India Meteorological Department
Ministry of Earth Sciences
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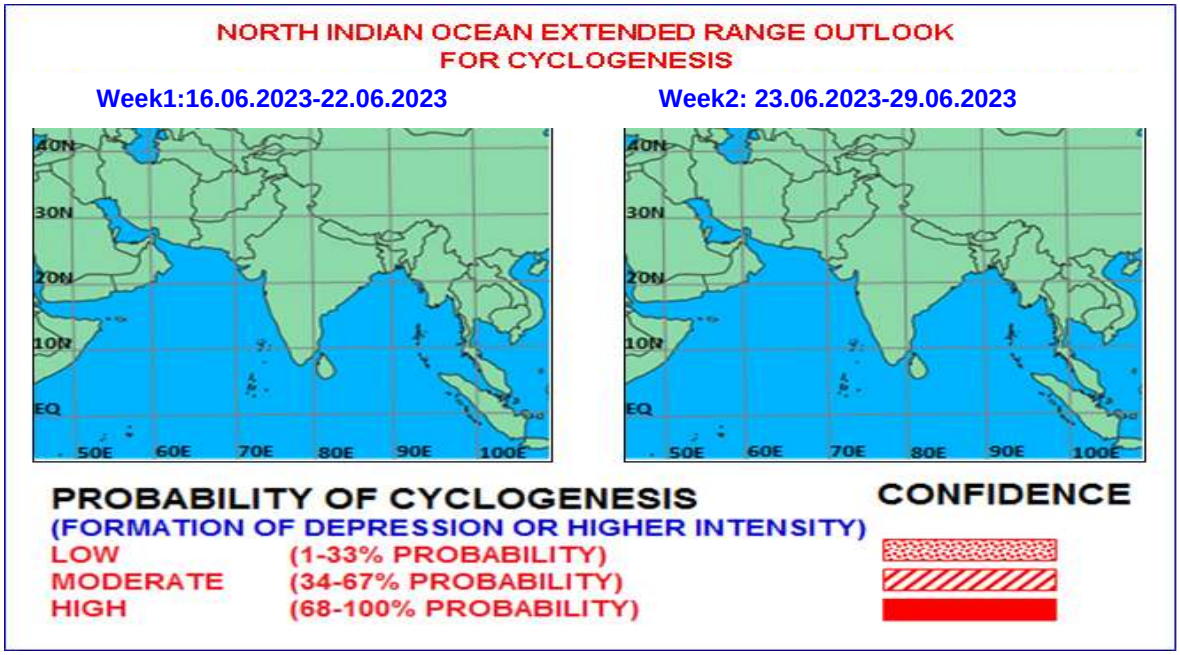


**Fig.1: Graphical Cyclogenesis over north Indian Ocean during next two weeks**

## I. Environmental features:

The Madden Julian Oscillation (MJO) Index is currently in Phase 3 with amplitude more than 1. It would continue in same phase for next 3 days. Thereafter, it would move to phase 5 and would continue in same phase till first half of week 1. It would then move to phase 6 during remaining part of the forecast period. Hence, MJO is likely to support the enhancement of convective activity and cyclogenesis over the Bay of Bengal (BoB) during later part of week 1 and week 2. During week 1, westerly winds (3-5 mps) along with Equatorial Rossby Waves (ERW) are likely to prevail over south and central Arabian Sea. Therefore, equatorial waves would support convective activity over the Arabian Sea during week 1.

## II. Model Guidance:

Various deterministic models including ECMWF, IMD GFS, NCEP GFS, NCUM, NEPS and GEFS are indicating no fresh cyclogenesis over both the basins i.e. the Arabian Sea and the Bay of Bengal.

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, CPC: Climate Prediction Center, NWS: National Weather Service)

## III. Inference:

Considering various environmental features and model guidance, it is inferred that no further cyclogenesis is likely over the Bay of Bengal and the Arabian Sea during next two weeks.

## IV. Verification of forecast issued during last two weeks:

The forecast issued on 1st June, 2023 for week 2 (09.06.2023– 15.06.2023) indicated moderate probability of cyclogenesis over eastcentral Bay of Bengal off Myanmar coast during and moderate probability of cyclogenesis over westcentral & adjoining eastcentral Arabian Sea during week 2. The forecast issued on 8th June for week 1 (09.06.2023– 15.06.2023). The forecast issued on 8th June for week 1 (09.06.2023– 15.06.2023) indicated high probability of cyclogenesis over central and north Arabian Sea.

Actually, a low pressure area formed over northeast and adjoining eastcentral Bay of Bengal on 9th June. It concentrated into a well marked low pressure area over northeast Bay of Bengal. It moved nearly northwards and weakened into a low pressure area over southeast Bangladesh and neighbourhood. Regarding Arabian Sea system, TC Biparjoy, underwent multiple recurvatures and moved primarily over eastcentral Arabian Sea and gradually recurved northeastwards. It is likely to cross Saurashtra & Kutch and adjoining Pakistan coasts between Mandvi (Gujarat) and Karachi (Pakistan) near Jakhau Port (Gujarat) by tonight, the 15th June as a very severe cyclonic storm.

The realized rainfall during 8th June, 2023 – 14th June, 2023 from satellite-gauge merged data is presented in Fig.2.

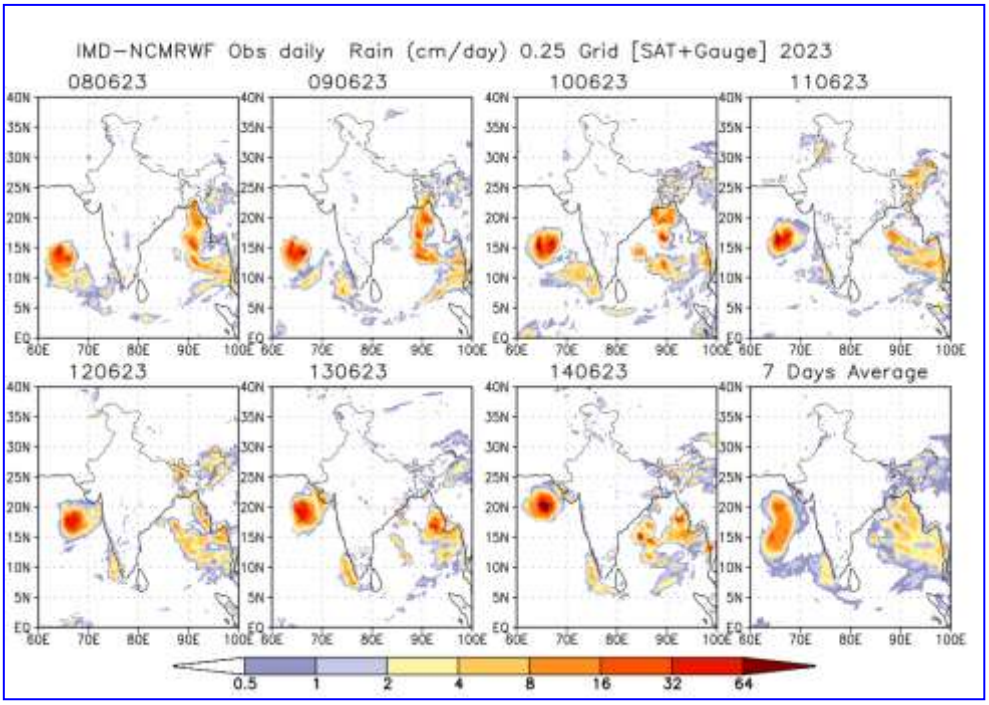


**Fig.2: Rain gauge and satellite merged rainfall plots during 8th – 14th June, 2023**

**Next update: 15.06.2023**