, GPP: Genesis Potential Parameter,

National Centre for Environment Prediction GFS, ECMM: ECMWF multi model, GEFS: GFS ensemble, NEPS: NCUM ensemble prediction system, CNCUM: Coupled NCUM)

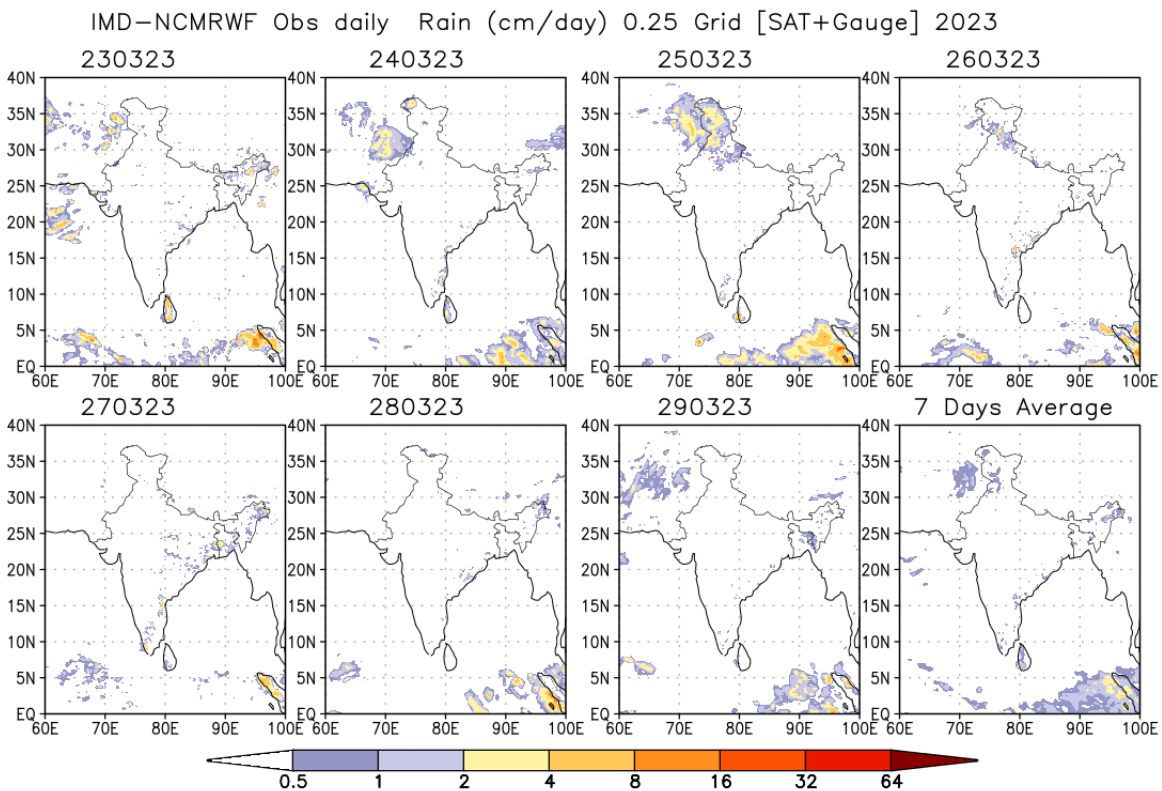
### III. Inference:

Considering the environmental features and model guidance, it is inferred that no cyclogenesis (formation of depression) is likely over the North Indian Ocean region during next 2 weeks.

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

The forecast issued on 16<sup>th</sup> March, 2023 for week 2 (24.03.2023 – 30.03.2023) indicated no cyclogenesis over the NIO region. The forecast issued on 23<sup>rd</sup> March, 2023 for week 1 (24.03.2023 – 30.03.2023) indicated no cyclogenesis over the NIO region. Thus, nil cyclogenesis was correctly predicted in two weeks forecast.

The realized rainfall during 23<sup>rd</sup> March, 2023 – 29<sup>th</sup> March, 2023 from satellite-gauge merged data is presented in Fig.2



**Fig.2: Rain gauge and satellite merged rainfall plots during 23<sup>rd</sup> March, 2023 – 29<sup>th</sup> March, 2023**

**Next update: 06.04.2023**