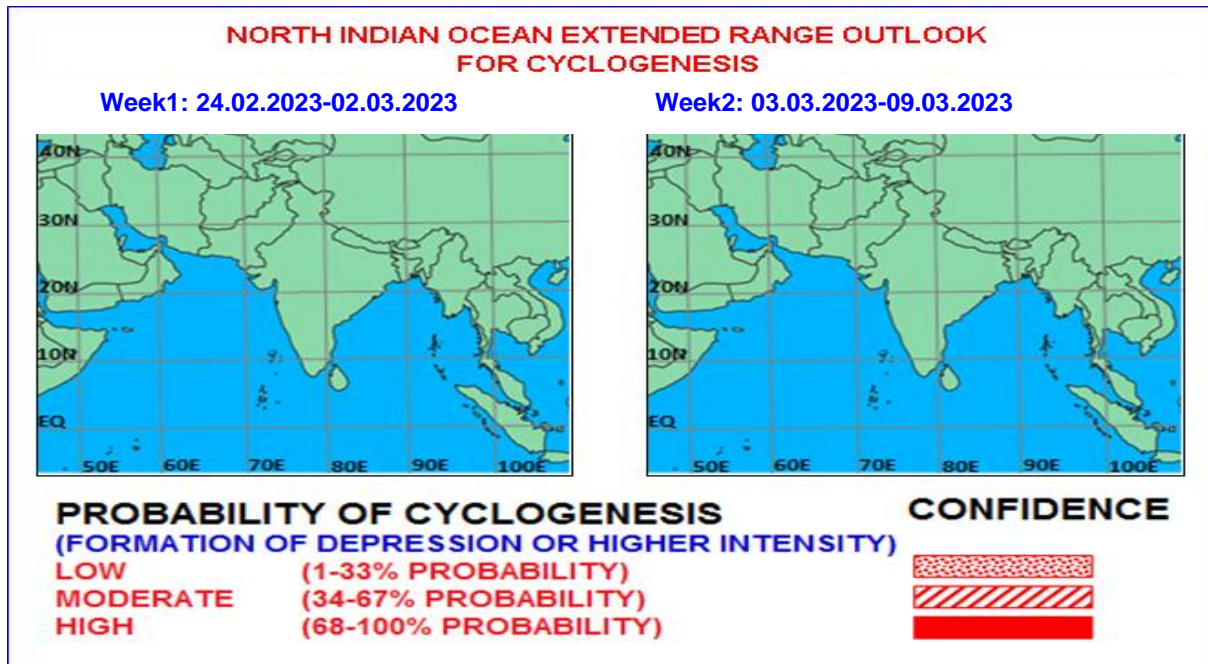




Issued on 23.02.2023



I. Environmental features:

The Madden Julian Oscillation (MJO) Index is currently in Phase 6 with amplitude less than 1. It will move in same phase with gradually increasing amplitude till end of week 1. During the end of week 1, it would move to phase 7 with amplitude becoming more than 1. It will continue in same phase with increased amplitude during remaining part of the week. Thus, MJO will not support enhancement of convective activity over the Bay of Bengal (BoB) and Arabian Sea (AS) during entire forecast period.

During first half of week 1, weak easterly winds (1-3 mps) are likely over north & central BoB and some parts of central Arabian Sea (AS) are likely to prevail. Weak westerly winds (1-3 mps) are likely to prevail over central AS and Equatorial India Ocean and adjoining south BoB during remaining part of the forecast period. Thus, equatorial waves are not likely to contribute towards enhancement of convective activity over the region.

II. Model Guidance:

Various deterministic models including IMD GFS, NCUM and ECMWF are indicating enhancement of easterly winds during later part of week 1 and beginning of week 2. Models like NCUM (R), NEPS, ECMWF and ECMM are not indicating any cyclogenesis during the forecast period. However, IMD GFS is indicating development of depression over South Andaman Sea during beginning of week 2 with westwards movement.

Extended range model viz. Coupled NCMRWF Unified Model (CNCUM) is indicating enhanced easterly winds over south BoB during entire forecast period and enhanced rainfall activity over South BoB. IMD Coupled Forecast System Version 2 (IMD CFS V2) is indicating development of a cyclonic circulation over South Andaman Sea during beginning of week 2 with westwards movement. It is also indicating enhanced rainfall activity over south BoB during the entire forecast period. IMD genesis potential parameter (GPP) is

indicating potential cyclogenesis zone over the South Andaman Sea and adjoining southeast BoB during end of week 1.

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

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. However, there is likelihood of enhancement of easterly winds during end of week 1 and beginning of week 2 leading to development of a cyclonic circulation over south Andaman Sea with westwards movement and enhanced rainfall activity over the extreme south Bay of Bengal during the period.

IV. Verification of forecast issued during last two weeks:

The forecast issued on 9th February, 2023 for week 2 (17.02.2023 – 23.02.2023) indicated no cyclogenesis over the North Indian Ocean. The forecast issued on 16th February, 2023 for week 1 (17.02.2023 – 23.02.2023) indicated no cyclogenesis over the North Indian Ocean. Hence, nil cyclogenesis was correctly predicted in two weeks forecast.

The realized rainfall during 16th Feb, 2023 – 22nd Feb, 2023 from satellite-gauge merged data is presented in Fig.1

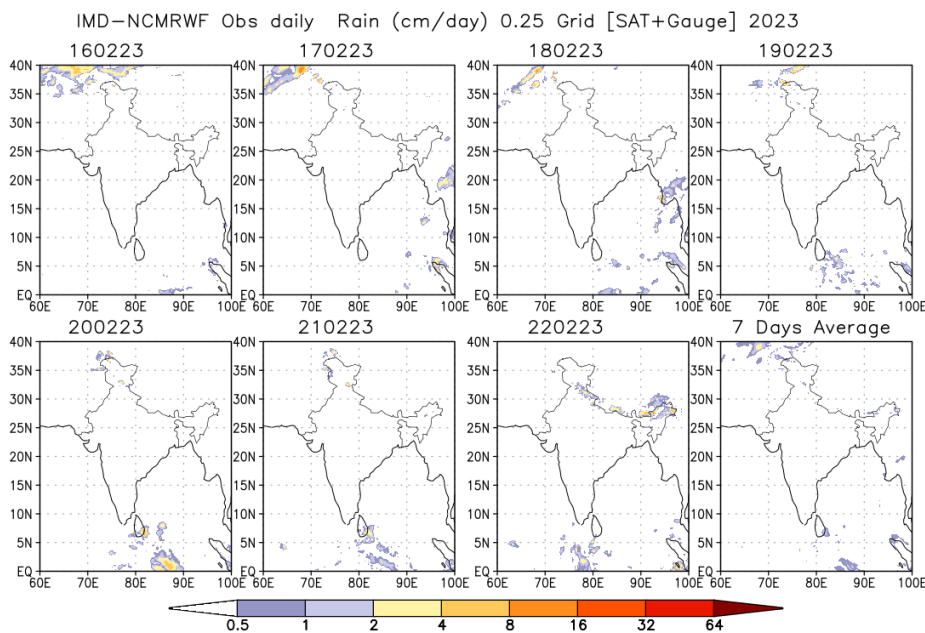


Fig.1: Rain gauge and satellite merged rainfall plots during 16th Feb, 2023 – 22nd Feb, 2023