



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI  
TROPICAL CYCLONE ADVISORY NO. 11**

**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. 10 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1630 UTC OF 30.11.2024 BASED ON 1500 UTC OF 30.11.2024**

**SUB: CYCLONIC STORM “FENGAL” [PRONOUNCED AS FEINJAL] OVER SOUTHWEST BAY OF BENGAL CLOSE TO NORTH TAMIL NADU-PUDHUCHERRY COASTS**

THE CYCLONIC STORM “FENGAL” [PRONOUNCED AS FEINJAL] OVER SOUTHWEST BAY OF BENGAL MOVED WEST-SOUTHWESTWARDS WITH A SPEED OF 7 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 1500 UTC OF TODAY, THE 30TH NOVEMBER 2024 OVER THE SOUTHWEST BAY OF BENGAL CLOSE TO NORTH TAMIL NADU - PUDHUCHERRY COASTS NEAR LATITUDE 12.2°N AND LONGITUDE 80.1°E, ABOUT 15 KM AWAY FROM THE COAST, 50 KM SOUTH-SOUTHEAST OF MAHABALIPURAM (TAMIL NADU), 40 KM NORTHEAST OF PUDUCHERRY (43331) AND 90 KM SOUTH OF CHENNAI (43279).

LATEST OBSERVATIONS INDICATE THAT THE FORWARD SECTOR OF SPIRAL BANDS ASSOCIATED WITH THE CYCLONE HAS ENTERED INTO THE LAND. IT IS LIKELY TO MOVE WEST-SOUTHWESTWARDS AND CROSS NORTH TAMIL NADU-PUDUCHERRY COASTS BETWEEN KARAİKAL AND MAHABALIPURAM CLOSE TO PUDUCHERRY AS A CYCLONIC STORM WITH A WIND SPEED OF 70-80 KMPH GUSTING TO 90 KMPH DURING NEXT 3 HOURS. LANDFALL PROCESS WILL CONTINUE DURING THE SAME PERIOD.

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

ESTIMATED CENTRAL PRESSURE IN ASSOCIATION WITH THE SYSTEM IS 994 HPA AND ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 40 KTS GUSTING TO 50 KTS. VERY ROUGH TO HIGH SEA CONDITIONS IS VERY LIKELY 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 1500 UTC OF 30TH NOVEMBER. IT WILL GRADUALLY IMPROVE BECOMING VERY ROUGH TO ROUGH FROM 1800 UTC OF 30<sup>TH</sup> NOVEMBER.

AS PER LATEST SATELLITE IMAGERY, INTENSITY OF THE SYSTEM IS CHARACTERIZED AS T2.5/C.I. 3.0. AREA OF INTENSE CONVECTION IS SEEN TO THE NORTHWEST 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 NEIGHBORHOOD BETWEEN LATITUDE 8.0N TO 18.0N AND LONGITUDE 80.0E TO 90.0E WITH MINIMUM CLOUD TOP TEMPERATURE AS MINUS 70-93°C. MODERATE TO INTENSE CONVECTION LAY OVER COASTAL ANDHRA PRADESH, TELANGANA, KARNATAKA, CENTRAL TAMILNADU.

PUDUCHERRY REPORTED MEAN SEA LEVEL PRESSURE OF 998.7 HPA AT 30/1500 UTC.

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
30.11.24/1500	12.2/80.1	70-80 gusting to 90	Cyclonic Storm
30.11.24/1800	12.1/79.8	55-65 gusting to 75	Deep Depression
01.12.24/0000	12.0/79.5	50-60 gusting to 70	Deep Depression

**STORM SURGE WARNING:**

STORM SURGE OF ABOUT 1 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 THE TIME OF LANDFALL.

**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 30<sup>TH</sup> NOVEMEBR.
- FISHERMEN OUT AT SEA ARE ADVISED TO RETURN TO COAST.

**REMARKS:**

THE SYSTEM IS OVER AN AREA WITH SEA SURFACE TEMPERATURE (SST) ABOUT 27°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

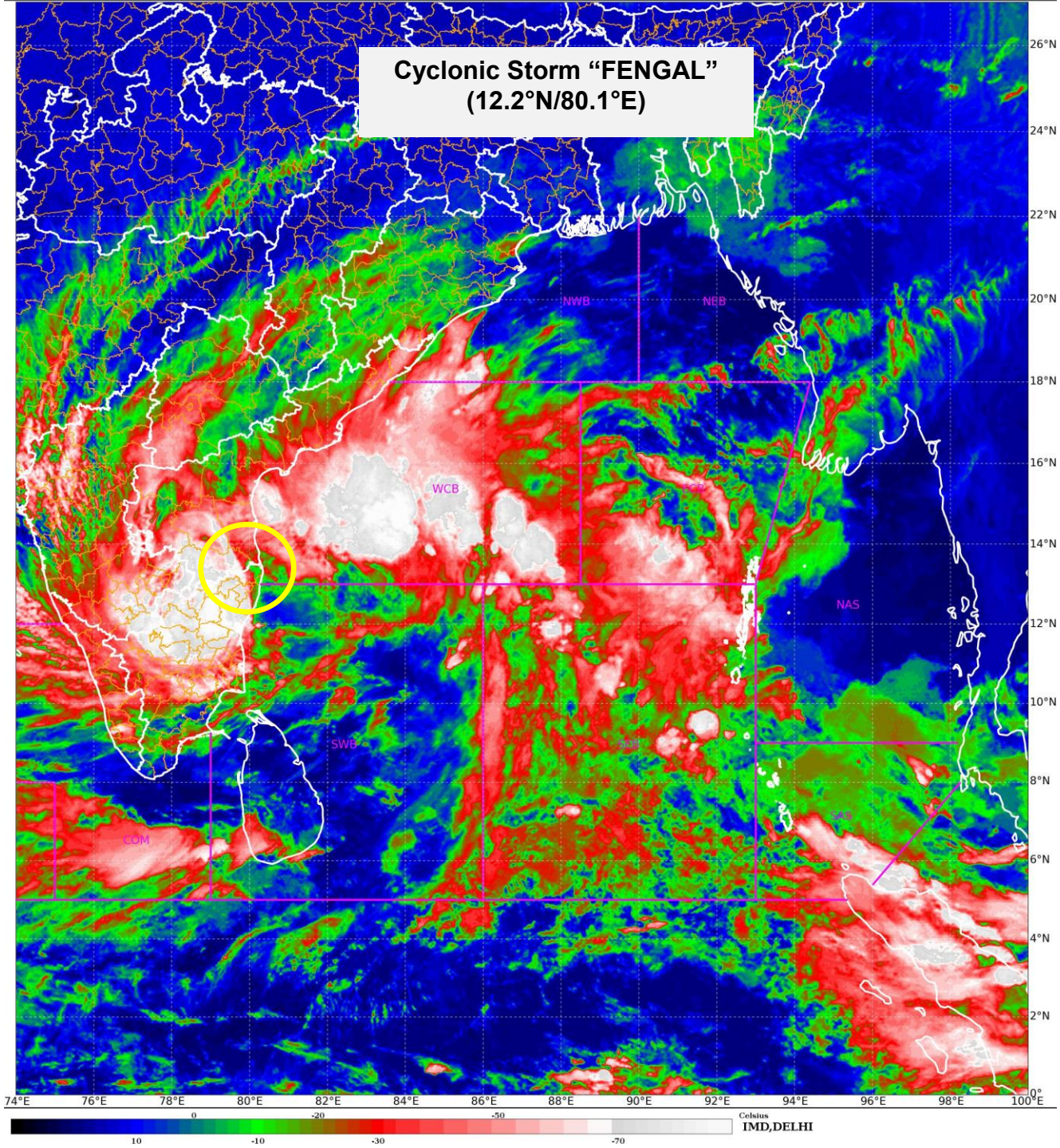
LOW LEVEL POSITIVE CYCLONIC VORTICITY AT 850 HPA LEVEL HAS DECREASED DURING PAST 3 HOURS AND IS AROUND 150X10<sup>-5</sup> S<sup>-1</sup> OVER THE SYSTEM AREA WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. THE AREA OF POSITIVE VORTICITY HAS ALSO DECREASED. THE LOW LEVEL CONVERGENCE IS AROUND 20 X10<sup>-5</sup> S<sup>-1</sup> AROUND SYSTEM AREA. UPPER LEVEL DIVERGENCE HAS DECREASED AND IS AROUND 40X10<sup>-5</sup> S<sup>-1</sup> 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 WRT TRACK. HOWEVER, THERE IS LARGE VARIATION AMONG VARIOUS MODELS WRT INTENSITY. MOST OF THE MODELS ARE ALSO INDICATING THE SYSTEM TO MOVE VERY SLOW NEAR TO COAST.

HENCE, IT IS INFERRED THAT THE CYCLONIC STORM “FENGAL” OVER SOUTHWEST BAY OF BENGAL IS LIKELY TO MOVE WEST-SOUTHWESTWARDS AND CROSS NORTH TAMIL NADU-PUDUCHERRY COASTS BETWEEN KARAİKAL AND MAHABALIPURAM CLOSE TO PUDUCHERRY AS A CYCLONIC STORM WITH A WIND SPEED OF 70-80 KMPH GUSTING TO 90 KMPH DURING NEXT 3 HOURS. LANDFALL PROCESS WILL CONTINUE DURING THE SAME PERIOD.

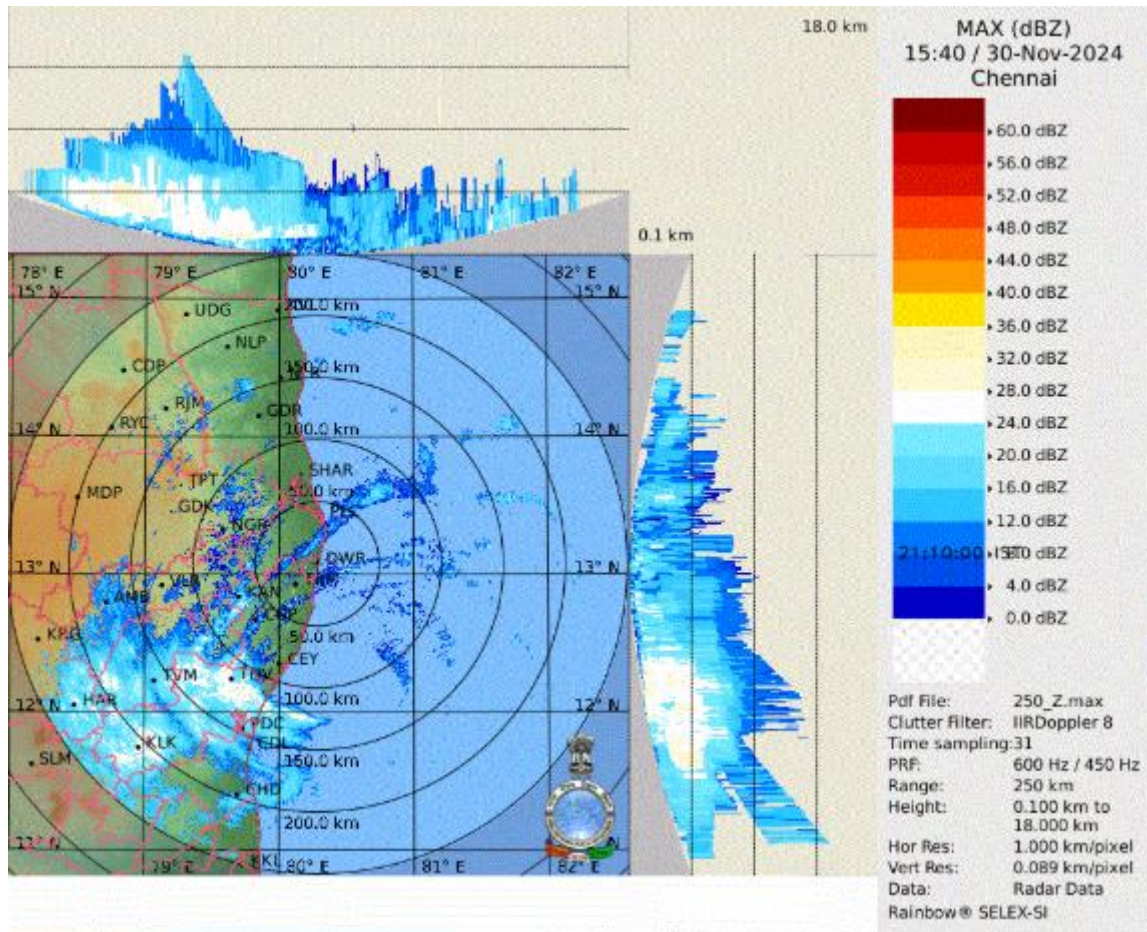
**NEXT BULLETIN WILL BE ISSUED AT 2000 UTC OF 30<sup>TH</sup> NOVEMBER, 2024.**

**(DR. ARULALAN T)  
SCIENTIST C, RSMC, NEW DELHI**



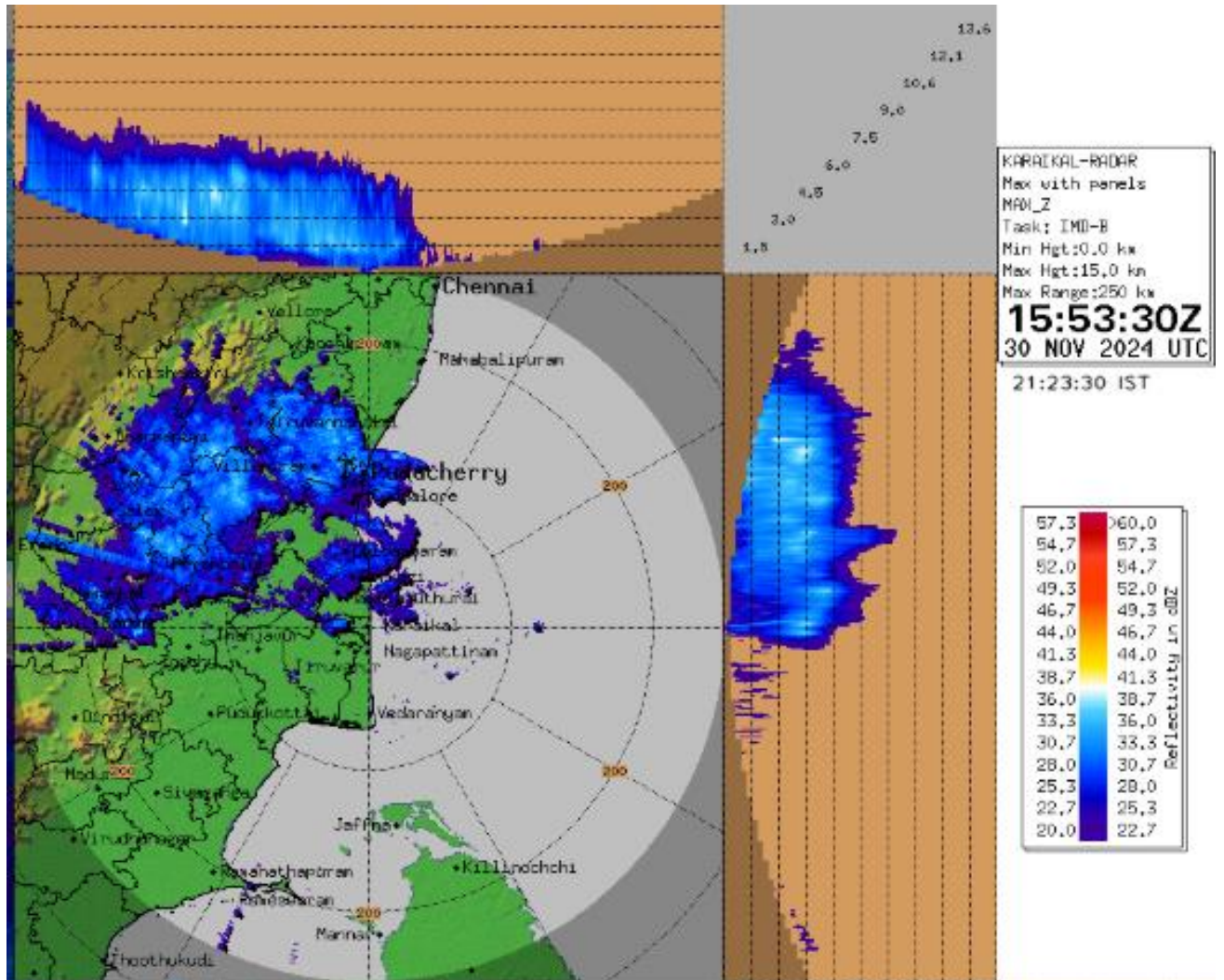
Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C  
PROBABILITY OF CYCLOGENESIS (FORMATION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



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  
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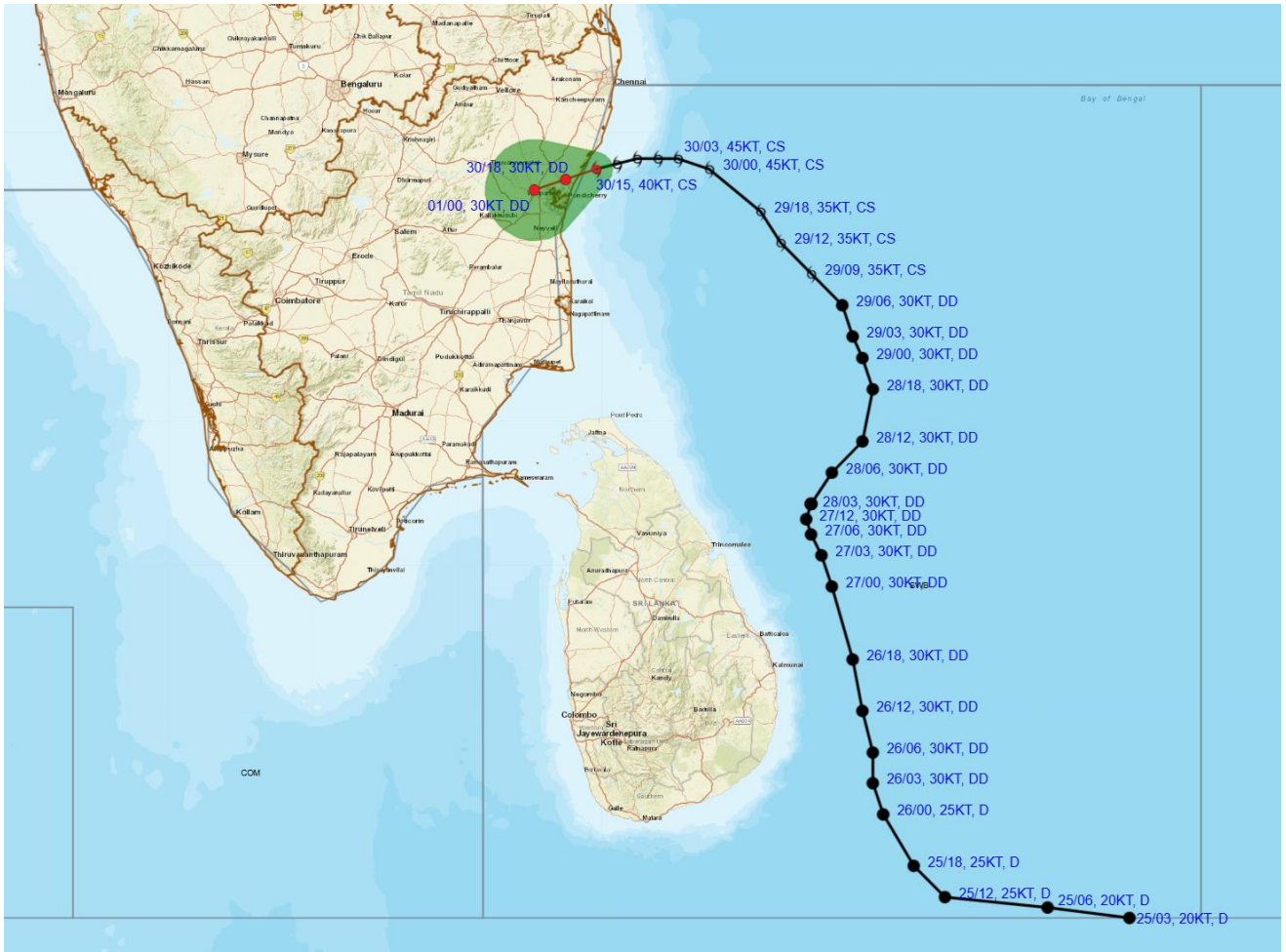
**MAXIMUM REFLECTIVITY IMAGERY FROM DOPPLER WEATER RADAR, KARIKAL**



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  
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**OBSERVED AND FORECAST TRACK ALONG WITH CONE OF UNCERTAINTY OF CYCLONIC STORM "FENGAL" OVER SOUTHWEST BAY OF BENGAL CLOSED TO TAMIL NADU – PUDUCHERRY COASTS BASED ON 1500 UTC (2030 HRS. IST) OF 30<sup>TH</sup> NOVEMBER, 2024.**



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

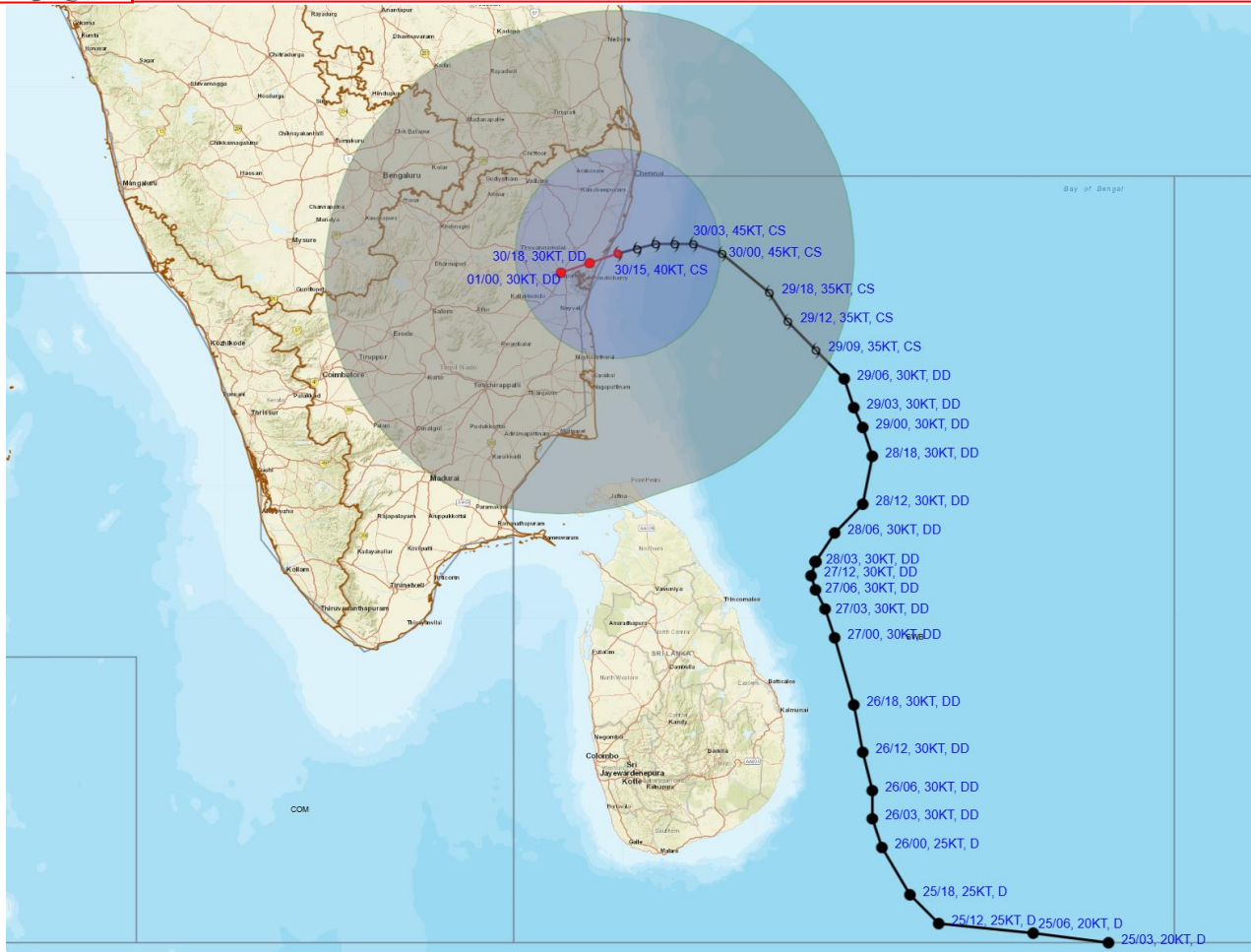
LESS THAN 34 KT  
 34-47 KT  
 ≥ 48 KT  
 OBSERVED TRACK  
 FORECAST TRACK  
 CONE OF UNCERTAINTY

Forecast	DISTANCE (KM) AND DIRECTION FROM STATIONS		
	MAHABALIPURAM	MO PONDICHERRY	CHENNAI/MINAMB AKKAM
<b>30.11.24/1500</b>	<b>50, SSW</b>	<b>40, NE</b>	<b>90, S</b>
<b>30.11.24/1800</b>	<b>70, SW</b>	<b>10, N</b>	<b>110, SSW</b>
<b>01.12.24/0000</b>	<b>100, SW</b>	<b>30, W</b>	<b>130, SW</b>

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**OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "FENGAL" OVER SOUTHWEST BAY OF BENGAL CLOSED TO TAMIL NADU - PUDUCHERRY COASTS BASED ON 1500 UTC (2030 HRS. IST) OF 30<sup>TH</sup> NOVEMBER, 2024.**



DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: 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 (48-63KT)  
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)  
 SuCS: SUPER CYCLONIC STORM ( $\geq$  120 KT)

1KT=1.85 KMPH

● 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)

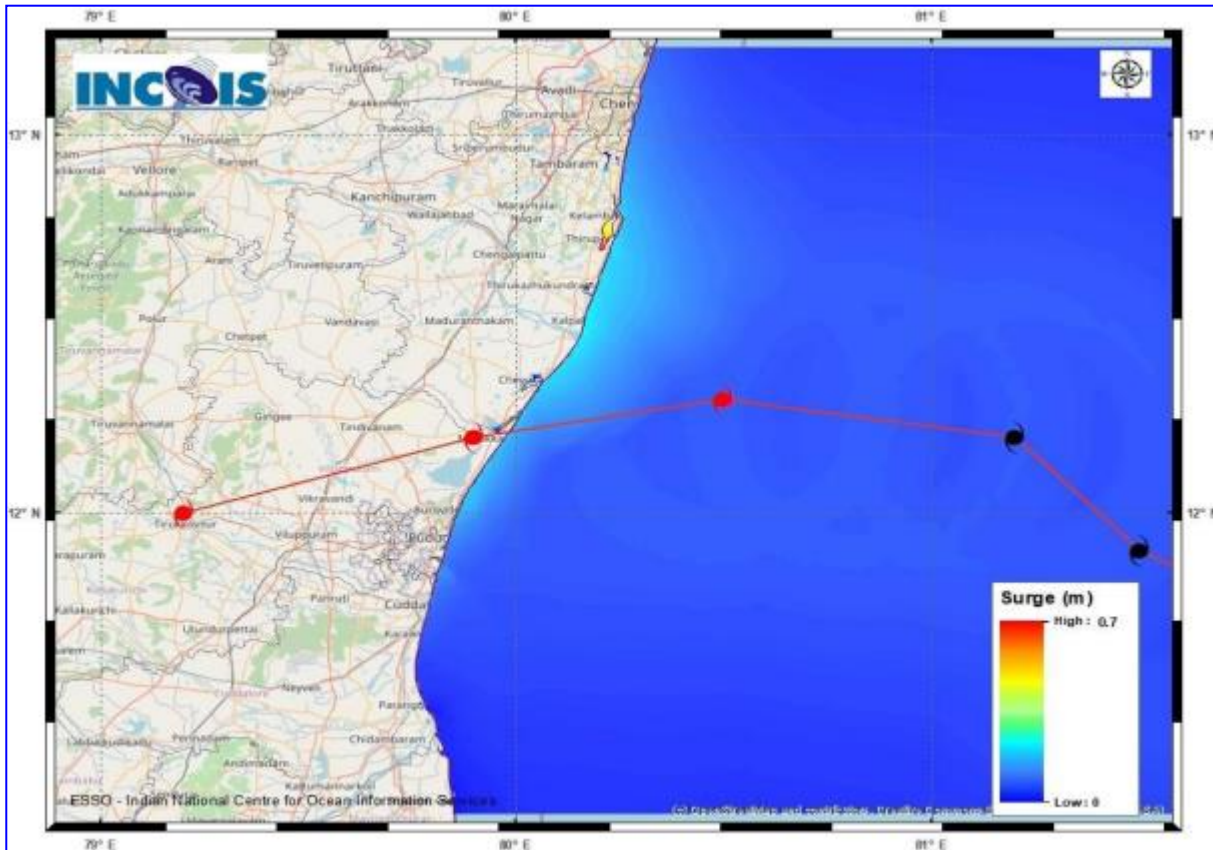
**IMPACT OVER THE SEA**

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

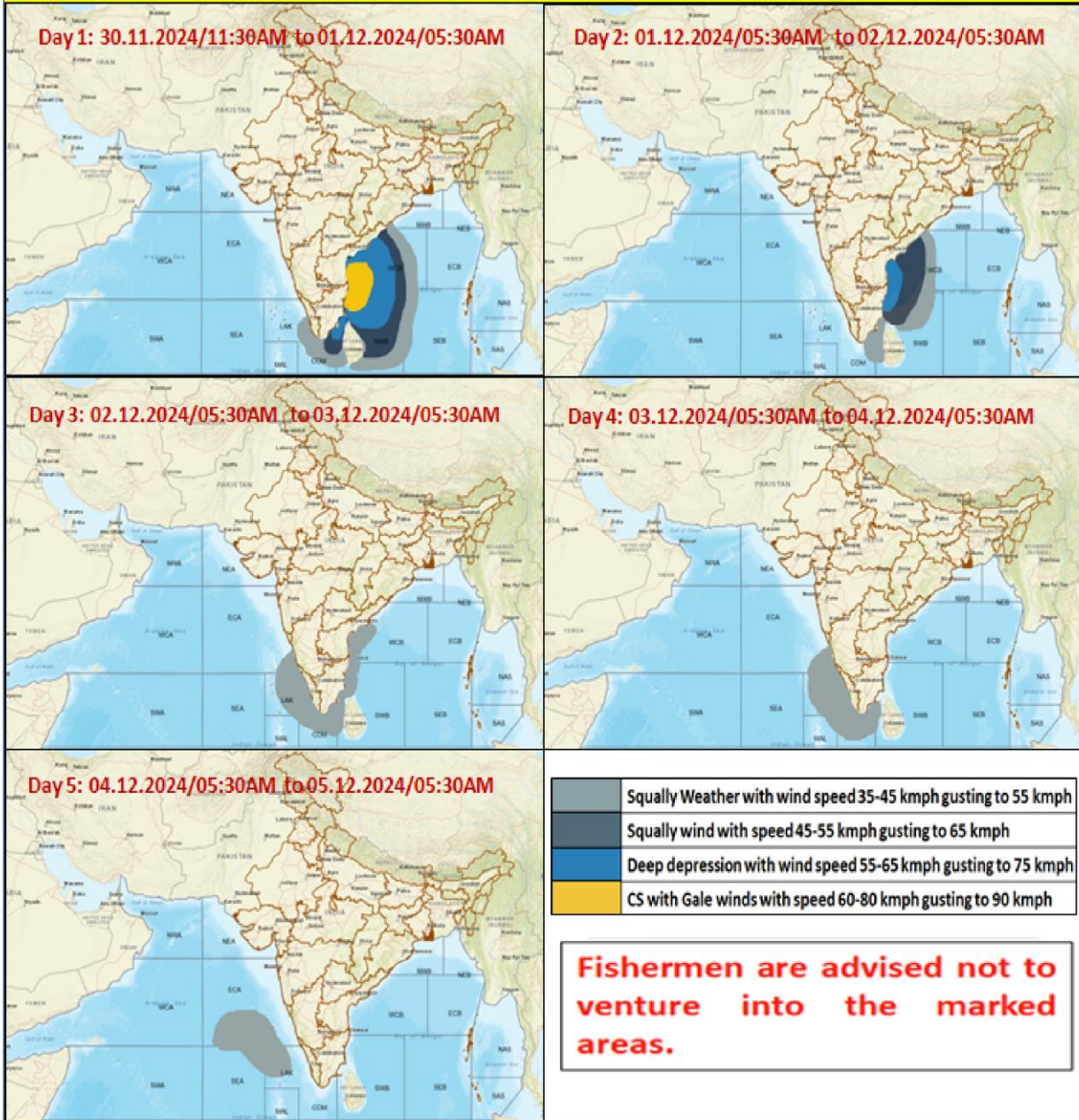


### **STORM SURGE HEIGHT INFORMATION:**

\* 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



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