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 2100 UTC OF 27.11.2024 BASED ON 1800 UTC OF 27.11.2024.

Sub: Deep Depression over Southwest Bay of Bengal

The Deep Depression over Southwest Bay of Bengal remained practically stationary during past 6 hours and lay centred at 1800 UTC of the 27th November 2024 over the same region near latitude 9.0°N and longitude 82.1°E, about 100 km east-northeast of Trincomalee (43418), 320 km southeast of Nagappattinam (43347), 410 km southeast of Puducherry (43331) and 490 km south-southeast of Chennai (43279).

It is very likely to continue to move nearly north-northwestwards skirting Sri Lanka coast and intensify into a cyclonic storm during next 12 hours. Thereafter, it will continue to move north-northwestwards and cross north Tamil Nadu-Puducherry coasts between Karaikal and Mahabalipuram around 0300 UTC of 30th November as a deep depression with a wind speed of 50-60 Kmph gusting to 70 Kmph

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 999 hPa and associated maximum sustained wind speed is 30 kts gusting to 40 kts. Sea condition is likely to remain very Rough to High over southwest Bay of Bengal & along and off Sri Lanka coast 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 also likely over adjoining westcentral Bay of Bengal till 29th November.

As per latest satellite imagery, intensity of the system is characterized as T2.0. Intense cloud mass is sheared to the north of system area. Associated scattered to broken low and medium clouds with embedded intense to very intense convection lay over south & adjoining central Bay of Bengal and neighbourhood between latitude 8.0N to 17.0N and longitude 80.0E to 92.0E, Sri Lanka, Palk Strait, Gulf of Mannar, Tamil Nadu and Coastal Andhra Pradesh. Minimum cloud top temperature is minus 50-70°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
27.11.24/1800	9.0/82.1	50-60 gusting to 70	Deep Depression
28.11.24/0000	9.3/82.0	60-70 gusting to 80	Cyclonic Storm
28.11.24/0600	9.6/81.9	60-70 gusting to 80	Cyclonic Storm
28.11.24/1200	10.0/81.8	60-70 gusting to 80	Cyclonic Storm
28.11.24/1800	10.4/81.6	60-70 gusting to 80	Cyclonic Storm
29.11.24/0600	11.0/81.0	65-75 gusting to 85	Cyclonic Storm
29.11.24/1800	11.5/80.4	50-60 gusting to 70	Deep Depression
30.11.24/0600	11.9/79.8	50-60 gusting to 70	Deep Depression
30.11.24/1800	12.3/79.2	40-50 gusting to 60	Depression

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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 has moved away from the intense patch of higher SST of about 30^0C (6-10°N and 84-88°E) and is an area with relatively lower SST (29^0C). Further the SST is relatively less along & off the Tamil Nadu coast. The total precipitable water imagery is indicating warm moist air around system area. However, colder air incursion is seen in the southwest sector. The tropical cyclone heat potential is less than 40 KJ/cm^2 over southwest & adjoining westcentral BoB 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. The land interactions with Sri Lanka coast is also inhibiting intensification of system.

Madden Julian Oscillation (MJO) is in phase 4 with amplitude more than 1 and would move across phase 5 from 29th onwards. 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 28th November indicate a favourable environment for intensification of system.

Low level positive cyclonic vorticity at 850 hpa level is around 150x10^{-5} s^{-1} over southwest BoB near system area and is extending upto 200 hPa level. The low level convergence is around 30 x10^{-5} s^{-1} over system area. Upper level divergence is around 30x10^{-5} s^{-1} to the northeast of system centre. Zone of convergence and divergence are not aligned. Vertical wind shear is moderate (15-20 kt) over the system area and is high to the north of 10°N and along the Tamil Nadu coast. The system is being steered north-northwestwards along the periphery of upper tropospheric ridge near 13°N.

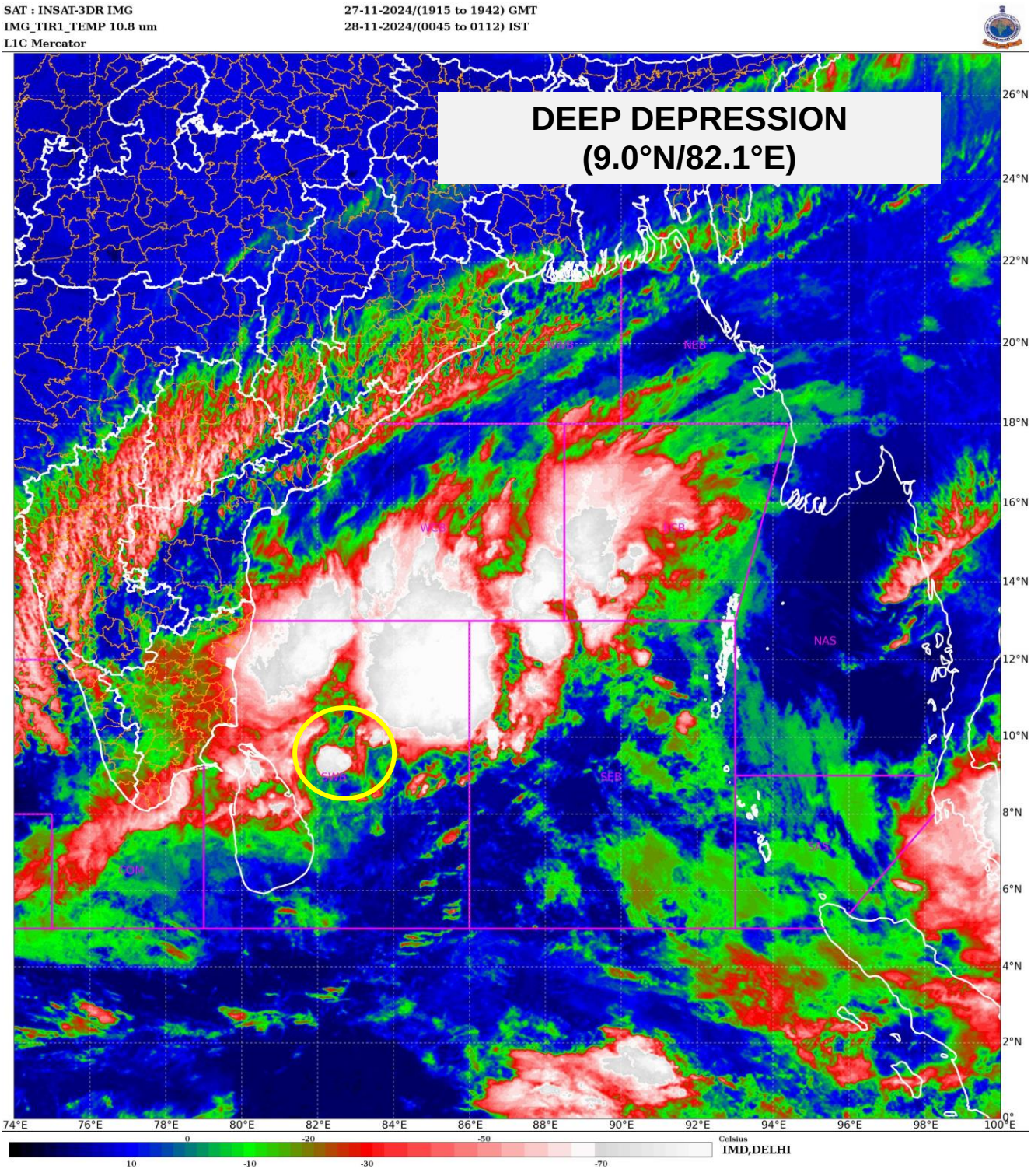
Various environmental features (higher SST, warm moist air incursion into the core, high ocean thermal energy, moderate wind shear, favourable MJO & Equatorial Rossby Waves) are indicating favourable environment for marginal intensification of system till 28th November. However, all features indicate that system would show weakening as it moves towards Tamil Nadu coast (North of 11°N).

There is still lack of consensus among various models with respect to movement and landfall. Most of the models are indicating intensification into marginal cyclonic storm till 29th/0000 UTC and gradual weakening of the system thereafter as it moves towards the coast.

It is inferred that the deep depression over Southwest Bay of Bengal is very likely to continue to move north-northwestwards skirting Sri Lanka coast and intensify into a cyclonic storm during next 12 hours. Thereafter, it will continue to move north-northwestwards and cross north Tamil Nadu-Puducherry coasts between Karaikal and Mahabalipuram around 0300 UTC of 30th November as a deep depression with a wind speed of 50-60 Kmph gusting to 70 Kmph.

Next bulletin will be issued at 0300 UTC of 28th November, 2024.

(Shibin Balakrishnan)
Scientist D, RSMC, New Delhi



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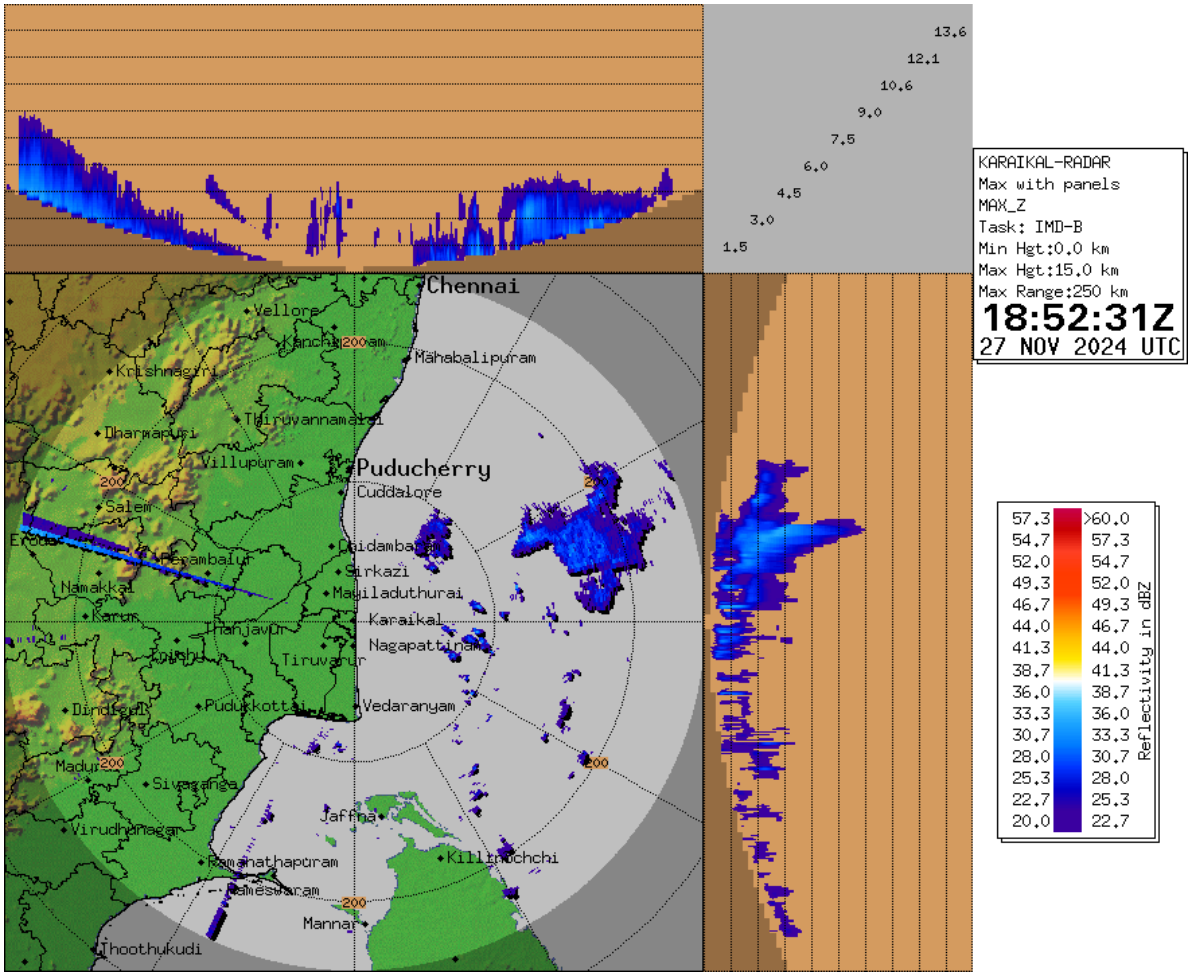
Doppler Weather Radar Observation (Max Z) at Karaikal



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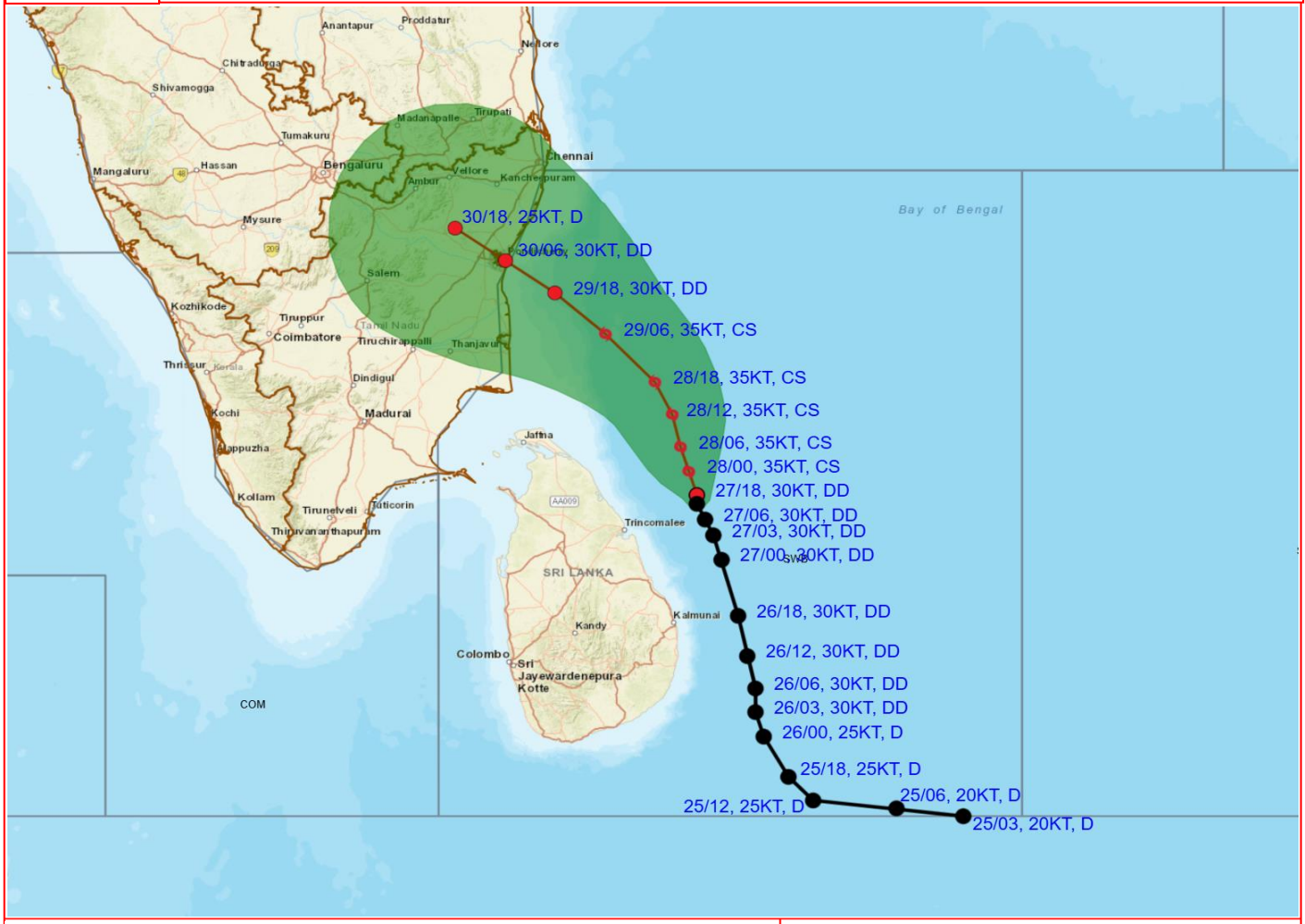
OBSERVED AND FORECAST TRACK ALONG WITH CONE OF UNCERTAINITY OF DEEP DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 1800 UTC (2330 HRS. IST) OF 27TH NOVEMBER, 2024



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

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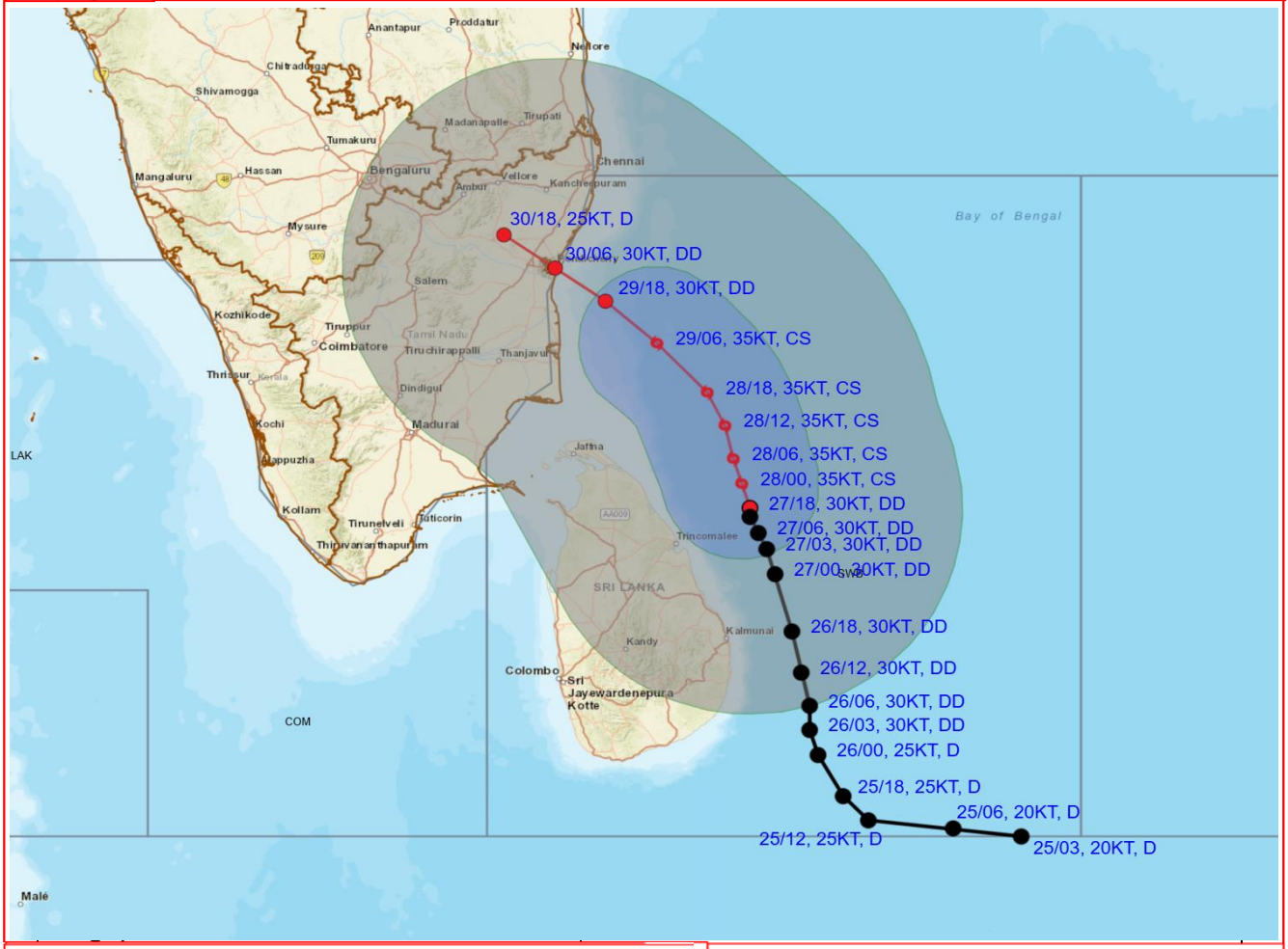
OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 1800 UTC (2330 HRS. IST) OF 27TH NOVEMBER, 2024.



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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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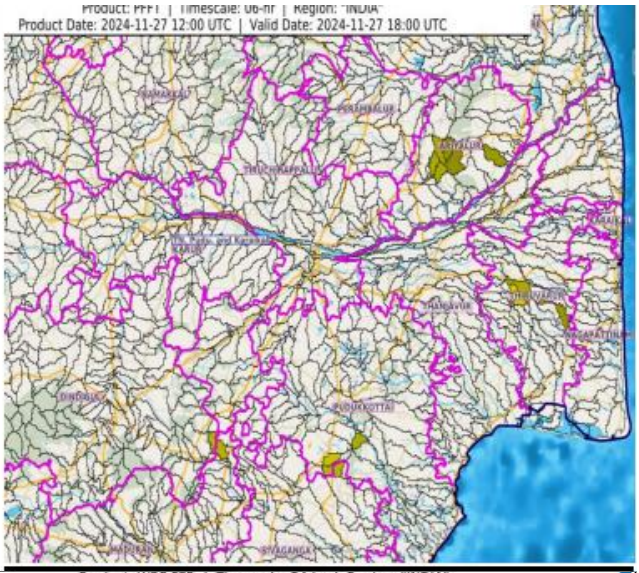
Flash Flood Risk

Persistent Flash Flood Threat (PFFT) till 2330 IST of 27-11-2024 :

Low to Moderate flash flood threat likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 6 hours.

Tamil Nadu - Pudu & Karaikal - Ariyalur, Pudukkottai, Madurai and Thiruvarur districts.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 6 hours.

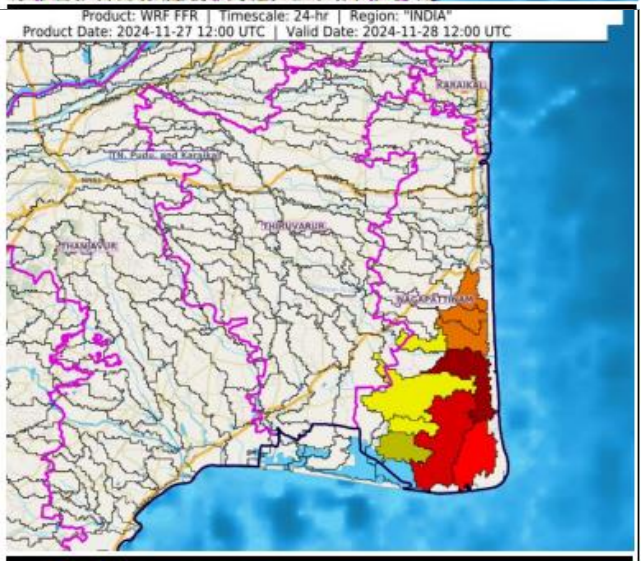


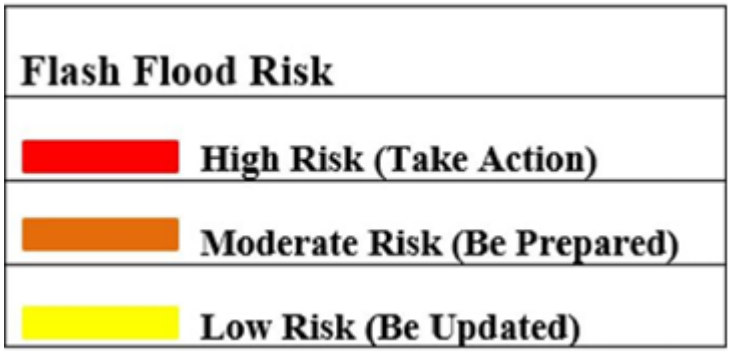
24 hours Outlook for the Flash Flood Risk (FFR) till 1730 IST of 28-11-2024 :

Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 24 hours.

Tamil Nadu - Pudu & Karaikal – Nagapattinam district.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.





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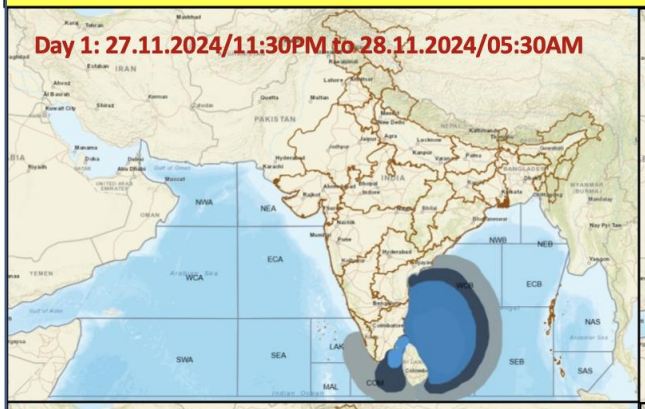
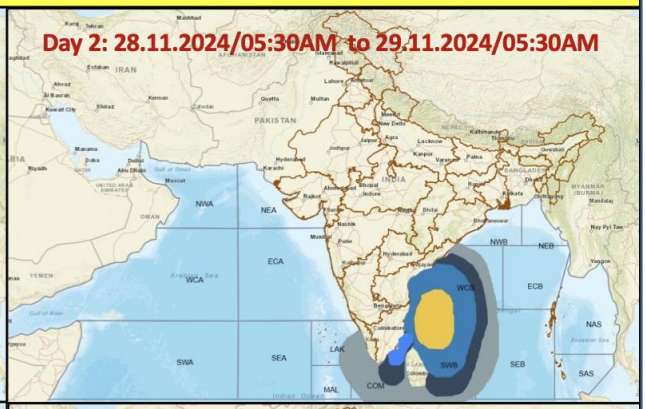
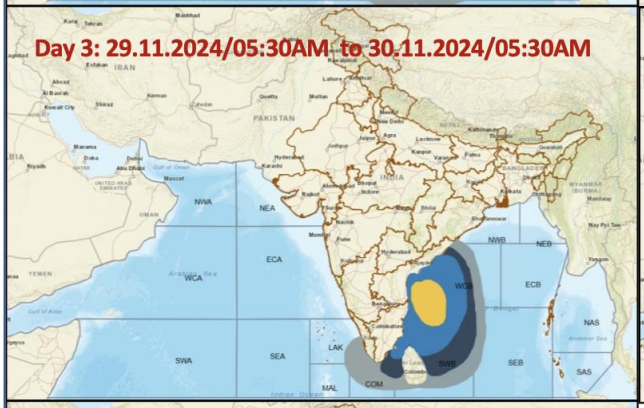
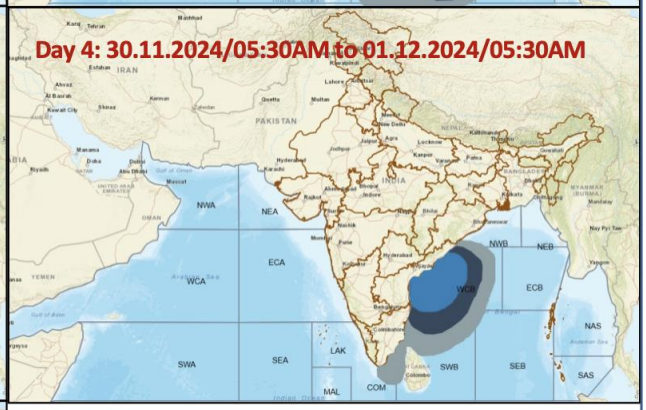
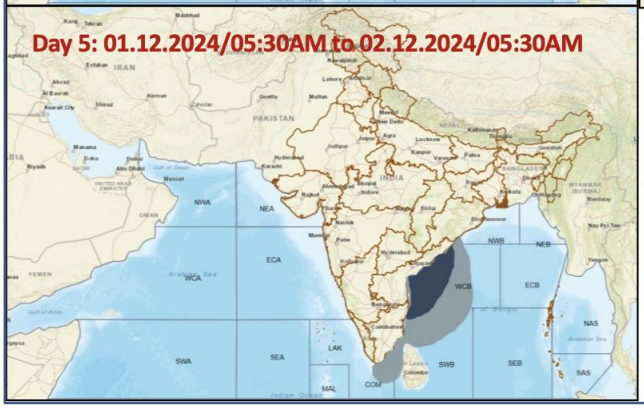
Fishermen Warning Graphics











	Squally Weather with wind speed 35-45 kmph gusting to 55 kmph
	Squally wind with speed 45-55 kmph gusting to 65 kmph
	Deep depression with wind speed 55-65 kmph gusting to 75 kmph
	CS with Gale winds with speed 60-80 kmph gusting to 90 kmph

Fishermen are advised not to venture into the marked areas.

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