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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 26.11.2024

SPECIAL TROPICAL WEATHER OUTLOOK FOR THE NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR THE NEXT 120 HOURS ISSUED AT 0800 UTC OF 26.11.2024 BASED ON 0300 UTC OF 26.11.2024.

Sub: Depression intensified into a Deep Depression over Southwest Bay of Bengal

The Depression over Southwest Bay of Bengal moved north-northwestwards with a speed of 12 kmph during past 6 hours, intensified into a deep depression and lay centred at 0300 UTC of today, the 26th November 2024 over the same region near latitude 6.3°N and longitude 82.8°E, about 310 km southeast of Trincomalee (43418), 590 km south-southeast of Nagappattinam, 710 km south-southeast of Puducherry and 800 km south-southeast of Chennai.

It is very likely to continue to move north-northwestwards and intensify further into a cyclonic storm on 27th November. Thereafter, it will continue to move north-northwestwards towards Tamil Nadu coast skirting Sri Lanka coast during subsequent 2 days.

A continuous watch is being maintained for the movement and intensification of system.

Estimated Central Pressure in association with the system is 1002 hPa and associated maximum sustained wind speed is 30 kts gusting to 35 kts. Sea condition is likely to be very rough over southwest Bay of Bengal & along and off Sri Lanka coast till 27th November/0000 UTC. It is likely to become High from 27th/1200 UTC till 29th November. Rough to very rough sea condition is likely along & off Tamil Nadu-Puducherry and South Andhra Pradesh coasts till 29th November. Rough to very rough sea condition is likely over adjoining westcentral Bay of Bengal from 27th/1200 UTC till 29th November.

At 0400 UTC, Colombo reported Mean Sea Level Pressure of 1006 hPa and maximum sustained wind speed of 320°/08KT and Trincomallee reported Mean Sea Level Pressure of 1007 hPa and maximum sustained wind speed of 360°/07KT

As per latest satellite imagery, intensity of the system is characterized as 2.0. Cloud show organization in curved band pattern. Associated scattered to broken low and medium clouds with embedded intense to very intense convection lay over south Bay of Bengal and adjoining EIO between latitude 4.0N to 15.0N and longitude 80.0E to 92.0E. Minimum cloud top temperature is minus 80-93°C.

Forecast track and intensity are given in the following table:

Date/ Time (UTC)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
26.11.24/0300	6.3/82.8	50-60 gusting to 70	Deep Depression
26.11.24/1200	7.2/82.4	55-65 gusting to 75	Deep Depression
27.11.24/0000	8.2/82.0	55-65 gusting to 75	Deep Depression
27.11.24/1200	9.3/81.7	60-70 gusting to 80	Cyclonic Storm
28.11.24/0000	10.2/81.5	65-75 gusting to 85	Cyclonic Storm
28.11.24/1200	11.0/81.4	65-75 gusting to 85	Cyclonic Storm
29.11.24/0000	11.8/81.3	65-75 gusting to 85	Cyclonic Storm

Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION):NIL: 0%, LOW: 1-33%, , MODERATE: 34-66% AND HIGH: 67-100%
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Remarks:

Currently, the system is lying very close to an intense patch of higher SST about 30^0C (6-10°N and 84-88°E) which would cause warm moist air incursion into the core and may lead to marginal intensification into a cyclonic storm for a short period over southwest BoB. However, SST is relatively lesser along the coast and may thus lead to slight weakening of the system before landfall. Similarly, tropical cyclone heat potential is more than 100 KJ/cm^2 over southwest BoB & adjoining EIO. It is less 40-60 KJ/cm^2 over southwest & adjoining eastcentral BoB and along & off Sri Lanka/Tamil Nadu/ Andhra Pradesh coasts. The increase in barrier layer depth over the southwest BoB may also lead to marginal weakening near coast. Further the system is likely to track near t Sri Lanka coast and thus, land interactions may lead to slow intensification of system.

Total precipitable water imagery indicate warm moist air incursion into the core. Near to coast it is indicating cold dry air incursion. Madden Julian Oscillation (MJO) is in phase 3 with amplitude more than 1 and would move across phases 3 & 4 during next 7 days with amplitude remaining more than 1. Presence of Equatorial Rossby Waves over south BoB, MJO, strong westerly wind anomaly over south BoB and easterly wind anomaly to its north over South & adjoining central BoB during 26th - 28th November indicate a favourable environment for intensification of system.

Low level winds indicate broad scale circulation over south and adjoining EIO Low level positive cyclonic vorticity at 850 hpa level is around 100-120x10^{-5} s^{-1} over southwest BoB & adjoining East Equatorial Indian Ocean. The zone of the maximum vorticity has become more organized and is extending upto 500 hPa level. The low level convergence has increased and is around 40 x10^{-5} s^{-1} over southwest BoB to the west of system centre. Upper level divergence is around 30x10^{-5} s^{-1} over the same region. The system is not showing tilting with height. The system is being steered north-northwestwards along the periphery of upper tropospheric ridge near 10°N.

Various environmental features (higher SST, warm moist air incursion into the core, high ocean thermal energy, moderate wind shear, favourable MJO & Equatorial Rossby Waves) are indicating favourable environment for further intensification of system till 28th November.

There is still divergence among various models wrt landfall and peak intensification. However, all models are indicating gradual weakening of the system and also slow movement near Tamil Nadu coast.

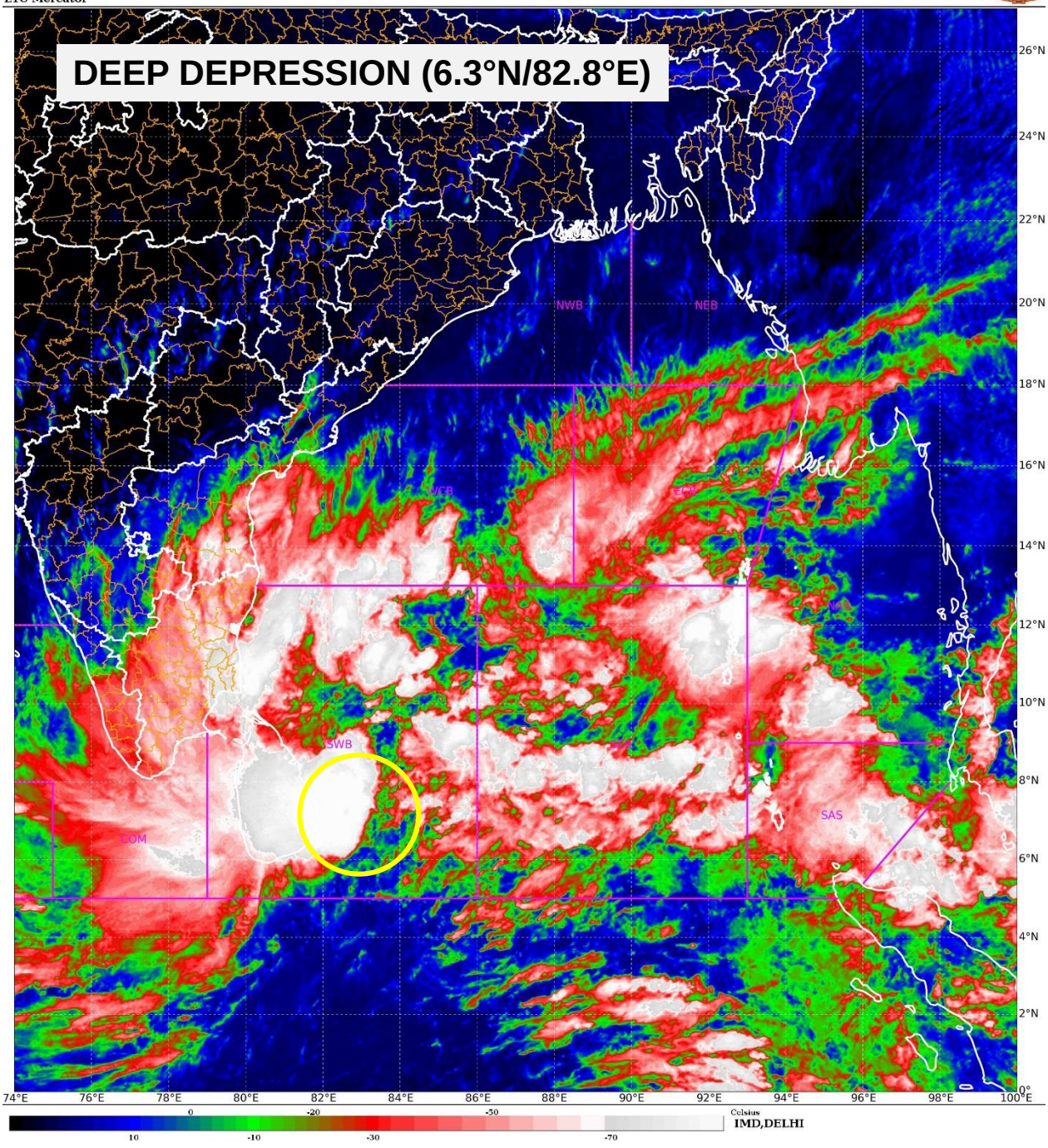
Hence it is inferred that the deep depression over Southwest Bay of Bengal is is very likely to continue to move north-northwestwards and intensify further into a cyclonic storm on 27th November. Thereafter, it will continue to move north-northwestwards towards Tamil Nadu coast skirting Sri Lanka coast during subsequent 2 days. **A continuous watch is being maintained for further intensification and movement of system towards Tamil Nadu - Sri Lanka coasts.**

Next bulletin will be issued at 0900 UTC of today, the 26th November, 2024.

(Monica Sharma)
Scientist D, RSMC, New Delhi

SAT : INSAT-3DR IMG
IMG_TIR1_TEMP 10.8 um
L1C Mercator

26-11-2024/(0645 to 0712) GMT
26-11-2024/(1215 to 1242) IST



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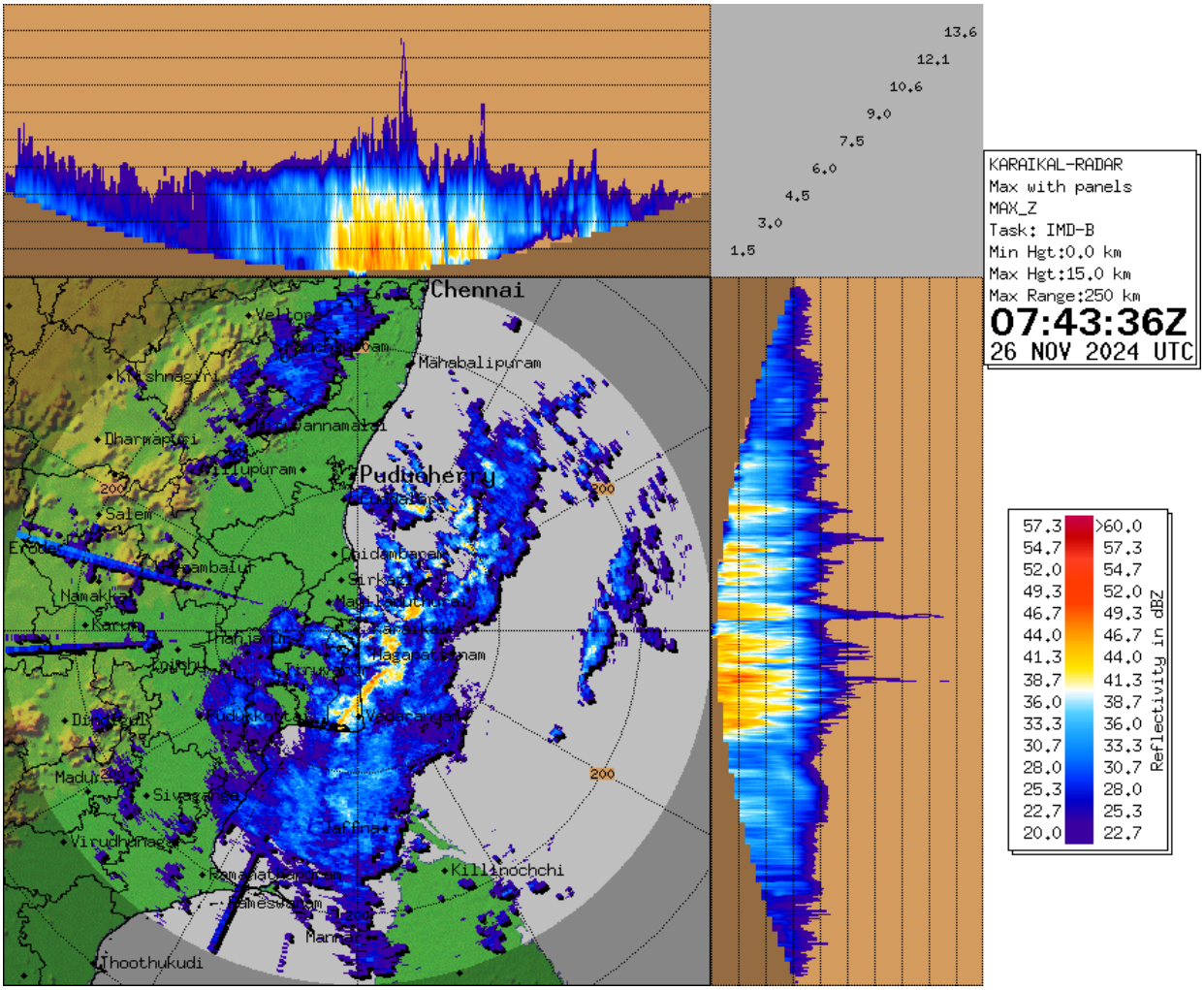
Doppler Weather Radar Observations at Karaikal (Max Z)



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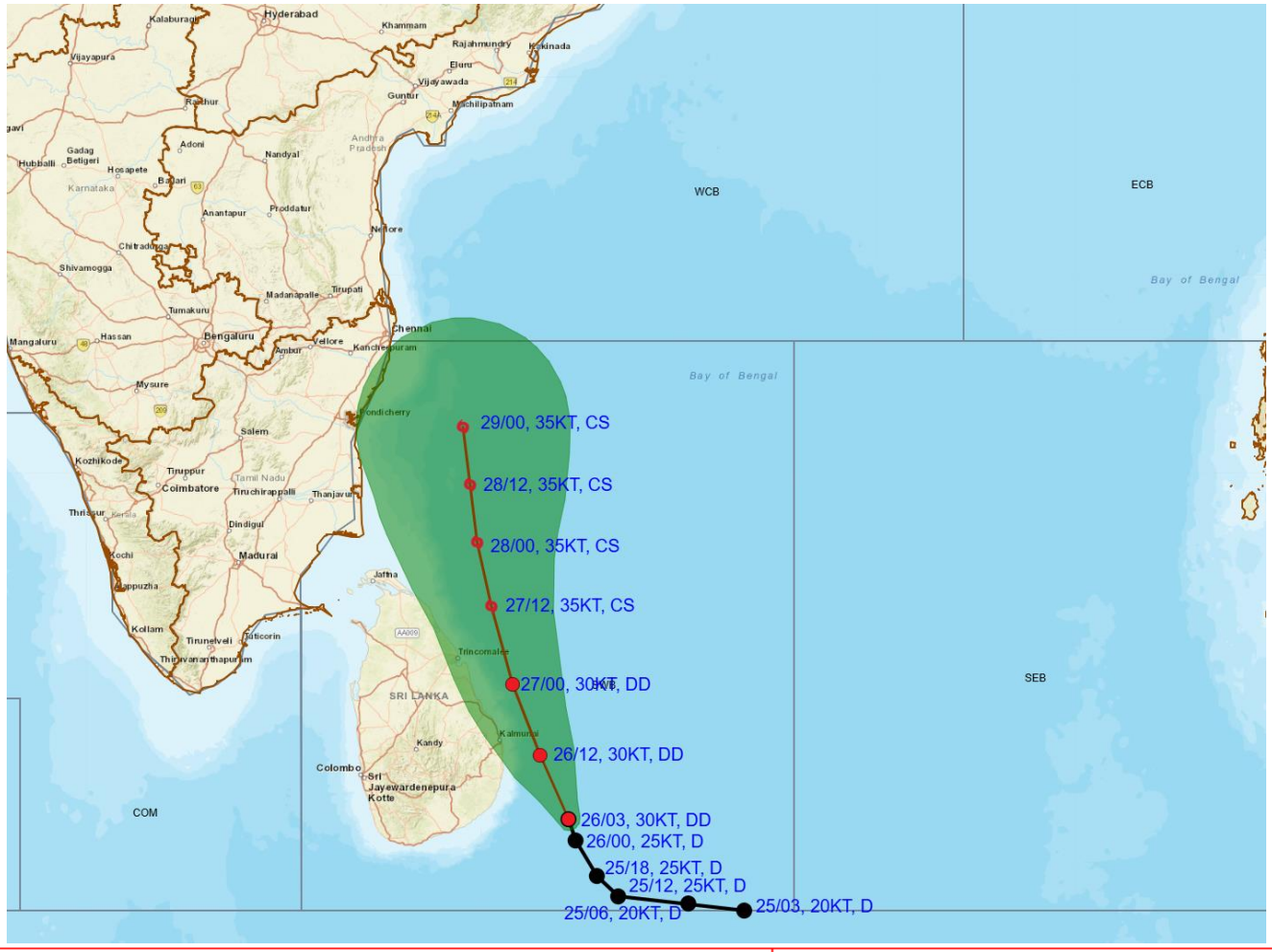
OBSERVED AND FORCAST TRACK ALONG WITH CONE OF UNCERTAINITY OF DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 0300 UTC (0830 HRS. IST) OF 26TH NOVEMBER, 2024



DATE/TIME	:	IN UTC
IST	:	UTC + 0530
KT	:	NAUTICAL MILES/HOUR = 1.85 KM/HOUR
LPA	:	LOW PRESSURE AREA
WML	:	WELL MARKED LOW PRESSURE AREA
D	:	DEPRESSION (17-27 KT)
DD	:	DEEP DEPRESSION (28-33 KT)
CS	:	CYCLONIC STORM (34-47 KT)
SCS	:	SEVERECYCLONIC STORM (48-63 KT)
VSCS	:	VERY SEVERECYCLONIC STORM (64-89 KT)
ESCS	:	EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS	:	SUPER CYCLONIC STORM (≥120 KT)

LESS THAN 34 KT
34-47 KT
≥ 48 KT
OBSERVED TRACK
FORECAST TRACK
CONE OF UNCERTAINTY

Forecast	DISTANCE (KM) AND DIRECTION FROM STATIONS				
Date and Time (UTC)	BATTICALOA	TRINCOMALEE	NAGAPPATTINAM	PUDUCHERRY	CHENNAI/MINAMBAKKAM
26.11.24/0300	190, SE	300, SE	590, SSE	710, SSE	790, SSE
27.11.24/0000	70, NNE	100, ESE	370, SE	480, SSE	570, SSE
28.11.24/0000	280, N	190, N	200, ESE	260, SE	340, SSE
29.11.24/0000	460, N	360, N	200, NE	170, E	190, SE

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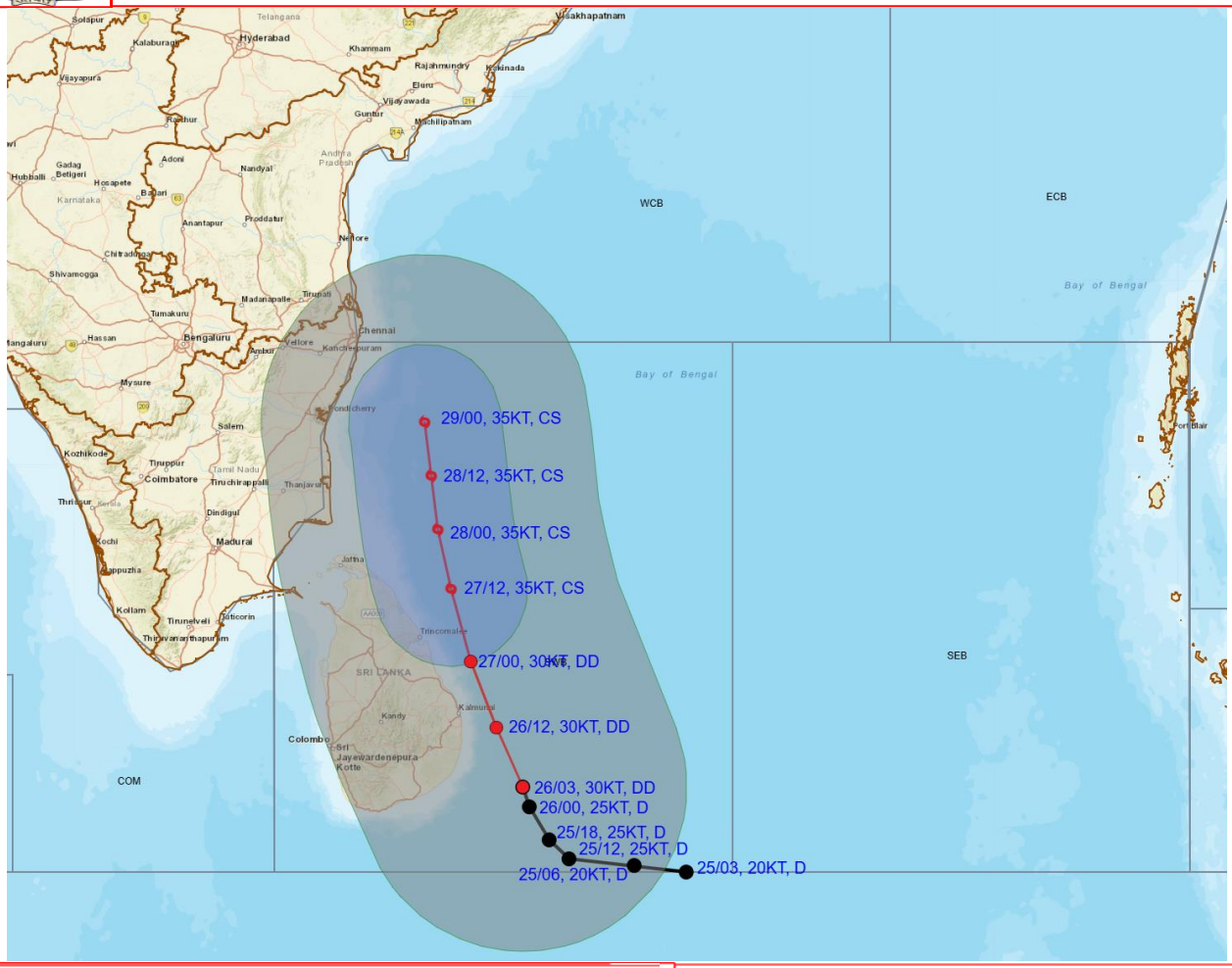
OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 0300 UTC (0830 HRS. IST) OF 26TH NOVEMBER, 2024.



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LPA	:	LOW PRESSURE AREA
WML	:	WELL MARKED LOW PRESSURE AREA
D	:	DEPRESSION (17-27 KT)
DD	:	DEEP DEPRESSION (28-33 KT)
CS	:	CYCLONIC STORM (34-47 KT)
SCS	:	SEVERE CYCLONIC STORM (48-63 KT)
VSCS	:	VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS	:	EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS	:	SUPER CYCLONIC STORM (≥120 KT)

LESS THAN 34 KT
34-47 KT
≥ 48 KT
OBSERVED TRACK
FORECAST TRACK
CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:
28-33 KT (52-61 KMPH)
34-49 KT (62-91 KMPH)
50-63 KT (92-117 KMPH)
≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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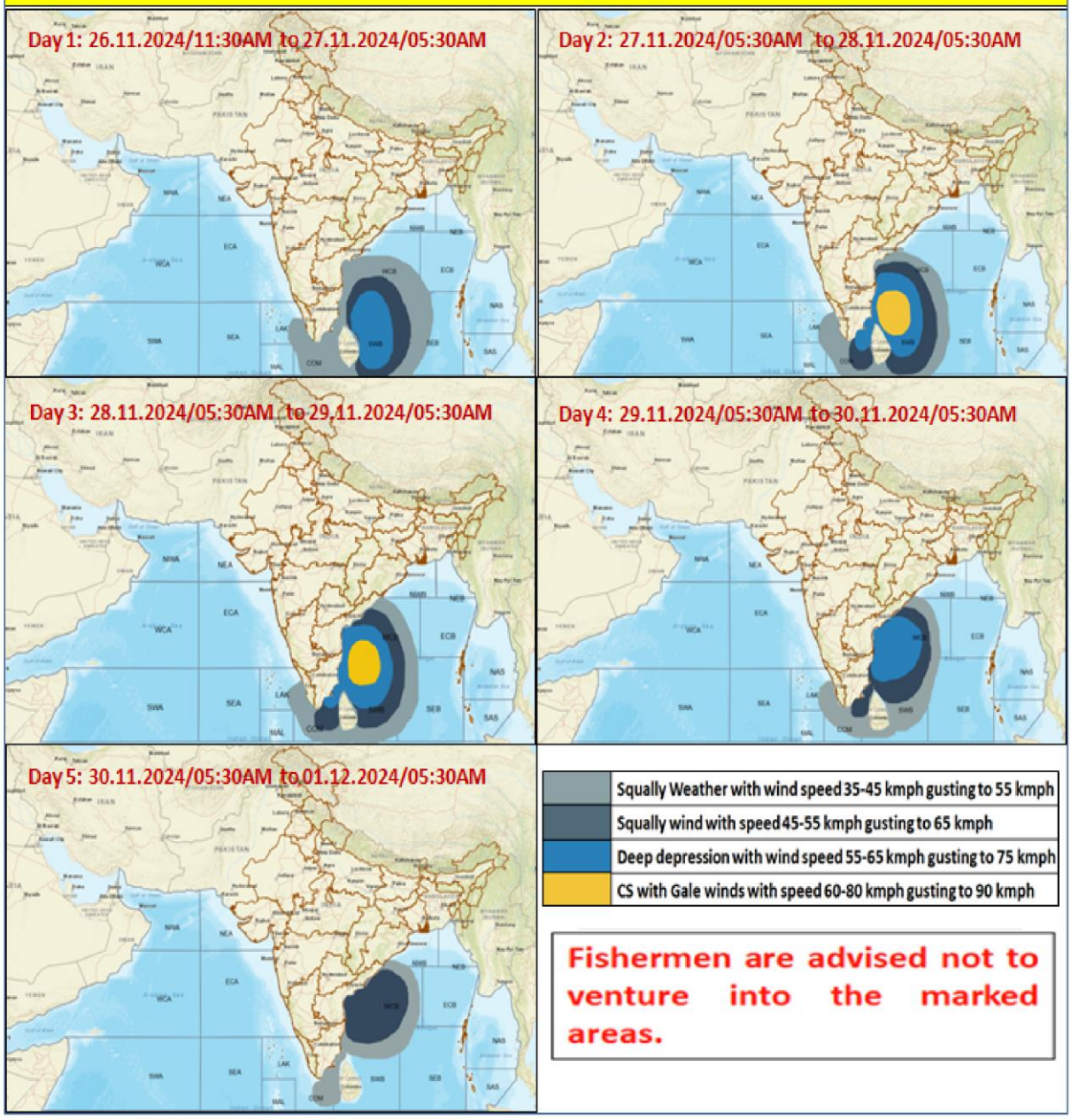
Fishermen Warning Graphics



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