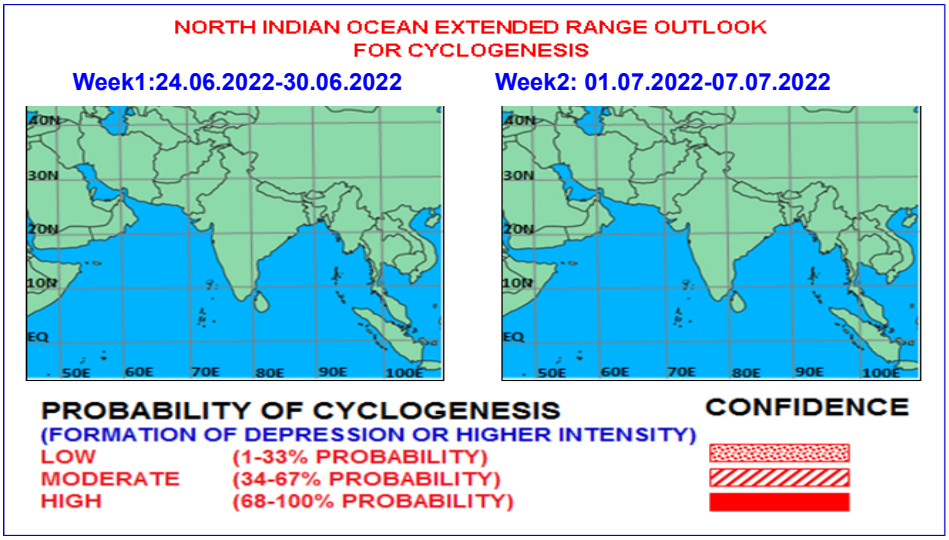
India Meteorological Department
Ministry of Earth Sciences
Mausam Bhawan, Lodhi Road, New Delhi-110003

Issued on 23.06.2022



The Madden Julian Oscillation Index (MJO) currently lies in phase 1 with amplitude more than 1. It would move eastwards and enter phase 2 with amplitude remaining more than 1 on 24th June. Thereafter, it would move across phases 2, 3 and 4 during remaining part of the forecast period with amplitude becoming less than 1 from the middle of the week 1 to beginning of week 2. Hence, MJO phase will support enhancement of convective activity and also cyclogenesis over the North Indian Ocean including Bay of Bengal (BoB) and the Arabian Sea (AS) during entire forecast period.

Based on CFS forecast, during first half of week 1, weak easterly winds (1-3 mps) over central & south BoB and weak westerlies (1-3 mps) over central & adjoining southwest Arabian Sea (AS) are likely to prevail. During later part of week 1, complete withdrawal of easterly winds over the BoB & weak westerly winds (1-3 mps) over south Andaman Sea alongwith Kelwin Waves (KW) and stronger westerlies (3-5 mps) over westcentral AS & (1-3mps) over major parts of central & south AS alongwith favourable MJO are likely to prevail. Thus, equatorial waves are not likely to contribute towards cyclogenesis over the NIO region during week 1. However, the equatorial waves would support monsoonal flow over south & central AS during week 1. Similarly during first half of week 2, increased westerlies (5-7 mps) are likely to prevail over central AS & westerlies (1-3 mps) over most parts of central & adjoining south AS and BoB alongwith MJO waves over both the basins, leading to enhanced monsoon activity over central & south AS, adjoining central & peninsular India and central & south BoB during week 2. Thus, during week 2, equatorial waves may not contribute significantly towards cyclogenesis over the NIO region including the BoB & AS. However, the equatorial waves would favourably contribute towards enhancement of monsoonal flow over south & central AS and BoB and over intermediate Indian mainland during week 2.

The sea surface temperature (SST) is around 29-30^{0}C over major parts of BoB & Andaman Sea with slightly higher values over northwest & adjoining westcentral BoB. Over the AS, the SST is 28-29^{0}C over central & adjoining south AS with slightly higher values around 30^{0}C over westcentral & adjoining northwest AS off Gujarat & north Maharashtra coasts. Colder sea with values <26^{0}C is seen over southwest AS off North Somalia coast. The ocean heat content (OHC) is >100 KJ/cm^2 over entire eastern parts of BoB, south & north BoB. Over the AS, OHC is >60-80 KJ/cm^2 over major parts of east AS and <50 KJ/cm^2 over west AS.

The guidance from various deterministic & ensemble numerical models including IMD GFS, NCEP GFS, ECMWF, NCUM, NEPS, GEFS and IMD MME CFS (V2) etc. indicate no cyclogenesis over the region during next 2 weeks. However, IMD GFS, NCUM, indicate development of a cyclonic circulation/low pressure area over northwest BoB off Odisha coast with no further intensification and northwestwards movement in the end of week 1.

Hence, considering the model guidance and environmental features, no cyclogenesis is likely over the region during next two weeks. However, there is likelihood of development of a cyclonic circulation/low pressure area over northwest BoB off Odisha coast at the end of week 1 with northwestwards movement.

Verification of forecast issued during last two weeks:

The forecast issued on 9th June for week 2 (17.06.2022-23.06.2022) indicated no probability of cyclogenesis over the NIO region during week 2. The forecast issued on 16th June for week 1 (17.06.2022-23.06.2022) also indicated no probability of cyclogenesis over the region during week 1. Hence non occurrence of cyclogenesis was correctly predicted 2 weeks in advance.

The realised rainfall during 15th June, 2022 to 21st June 2022 from satellite-gauge merged data is presented in Fig.1.

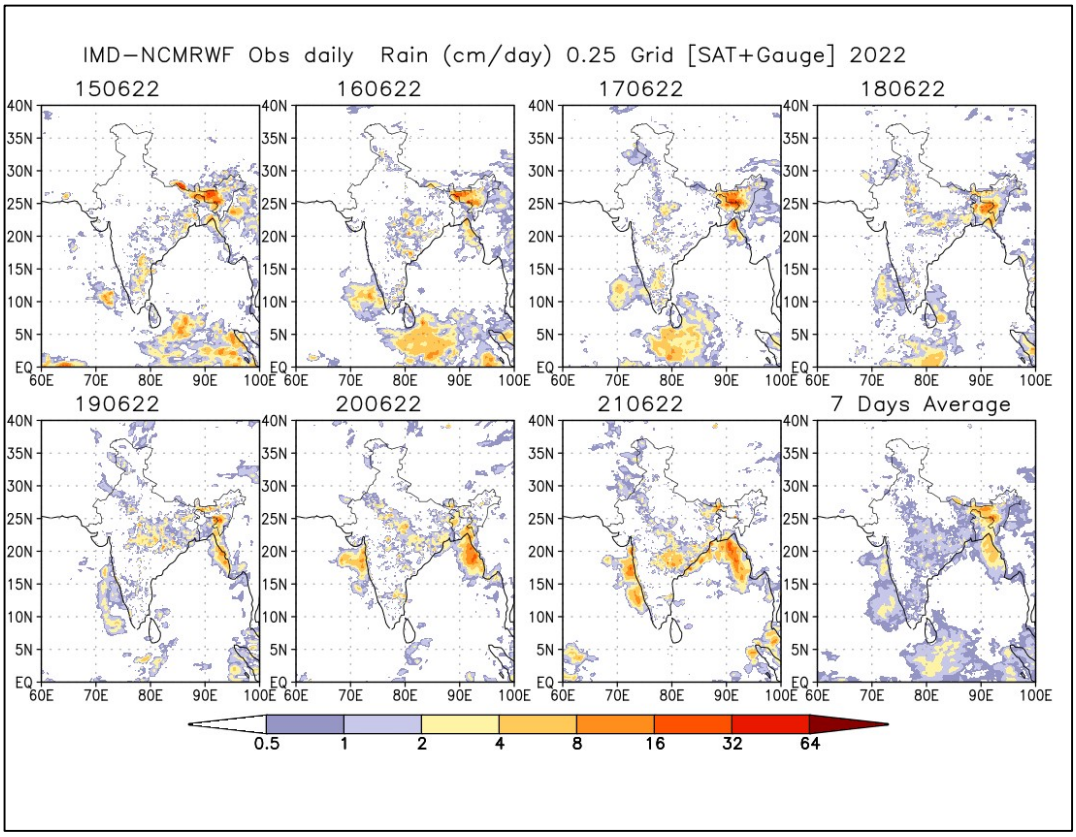


Fig.1: Rain gauge and satellite merged rainfall plots during 15th June, 2022 to 21st June 2022

Next update: 30.06.2022