



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 27.11.2024

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 0400 UTC OF 27.11.2024 BASED ON 0000 UTC OF 27.11.2024.

Sub: Deep Depression over Southwest Bay of Bengal

The Deep Depression over Southwest Bay of Bengal moved north-northwestwards with a speed of 13 kmph during past 6 hours and lay centred at 0000 UTC of today, the 27th November 2024 over the same region near latitude 8.2°N and longitude 82.4°E, about 130 km east-southeast of Trincomalee, 400 km southeast of Nagappattinam (43347), 510 km southeast of Puducherry (43331) and 590 km south-southeast of Chennai (43279).

It is very likely to continue to move north-northwestwards and intensify further into a cyclonic storm during next 12 hours. Thereafter, it will continue to move north-northwestwards towards Tamil Nadu coast skirting Sri Lanka coast during subsequent 2 days.

The system is being tracked by DWR Karaikal.

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

Estimated Central Pressure in association with the system is 1001 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/0600 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.

As per latest satellite imagery, intensity of the system is characterized as 2.0. Associated scattered to broken low and medium clouds with embedded intense to very intense convection lay over southwest Bay of Bengal and neighbourhood between latitude 7.0N 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. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
27.11.24/0000	8.2/82.4	55-65 gusting to 75	Deep Depression
27.11.24/0600	8.6/82.3	55-65 gusting to 75	Deep Depression
27.11.24/1200	9.0/82.2	60-70 gusting to 80	Cyclonic Storm
27.11.24/1800	9.4/82.1	65-75 gusting to 85	Cyclonic Storm
28.11.24/0000	9.8/82.0	65-75 gusting to 85	Cyclonic Storm
28.11.24/1200	10.6/81.9	65-75 gusting to 85	Cyclonic Storm
29.11.24/0000	11.3/81.8	60-70 gusting to 80	Cyclonic Storm
29.11.24/1200	12.0/81.5	60-70 gusting to 80	Cyclonic Storm
30.11.24/0000	12.6/80.8	55-65 gusting to 75	Deep Depression

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°C (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/cm² over southwest BoB & adjoining EIO. It is less 30-50 KJ/cm² 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 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 27th - 28th November indicate a favourable environment for intensification of system.

Low level winds indicate broad scale circulation over south Bay of Bengal, Low level positive cyclonic vorticity at 850 hpa level is around 100x10⁻⁵ s⁻¹ over southwest BoB near system area and is extending upto 500 hPa level. The low level convergence is around 40 x10⁻⁵ s⁻¹ over southwest BoB to the northwest of the system centre. Upper level divergence is increased to 40x10⁻⁵ s⁻¹ to the northwest of the system centre. The system is not showing tilting with height. The system is being steered north-northwestwards along the periphery of upper tropospheric ridge near 14°N.

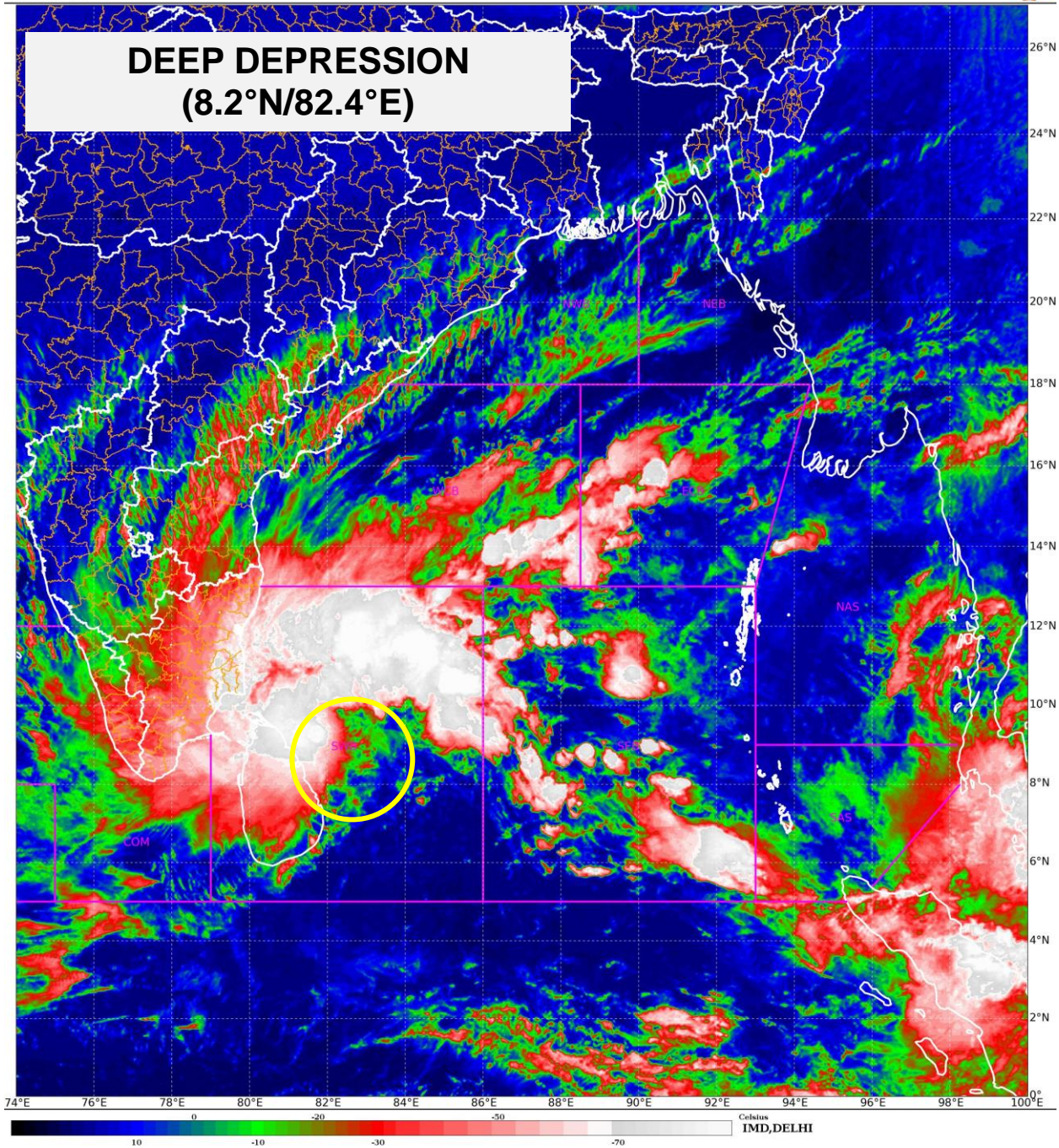
Various environmental features (higher SST, warm moist air incursion into the core, high ocean thermal energy, moderate wind shear, favourable MJO & Equatorial Rossby Waves) are indicating favourable environment for further intensification of system till 28th November.

Latest model runs indicate consensus wrt the track, intensity and landfall. Most of the models are indicating intensification into marginal cyclonic storm during 27th/1200 UTC to 29th/1200 UTC. Models also indicate gradual weakening of the system and slow movement near Tamil Nadu coast thereafter.

Hence it is inferred that the deep depression over Southwest Bay of Bengal is very likely to continue to move north-northwestwards and intensify further into a cyclonic storm during next 12 hours. Thereafter, it will continue to move north-northwestwards towards Tamil Nadu coast skirting Sri Lanka coast during subsequent 2 days.

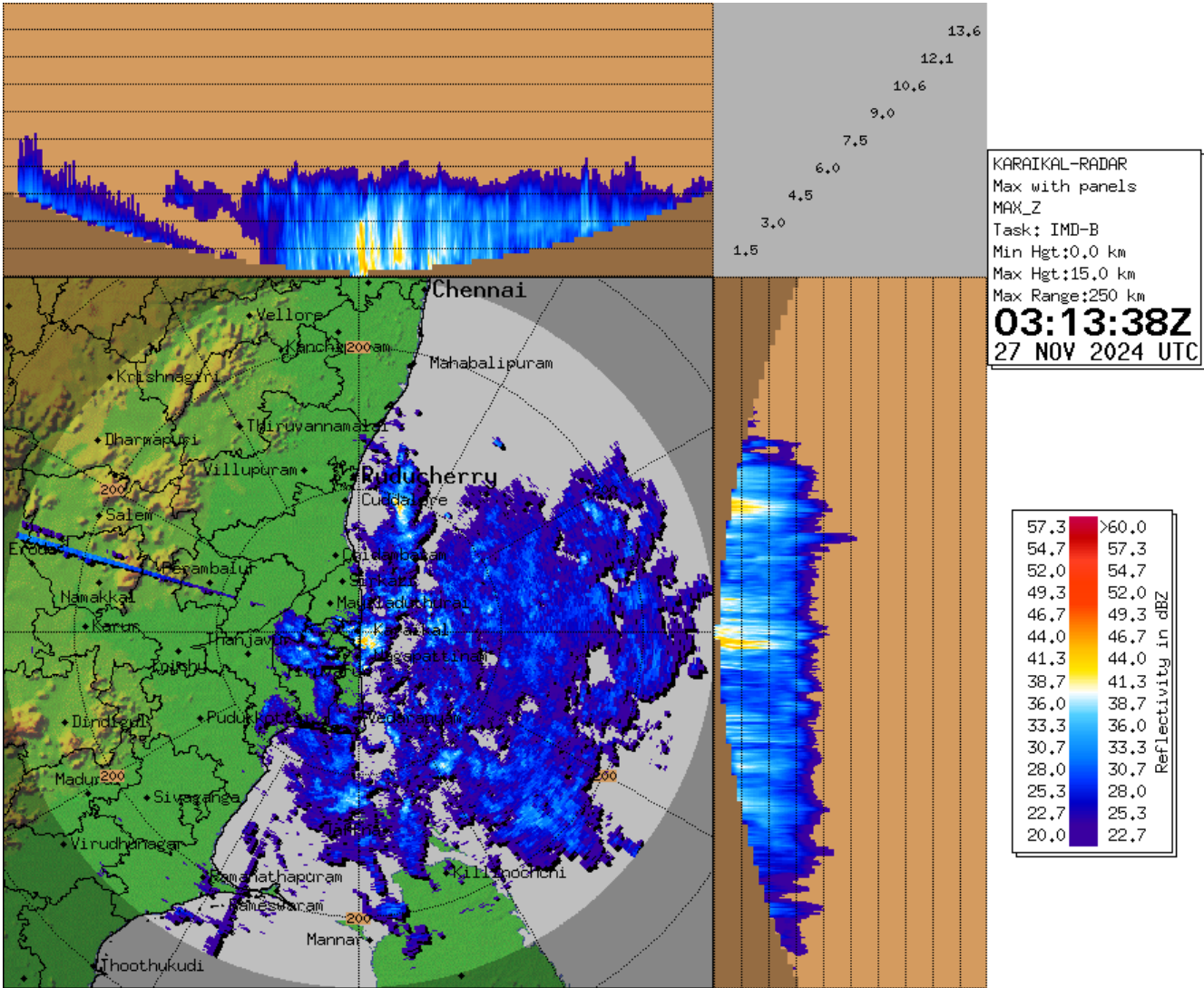
Next bulletin will be issued at 0700 UTC of 27th November, 2024.

(Shashi Kant)
Scientist D, RSMC, New Delhi



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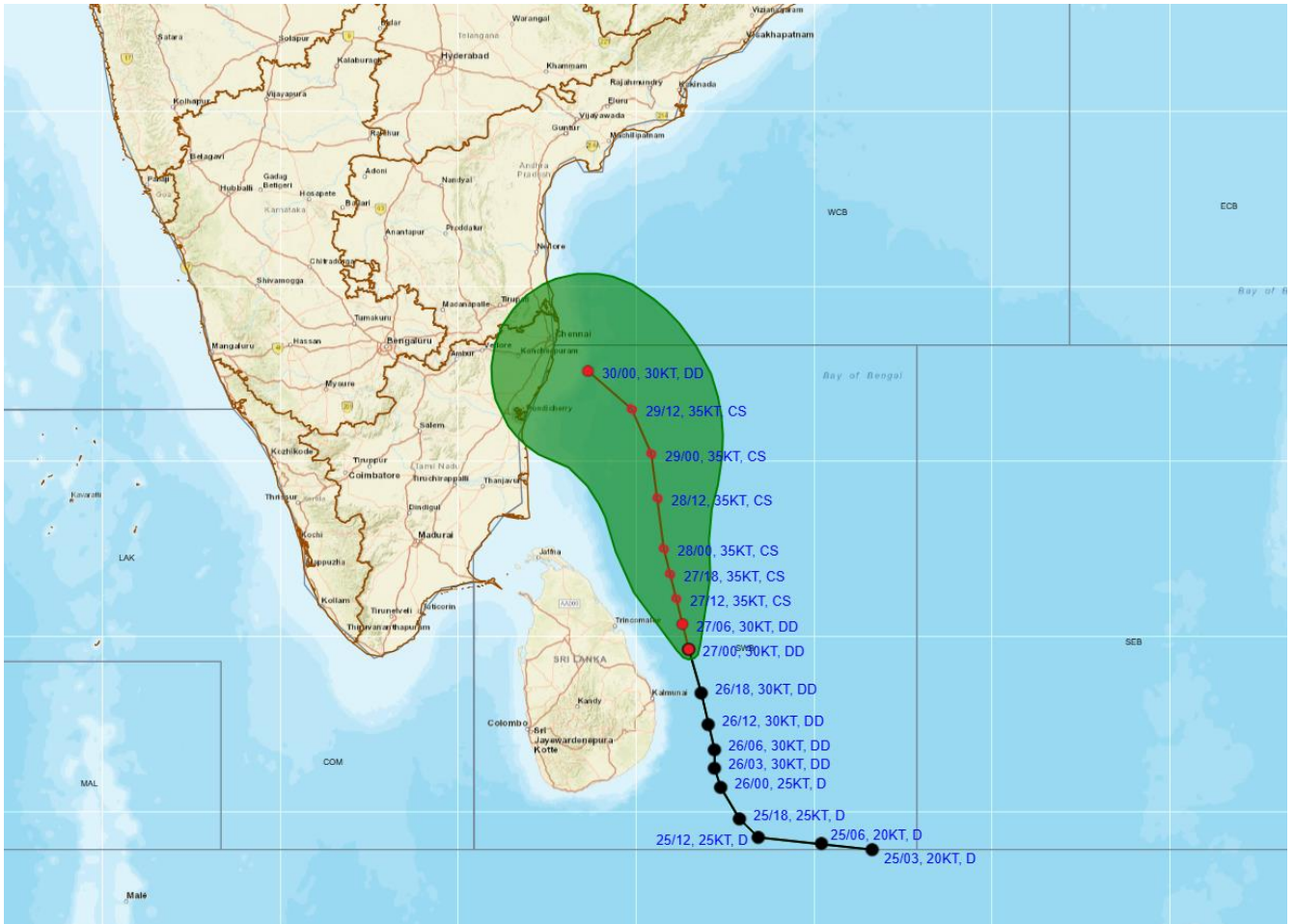
DWR Image of Karaikal



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OBSERVED AND FORECAST TRACK ALONG WITH CONE OF UNCERTAINTY OF DEEP DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 0000 UTC (0530 HRS. IST) OF 27TH NOVEMBER, 2024



DATE/TIME : IN UTC
 IST : UTC + 0530
 KT : NAUTICAL MILE S/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 : 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)

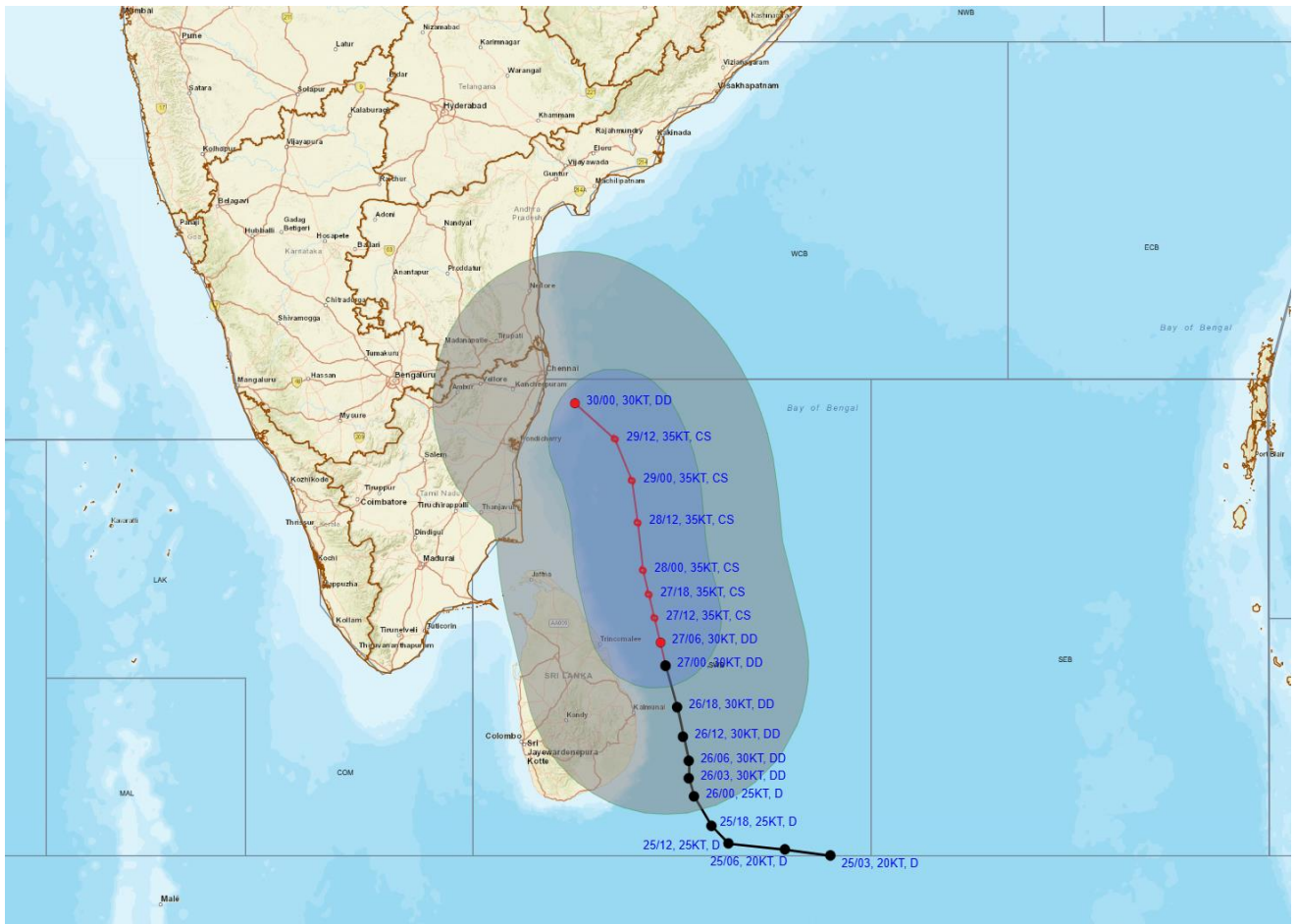
LESS THAN 34 KT
 34-47 KT
 ≥ 48 KT
 OBSERVED TRACK
 FORECAST TRACK
 CONE OF UNCERTAINTY

Forecast	DISTANCE (KM) AND DIRECTION FROM STATIONS				
Date and Time (UTC)	BATTICALOA	TRINCOMALEE	NAGAPPATTINAM	PUDUCHERRY	CHENNAI/MINAMBAKKAM
27.11.24/0000	90, NE	130, ESE	400, SE	510, SE	590, SSE
28.11.24/0000	230, N	160, NNE	260, ESE	340, SE	410, SSE
29.11.24/0000	400, N	310, N	220, ENE	230, ESE	260, SE
30.11.24/0000	550, N	450, N	230, NNE	130, ENE	80, ESE

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OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 0000 UTC (0530 HRS. IST) OF 27TH NOVEMBER, 2024.



DATE/TIME : IN UTC
 IST : UTC + 0530
 KT : NAUTICAL MILE / HOUR = 1.85 KM / HOUR
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 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

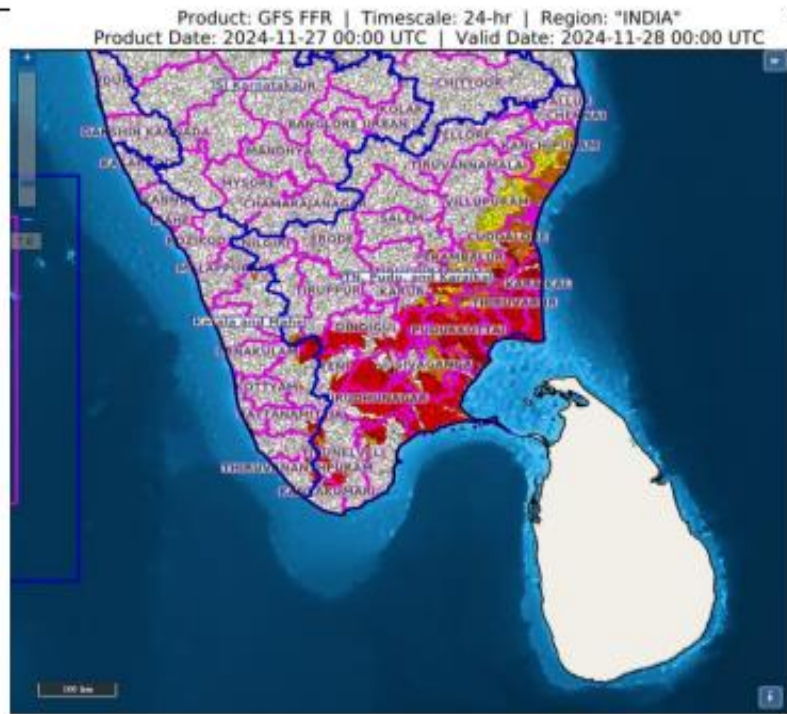
MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

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Flash Flood Guidance

24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 28-11-2024:

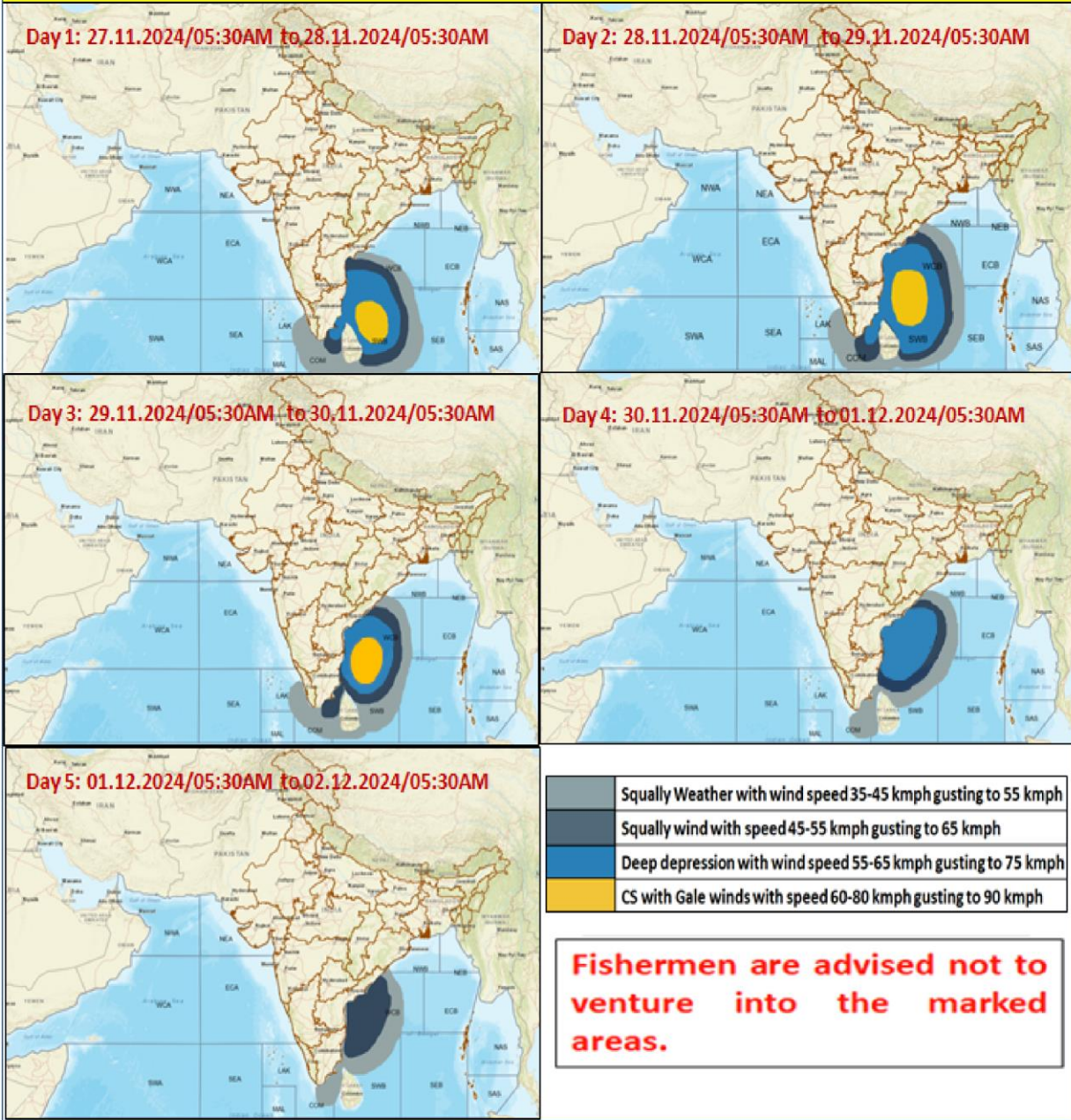
High flash flood risk likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 24 hours
Tamil Nadu - Puducherry & Karaikal - Karaikal, Puduchery, Ariyalur, Cuddalore, Dindigul, Kanchipuram, Kanyakumari, Karur, Madurai, Nagapattinam, Nilgiri, Perambalur, Salem, Sivaganga, Teni, Thiruvarur, Tirunelveli, Tiruvallur, Tuticorin, Villupuram and Virudhunagar districts.
 Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over area of concern as shown in map due to expected rainfall occurrence in next 24 hours.



Flash Flood Risk	
	High Risk (Take Action)
	Moderate Risk (Be Prepared)
	Low Risk (Be Updated)

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Fishermen Warning Graphics



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