India Meteorological Department
Ministry of Earth Sciences
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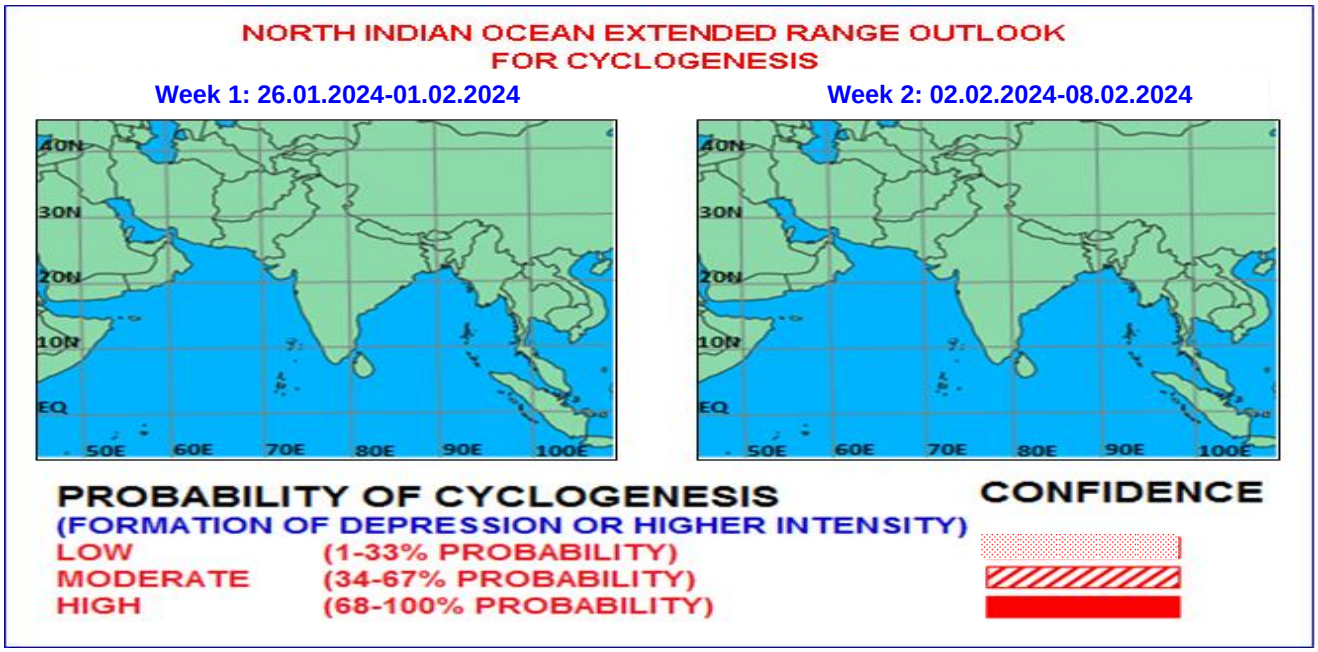

Fig. 1: Graphical Cyclogenesis over north Indian Ocean during next two weeks

I. Environmental features:

Madden Julian Oscillation (MJO) index is currently in phase 6 with amplitude greater than 1. According to both GEFS and ECMWF forecasts, it is likely to continue in same phase during the first week. Thereafter, it is likely to enter in phase 7 and remain in the same phase during week 2. Thus, MJO is not likely to contribute in the cyclogenesis over the North Indian Ocean (NIO) during next two weeks.

NCICS based forecasts for equatorial waves indicate westerly winds (1-3 mps) over South & parts of North Bay of Bengal (BoB) during week 1. Over the Arabian Sea (AS), it indicates westerly winds (3-4 mps) over southwest AS alongwith Equatorial Rossby Waves (ERW) during week 1. Similar features are observed during week 2. Therefore, zonal winds are not likely to contribute to any cyclogenesis over the region during the forecast period.

II. Model Guidance:

Various deterministic models including IMD GFS, GEFS, NCUM, ECMWF and NCEP GFS models are not cyclonic circulation/cyclogenesis (formation of depression) over both the basins during next 10 days. GPP is not indicating any cyclogenesis over the region during next 7 days. The extended range model IMD CFS V2 is also not indicating any cyclonic circulation over the region during the forecast period. The ECMWF extended range forecast is also not indicating any cyclogenesis during next 2 weeks. The extended range model IMD CFS V2 is indicating a trough in easterlies along with a zone of wind confluence (southeasterly from south Indian Ocean and easterly winds from South China Sea) over Andaman Sea in the wind anomaly during week 1. Accordingly, the model is indicating likely convective activity and rainfall over the same region during week 1.

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 all 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 11th January for week 2 (19.01.2024-25.01.2024) and forecast issued on 18th January for week 1 (19.01.2024-25.01.2024) indicated no cyclogenesis over the North Indian Ocean during the period. No cyclogenesis occurred over the region during the week period.

NCMRWF-IMD satellite gauge merged data plots of 24 hours accumulated realized rainfall during 17th to 23rd January, 2024 are presented in **Fig. 2.**

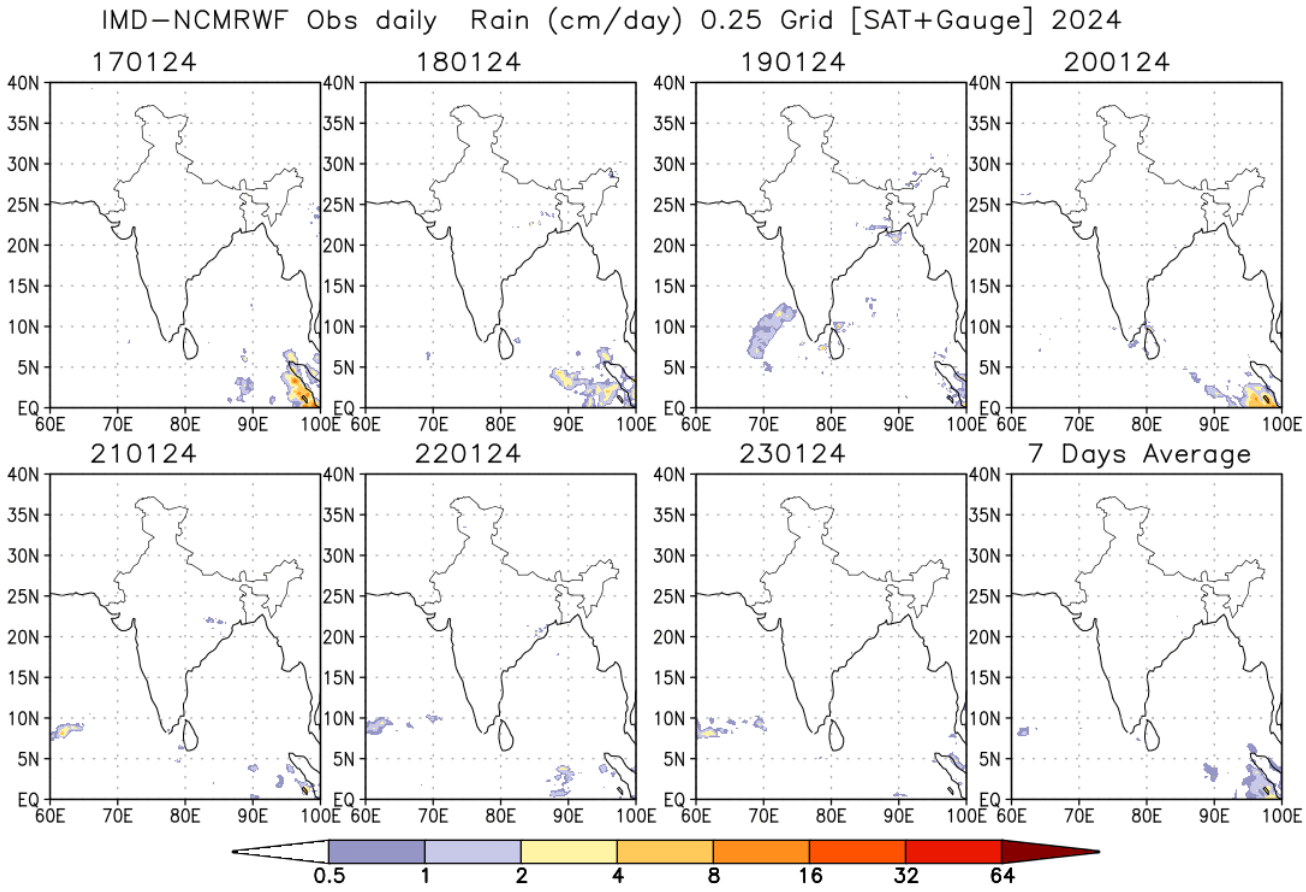

Fig.2: NCMRWF-IMD satellite gauge merged data plots of 24 hours accumulated realized rainfall during 17th to 23rd January, 2024.

Next update: 01.02.2024