

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

### **I. Environmental features:**

As per ECMM guidance, Madden Julian Oscillation (MJO) is currently in phase 8 with amplitude less than 1. It would continue in same phase during beginning of week 1. Thereafter, it would move across phase 1 with amplitude remaining less than 1 during remaining part of week 1. During week 2, it would exhibit very slow movement into phase 2 with amplitude remaining less than 1. MJO would marginally support enhancement of convective activity over the Arabian Sea (AS).

The NCICS CFS model forecast indicates prevalence of easterly wind anomaly (3-5 mps) over entire BoB and AS during entire forecast period. The model also predicts the presence of Equatorial Rossby Wave (ERW) activity over the Lakshadweep region and adjoining south peninsular India during week 1. According to model forecasts the westerly winds over Equatorial Indian Ocean (EIO) and adjoining southwest BoB is likely to prevail during week 2. Thus, equatorial waves are likely to contribute towards development of a cyclonic circulation over central parts of south BoB during first half of week 2.

### **II. Model Guidance:**

Various deterministic models including IMD GFS, NCEP GFS and NEPS are indicating likely development of a cyclonic circulation over central parts of South BoB and adjoining EIO towards the end of week 1 or beginning of week 2 (around 27<sup>th</sup>/28<sup>th</sup> February) with west-northwestwards movement during the first half of week 2. IMD extended range forecast model (IMD CFSV2) is indicating low probability of cyclogenesis over South BoB and adjoining EIO during week 1 and over Comorin Area during week 2. NCMRWF model is also indicating enhanced rainfall activity over the south BoB and adjoining EIO during week 1. There is good consensus among various models with respect to the development of a cyclonic circulation over the south BoB and adjoining EIO with enhanced rainfall activity during week 1.

**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, ECMF: ECMWF-Ensemble System, ECMM: ECMWF-Ensemble System Bias Corrected, GPP: Genesis Potential Parameter, NCEP GFS/GEFS/CFS: National Centre for Environment Prediction GFS/GEFSv12/CFSv2, 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.

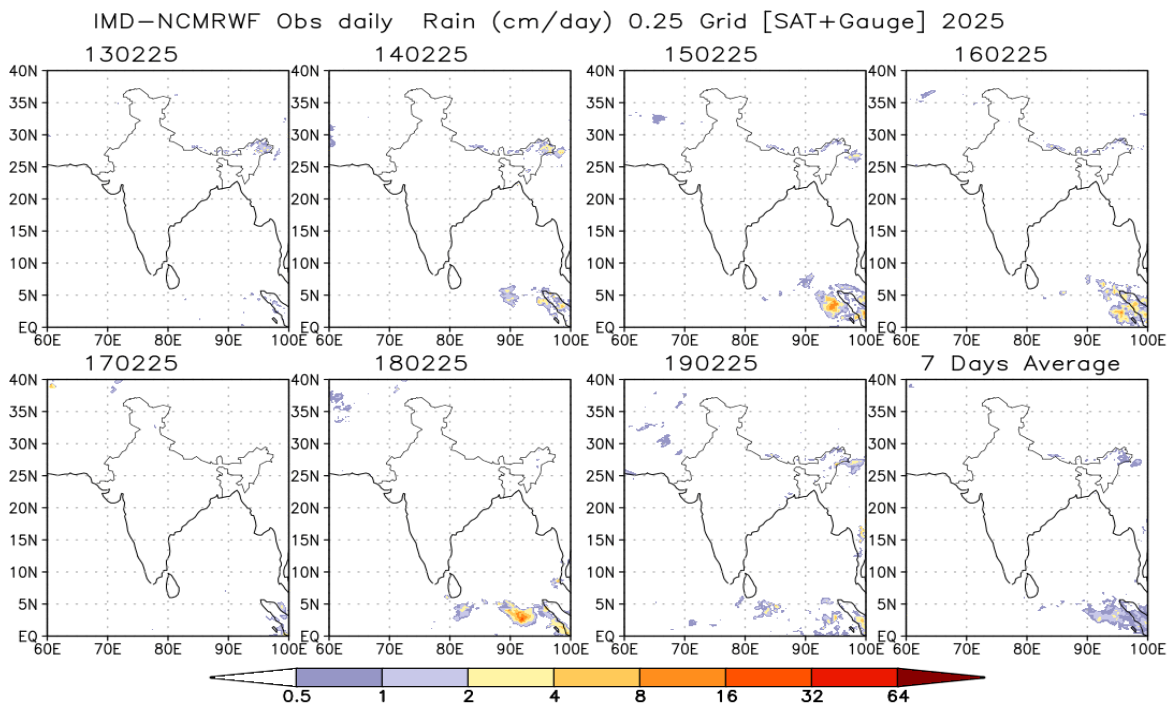
### III. Inference:

Considering various environmental conditions and model guidance it is inferred that there is likelihood of formation of a cyclonic circulation over central parts of South Bay of Bengal and adjoining Equatorial Indian Ocean during end of week 1/beginning of week 2 with west-northwestwards movement during the first half of week 2.

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

The forecast issued on 6<sup>th</sup> February for week 2 (14<sup>th</sup>February-20<sup>th</sup> February) indicated no probability of cyclogenesis during the week. The forecast issued on 13<sup>th</sup> February for week 1 (14<sup>th</sup> February-20<sup>th</sup> February) indicated no probability of cyclogenesis during the week. No cyclogenesis occurred during the period.

NCMRWF-IMD satellite gauge merged data plots of realized 24 hours accumulated rainfall from, 13<sup>th</sup> February to 19<sup>th</sup> February, 2025 are presented in **Fig. 2**.



**Fig.2: NCMRWF-IMD satellite gauge merged data plots of realized 24 hours accumulated rainfall from 13th February to 19th February, 2025.**

**Next update: 27.02.2025**