



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI  
TROPICAL CYCLONE ADVISORY NO. 04**

**DEMS-RSMCSPECIAL TROPICAL CYCLONES NEW DELHI DATED 29.11.2024**

**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. 04 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2100 UTC OF 29.11.2024 BASED ON 1800 UTC OF 29.11.2024**

**SUB: CYCLONIC STORM “FENGAL” [PRONOUNCED AS FEINJAL] OVER SOUTHWEST BAY OF BENGAL**

THE CYCLONIC STORM “FENGAL” [PRONOUNCED AS FEINJAL] OVER SOUTHWEST BAY OF BENGAL MOVED NORTH-NORTHWESTWARDS WITH A SPEED OF 7 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 1800 UTC OF TODAY, THE 29<sup>TH</sup> NOVEMBER 2024 OVER THE SAME REGION NEAR LATITUDE 11.8°N AND LONGITUDE 81.7°E, ABOUT 360 KM NORTH OF TRINCOMALEE (43418), 230 KM EAST-NORTHEAST OF NAGAPPATTINAM (43347), 210 KM EAST OF PUDUCHERRY (43331) AND 210 KM SOUTHEAST OF CHENNAI (43279).

IT IS LIKELY TO MOVE NEARLY WEST-NORTHWESTWARDS 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 0600-0900 UTC OF 30<sup>TH</sup> NOVEMBER.

THE SYSTEM IS BEING CONTINUOUSLY MONITORED.

ESTIMATED CENTRAL PRESSURE IN ASSOCIATION WITH THE SYSTEM IS 997 HPA AND ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 35 KTS GUSTING TO 45 KTS. VERY ROUGH TO HIGH SEA CONDITIONS IS VERY LIKELY OVER 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 1200 UTC OF 30TH NOVEMBER. IT WILL GRADUALLY IMPROVE BECOMING VERY ROUGH TO ROUGH TILL 1800 UTC OF 30TH NOVEMBER.

AS PER LATEST SATELLITE IMAGERY, INTENSITY OF THE SYSTEM IS CHARACTERIZED AS T2.5. CLOUDS ARE ORGANISED IN CURVED BAND PATTERN. AREA OF INTENSE CONVECTION IS SEEN 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 NEIGHBORHOOD BETWEEN LATITUDE 7.0N TO 17.0N AND LONGITUDE 80.0E TO 90.0E WITH MINIMUM CLOUD TOP TEMPERATURE AS 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
29.11.24/1800	11.8/81.7	65-75 gusting to 85	CYCLONIC STORM
30.11.24/0000	12.0/81.1	70-80 gusting to 90	CYCLONIC STORM
30.11.24/0600	12.1/80.4	70-80 gusting to 90	CYCLONIC STORM
30.11.24/1200	12.0/79.8	65-75 gusting to 85	CYCLONIC STORM
30.11.24/1800	11.9/79.1	55-65 gusting to 75	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 29°C. THE SST IS LIKELY TO BE RELATIVELY LESS (28°C) ALONG & OFF THE TAMIL NADU COAST. THE TOTAL PRECIPITABLE WATER IMAGERY IS INDICATING

WARM MOIST AIR AROUND SYSTEM AREA. 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

MADDEN JULIAN OSCILLATION (MJO) IS IN PHASE 4 WITH AMPLITUDE MORE THAN 1 AND WOULD MOVE ACROSS PHASE 5 FROM 29<sup>TH</sup> TO 30<sup>TH</sup> NOVEMBER 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 29<sup>TH</sup> - 30<sup>TH</sup> NOVEMBER INDICATE A FAVOURABLE ENVIRONMENT FOR GRADUAL INTENSIFICATION OF SYSTEM.

LOW LEVEL POSITIVE CYCLONIC VORTICITY AT 850 HPA LEVEL HAS INCREASED DURING PAST 6 HOURS AND IS AROUND 180-200X10<sup>-5</sup> S<sup>-1</sup> OVER THE SYSTEM AREA WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL AND NO TILTING. THE LOW LEVEL CONVERGENCE HAS INCREASED AND IS 30 X10<sup>-5</sup> S<sup>-1</sup> AROUND THE SYSTEM AREA AND 20 X10<sup>-5</sup> S<sup>-1</sup> TO ITS SOUTHEAST. UPPER LEVEL DIVERGENCE IS AROUND 30X10<sup>-5</sup> S<sup>-1</sup> TO THE NORTH-NORTHEAST OF SYSTEM CENTRE. VERTICAL WIND SHEAR IS LOW TO MODERATE (15-20 KT) OVER THE SYSTEM AREA.

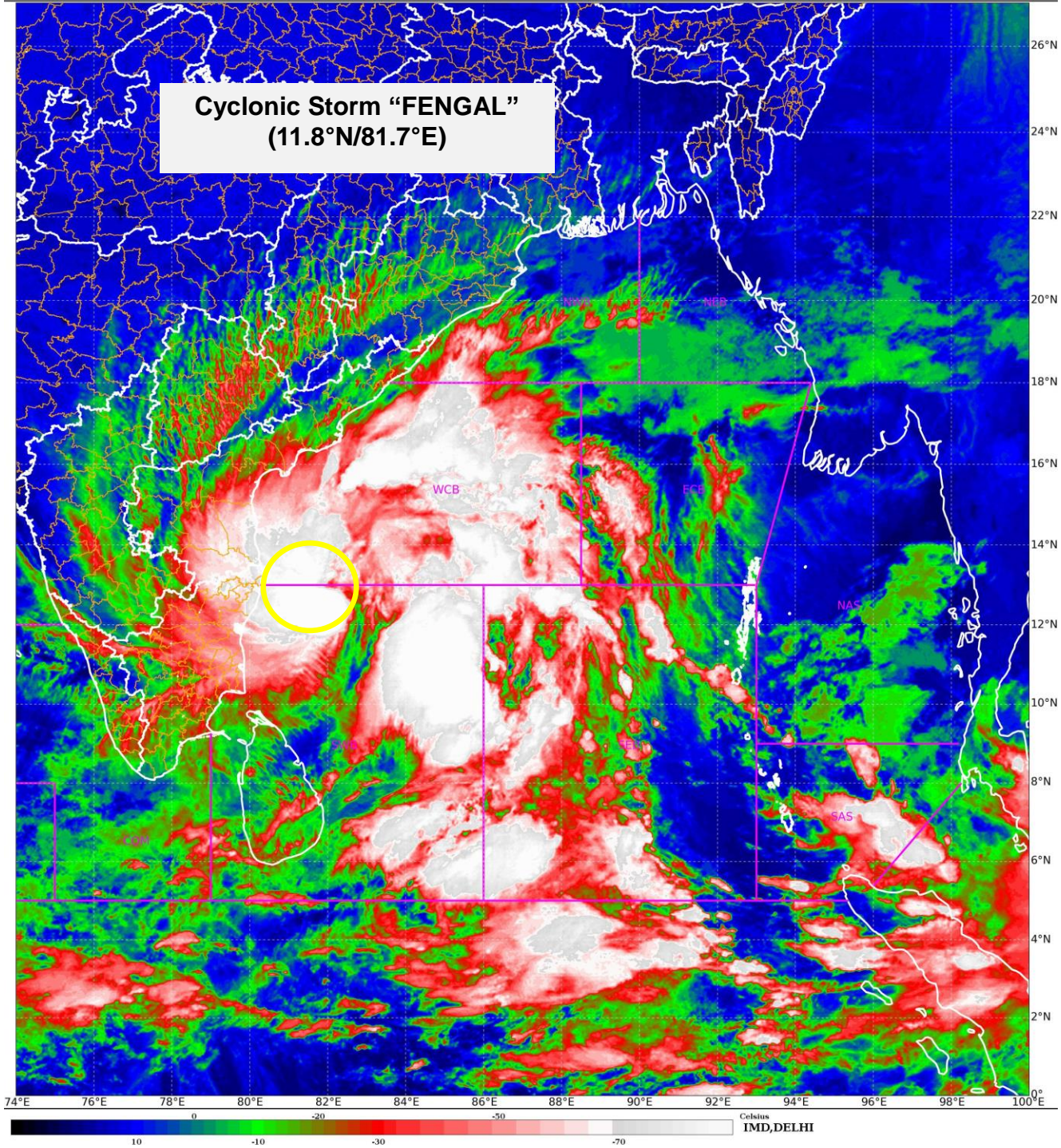
VARIOUS ENVIRONMENTAL FEATURES ARE INDICATING FAVOURABLE ENVIRONMENT (HIGH SST, LOW WIND SHEAR, CONVERGENCE, DIVERGENCE AND POSITIVE VORTICITY, MJO & EQUATORIAL WAVES) FOR GRADUAL INTENSIFICATION OF THE SYSTEM.

MOST OF THE MODELS TODAY ARE INDICATING THE SYSTEM TO CROSS TAMIL NADU COAST AS A CYCLONIC STORM DURING 0600-1200 UTC OF 30<sup>TH</sup> NOVEMBER.

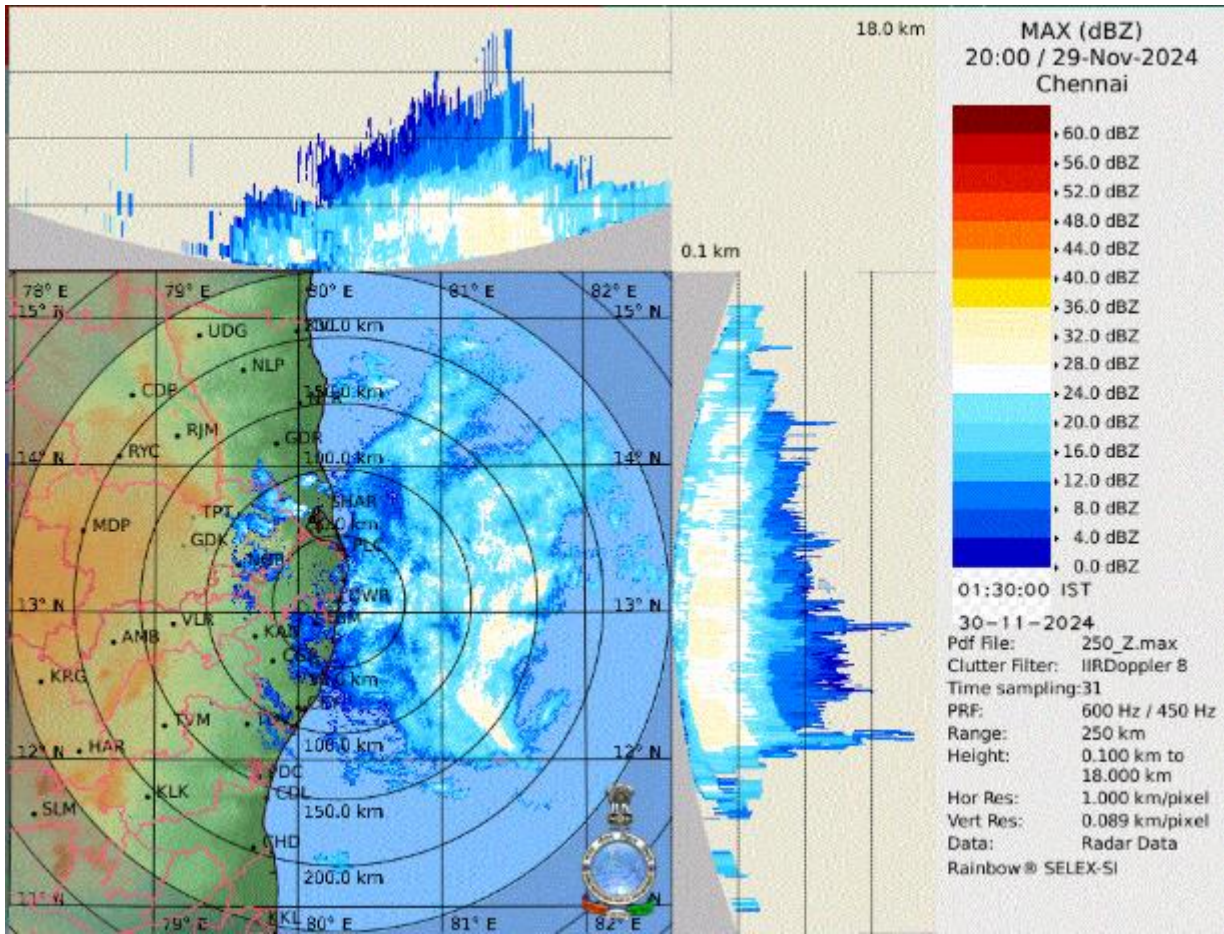
HENCE, IT IS INFERRED THAT THE CYCLONIC STORM "FENGAL" OVER SOUTHWEST BAY OF BENGAL IS LIKELY TO MOVE WEST-NORTHWESTWARDS AND CROSS NORTH TAMIL NADU-PUDUCHERRY COASTS BETWEEN KARAİKAL AND MAHABALIPURAM CLOSE TO PUDUCHERRY AS A CYCLONIC STORM WITH A WIND SPEED OF 70-80 KMPH GUSTING TO 90 KMPH DURING 0600-0900 UTC 30<sup>TH</sup> NOVEMBER.

**NEXT BULLETIN WILL BE ISSUED AT 0000 UTC OF 30<sup>TH</sup> NOVEMBER, 2024.**

**(M. T. BUSHAIR)  
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%  
This is a guidance Bulletin for WMO/ESCAP Panel Member countries. Visit respective National websites for Country specific Bulletins

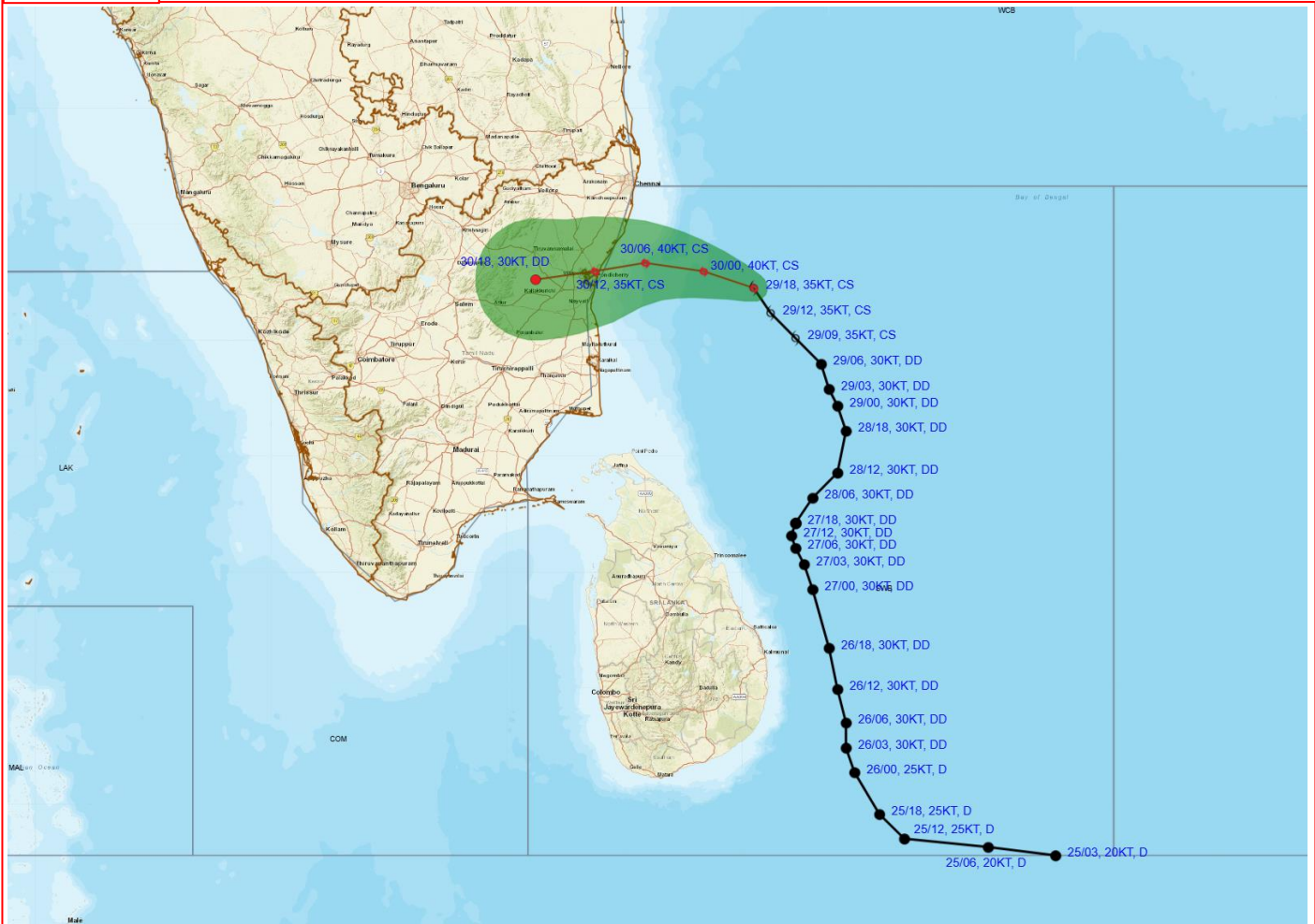


DWR RADAR IMAGE OF CHENNAI

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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**OBSERVED AND FORECAST TRACK ALONG WITH CONE OF UNCERTAINTY OF CYCLONIC STORM "FENGAL" OVER SOUTHWEST BAY OF BENGAL BASED ON 1800 UTC (2330 HRS. IST) OF 29<sup>TH</sup> 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 ( $\geq 120$  KT)

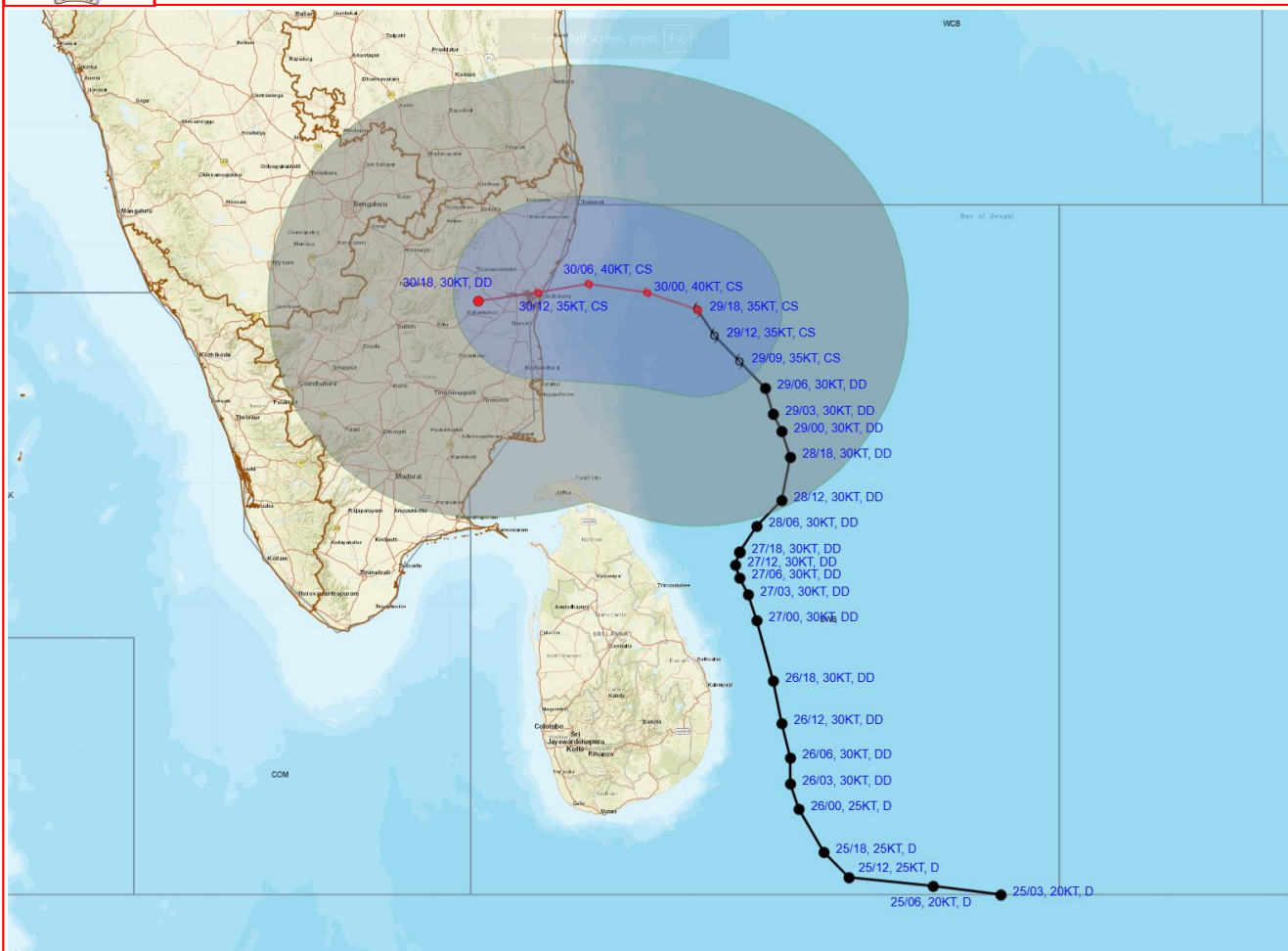
LESS THAN 34 KT  
 34-47 KT  
 $\geq 48$  KT  
 OBSERVED TRACK  
 FORECAST TRACK  
 CONE OF UNCERTAINTY

Forecast	DISTANCE (KM) AND DIRECTION FROM STATIONS				
Date and Time (UTC)	TRINCOMALEE	BATTICALOA	NAGAPPATTINAM	PUDUCHERRY	CHENNAI/MINAMBAKKAM
29.11.24/1800	360, N	450, N	230, ENE	210, E	210, SE
30.11.24/1800	440, NNW	550, NNW	150, NNW	80, W	170, SW

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**OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "FENGAL" OVER SOUTHWEST BAY OF BENGAL BASED ON 1800 UTC (2330 HRS. IST) OF 29<sup>TH</sup> NOVEMBER, 2024.**



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 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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## Fishermen Warning Graphics

