

The Madden Julian Oscillation Index (MJO) currently lies in phase 2 with amplitude less than 1. It would continue in same phase during first half of week 1 with amplitude remaining less than 1 during first half of week 1. Thereafter, it would move across phases 3, 4 & 5 during remaining part of the forecast period with amplitude remaining less than 1. Hence, MJO phase will support enhancement of convective activity over the Arabian Sea (AS) during first half of week 1 and over Bay of Bengal (BoB) thereafter.

Based on CFS forecast, easterlies (3-5 mps) are likely to prevail over south & adjoining central BoB, southeast & adjoining eastcentral AS and intervening central & south India during week1. MJO and Equatorial Rossby Waves (ERW) are also likely over Northern parts of India. During week 2, weak easterlies (1-3 mps) over south AS and weak westerlies (1-3 mps) over eastcentral AS are likely to prevail. During week 2, ERW over north BoB and MJO over south & central parts of BoB are also likely. The equatorial waves are thus likely to support convective activity over Northern parts of India during week 1 and over central BoB & central India during week 2.

The sea surface temperature (SST) is around 29-30<sup>o</sup>C over most parts of BoB & Andaman Sea. Over the AS, the SST is 27-28<sup>o</sup>C over eastern parts of AS. Colder SST with values <26<sup>o</sup>C is seen over southwest and westcentral 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 both the basins during entire forecast period. However, most of these models indicate development of a cyclonic circulation over eastcentral BoB with west-northwestwards movement during later part of week 1. IMD GPP index also indicates potential zone for cyclogenesis over central parts of BoB during later part of week 1. ECMWF ensemble indicates low probability 05-10% probability of cyclogenesis over central BoB during week 1.

**Hence, considering the model guidance and environmental features, it is inferred that a cyclonic circulation is likely to develop over central parts of Bay of Bengal during later part of week 1. However, there is no likelihood of it's intensification into a depression.**

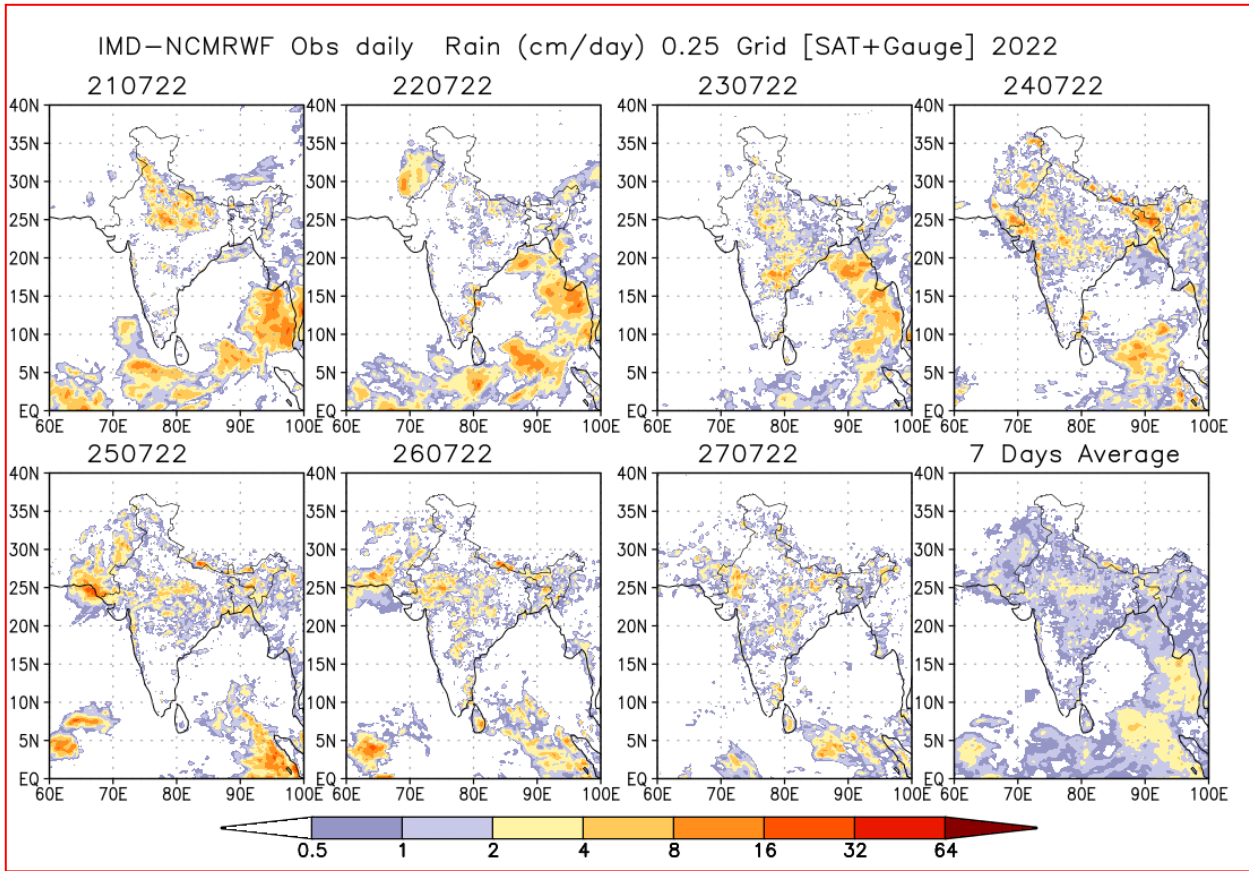
**Verification of forecast issued during last two weeks:**

The forecast issued on 14<sup>th</sup> July for week 2 (22.07.2022-28.07.2022) indicated no probability of cyclogenesis over the North Indian Ocean region during week 2. The forecast issued on 21<sup>st</sup> July for week 1 (22.07.2022-28.07.2022) also indicated no probability of cyclogenesis over the region during week 1. Hence nonoccurrence of cyclogenesis was correctly predicted 2 weeks in advance.

The forecast issued on 14<sup>th</sup> July for week 2 (22.07.2022-28.07.2022) indicated weakening of monsoonal flow from second half of week. The forecast issued on 21<sup>st</sup> July for week 1 (22.07.2022-28.07.2022) also indicated weak monsoon conditions over the Arabian Sea, Bay of Bengal and central & southwestern parts

of India commencing from later part of week 1. The IMD-NCMRWF satellite gauge imagery indicates gradual weakening of monsoonal flow from 24th July onwards and decrease in rainfall activity over central and southwest parts of India.

The realised rainfall during 21<sup>st</sup> July, 2022 to 27<sup>th</sup> July 2022 from satellite-gauge merged data is presented in Fig.1.



**Fig.1: Rain gauge and satellite merged rainfall plots during 21<sup>st</sup> to 27<sup>th</sup> July 2022**

**Next update: 04.08.2022**