



Issued on 01.02.2024

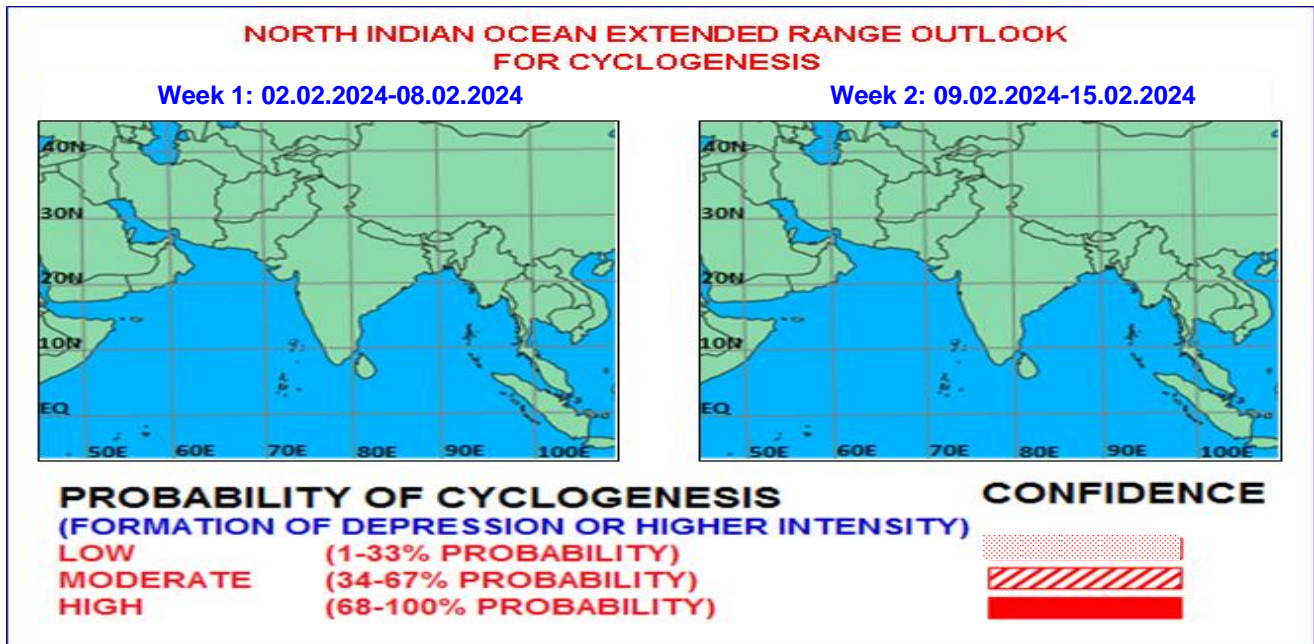


Fig. 1: Graphical Cyclogenesis over north Indian Ocean during next two weeks

I. Environmental features:

Madden Julian Oscillation (MJO) index is currently in phase 7 with amplitude greater than 1. Both GEFS and ECMWF forecasts generally indicated a weakening of the MJO signal with a slower phase speed and increased model spread. But a consensus amongst both model about the propagation of the MJO is portraying a likely meandering/looping within the same phase during next 2 weeks. 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 indicates easterly winds (1-3 mps) over South Bay of Bengal (BoB) and adjoining Equatorial Indian Ocean (EIO) gradually spread westwards towards southeast Arabian Sea (AS). The weak easterly is likely to prevail over south BoB and AS during week 2 which is also extending over entire AS during first half of week 2. The forecast also indicates westerly winds (1-5 mps) over north and adjoining central parts of BoB and extending over peninsular India during first half of week 1. The coverage of westerlies over central BoB is likely to decrease from week 1 to week 2 and strength also weakened further during week 2. The existing Equatorial Rossby Waves (ERW) over central BoB is likely to move southwestwards over peninsular India during latter part of the first week and further over southeast AS in middle of second week. The Kelvin waves are likely to be noticed over south BoB during week 1 and move eastward towards China Sea in the beginning of second week. Therefore, zonal winds along with the intermittent presence of other waves are not likely to contribute to any cyclogenesis over the region during the entire forecast period.

II. Model Guidance:

Various deterministic models including IMD GFS, GEFS, NCUM, ECMWF and NCEP GFS models are not indicating any cyclogenesis (formation of depression) over both the basins during next 10 days. GPP forecasts are not indicating any significant zone of cyclogenesis

over the region during next 7 days. The extended range wind (both mean and anomaly) forecasts by IMD (CFS V2) are depicting an anticyclone wind over AS in the first week and over peninsular India during second week and do not suggest any cyclogenesis NIO during the forecast period. The ECMWF extended range forecast is also not indicating any cyclogenesis during next 2 weeks. The extended range forecasts of IMD and ECMWF models are also not predicting any significant convective/rainfall activity over both BoB and AS basins during the entire forecast period.

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 18th January for week 2 (26.01.2024-01.02.2024) and forecast issued on 25th January for week 1 (26.01.2024-01.02.2024) 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, 2024 are presented in Fig. 2.

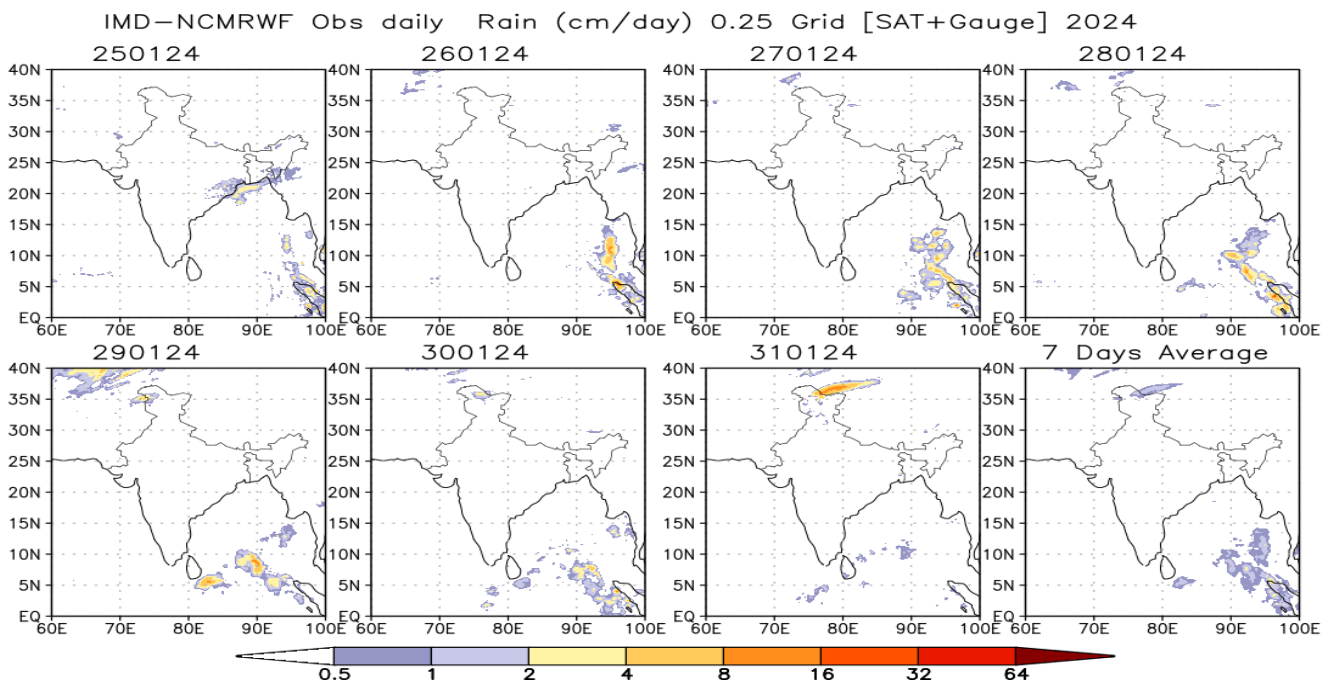


Fig.2: NCMRWF-IMD satellite gauge merged data plots of 24 hours accumulated realized rainfall during 25th to 31st January, 2024.

Next update: 08.02.2024