

The Madden Julian Oscillation Index (MJO) currently lies in phase 7 with amplitude more than 1 and would lie in phase 8 during the end of week 1 and tracing back to phase 7 during 2nd week.

Based on CFS forecast for equatorial waves, during week 1, weak easterlies (1-3 mps) are likely over south & central parts of Bay of Bengal (BoB). and an anti-cyclone over northeast Arabian Sea (AS) along with northeasterly wind (1-3 mps) will prevail over south & central AS. During the week, low energy Equatorial Rossby Waves (ERW) and Kelvin waves (0 to -8 Wm⁻²) in easterlies are likely over South & central BoB. Thus, equatorial waves are not very likely to support cyclogenesis over south and central parts of BoB during week 1. During week2, the equatorial waves are showing further weakening over the same region. No prominent equatorial wave activity is forecasted over south and central AS during both the weeks.

Most of the models are indicating the cyclonic circulation (cycir) over southwest BoB to persist during next 5-7 days with northwestward movement. Most of the models are indicating development of a low-pressure area over southwest BOB off Sri Lanka coast around 9th November moving north-westwards towards Tamilnadu coast. One or two model shows further intensification into a depression over the same region. The ECMWF ensemble is indicating 30-40% genesis probability of tropical depression over southwest BoB off Sri Lanka & adjoining Tamil Nadu coasts during week 1. The ensemble is also showing an increase in the genesis probability during week 2 over northwest BoB off Tamil Nadu coast. During week 2, the genesis probability forecast of the model over southeast & adjoining eastcentral AS shows similar trend with a 10-20 % probability of tropical storms over southern part of AS.

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

- (i) A low pressure area is likely to form over southwest BoB off Sri Lanka coast towards the end of week 1 or in the beginning of week 2.
- (ii) The system is likely to move west-northwestward towards Tamil Nadu coast and a slight intensification to become a depression during the first half of week 2.

Verification of forecast issued during last two weeks:

The forecast issued on 20th October for week 2 (**28.10.2022 – 03.11.2022**) indicated likelihood of development of a cyclonic circulation over eastcentral BoB during week 2 with low probability of its intensification into a depression.

The forecast issued on 27th October for week 1 (**28.10.2022 – 03.11.2022**) predicted that the existing cyclonic circulation over southwest BoB off Tamil Nadu coast is less likely to intensify further while moving westward during first half of the week 1 and likelihood of formation of another cyclonic circulation over southwest BoB and neighbourhood around 30th -31st October with west-northwestwards movement towards Tamil Nadu coast. It is likely to emerge into southeast and adjoining east central AS during second half of the week 1.

Actually, the existing cyclonic circulation over southwest BoB off Tamil Nadu coast on 27th October persisted whole week and now lies over south Tamilnadu & neighbourhood.

Another cyclonic circulation has formed at 0300 UTC of toady, the 03rd November over Southwest BoB & neighbourhood.

Hence, in general the development of cyclonic circulations over southwest BoB could be predicted two weeks in advance.

The realized rainfall during 27th Oct to 02nd Nov, 2022 from satellite-gauge merged data is presented in Fig.1

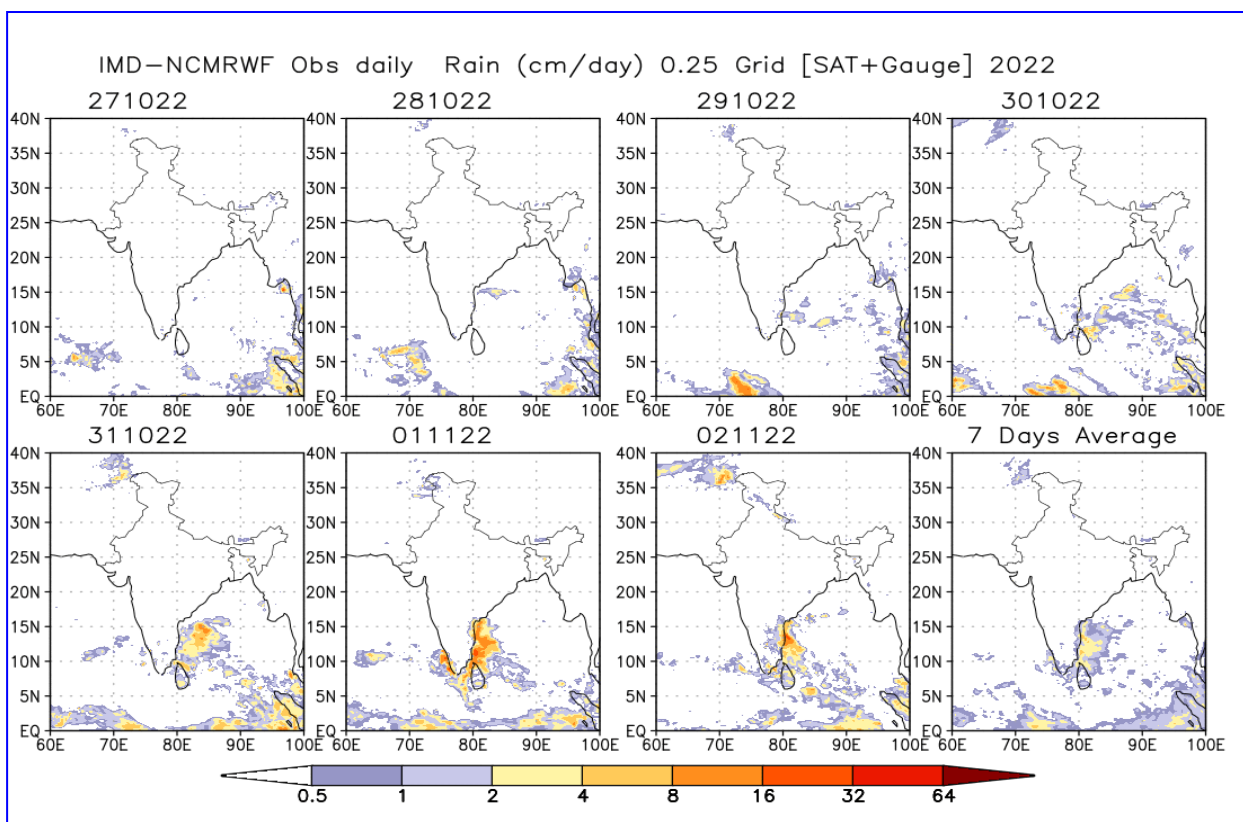


Fig.1: Rain gauge and satellite merged rainfall plots during 27th Oct to 02nd Nov, 2022