



Issued on 25.05.2023

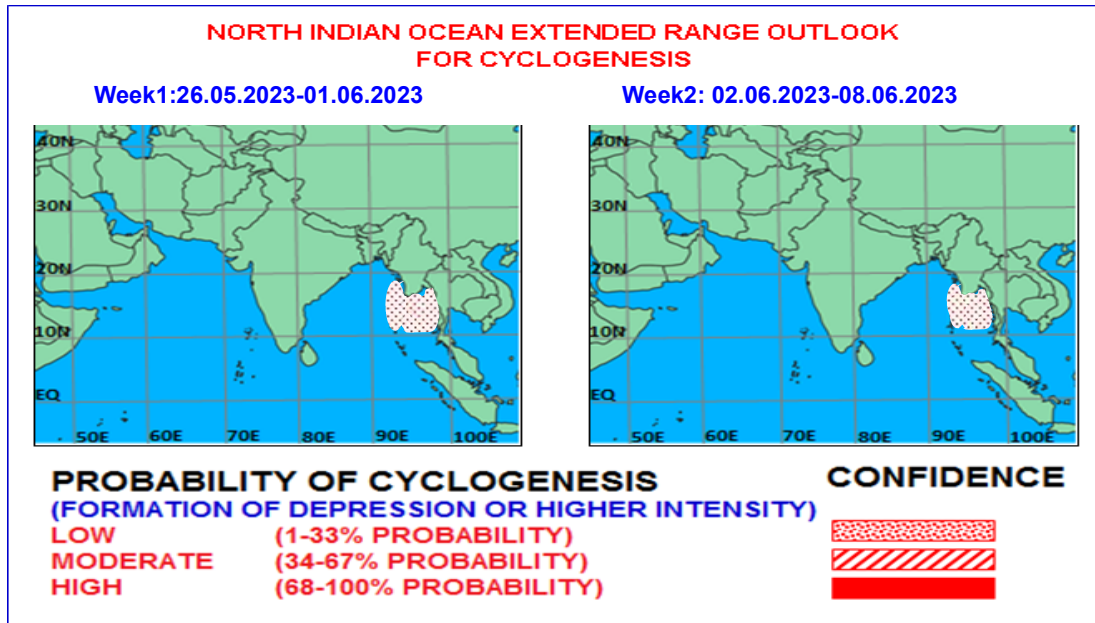


Fig.1: Graphical Cyclogenesis over north Indian Ocean during next two weeks

### I. Environmental features:

The Madden Julian Oscillation (MJO) Index is currently in Phase 7 with amplitude less than 1. It would move across phases 7 and 8 during week 1. Thereafter, it will move across phase 1 during beginning of week 2 and across phase 2 from 5<sup>th</sup> May onwards. Hence, MJO is likely to support cyclogenesis over the Bay of Bengal (BoB) from middle of week 2. During week 1, westerly winds (1-3 mps) are likely over North Andaman Sea & adjoining eastcentral BoB and along & off Myanmar coast. Over the BoB, westerly winds (1-3 mps) and ERW are likely during later part of week 1. Over the Arabian Sea (AS), during later part of week 1, strong westerly winds (5-7 mps) over westcentral Arabian Sea (AS) alongwith MJO & Equatorial Rossby waves (ERW) are likely to prevail. During week 2, enhancement of westerly winds over south AS and south BoB is likely.

Considering all these, MJO and equatorial waves are likely to contribute towards enhancement of convective activity over the AS and the BoB during later part of week 1 and beginning of week 2.

### II. Model Guidance:

Various deterministic models including IMD GFS and ECMWF are indicating likely development of a cyclonic circulation over North Andaman Sea & adjoining eastcentral BoB around 30<sup>th</sup>. Models like GEFS, NCUM, NEPS and NCEP GFS are not indicating development of any cyclonic circulation over BoB or AS during entire forecast period. However, ECMWF ensemble is indicating likely formation of depression over Myanmar coast and adjoining areas of North Andaman Sea & eastcentral BoB during later part of week 1 or beginning of week 2. IMD GPP is also indicating emergence of a potential zone for cyclogenesis over the same region during end of week 1. IMD's Coupled Forecast System Version 2 (IMD CFS V2) is also indicating a probable zone for cyclogenesis over the same

region with very low probability (10-20%). IMD's CFS V2 is also indicating low probability (10-20% probability of cyclogenesis over the south AS during week 2.

(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, a cyclonic circulation may develop over North Andaman Sea and adjoining eastcentral BoB during second half of week 1. There is also low probability of it's intensification into a depression over the same region during end of week 1 or beginning of week 2. Hence low probability of cyclogenesis is assigned in later part of week 1 and beginning of week 2 over North Andaman Sea & adjoining eastcentral Bay of Bengal and Martaban coast.

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

The forecast issued on 11<sup>th</sup> May, 2023 for week 2 (19.05.2023– 25.05.2023) indicated no cyclogenesis during week 2. The forecast issued on 18<sup>th</sup> May for week 1 (19.05.2023– 25.05.2023) indicated no cyclogenesis during week 1. Thus, no cyclogenesis was correctly indicated 2 weeks in advance during 19<sup>th</sup> May to 25<sup>th</sup> May.

The realized rainfall during 17<sup>th</sup> May, 2023 – 24<sup>th</sup> May, 2023 from satellite-gauge merged data is presented in Fig.2

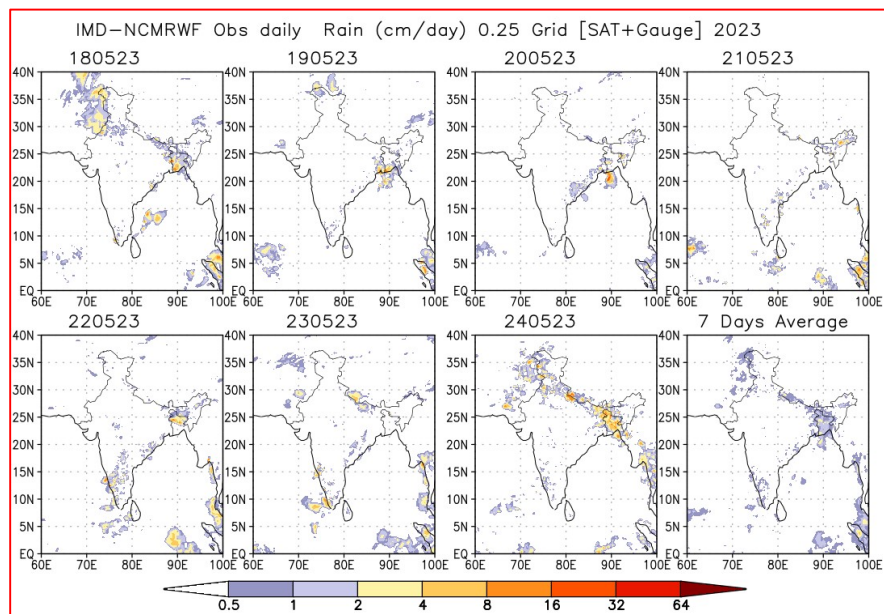


Fig.2: Rain gauge and satellite merged rainfall plots during 17<sup>th</sup> May– 23<sup>rd</sup> May, 2023