

I. Environmental features:

The Madden Julian Oscillation (MJO) Index is currently in Phase 7 with amplitude close to 1. It will continue in same phase during week 1. Thereafter, it would move to phase 8 and 1 with amplitude more less than 1. Thus, MJO will not support convective activity over the North Indian Ocean (NIO) during the forecast period.

Based on CFS forecast for equatorial waves, weak easterly winds (1-3 mps) over central Bay of Bengal (BoB), central India and south Arabian Sea (AS) are likely to prevail during week 1. Thereafter, gradual weakening of easterly winds over the region is predicted during week 2. Thus, equatorial waves are not likely to support any convective activity over the BoB and AS during the forecast period.

II. Model Guidance:

- Based on the guidance from various deterministic models (GFS group, NCUM group, ECMWF, IMD MME) no cyclogenesis is likely over the NIO region during the forecast period.
- Ensemble systems including IMD GEFS, NCMRWF NEPS and genesis potential parameter plots do not indicate any cyclogenesis over the NIO region during the forecast period.
- NCMRWF Coupled Extended Range Model (CNCUM) and IMD MME Coupled Forecast System (MME CFS V-2) Version 2 do not indicate any cyclogenesis over the NIO region during the forecast period.

III. Inference:

Considering the model guidance and various environmental features, it is inferred that no cyclogenesis is likely over the North Indian Ocean during the entire forecast period extending between 6th and 19th January, 2023.

IV. Verification of forecast issued during last two weeks:

Forecast System: The forecast issued on 22nd December, 2022 for week 2 (30.12.2022–05.01.2023) indicated no cyclogenesis over the region.

The forecast issued on 29th December, 2022 for week 1 (30.12.2022–05.01.2023) indicated no cyclogenesis over the region.

Realised System: No cyclogenesis occurred over the region during the period. Hence, no cyclogenesis was correctly predicted in two weeks forecast.

The realized rainfall during 30th Dec., 2022 – 4th January, 2023 from satellite-gauge merged data is presented in Fig.1

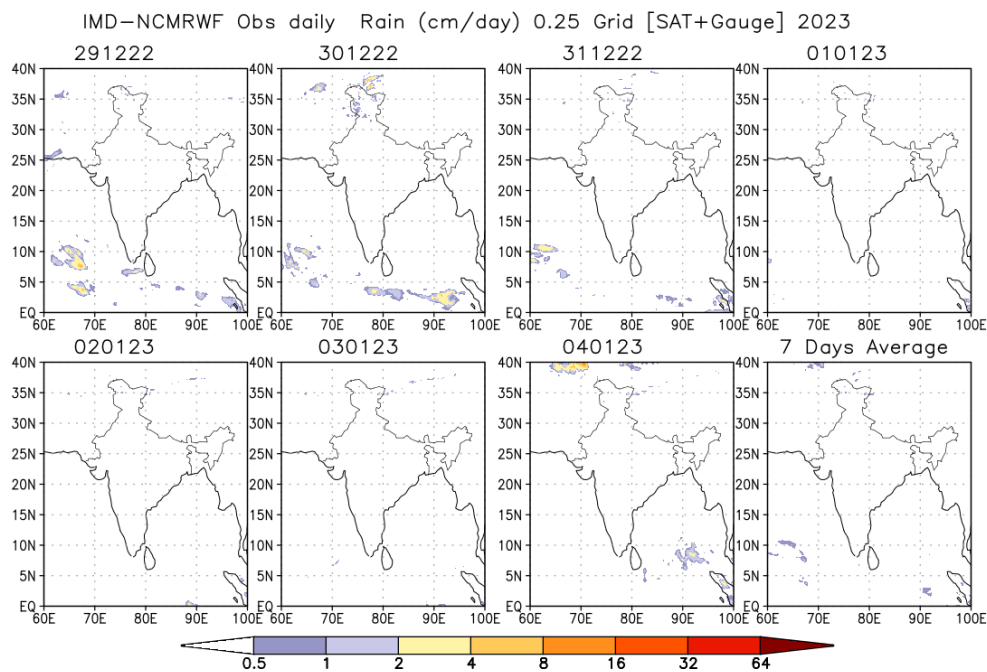


Fig.1: Rain gauge and satellite merged rainfall plots during 29th Dec., 2022 – 4th Jan, 2023

Next update: 12.01.2023