India Meteorological Department
Ministry of Earth Sciences
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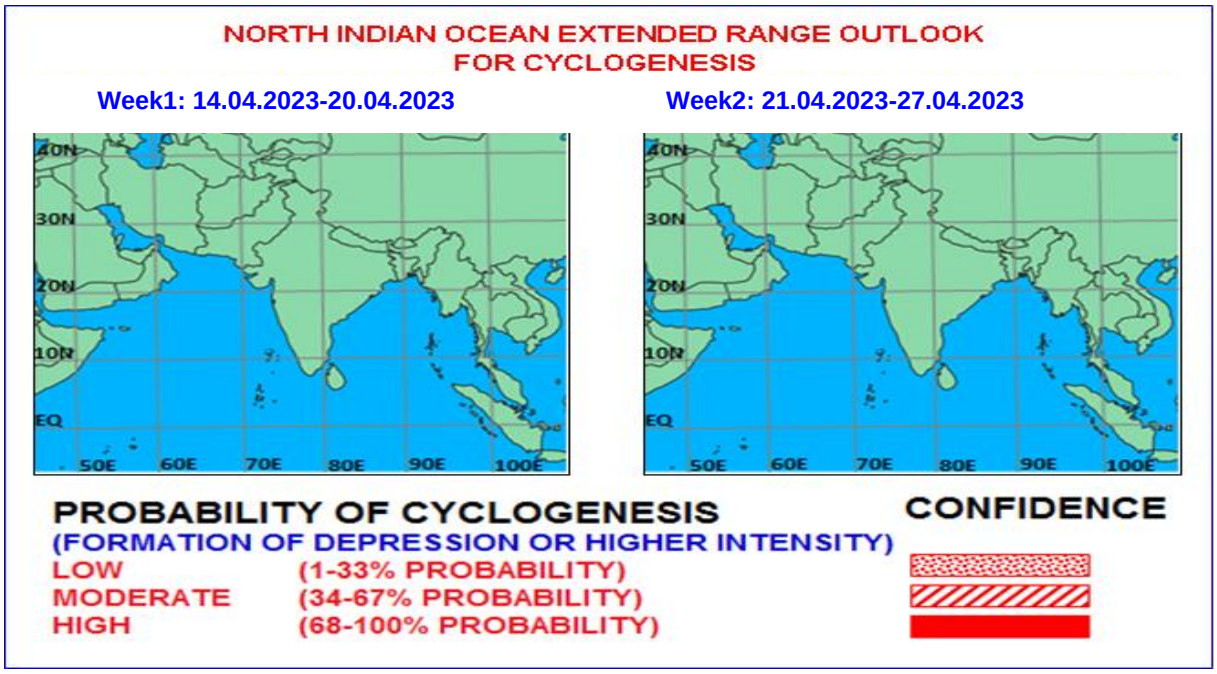

I. Environmental features:

The Madden Julian Oscillation (MJO) Index is currently in Phase 7 with amplitude more than 1. It will continue in same phase during week 1. Thereafter, it will move across phases 8 and 1 during week 2. Hence, MJO will not support enhancement of convective activity over the North Indian Ocean (NIO) during entire forecast period.

During week 1, easterly winds (3-5 mps) over central & adjoining southern parts of NIO and Equatorial Rossby Waves (ERW) over East Equatorial Indian Ocean (EIO) & adjoining south Bay of Bengal (BoB) are likely to prevail. During week 2, easterly winds (1-3 mps) over central parts of BOB & Arabian Sea (AS) alongwith westerly winds (1-3 mps) over south AS and adjoining west EIO. Considering collectively, both MJO and equatorial waves are not likely to contribute towards enhancement of any convective activity over the the BoB. Over the south AS, equatorial waves may contribute towards development of a cyclonic circulation during week 2. However, similar but more intense support is also seen for South Indian Ocean.

II. Model Guidance:

Various models including IMD GFS, NCUM, ECMWF, ECMM, NEPS, GEFS and GPP are not indicating any cyclogenesis over the region during next 7-10 days. IMD GPP forecast field is also not indicating any cyclogenesis during next 7 days.

IMD's Coupled Forecast System Version 2 (IMD CFS V2), IMD GPP and NCMRWF CNCUM are also not indicating any cyclogenesis over the North Indian Ocean (NIO) region.

(Legends: IMD GFS: India Meteorological Department Global Forecast System, NCUM: National Centre for Medium Range Weather Forecasting Centre Unified Model, European Centre for Medium Range Weather Forecasting, GPP: Genesis Potential Parameter,

National Centre for Environment Prediction GFS, ECMM: ECMWF multi model, GEFS: GFS ensemble, NEPS: NCUM ensemble prediction system, CNCUM: Coupled NCUM)

III. Inference:

Considering the environmental features and model guidance, it is inferred that no cyclogenesis (formation of depression) is likely over the North Indian Ocean region during next 2 weeks.

IV. Verification of forecast issued during last two weeks:

The forecast issued on 30th March, 2023 for week 2 (31.03.2023 – 06.04.2023) indicated no cyclogenesis over the NIO region. The forecast issued on 6th April, 2023 for week 1 (07.04.2023– 13.04.2023) indicated no cyclogenesis over the NIO region. Thus, nil cyclogenesis was correctly predicted in two weeks forecast.

The realized rainfall during 6th April, 2023 – 12th April, 2023 from satellite-gauge merged data is presented in Fig.2

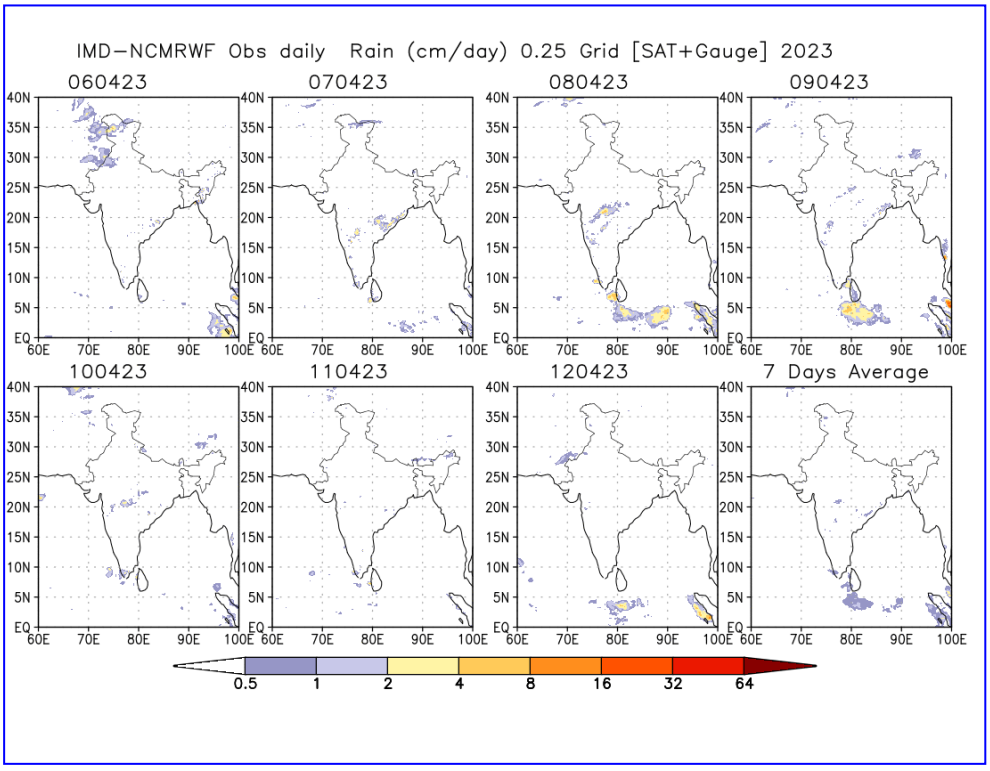

Fig.2: Rain gauge and satellite merged rainfall plots during 6th April, 2023 – 12th April, 2023

Next update: 20.04.2023