

The Madden Julian Oscillation Index (MJO) currently lies in phase 5 with amplitude less than 1 and would continue in same phase during first half of week 1. It will move across phases 6, 7 & 8 during second half of week 1. Thereafter, it will move across phases 2, 3 & 4 during week 2. Thus, MJO would support enhancement of convective activity over north Bay of Bengal (BoB) & central India during first half of week 1 and over the north Indian Ocean (NIO) including the Arabian Sea (AS) and BoB during week 2.

Based on CFS forecast for equatorial waves, during first half of week 1, easterlies (1-3 mps) over central & adjoining north BoB and central India, westerlies (1-3 mps) over south India, equatorial Rossby Waves (ERW) over south BoB, MJO & Kelvin Waves (KW) over central BoB are likely to prevail. Easterlies (1-3 mps) over the entire NIO region are likely during later part of week 1 upto middle of week 2. During later part of week 2, easterlies are likely over central & north BoB with westerlies (1-3 mps) & ERW over south BoB. Thus, equatorial waves are likely to support convective activity over north BoB & central India during first half of week 1 and also over central BoB during first half of week 2.

The guidance from various numerical models including IMD GFS, GEFS, ECMWF, NCUM, NEPS, NCEP GFS do not indicate any cyclogenesis over the NIO during next two weeks. However, these models indicate likely formation of a cyclonic circulation over the north BoB during middle of week 1 and another over the central BoB during middle of week 2. Various extended range forecast models including IMD MME CFS and NCMRWF CNCUM also indicate likelihood of formation of a cyclonic circulation over north BoB and another over the central BoB during week 1 and week 2 respectively.

Hence, considering the model guidance and various environmental features, it is inferred that there is likelihood of formation of a cyclonic circulation over north & adjoining central BoB during middle of week 1 and another over central BoB during week 2.

Verification of forecast issued during last two weeks:

The forecast issued on 8th September for week 2 (16.09.2022 - 22.09.2022) indicated likelihood of formation of a low pressure area over north & adjoining central BoB during week 2. The forecast issued on 15th September for week 1 (16.09.2022 - 22.09.2022) indicated likelihood of formation of a low pressure area over north and adjoining central BoB .

Actually a cyclonic circulation formed over eastcentral & adjoining southeast BoB on 17th September. Under its influence, a Low Pressure Area formed over the same region on 19th September. It moved northwestwards across north Odisha, north Chattisgarh and Madhya Pradesh and became less marked over northwest Madhya Pradesh and neighbourhood. Hence likely formation of cyclonic circulation/low pressure area over eastcentral BoB was correctly predicted 2 weeks in advance.

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

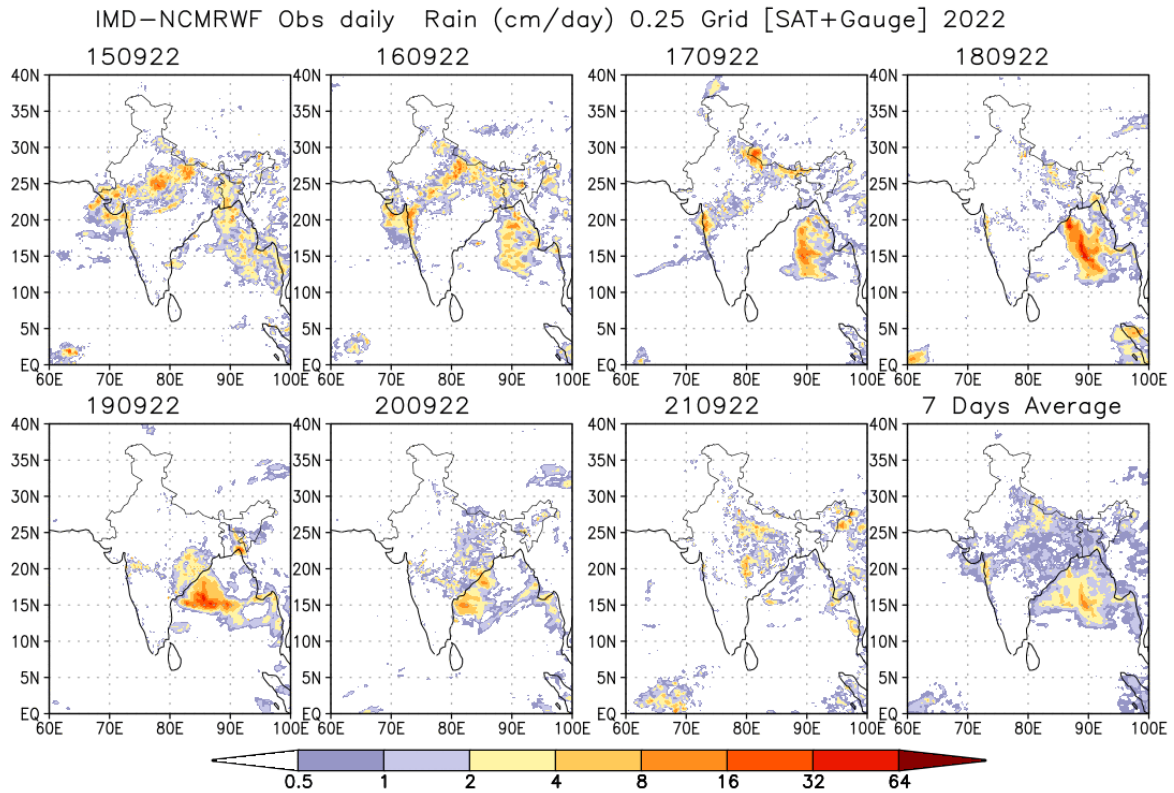


Fig.1: Rain gauge and satellite merged rainfall plots during 15th September to 21st September, 2022

Next update: 29.09.2022