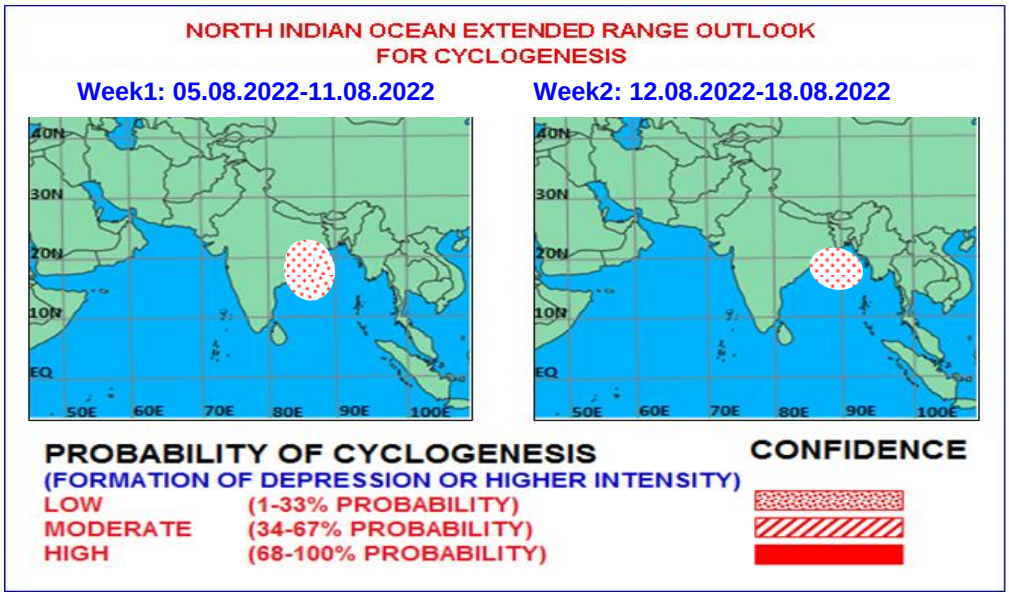
India Meteorological Department
Ministry of Earth Sciences
Mausam Bhawan, Lodhi Road, New Delhi-110003

Issued on 04.08.2022



The Madden Julian Oscillation Index (MJO) currently lies in phase 5 with amplitude less than 1. It would continue in same phase with gradually decreasing amplitude during first half of week 1. Thereafter, it would move to phase 1 with gradually increasing amplitude. Hence, MJO phase will support enhancement of convective activity over the Bay of Bengal (BoB) during first half of week 1.

Based on CFS forecast, weak easterlies (1-3 mps) are likely to prevail over central BoB and Equatorial Rossby waves (ERW) over eastcentral BoB during first half of week1. Weak easterlies (1-3 mps) are also likely over South AS and ERW over North AS. From later part of week 1, enhancement of westerly flow (1-3 mps) is likely over central AS, central BoB and intervening central India. ERW is also likely over central BoB. MJO wave is also likely over north BoB and central AS.

The guidance from various deterministic & ensemble numerical models including IMD GFS, NCEP GFS, ECMWF, NCUM, NEPS and GEFS etc. indicate that a low pressure area is most likely to develop over northwest and adjoining westcentral BoB off south Odisha-North Andhra Pradesh coasts during middle of week 1. However, wrt it's intensification into depression, there is large variation among various models. IMD GFS is indicating an extended circulation over central India during later part of week 1, GEFS is indicating a well marked low pressure area over south Odisha & adjoining North Andhra Pradesh coast, NEPS is indicating depression over Madhya Pradesh during later part of week1 and ECMWF is indicating depression over northwest BoB off Odisha coast with westward-northwestwards movement. Some models including NCUM, NEPS and ECMWF are also indicating likely emergence of the remnant of this system into northeast AS during first half of week 2. IMD GPP index is indicating potential zone for cyclogenesis over north BoB during later part of week 1. ECMWF ensemble indicates low probability 30-60% probability of cyclogensesis over north BoB during middle of week 1 with west-northwestwards movement of the remnant of system and emergence into AS. Various models including IMD GFS, ECMWF, NCUM and ECMWF ensemble are also indicating development of another low pressure area over north BoB around 13th/14th August. It is also likely to intensify into a depression over north BoB during middle of week 2.

Hence, considering the model guidance and environmental features, it is inferred that:

(i) A low pressure area is likely to form over northwest and adjoining westcentral Bay of Bengal during middle of week 1. There is a low probability of it's intensification into a depression during middle & later half of week1. It is likely to move west-northwestwards and it's remnant is likely to emerge into Arabian Sea towards the end of week 1.

(ii) Another low pressure area is likely to form over north Bay of Bengal around 13th/14th August. It is also likely to intensify into a depression over north Bay of Bengal during middle of week 2.

(iii) MJO and ERW are also likely to favour genesis over the Bay of Bengal during the above periods.

Verification of forecast issued during last two weeks:

The forecast issued on 21st July for week 2 (29.07.2022-04.08.2022) indicated no probability of cyclogenesis over the North Indian Ocean region during week 2. The forecast issued on 28th July for week 1 (29.07.2022-04.08.2022) also indicated no probability of cyclogenesis over the region during week 1. However, it indicated likely formation of a cyclonic circulation over central parts of Bay of Bengal during later part of week 1(29.07.2022-04.08.2022). A cyclonic circulation formed over westcentral and adjoining southwest BoB on 2nd August. Hence non occurrence of cyclogenesis was correctly predicted 2 weeks in advance and occurrence of cyclonic circulation was also correctly predicted in week 1 forecast.

The realised rainfall during 28th July, 2022 to 3rd August 2022 from satellite-gauge merged data is presented in Fig.1.

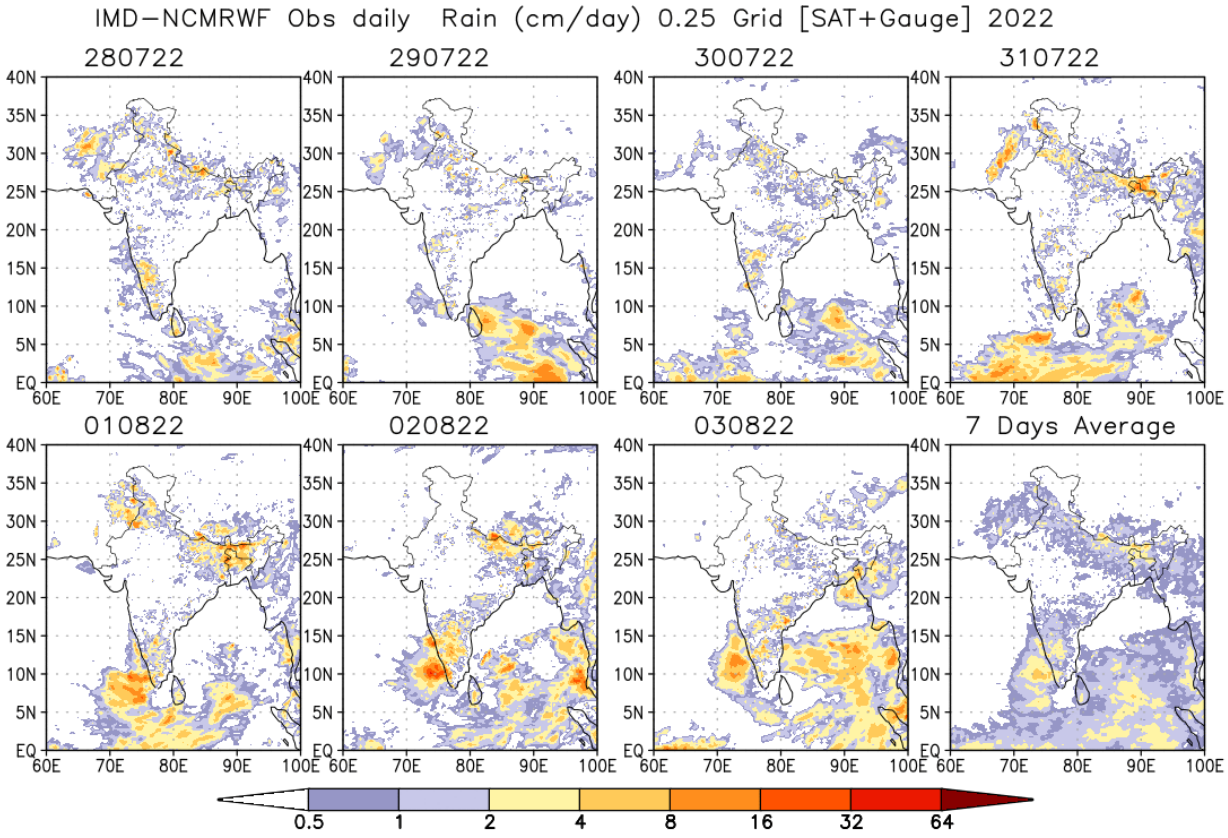


Fig.1: Rain gauge and satellite merged rainfall plots during 28th July to 3rd August, 2022

Next update: 11.08.2022