



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI  
TROPICAL CYCLONE ADVISORY NO. 13**

**DEMS-RSMCSPECIAL TROPICAL CYCLONES NEW DELHI DATED 30.11.2024**

**FROM: RSMC –TROPICAL CYCLONES, NEW DELHI**

**TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)**

**STORM WARNING CENTRE, BANGKOK (THAILAND)**

**STORM WARNING CENTRE, COLOMBO (SRILANKA)**

**STORM WARNING CENTRE, DHAKA (BANGLADESH)**

**STORM WARNING CENTRE, KARACHI (PAKISTAN)**

**METEOROLOGICAL OFFICE, MALE (MALDIVES)**

**OMAN METEOROLOGICAL DEPARTMENT,**

**MUSCAT (THROUGH RTH JEDDAH)**

**YEMEN METEOROLOGICAL SERVICES,**

**REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)**

**NATIONAL CENTRE FOR METEOROLOGY, UAE (THROUGH RTH JEDDAH)**

**PRESIDENCY OF METEOROLOGY AND ENVIRONMENT,**

**SAUDI ARABIA (THROUGH RTH JEDDAH)**

**IRAN METEOROLOGICAL ORGANISATION, (THROUGH RTH JEDDAH)**

**QATAR METEOROLOGICAL DEPARTMENT (THROUGH RTH JEDDAH)**

**TROPICAL CYCLONE ADVISORY NO. 13 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0030 UTC OF 01.12.2024 BASED ON 2100 UTC OF 30.11.2024**

**SUB: CYCLONIC STORM “FENGAL” [PRONOUNCED AS FEINJAL] OVER NORTH COASTAL TAMIL NADU-PUDUCHERRY COASTS**

THE CYCLONIC STORM “FENGAL” [PRONOUNCED AS FEINJAL] OVER NORTH COASTAL TAMIL NADU & PUDUCHERRY MOVED SOUTHWESTWARDS WITH A SPEED OF 7 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 2100 UTC OF THE 30TH NOVEMBER 2024 OVER THE SAME REGION NEAR LATITUDE 12.0°N AND LONGITUDE 79.8°E, CLOSE TO PUDUCHERRY.

IT IS LIKELY TO MOVE WESTWARDS SLOWLY AND WEAKEN GRADUALLY INTO A DEEP DEPRESSION OVER NORTH COASTAL TAMILNADU AND PUDUCHERRY DURING THE NEXT 3 HOURS. THE SYSTEM IS BEING CONTINUOUSLY MONITORED BY THE DOPPLER WEATHER RADAR AT CHENNAI & KARAIKAL.

ESTIMATED CENTRAL PRESSURE IN ASSOCIATION WITH THE SYSTEM IS 993 HPA AND ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 35 KTS GUSTING TO 45 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 0000 UTC OF 01ST DECEMBER. IT WILL GRADUALLY IMPROVE BECOMING ROUGH FROM 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

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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SOUTH & ADJOINING CENTRAL BAY OF BENGAL AND NEIGHBORHOOD BETWEEN LATITUDE 8.0N TO 18.0N AND LONGITUDE 80.0E TO 90.0E WITH MINIMUM CLOUD TOP TEMPERATURE AS MINUS 50-60°C. MODERATE TO INTENSE CONVECTION LAY OVER NORTH COASTAL ANDHRA PRADESH, TELANGANA, KARNATAKA, AND TAMILNADU.

PUDUCHERRY REPORTED MEAN SEA LEVEL PRESSURE OF 993.6 HPA AT 2100 UTC OF 30<sup>TH</sup> NOVEMBER.

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
30.11.24/2100	12.0/79.8	60-70 GUSTING TO 80	CYCLONIC STORM
01.12.24/0000	12.0/79.7	55-65 GUSTING TO 75	DEEP DEPRESSION
01.12.24/0600	12.0/79.5	45-55 GUSTING TO 65	DEPRESSION

#### **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 03 HOURS.

#### **FISHERMAN WARNING:**

- TOTAL SUSPENSION OF FISHING OPERATIONS.
- 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 EAST SRI LANKA COASTS TILL 01<sup>ST</sup> DECEMBER.
- FISHERMEN OUT AT SEA ARE ADVISED TO RETURN TO COAST.

#### **REMARKS:**

THE SYSTEM IS OVER AN AREA WITH SEA SURFACE TEMPERATURE (SST) ABOUT 27<sup>0</sup>C. 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/CM<sup>2</sup> 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 THE SYSTEM AREA WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. THE LOW LEVEL CONVERGENCE IS AROUND  $20 \times 10^{-5} \text{ S}^{-1}$  AROUND SYSTEM AREA. UPPER LEVEL DIVERGENCE IS AROUND  $40 \times 10^{-5} \text{ S}^{-1}$  TO THE NORTHEAST OF SYSTEM AREA. VERTICAL WIND SHEAR IS MODERATE (15-20 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.

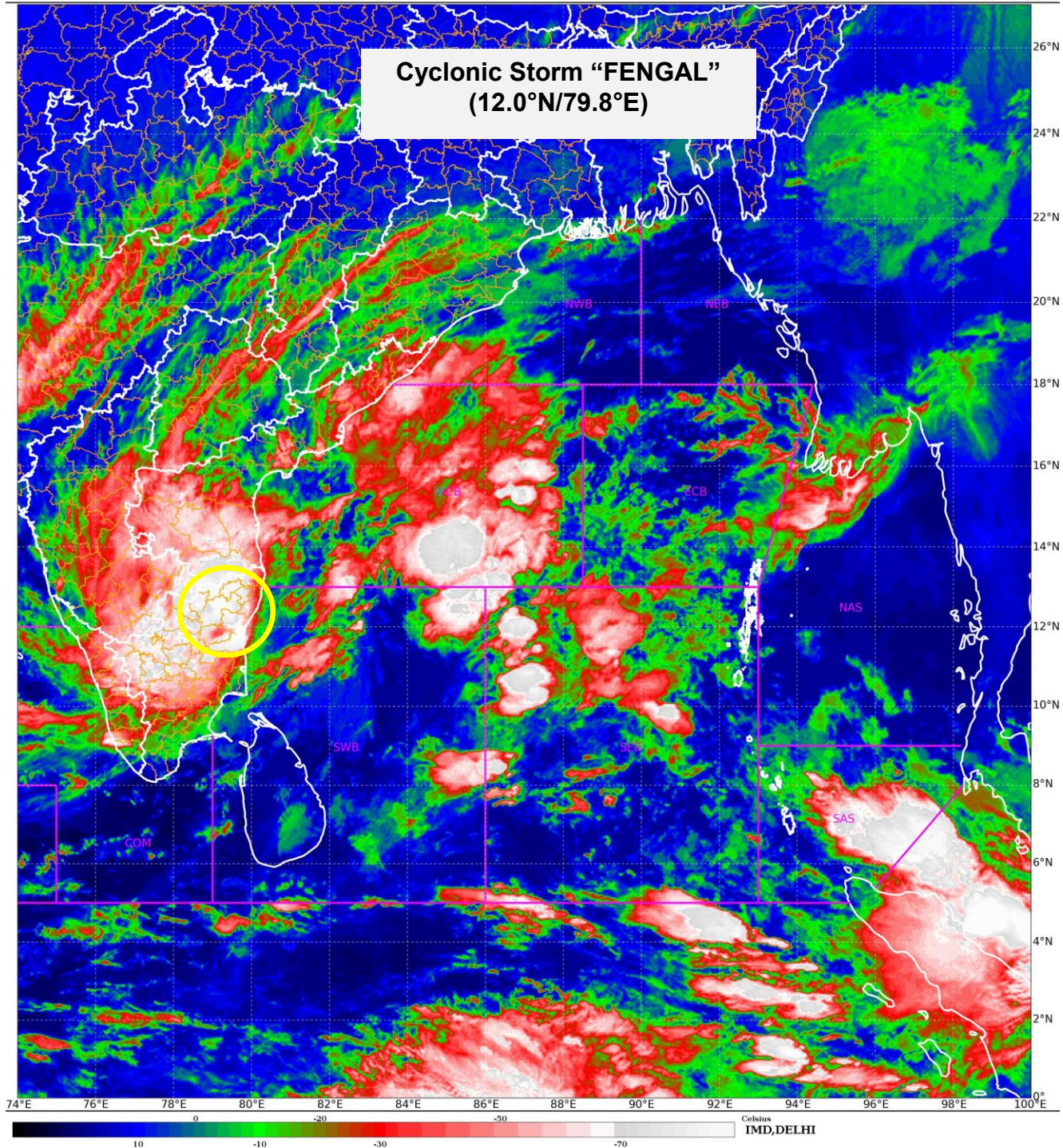
THERE IS CONVERGENCE AMONG VARIOUS MODELS WITH RESPECT TO

MOVEMENT OF THE CYCLONIC SYSTEM. IT IS INFERRED THAT THE CYCLONIC STORM “FENGAL” WILL MOVE WESTWARDS SLOWLY AND WEAKEN GRADUALLY INTO A DEEP DEPRESSION OVER NORTH COASTAL TAMILNADU AND PUDUCHERRY DURING THE NEXT 3 HOURS.THE SYSTEM IS BEING CONTINUOUSLY MONITORED BY THE DOPPLER WEATHER RADAR AT CHENNAI & KARAIKAL.

**NEXT BULLETIN WILL BE ISSUED AT 0300 UTC OF 01<sup>st</sup> DECEMBER, 2024.**

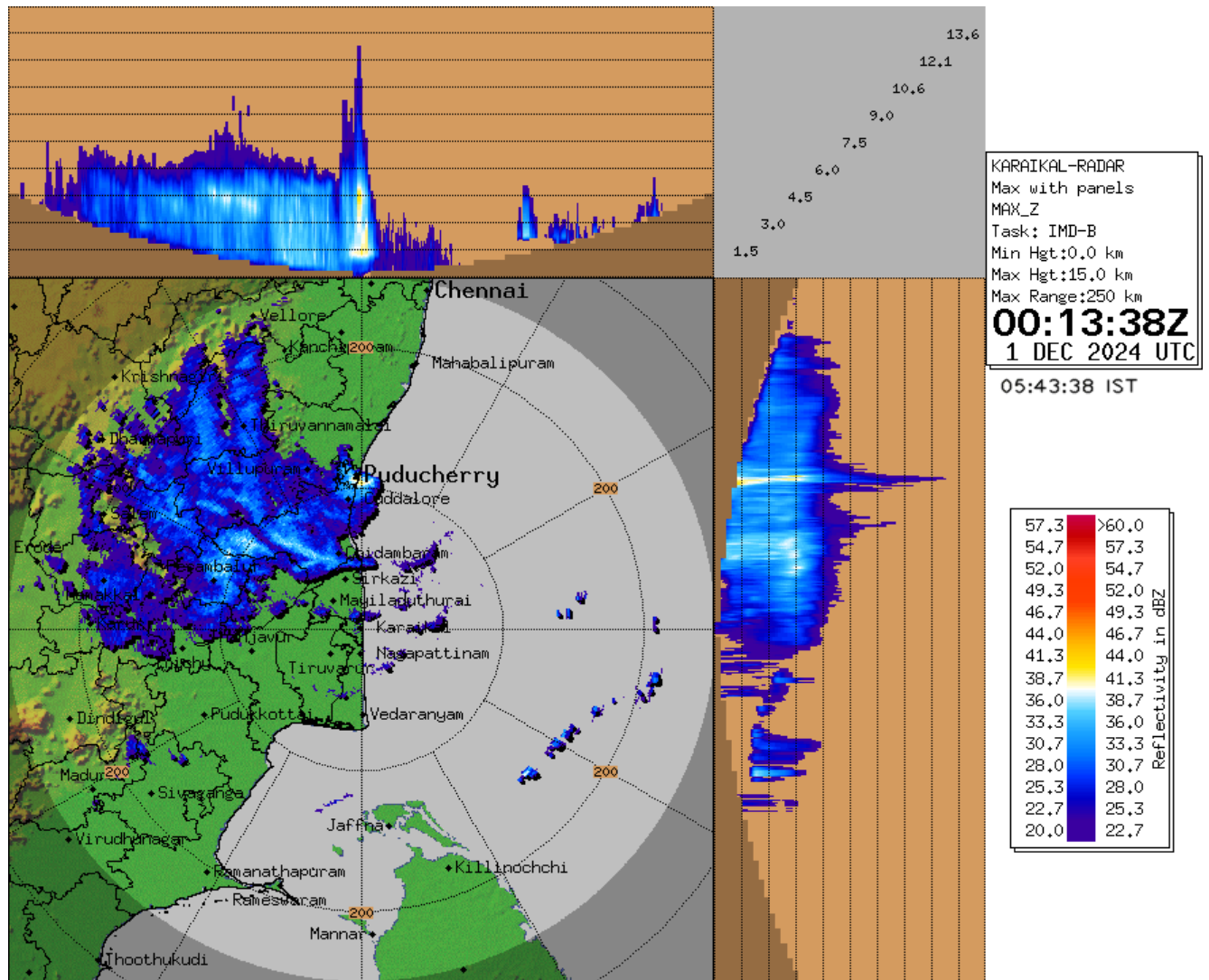
**(SHIBIN BALAKRISHNAN)  
SCIENTIST-D, RSMC, NEW DELHI**







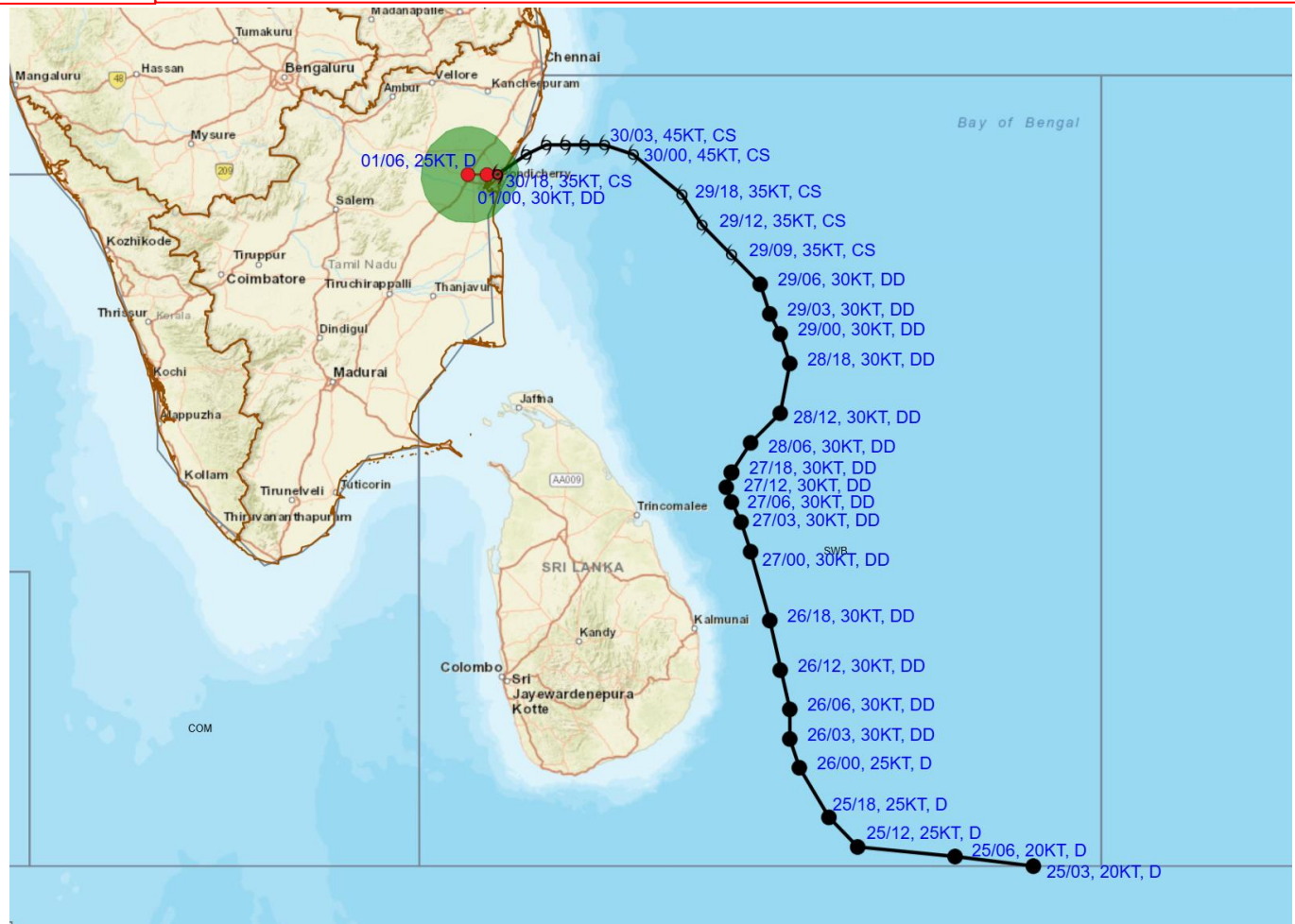
## MAXIMUM REFLECTIVITY IMAGERY FROM DOPPLER WEATER RADAR, KARIKAL



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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**OBSERVED AND FORECAST TRACK ALONG WITH CONE OF UNCERTAINTY OF CYCLONIC STORM “FENGAL” OVER NORTH COASTAL TAMIL NADU AND PUDUCHERRY COASTS BASED ON 1800 UTC (2330 HRS. IST) OF 30TH NOVEMBER, 2024.**



DATE/TIME : IN UTC  
IST : UTC + 0530  
KT : NAUTICAL MILE/SHOUR = 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)  
ECS : EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)  
SuCS : SUPER CYCLONIC STORM ( $\geq 120$  KT)

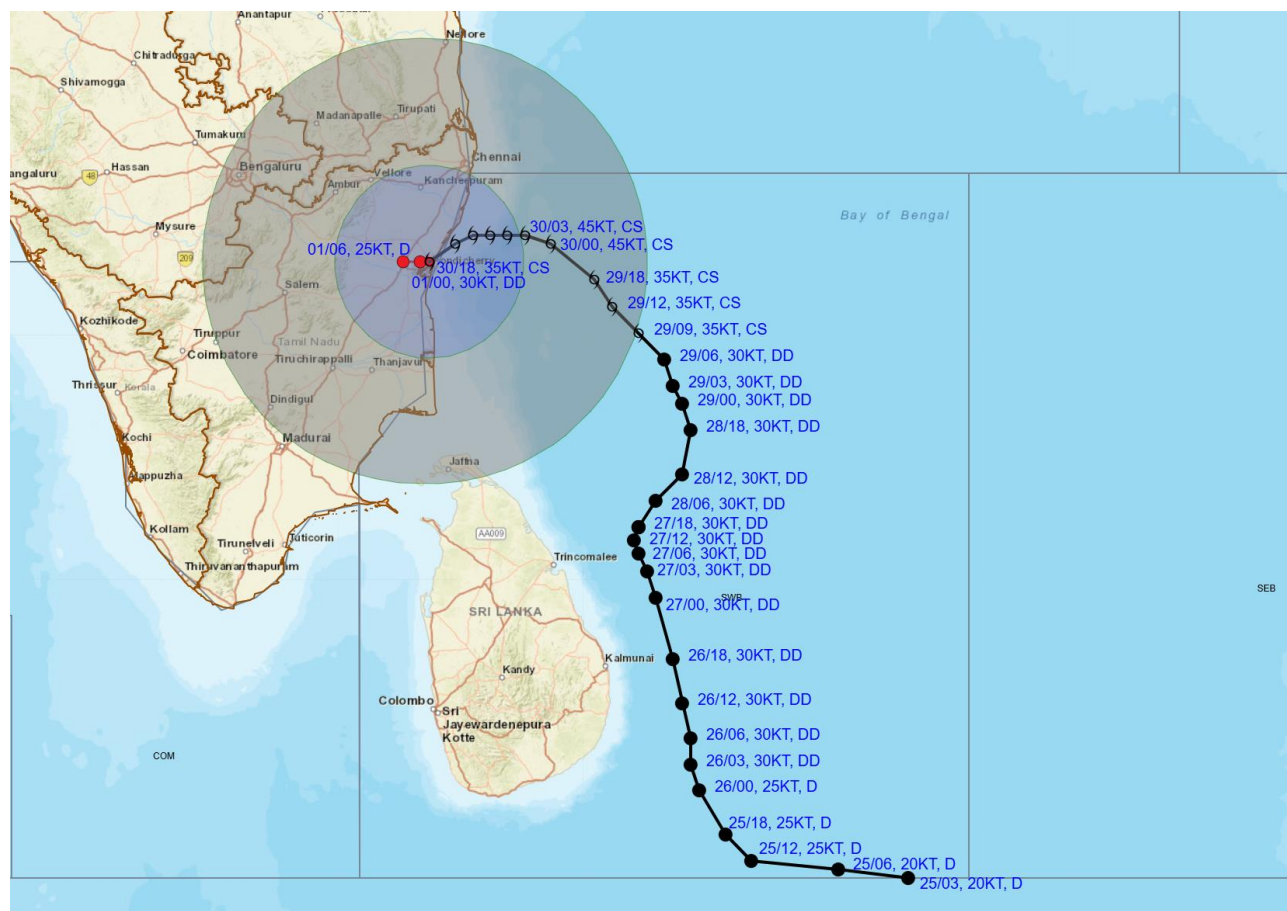
● LESS THAN 34 KT  
○ 34-47 KT  
○  $\geq 48$  KT  
— OBSERVED TRACK  
— FORECAST TRACK  
● CONE OF UNCERTAINTY

Forecast	DISTANCE (KM) AND DIRECTION FROM STATIONS		
Date and Time (UTC)	MAHABALIPURAM	MO PONDICHERRY	CHENNAI/MINAMB AKKAM
30.11.24/1800	80, SSW	0, NNW	120, SSW
01.12.24/0000	90, SW	10, WNW	120, SSW
01.12.24/0600	100, SW	30, W	130, SW

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# OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM “FENGAL” OVER NORTH COASTAL TAMIL NADU AND PUDUCHERRY COASTS BASED ON 1800 UTC (2330 HRS. IST) OF 30TH 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)  
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ECS : EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)  
SuCS : SUPER CYCLONIC STORM ( $\geq 120$  KT)

● LESS THAN 34 KT  
○ 34-47 KT  
○  $\geq 48$  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)  
■  $\geq 64$  KT ( $\geq 118$  KMPH)

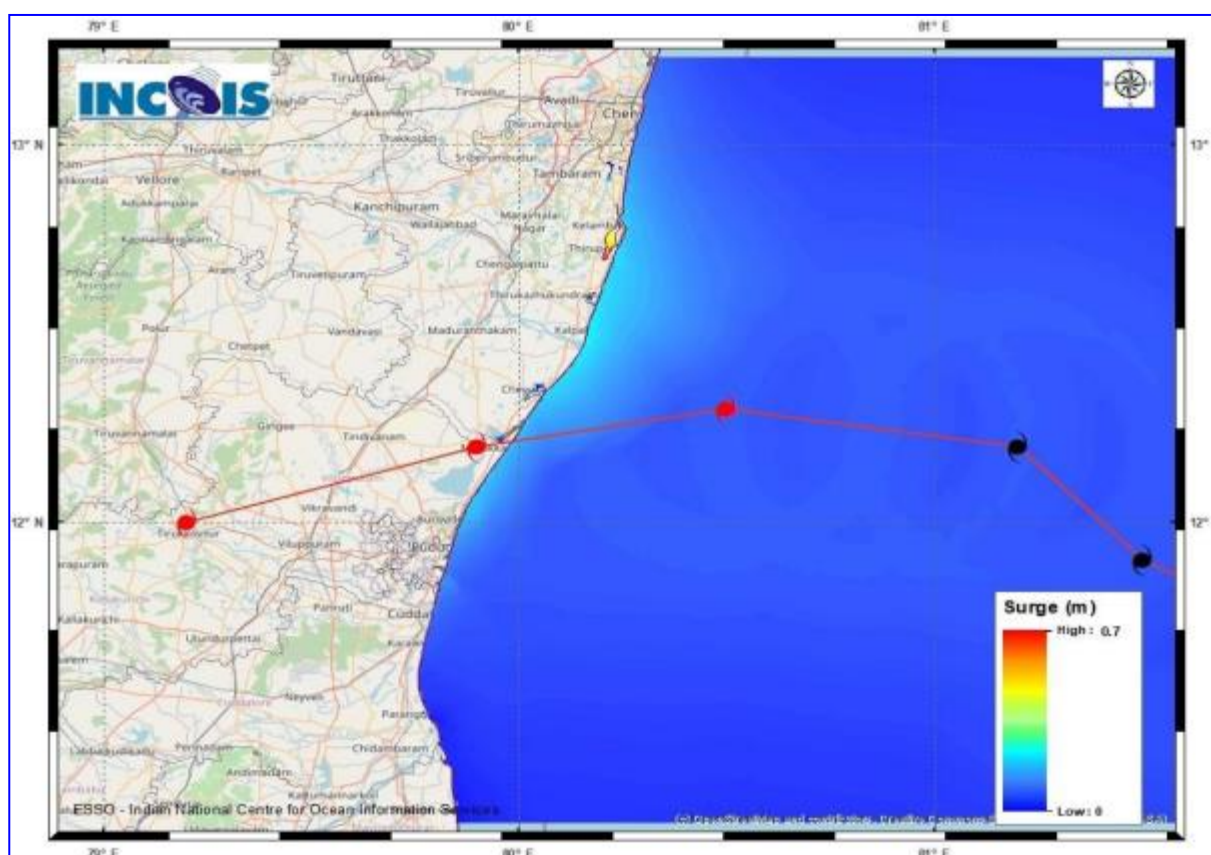
## IMPACT OVER THE SEA

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
$\geq 64$ ( $\geq 118$ )	Phenomenal	Total suspension of fishing operations

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## Storm Surge Guidance



### STORM SURGE HEIGHT INFORMATION:

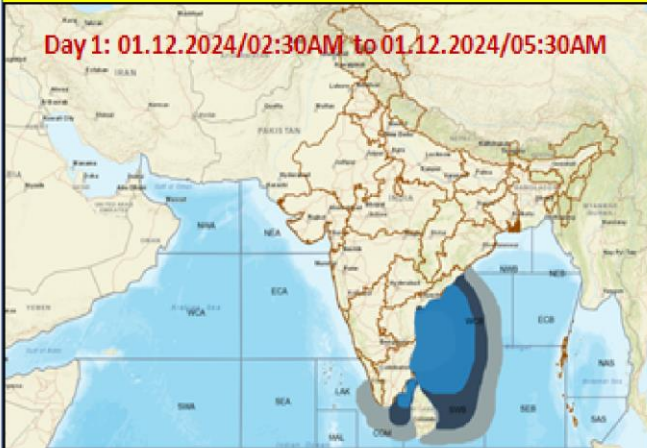
\* The below listed surge heights are over and above astronomical tide.

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

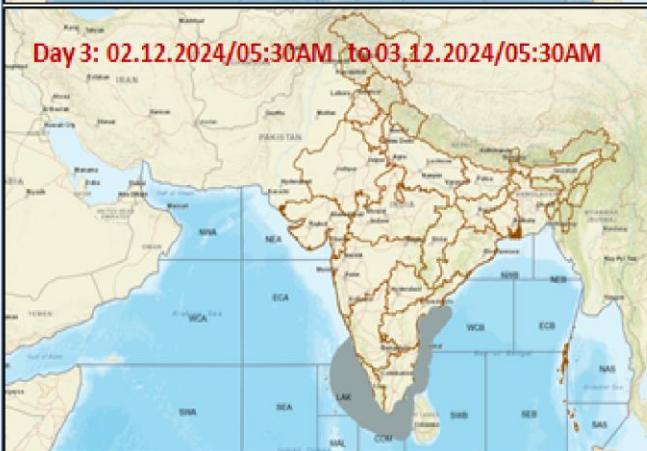
**Day 1: 01.12.2024/02:30AM to 01.12.2024/05:30AM**



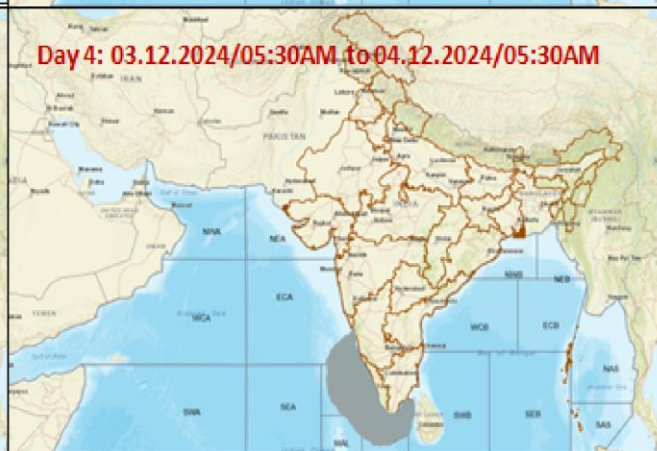
**Day 2: 01.12.2024/05:30AM to 02.12.2024/05:30AM**



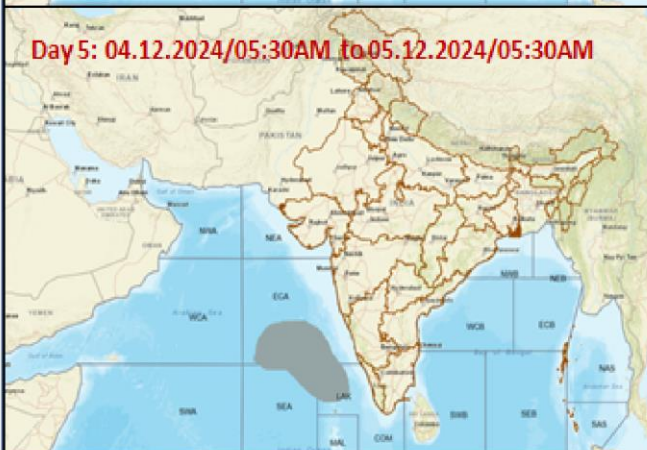
**Day 3: 02.12.2024/05:30AM to 03.12.2024/05:30AM**



**Day 4: 03.12.2024/05:30AM to 04.12.2024/05:30AM**



**Day 5: 04.12.2024/05:30AM to 05.12.2024/05:30AM**



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

**Fishermen are advised not to venture into the marked areas.**