REGIONAL SPECIALISED METEOROLOGICAL CENTRE -TROPICAL CYCLONES, NEW DELHI
TROPICAL WEATHER OUTLOOK

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 20.10.2025
TROPICAL WEATHER OUTLOOK FOR THE NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR THE NEXT 168 HOURS ISSUED AT 0800 UTC OF 20.10.2025 BASED ON 0300 UTC OF 20.10.2025.

ARABIAN SEA:

Sub: Well-marked low pressure area over southeast Arabian Sea

Yesterday's Well-marked Low Pressure area over southeast Arabian Sea & Lakshadweep area off Kerala-Karnataka coasts moved nearly westwards and lay over southeast Arabian Sea at 0300 UTC of today, 20th October 2025. It is likely to continue to move nearly westwards and intensify into a depression during next 24 hours.

As per INSAT 3D imagery at 0300 UTC, vortex over southeast Arabian Sea & neighbourhood centered within half a degree of 9.8 N/67.2 E. Intensity T1.0. Associated scattered to broken low and medium clouds with embedded intense to very intense convection lay over south & adjoining central Arabian Sea between latitude 6.0N to 17.0 N and longitude 58.0 E to 73.0 E. The minimum cloud top temperature is minus 70 to 90 degree Celsius.

The associated maximum sustained wind speed (MSW) is 15 kt gusting to 25 kt. The estimated central pressure is 1006 hPa. A buoy (1.2/67.8) reported MSW of 67^0/11.1 kt and mean sea level pressure of 1006 hPa. Island stations in Lakshadweep viz. Aminidivi reported MSW of 110^0/01 kt, MSLP of 1006.3 hPa, pressure departure (Pdep) of -4.5 hPa & 24 hrs pressure change (P24) of -1.5 hPa and Agathi reported MSW of 110^0/10 kt, MSLP of 1007.0 hPa, Pdep of -4.4 hPa.

Scattered to broken low and medium clouds with embedded intense to very intense convection lay over central & south Arabian Sea, Lakshadweep Islands, Maldives and Comorin area. The multi-satellite winds indicate stronger winds in southwest sector.

***PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 168 HRS**

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
MOD	HIGH	-	NIL	NIL	NIL	NIL

***NOTE: EVERY 24HR FORECAST IS VALID UPTO 0300 UTC (0830 IST) OF NEXT DAY**
"- "Genesis has already occurred"

BAY OF BENGAL:

Sub: Likely formation of low pressure area is likely to form over southeast Bay of Bengal during next 24 hours

Yesterday's upper air cyclonic circulation over Gulf of Mannar & neighbourhood lay over Southeast Arabian Sea off Kerala coast extending upto 1.5 km above mean sea level at 0000 UTC of 20th October 2025.

Yesterday's upper air cyclonic circulation over south Andaman Sea & adjoining southeast Bay of Bengal extending upto 1.5 km above mean sea level persisted over the same region at 0300 UTC of today, the 20th October. Under its influence, a low pressure area is likely to form over southeast Bay of Bengal around 21st October. It is likely to move west-northwestwards and intensify further into a depression over central parts of south Bay of Bengal and adjoining westcentral Bay of Bengal during subsequent 48 hours.

As per INSAT 3D imagery at 0300 UTC, intense to very intense convection lay over south Bay of Bengal and Andaman Sea persists during past12 hours (The minimum cloud top temperature is minus 70 to 90 degree Celsius). Scattered to broken low and medium clouds with embedded intense to very intense convection lay over south & central Bay of Bengal and Andaman Sea. Scattered low and medium clouds with embedded moderate to intense convection lay over the northwest Bay of Bengal.

***PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 168 HRS**

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	NIL	LOW	MOD	HIGH	-	-

*****NOTE: EVERY 24HR FORECAST IS VALID UPTO 0300 UTC (0830 IST) OF NEXT DAY

REMARKS:

The guidance from ECMM model indicates that Madden Julian Oscillation (MJO) index is likely to be in phase 3 on 20th October and would enter phase 4 during 20th to 28th October with amplitude more than 1. Thereafter, it is lik

ely to move across phase 5 with amplitude becoming less than 1. Thus, MJO would support enhancement of convective activity over the Arabian Sea during 19th to 20th and over the Bay of Bengal from 20th onwards.

The latest weekly sea surface temperature SST departure over NINO 3.4 region is -0.5ºC indicating possible development of La Niña conditions during October 2025. IOD is in negative phase with index -1.39 deg C. Negative IOD conditions are likely to continue during the October - December 2025. All these are favourable for enhanced activity over North Indian Ocean.

Guidance from NCICS model indicates enhanced cross equatorial flow on 19th October onwards leading to westerly wind burst over southern parts of Arabian Sea and Bay of Bengal and adjoining equatorial Indian Ocean during 20th to 26th October. The Model indicates prevalence of equatorial Rossby wave (ERW) Kelvin wave (KW), MJO, Low frequency Background wave (LW), enhanced westerly wind Anomaly (>9mps) over the region during 19th to 26th October. The model is also indicating setting in of easterly winds anomaly (5-7 mps) over central and adjoining south Bay of Bengal during 20th to 26th October. It is indicating weak easterly wind anomaly (1-3 mps) over southeast Arabian Sea during 19th-20th October and slightly higher easterly wind anomaly (5-7 mps) during 21st to 23rd October over central Arabian Sea. These features indicate a favourable environment for cyclogenesis (formation of Depression) over Arabian Sea during 20th to 21st and over the Bay of Bengal during 22nd – 24th October.

Over the Arabian Sea (AS), the guidance from CIMSS indicates, the low level vorticity at 850 hPa is east-west oriented & is about 50 X 10^{-6} s^{-1} around the system area. Vertically it is extending upto 500 hPa level. The upper level divergence is around 05-10 X 10^{-6} s^{-1} to the west of system area. Low level convergence is about 5-10 X 10^{-6} s^{-1} to the northwest of system area. Mid-level vertical wind shear (VWS) of horizontal wind is cyclonic & low (05-10 kt) over the system area and to the west of system area along the predicted path. Upper tropospheric ridge runs along 17^0N over the Arabian Sea. The east-southeasterly winds prevailing over the system area are likely to steer the system west-northwestwards.

Most of the models (IMD-GFS, GEFS, ECMWF, NCUM, CMC) indicate west-northwestwards movement of system towards Somalia coast. Regarding intensification majority of models are indicating peak intensification in the range of 20-28 kt. IMD MME is also indicating near westwards movement of system till 28th October towards Somalia coast as a depression only.

Over the Bay of Bengal, the guidance from CIMSS indicates, increase in low level vorticity at 850 hPa in past 24 hours to about 60-70 X 10^{-6} s^{-1} over southeast BoB and adjoining South Andaman Sea. Another positive vorticity zone is seen over southwest Bay of Bengal (BoB) off southeast Sri Lanka coast (40-50 X 10^{-6} s^{-1}). Vertically, it is extending upto 500 hPa level. The upper level divergence is around 05-10 X 10^{-6} s^{-1} over the system area and is extending over entire south BoB and southeast AS. Another zone with 30 X 10^{-6} s^{-1} is seen over southwest BoB off southeast Sri Lanka coast. Low level convergence is about 10-15 X 10^{-6} s^{-1} over system area and is extending over entire southeast BoB and adjoining East Equatorial Indian Ocean (EEIO). Vertical wind shear (VWS) of horizontal wind is low to moderate (05-15 kt) over the system area and to the west of system area along the predicted path. Upper tropospheric ridge runs along 13^0N over the Bay of Bengal in association with anticyclonic circulation over southeast & adjoining Andaman Islands.

Most of the numerical models (NCEP, ECMWF, ECAI, IMD GFS, GEFS, BFS) are indicating low pressure area over southwest & adjoining southeast BoB during 21st-22nd October and depression over southwest BoB during 22nd – 24th October. GFS group is indicating higher intensification upto cyclonic storm stage. ECMWF group is indicating intensification upto depression/ deep depression stages only. GFS group is indicating crossing over Andhra Pradesh coast. ECMWF is indicating movement towards Andhra Pradesh coast till 22/21 UTC with north-northeastwards movement thereafter and crossing over Odisha coast as a Well marked low pressure area. NCEP GFS is indicating crossing to the north of Machhillipatnam and IMD GFS to its south as a deep depression.

Current conditions indicate development of twin cyclonic systems on either side of the equator in both the AS and BoB basins. Interactions among these systems and varied role of convectively coupled equatorial waves over the region are causing inconsistencies in model forecast.

Hence, it is inferred that:
(a) Well-marked low pressure area over southeast Arabian Sea is likely to move nearly west- and intensify into a depression during next 24 hours. Hence, moderate to high probability is assigned to cyclogenesis (formation of depression) during 20th to 21st October and
(b) Under the influence of upper air cyclonic circulation over south Andaman Sea & adjoining southeast Bay of Bengal, a low pressure area is likely to form over southeast Bay of Bengal during next 24 hours. It is likely to move west-northwestwards and intensify further into a depression over central parts of south Bay of Bengal and adjoining westcentral Bay of Bengal during subsequent 48 hours.

Both the systems are being monitored continuously and regular updates are being issued.

(M. Sharma)
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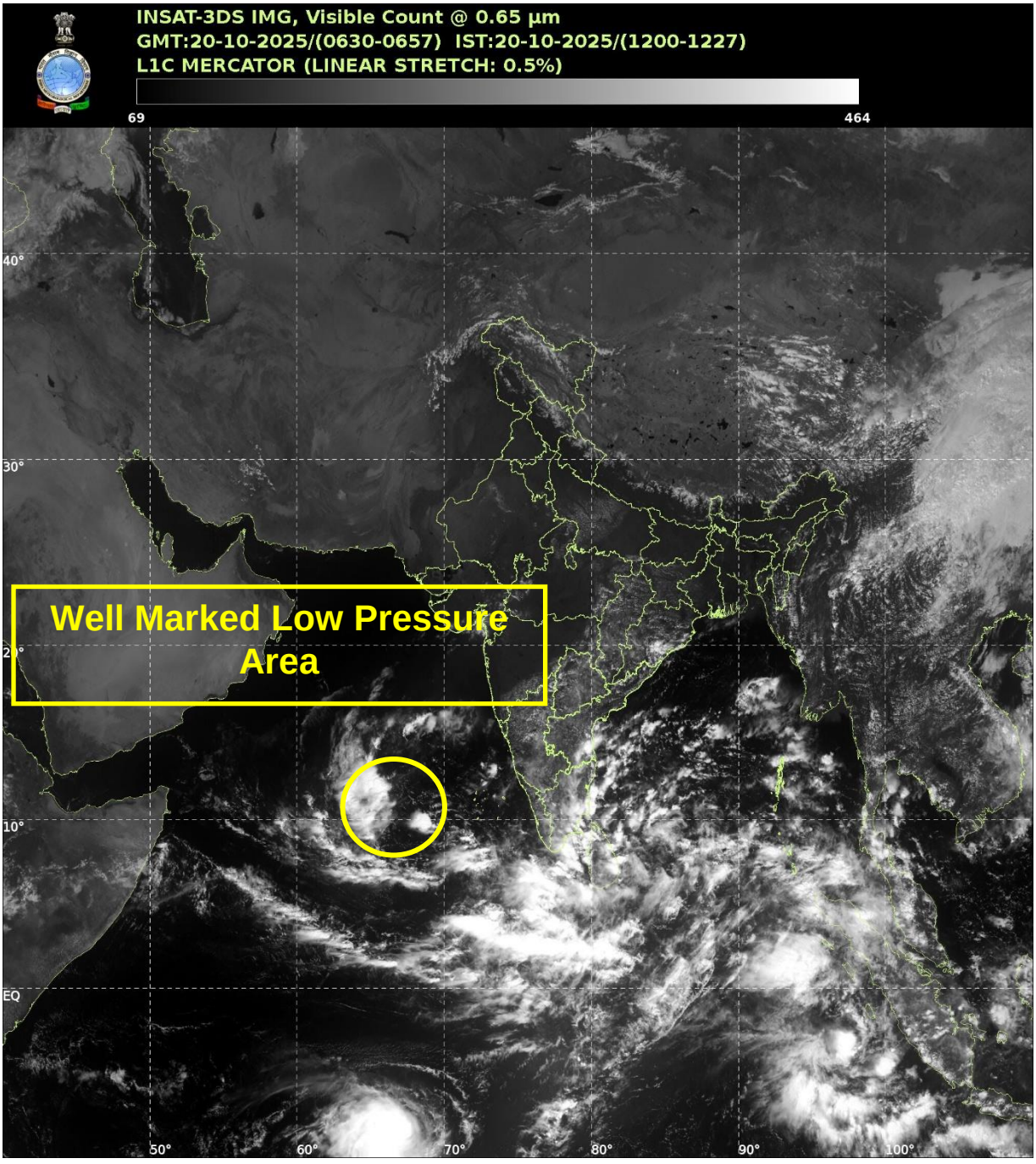
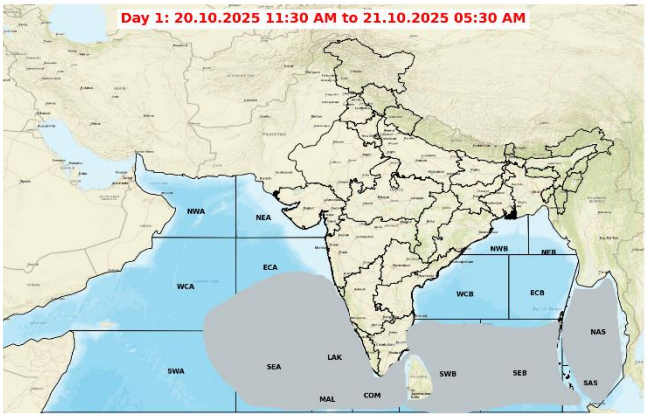
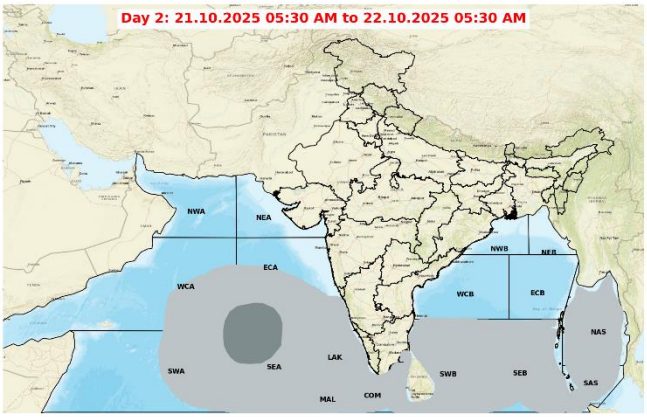

INSAT-3DS IMG, Visible Count @ 0.65 µm
GMT:20-10-2025/(0630-0657) IST:20-10-2025/(1200-1227)
L1C MERCATOR (LINEAR STRETCH: 0.5%)
69
464
40°
30°
Well Marked Low Pressure Area
10°
EQ
50°
60°
70°
80°
90°
100°

Fishermen Warning Graphics

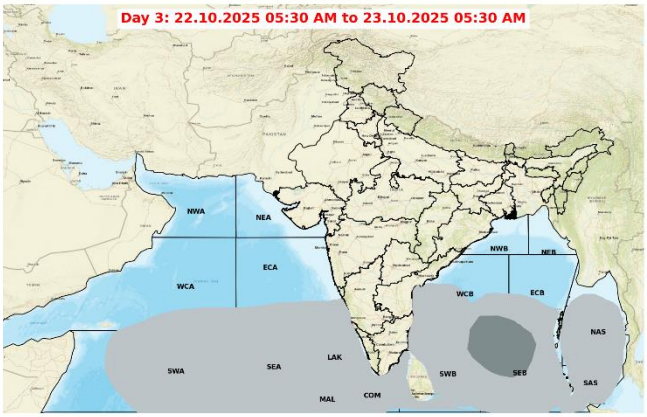
Day 1: 20.10.2025 11:30 AM to 21.10.2025 05:30 AM



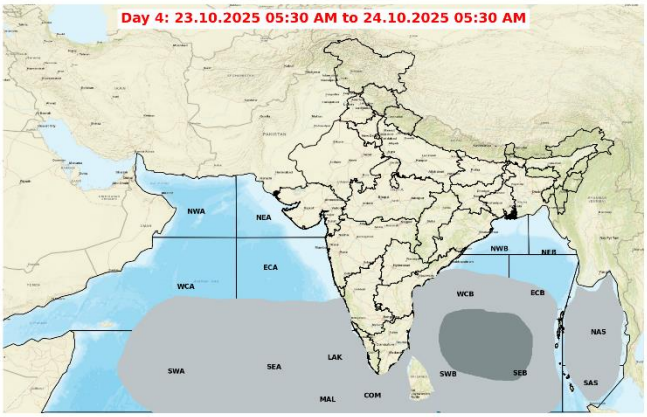
Day 2: 21.10.2025 05:30 AM to 22.10.2025 05:30 AM



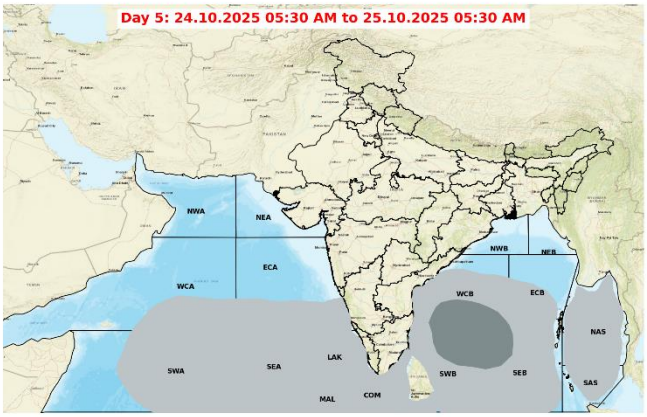
Day 3: 22.10.2025 05:30 AM to 23.10.2025 05:30 AM



Day 4: 23.10.2025 05:30 AM to 24.10.2025 05:30 AM



Day 5: 24.10.2025 05:30 AM to 25.10.2025 05:30 AM



Legend

- Squally Weather with wind speed 35-45 kmph gusting to 55 kmph
- Squally Weather with wind speed 40-50 kmph gusting to 60 kmph
- Squally Weather with wind speed 45-55 kmph gusting to 65 kmph
- Squally wind with speed 45-55 kmph gusting to 65 kmph
- Squally wind with speed 50-60 kmph gusting to 70 kmph
- Squally wind with speed 55-65 kmph gusting to 75 kmph
- CS with Gale winds with speed 60-80 kmph gusting to 90 kmph
- SCS with Gale wind speed 90-110 kmph gusting to 120 kmph
- VSCS with Gale wind speed 120-165 kmph gusting to 185 kmph
- ESCS with Gale wind speed 165-220 kmph gusting to 245 kmph

Fishermen are advised not to venture into the marked areas.