



Issued on 18.01.2024

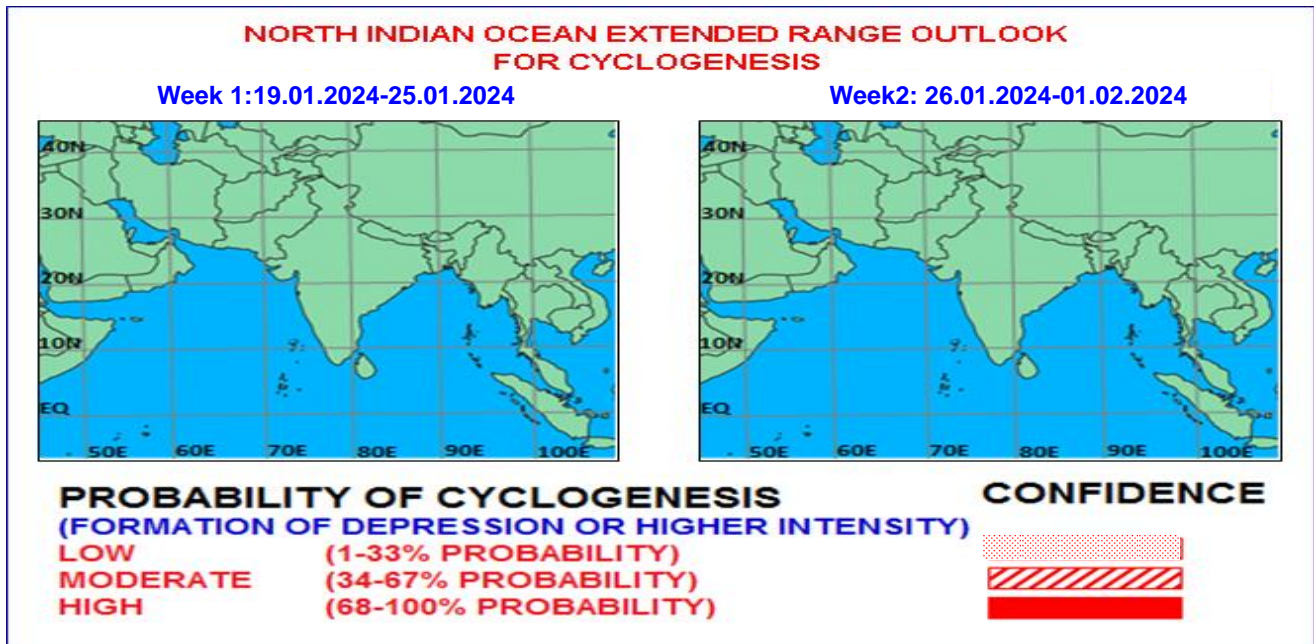


Fig. 1: Graphical Cyclogenesis over north Indian Ocean during next two weeks

I. Environmental features:

Madden Julian Oscillation (MJO) index is currently in phase 4 (Indian Ocean) with amplitude greater than 1. It is likely to move to phase 5 with the same amplitude during next 4-5 days. Thereafter, it is likely to enter into phase 6 without any further amplification except last few days during remaining part of forecast period.

NCICS based forecast for equatorial waves indicates easterly winds (1-3 mps) over south Bay of Bengal (BoB) without any wave activity during the first week. The westerly winds (1-3 mps) along with Equatorial Rossby Waves (ERW) are likely over southeast & adjoining central Arabian Sea (AS) which are likely to move westward during week 1. The westerly winds (1-3 mps) are likely to prevail over AS with ERW over Comorin and adjoining areas of southeast AS, southwest BoB & Equatorial Indian Ocean during first half of week 2 and only over south AS during latter half of week 2. Therefore, weak zonal winds along with intermittent presence of ERW are not likely to be favourable for convective activity 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 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.

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, ECM: 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 the 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 4th January for week 2 (12.01.2024-18.01.2024) indicated cyclonic circulation/low pressure area over southeast Arabian Sea and adjoining west Equatorial Indian Ocean during week 1. The forecast issued on 11th January for week 1 (12.01.2024-18.01.2024), indicated cyclonic circulation over south Arabian Sea. Actually, a cyclonic circulation lay over Comorin area & adjoining Maldives area on 12th January, 2024. It persisted over the same region on 13th January and became less marked on 14th January 2024.

NCMRWF-IMD satellite gauge merged data plots of 24 hours accumulated realized rainfall during 11th to 17th January, 2024 are presented in **Fig. 2**.

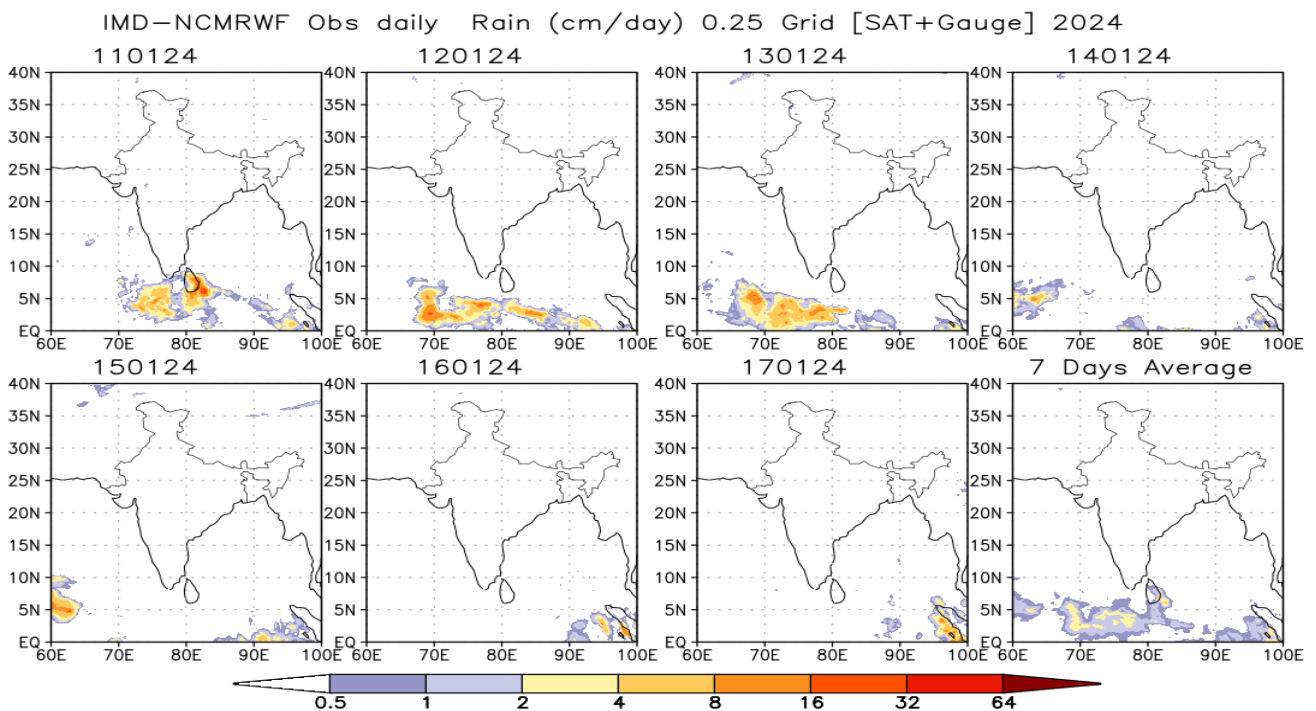


Fig.2: NCMRWF-IMD satellite gauge merged data plots of 24 hours accumulated realized rainfall during 11th to 17th January, 2024.

Next update: 25.01.2024