

The Madden Julian Oscillation Index (MJO) currently lies in phase 1 with amplitude less than 1 and would continue in same phase during first half of week 1. Thereafter, it will move across phases 2,3, 4 & 5 with negligibly small amplitude during remaining part of the forecast period. Thus, MJO would support cyclogenesis over the Bay of Bengal (BoB) from second half of the week 1.

Based on CFS forecast for equatorial waves, during first half of week 1, easterlies (5-7 mps) over north India, westerlies (1-3 mps) over central India, equatorial Rossby Waves (ERW) over northwest India are likely to prevail. During later part of week 1 easterlies over north BoB, ERW over eastcentral BoB and MJO over central BoB are likely. During week 2, easterlies are likely over BoB with ERW over southwest BoB and north BoB. Thus, equatorial waves are likely to support convective activity over northwest India during first half of week 1 and also over central BoB during middle of week 1.

The guidance from various models including IMD GFS, GEFS, ECWF, NCUM, NEPS, NCEP GFS indicate that the existing well marked low pressure area would recurve northeastwards and move towards east Uttar Pradesh during next 2-3 days. There is also likelihood of formation of a cyclonic circulation/low pressure area over central Bay of Bengal during middle of week 1. Various extended range models indicate, there is also likelihood of another cyclonic circulation over central BoB during beginning of week 2.

Hence, considering the model guidance and various environmental features, it is inferred that (a) the existing well marked low pressure area over northwest Madhya Pradesh is likely to recurve northeastwards towards east Uttar Pradesh and (b) likelihood of formation of a cyclonic circulation/low pressure area over north & adjoining central BoB during middle of week 1 and another cyclonic circulation over BoB during week 2.

Verification of forecast issued during last two weeks:

The forecast issued on 1st September for week 2 (09.09.2022 - 15.09.2022) indicated no probability of cyclogenesis over the North Indian Ocean region during week 2. The forecast issued on 8th September for week 1 (08.09.2022 - 15.09.2022) indicated low probability of cyclogenesis (formation of depression) over westcentral and adjoining northwest BoB off North Andhra Pradesh & Odisha coasts during first half of week 1.

Actually a cyclonic circulation formed over eastcentral BoB on 7th. It concentrated into a depression at on 11th sept 2022, over south coastal Odisha and neighbourhood. It weakened into well marked low pressure area on 12th September over Southeast Madhya Pradesh. Currently, it is over northwest Madhya Pradesh as a well marked low pressure area. Hence likely formation of Depression over westcentral BoB was correctly predicted 1 week in advance.

The realized rainfall during 7th September, 2022 to 13th September, 2022 from satellite-gauge merged data is presented in Fig.1.

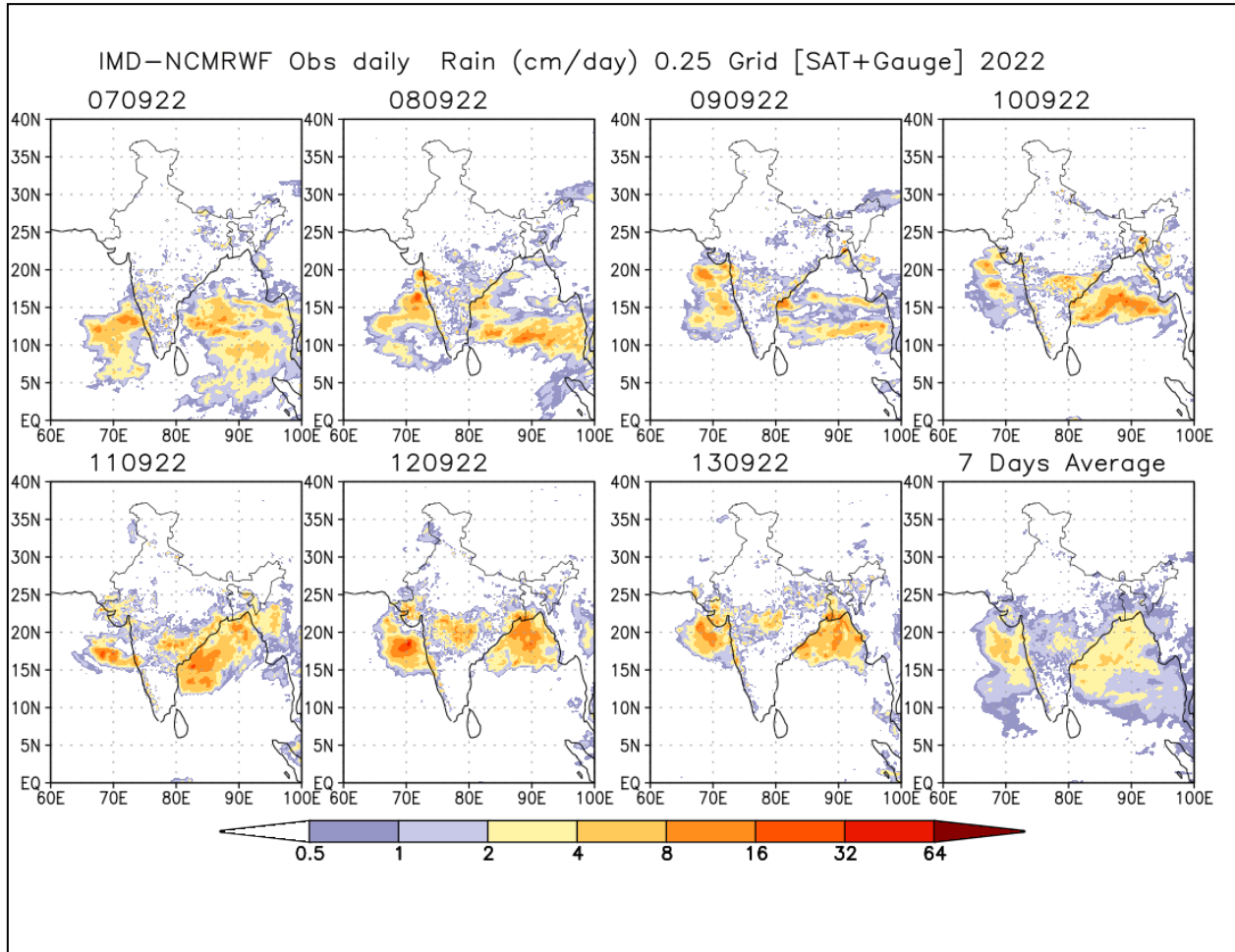


Fig.1: Rain gauge and satellite merged rainfall plots during 7th September to 13th September, 2022

Next update: 22.09.2022