



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

DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 01.12.2024

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 0900 UTC OF 01.12.2024 BASED ON 0600 UTC OF 01.12.2024.

SUB: CYCLONIC STORM “FENGAL” [PRONOUNCED AS FEINJAL] WEAKENED INTO A DEEP DEPRESSION OVER NORTH COASTAL TAMIL NADU & PUDUCHERRY

THE CYCLONIC STORM “FENGAL” [PRONOUNCED AS FEINJAL] OVER NORTH COASTAL TAMIL NADU & PUDUCHERRY REMAINED PRACTICALLY STATIONARY DURING PAST 12 HOURS WEEKEND INTO A DEEP DEPRESSION AND LAY CENTERED AT 0600 UTC OF THE 01ST DECEMBER, 2024 OVER THE SAME REGION NEAR LATITUDE 12.0°N AND LONGITUDE 79.8°E, CLOSE TO PUDUCHERRY ABOUT 30 KM NORTH OF CUDDALORE (43329), 40 KM EAST OF VILLUPURAM (TAMILNADU, INDIA) AND 120 KM SOUTH-SOUTHWEST OF CHENNAI (43279).

IT IS LIKELY TO MOVE WESTWARDS VERY SLOWLY AND WEAKEN GRADUALLY INTO A DEPRESSION OVER NORTH TAMIL NADU DURING THE NEXT 12 HOURS.

THE SYSTEM IS BEING CONTINUOUSLY MONITORED BY THE DOPPLER WEATHER RADAR AT CHENNAI & KARAIKAL.

ESTIMATED CENTRAL PRESSURE IN ASSOCIATION WITH THE SYSTEM IS 997 HPA AND ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 30 KTS GUSTING TO 40 KTS. HIGH TO VERY ROUGH SEA CONDITIONS IS VERY LIKELY TO PREVAIL OVER SOUTHWEST BAY OF BENGAL AND ADJOINING AREAS OF WESTCENTRAL BAY OF BENGAL, GULF OF MANNAR AND ALONG & OFF TAMIL NADU-PUDUCHERRY, SOUTH ANDHRA PRADESH AND NORTH SRI LANKA COASTS TILL 0600 UTC OF 01ST DECEMBER.

AS PER LATEST SATELLITE IMAGERY, ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTH TAMILNADU WITH MINIMUM CLOUD TOP TEMPERATURE AS MINUS 70-90°C AND MODERATE TO INTENSE CONVECTION OVER SOUTH COASTAL ANRAPRDESH RAYALSEEMA, SOUTH INTERIOR KARNATAKA, SOUTH TAMILNADU AND ALSO OVER SOUTHWEST AND ADJOINING WEST CENTRAL BAY OF BENGAL OFF NORTH TAMILNADU COASTS WITH MINIMUM CLOUD TOP TEMPERATURE AS MINUS 60-70°C.

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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PUDUCHERRY REPORTED MEAN SEA LEVEL PRESSURE (MSLP) OF 997 HPA, 24 HRS PRESSURE CHANGE OF (P24) OF -3.9 HPA. SYSTEM HAS FILLED UP IN PAST 3 HOURS AND MAXIMUM SUSTAINED WIND SPEED (MSW) OF 320⁰/ 9KT AT 0600 UTC OF 1ST DECEMBER.

CUDDALORE REPORTED MSLP OF 991 HPA, P24 OF -3.9 HPA AND MSW OF 270⁰/ 12KT AT 0600 UTC OF 1ST DECEMBER.

CHENNAI REPORTED MSLP OF 1003.7 HPA AND MSW OF 110⁰/ 06KT AT 0600 UTC OF 1ST DECEMBER.

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
01.12.24/0600	12.0/79.8	55-65 GUSTING TO 75	DEEP DEPRESSION
01.12.24/1200	12.0/79.6	50-60 GUSTING TO 70	DEEP DEPRESSION
01.12.24/1800	12.0/79.4	40-50 GUSTING TO 60	DEPRESSION

WIND WARNING:

- SOUTHWEST BAY OF BENGAL AND ALONG & OFF NORTH TAMIL NADU – PUDUCHERRY COASTS: SQUALLY WIND SPEED REACHING 55-65 KMPH GUSTING TO 75 KMPH IS PREVAILING. IT IS LIKELY TO DECREASE BECOMING SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH BY 18UTC OF 1ST DECEMBER AND DECREASE GRADUALLY THEREAFTER.
- ADJOINING AREAS OF WESTCENTRAL BAY OF BENGAL AND ALONG & OFF SOUTH ANDHRA PRADESH COAST: SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY TO PREVAIL OVER ADJOINING AREAS OF WESTCENTRAL BAY OF BENGAL TILL 12UTC OF 1ST DECEMBER. IT IS LIKELY TO DECREASE THEREAFTER.
- ALONG & OFF SOUTH TAMIL NADU COAST AND GULF OF MANNAR: SQUALLY WIND SPEED REACHING 35-45 KMPH GUSTING TO 55 KMPH IS LIKELY TO PREVAIL TILL 12UTC OF 1ST DECEMBER AND GRADUALLY DECREASE THEREAFTER.

SEA CONDITION:

VERY ROUGH TO ROUGH SEA CONDITIONS IS LIKELY TO PREVAIL OVER SOUTHWEST BAY OF BENGAL ADJOINING AREAS OF WESTCENTRAL BAY OF BENGAL, AND ALONG & OFF NORTH TAMIL NADU-PUDUCHERRY COASTS, AND ADJOINING AREAS OF WESTCENTRAL BAY OF BENGAL GULF OF MANNAR, ALONG & OFF SOUTH ANDHRA PRADESH AND NORTH SRI LANKA COASTS TILL MIDNIGHT OF TODAY, THE 1ST DECEMBER. IT WILL GRADUALLY IMPROVE THEREAFTER.

STORM SURGE WARNING:

STORM SURGE OF ABOUT 0.5 METRE HEIGHT ABOVE THE ASTRONOMICAL TIDE IS

LIKELY INUNDATE THE LOW LYING AREAS OF THE COASTAL DISTRICTS OF NORTH TAMIL NADU, PUDUCHERRY AND ADJOINING SOUTH ANDHRA PRADESH DURING NEXT 06 HOURS.

FISHERMAN WARNING:

- TOTAL SUSPENSION OF FISHING OPERATIONS TILL EVENNING OF THE 1ST DECEMBER.
- FISHERMEN ARE ADVISED NOT VENTURE INTO SOUTHWEST BAY OF BENGAL ADJOINING AREAS OF WESTCENTRAL BAY OF BENGAL, GULF OF MANNAR AND ALONG & OFF TAMIL NADU-PUDUCHERRY, SOUTH ANDHRA PRADESH AND NORHT SRI LANKA COASTS TILL 01ND DECEMBER.
- FISHERMEN OUT AT SEA ARE ADVISED TO RETURN TO COAST.

REMARKS:

THE SYSTEM IS OVER AN AREA WITH SEA SURFACE TEMPERATURE (SST) ABOUT 27⁰C. THE TOTAL PRECIPITABLE WATER IMAGERY IS INDICATING WARM MOIST AIR AROUND SYSTEM AREA. HOWEVER, COLD DRY AIR INCURSION FROM SOUTHWEST IS REACHING UPTO SOUTHEAST SECTOR. THE TROPICAL CYCLONE HEAT POTENTIAL IS 40-50 KJ/CM² OVER SOUTHWEST & ADJOINING WESTCENTRAL BOB ALONG & OFF SRI LANKA/TAMIL NADU/ ANDHRA PRADESH COASTS

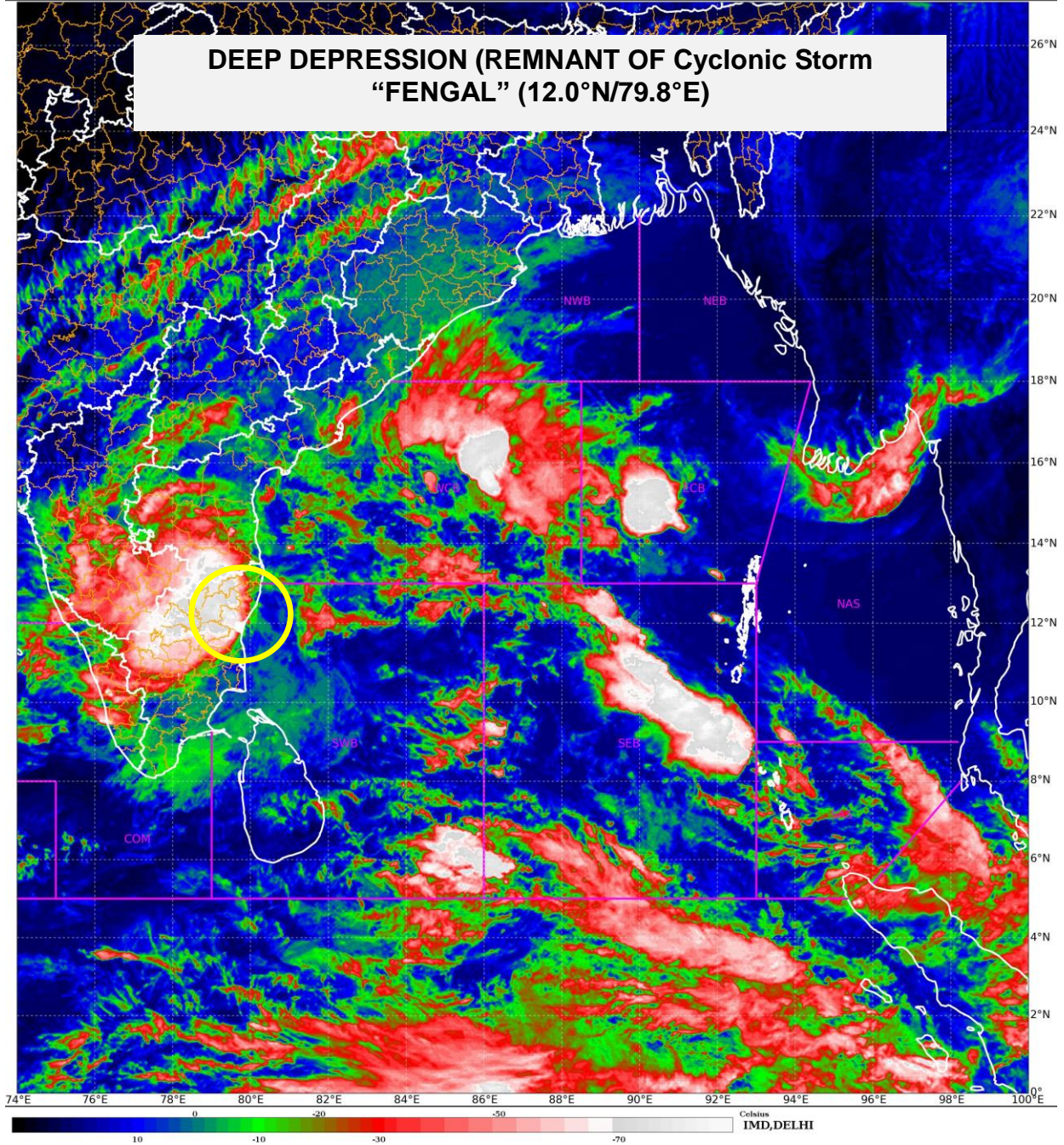
LOW LEVEL POSITIVE CYCLONIC VORTICITY AT 850 HPA LEVEL IS AROUND $150 \times 10^{-5} \text{ S}^{-1}$ OVER SOUTH SOUTHEAST OF THE SYSTEM AREA WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. THE LOW LEVEL CONVERGENCE IS REDUCED TO $10 \times 10^{-5} \text{ S}^{-1}$ AND NOW SOUTH OF SYSTEM AREA. UPPER LEVEL DIVERGENCE IS REDUCED TO $10 \times 10^{-5} \text{ S}^{-1}$ TO THE SOUTH SOUTHWEST OF SYSTEM AREA. VERTICAL WIND SHEAR IS MODERATE (10-15 KT) OVER THE SYSTEM AREA. THE EAST-NORTHEASTERLY WINDS PREVAILING OVER SYSTEM AREA ARE STEERING THE SYSTEM WEST-SOUTHWESTWARDS. THE SYSTEM HAS STARTED WEAKENING DUE TO LAND INTERACTIONS, DECREASE IN VARIOUS FEATURES LIKE LOW LEVEL VORTICITY.

THERE IS CONVERGENCE AMONG VARIOUS MODELS WITH RESPECT TO MOVEMENT OF THE CYCLONIC SYSTEM. IT IS INFERRED THAT THE CYCLONIC STORM "FENGAL" WILL MOVE WESTWARDS VERY SLOWLY AND WEAKEN GRADUALLY INTO A DEPRESSION OVER NORTH TAMIL NADU DURING THE NEXT 12 HOURS.

THE SYSTEM IS BEING CONTINUOUSLY MONITORED BY THE DOPPLER WEATHER RADAR AT CHENNAI & KARAIKAL.

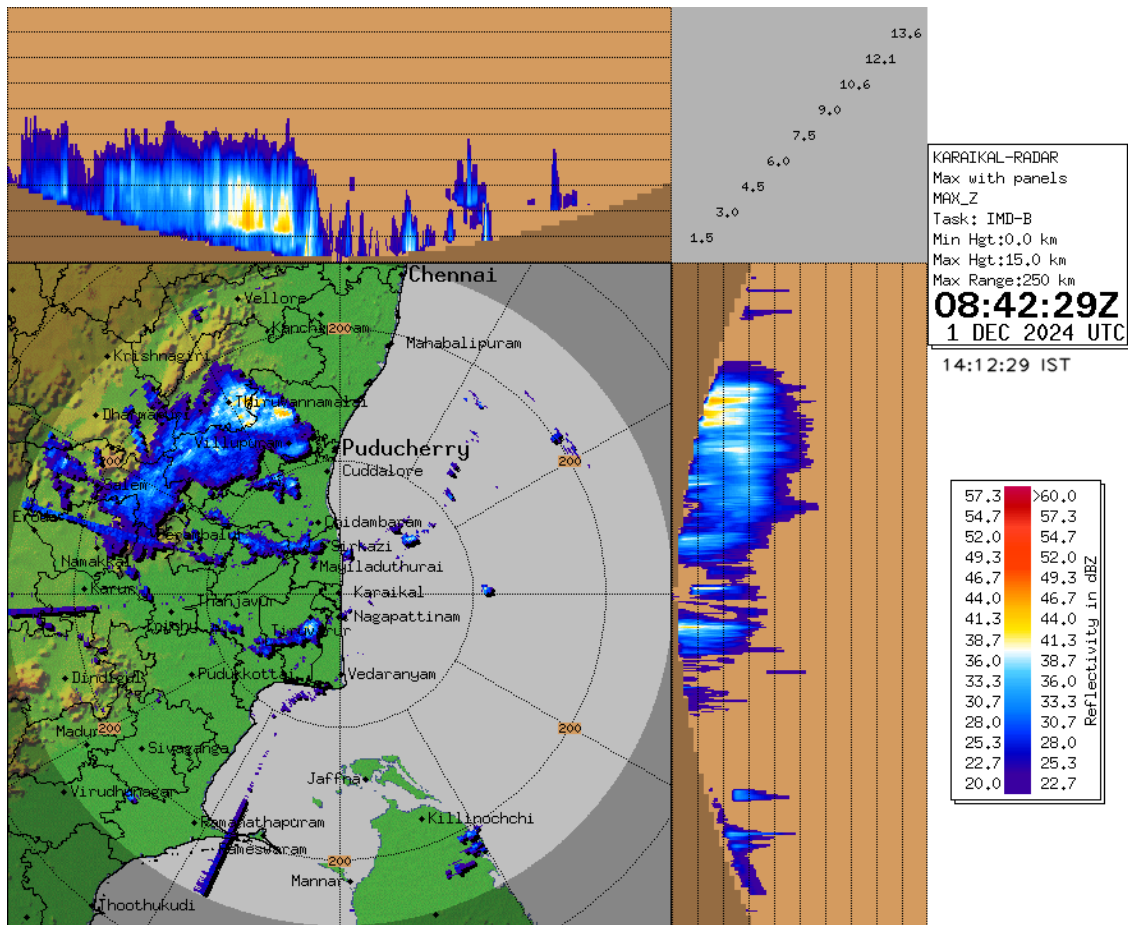
NEXT BULLETIN WILL BE ISSUED AT 1200 UTC OF 01ST DECEMBER, 2024.

**(AMIT BHARDWAJ)
SCIENTIST-C, RSMC, NEW DELHI**



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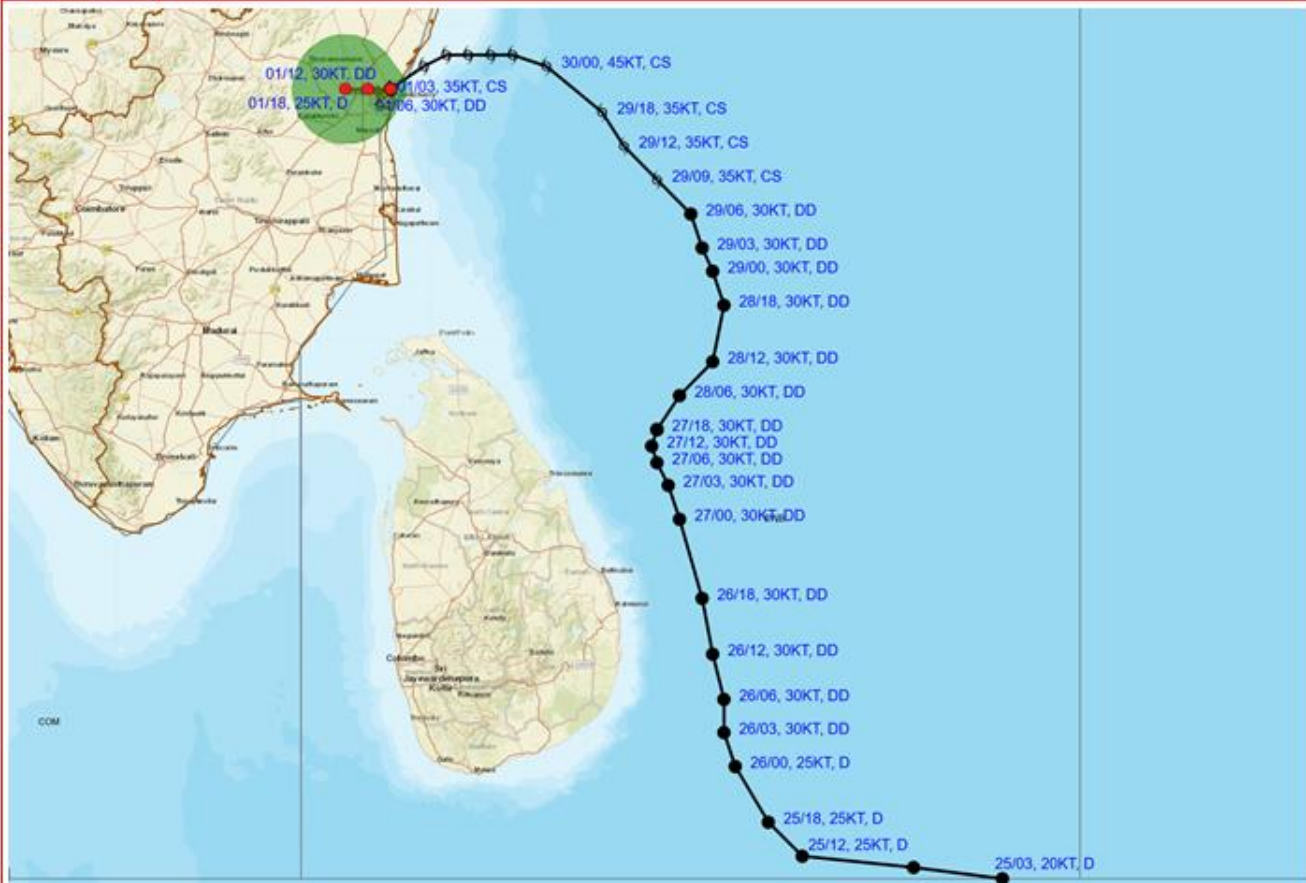
MAXIMUM REFLECTIVITY IMAGERY FROM DOPPLER WEATER RADAR, KARAIKAL



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OBSERVED AND FORECAST TRACK ALONG WITH CONE OF UNCERTAINTY OF DEEP DEPRESSION (REMNANT OF CYCLONIC STORM "FENGAL") OVER NORTH COASTAL TAMIL NADU AND PUDUCHERRY BASED ON 0600 UTC (1130 HRS. IST) OF 01ST DECEMBER, 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 Date and Time (UTC)	DISTANCE (KM) AND DIRECTION FROM STATIONS		
	MAHABALIPURAM	MO PUDUCHERRY	CHENNAI/MINAMB AKKAM
01.12.24/0600	80, SSW	0, NNW	120, SSW
01.12.24/1200	90, SW	20, W	130, SSW
01.12.24/1800	110, SW	50, W	140, SW

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OBSERVED AND FORECAST TRACK ALONGWITH WIND DISTRIBUTION FORECAST OF DEEP DEPRESSION (REMNANT OF CYCLONIC STORM "FENGAL") OVER NORTH COASTAL TAMIL NADU AND PUDUCHERRY BASED ON 0600 UTC (1130 HRS. IST) OF 01ST DECEMBER, 2024.



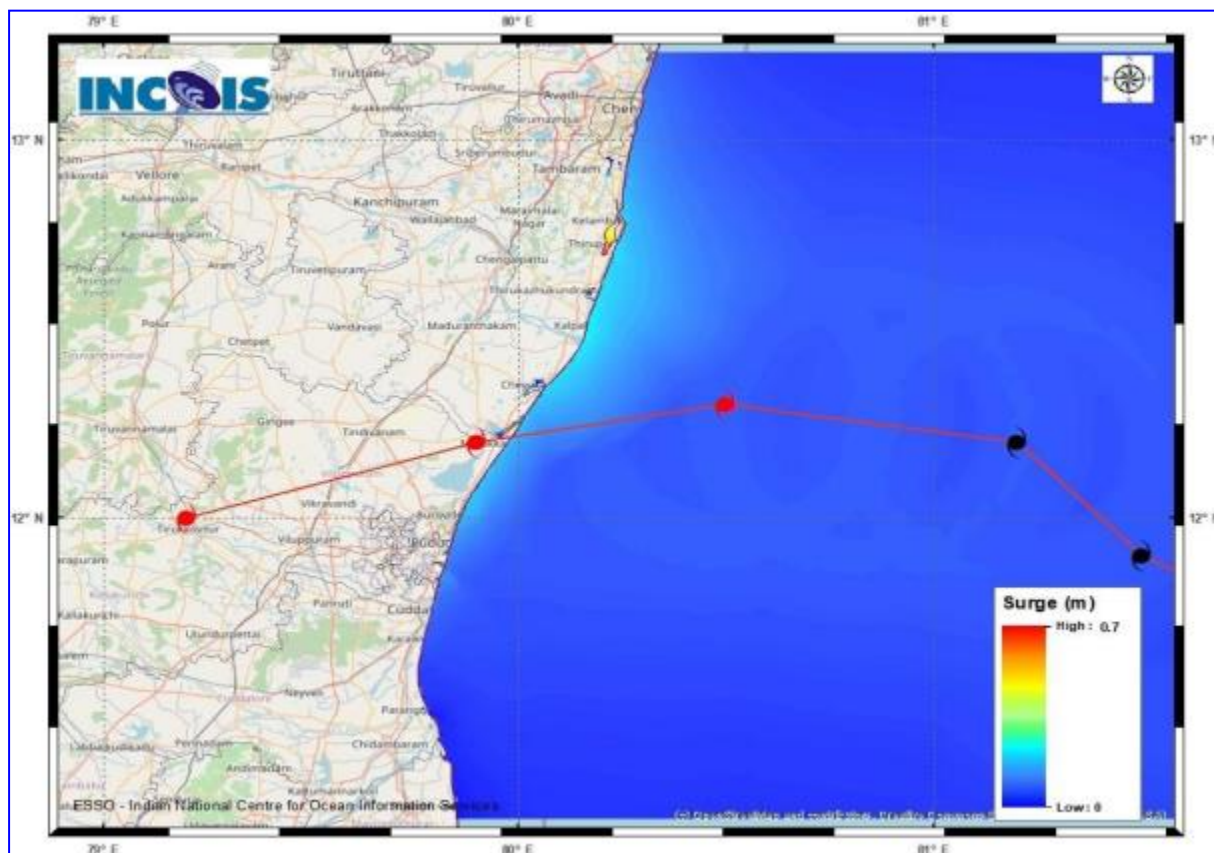
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 ESCS : EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS : SUPER CYCLONIC STORM (≥ 120 KT)

● 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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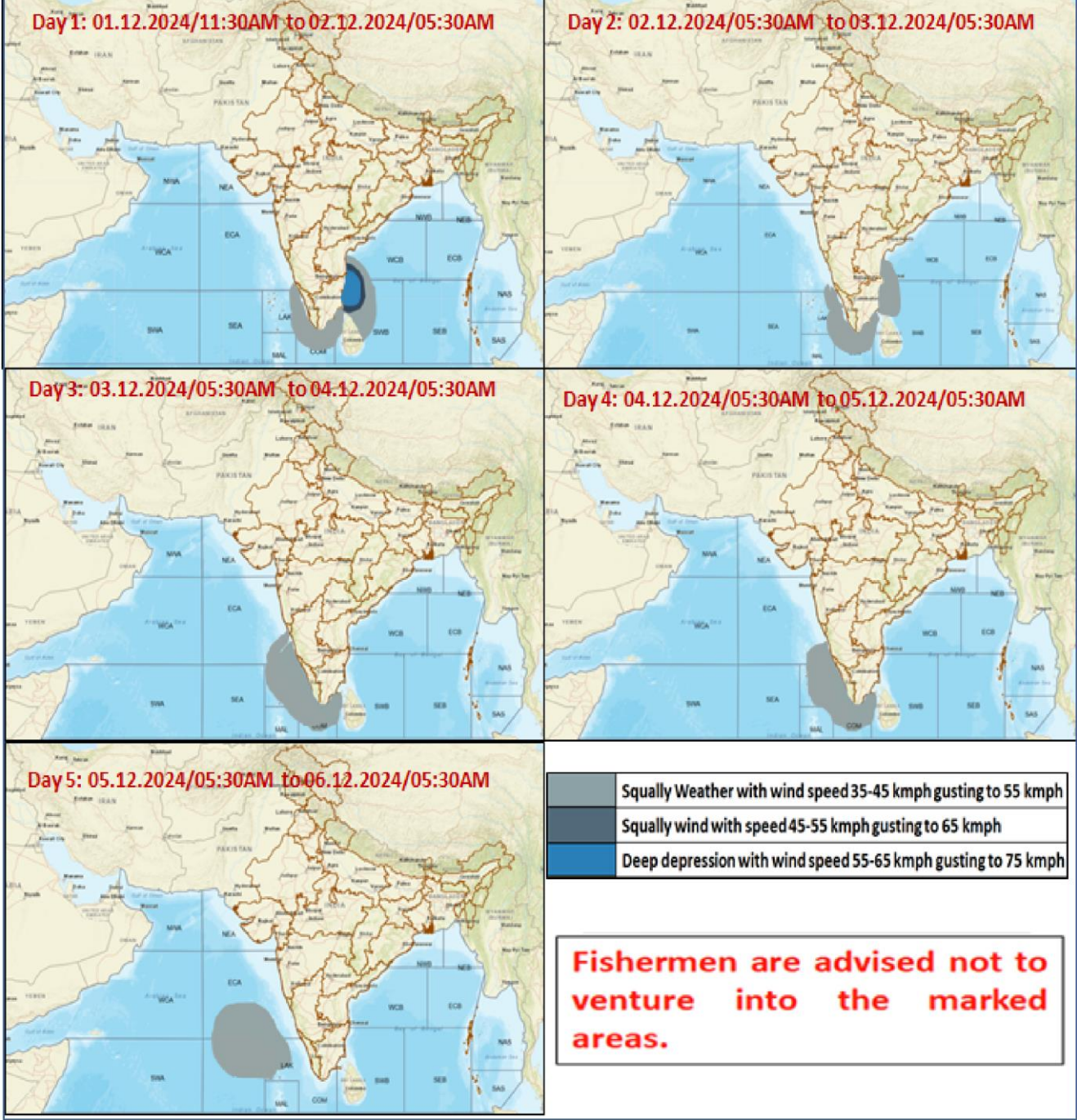


STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/ TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)*	EXPECTED INUNDATION EXTENT (km)
Chengalpattu	Kancheepuram	Tamil Nadu	Muthukadu	0.2-0.7	Upto 0.13

Fishermen Warning Graphics



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