



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI  
TROPICAL CYCLONE ADVISORY NO. 07**

**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. 07 FOR NORTH INDIAN OCEAN (THE BAY OF  
BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0700 UTC  
OF 30.11.2024 BASED ON 0300 UTC OF 30.11.2024**

**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 WEST-NORTHWESTWARDS WITH A SPEED OF 13 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 0300 UTC OF TODAY, THE 30<sup>TH</sup> NOVEMBER 2024 OVER THE SAME REGION NEAR LATITUDE 12.3°N AND LONGITUDE 80.9°E, ABOUT 120 KM EAST-NORTHEAST OF PUDUCHERRY (43331), 110 KM SOUTHEAST OF CHENNAI (43279), 200 KM NORTH-NORTHEAST OF NAGAPPATTINAM (43347) AND 420 KM NORTH OF TRINCOMALEE (43418).

IT IS LIKELY TO MOVE NEARLY WESTWARDS 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 AROUND 1200 UTC OF 30<sup>TH</sup> NOVEMBER.

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

ESTIMATED CENTRAL PRESSURE IN ASSOCIATION WITH THE SYSTEM IS 996 HPA AND ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 45 KTS GUSTING TO 55

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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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 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 T3.0. CLOUDS ARE ORGANISED IN IRREGULAR CDO PATTERN. 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 80-93°C.

MAHABALIPURAM REPORTED MEAN SEA LEVEL PRESSURE OF 997.2 HPA AT 30/0300 UTC AND PRESSURE FALL IN PAST 24 HOURS AS 9 HPA.

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
30.11.24/0300	12.3/80.9	75-85 GUSTING TO 95	CYCLONIC STORM
30.11.24/0600	12.3/80.5	75-85 GUSTING TO 95	CYCLONIC STORM
30.11.24/1200	12.2/80.0	70-80 GUSTING TO 90	CYCLONIC STORM
30.11.24/1800	12.1/79.7	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 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

MADDEN JULIAN OSCILLATION (MJO) IS IN PHASE 5 WITH AMPLITUDE MORE THAN 1 AND WOULD MOVE ACROSS PHASE 5 DURING NEXT 5 DAYS. 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 30<sup>TH</sup> NOVEMBER TO 1<sup>ST</sup> DECEMBER, INDICATE A FAVOURABLE ENVIRONMENT FOR MAINTENANCE OF INTENSITY OF THE SYSTEM.

LOW LEVEL POSITIVE CYCLONIC VORTICITY AT 850 HPA LEVEL IS THE SAME DURING PAST 3 HOURS AND IS AROUND  $200 \times 10^{-5} \text{ s}^{-1}$  OVER THE SYSTEM AREA WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL AND NO TILTING. THE LOW LEVEL CONVERGENCE IS  $30 \times 10^{-5} \text{ s}^{-1}$  TO THE SOUTHEAST AND ANOTHER ZONE OF  $10\text{-}15 \times 10^{-5} \text{ s}^{-1}$  TO THE NORTHWEST OF SYSTEM AREA. UPPER LEVEL DIVERGENCE IS AROUND  $30 \times 10^{-5} \text{ s}^{-1}$  AND IS NORTH-SOUTH ORIENTED. IT IS ALSO INDICATING EQUATORWARD OUTFLOW. VERTICAL WIND SHEAR IS LOW TO MODERATE (10-15 KT) OVER THE SYSTEM AREA. THE SYSTEM IS STEERED WEST-NORTHWESTWARDS UNDER THE INFLUENCE OF EAST-SOUTHEASTERLY WINDS PREVAILING IN THE WESTERN PERIPHERY OF ANTICYCLONIC CIRCULATION OVER EASTCENTRAL BAY OF BENGAL.

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

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. THERE IS AGAIN LARGE VARIATION WRT LANDFALL TIME BY VARIOUS MODELS.

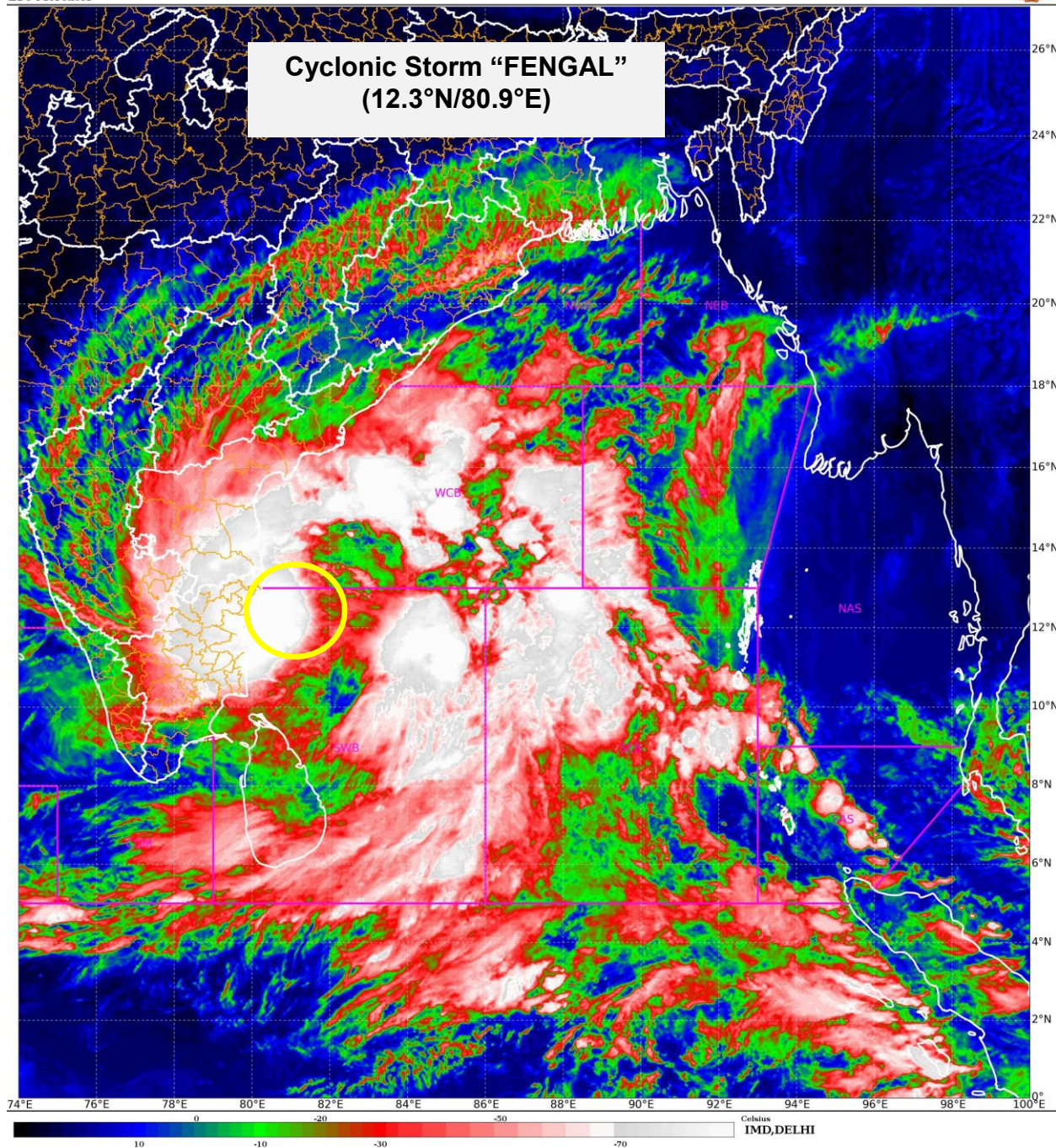
HENCE, IT IS INFERRED THAT THE CYCLONIC STORM “FENGAL” OVER SOUTHWEST BAY OF BENGAL IS LIKELY TO MOVE NEARLY WESTWARDS AND CROSS NORTH TAMIL NADU-PUDUCHERRY COASTS BETWEEN KARAİKAL AND MAHABALIPURAM CLOSE TO PUDUCHERRY AS A CYCLONIC STORM WITH A WIND SPEED OF 70-80 KMPH GUSTING TO 90 KMPH AROUND 1200 UTC OF 30TH NOVEMBER

**NEXT BULLETIN WILL BE ISSUED AT 0900 UTC OF 30<sup>TH</sup> NOVEMBER, 2024.**

**(MONICA SHARMA)  
SCIENTIST D, RSMC, NEW DELHI**

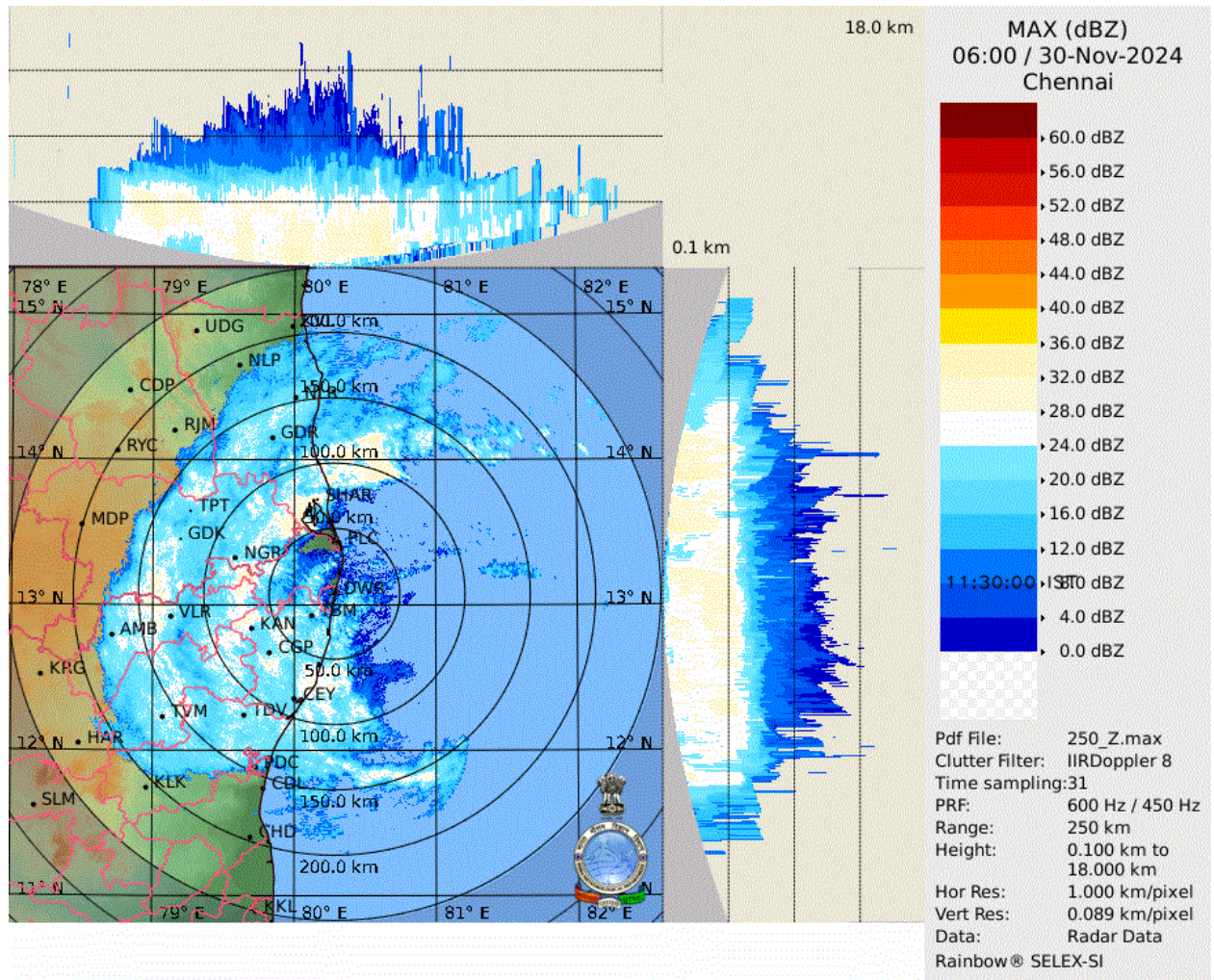
SAT : INSAT-3DR IMG  
IMG\_TIR1\_TEMP 10.8 um  
L1C Mercator

30-11-2024/(0515 to 0542) GMT  
30-11-2024/(1045 to 1112) IST



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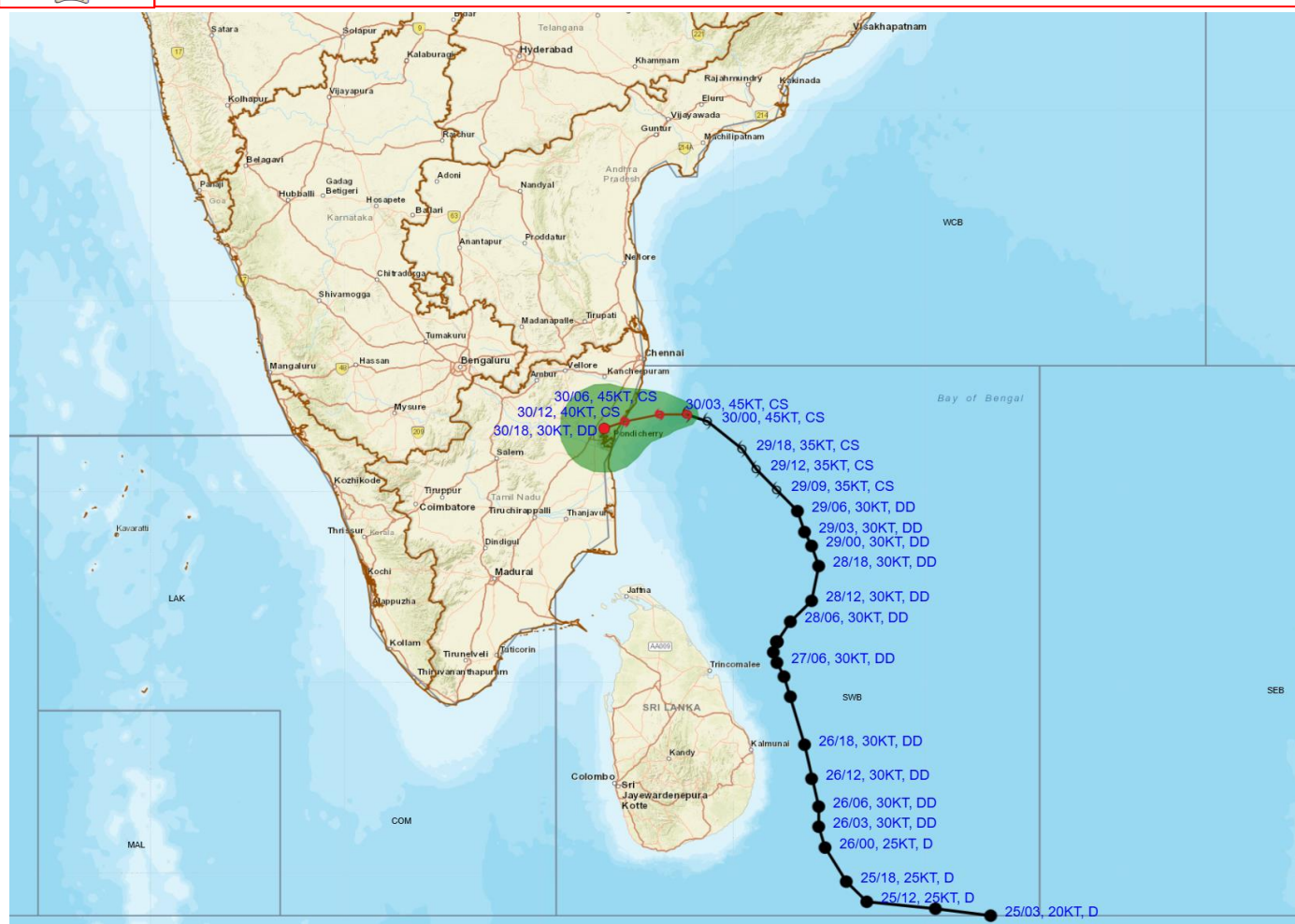
## MAXIMUM REFLECTIVITY IMAGERY FROM DOPPLER WEATER RADAR, CHENNAI



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# OBSERVED AND FORECAST TRACK ALONG WITH CONE OF UNCERTAINTY OF CYCLONIC STORM “FENGAL” OVER SOUTHWEST BAY OF BENGAL BASED ON 0300 UTC (0830 HRS. IST) OF 30<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)

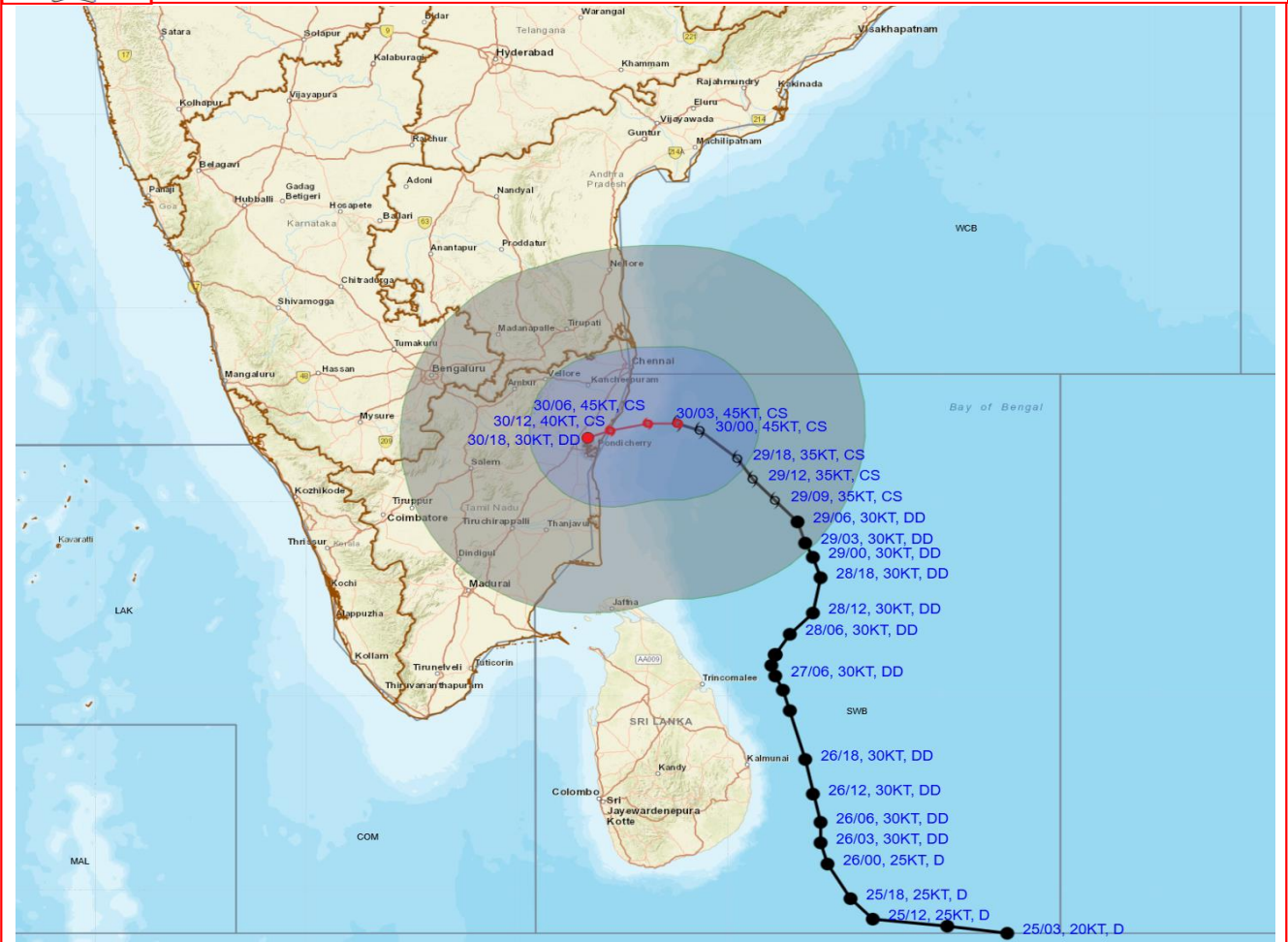
● LESS THAN 34 KT  
● 34-47 KT  
●  $\geq 48$  KT  
— OBSERVED TRACK  
— FORECAST TRACK  
▲ CONE OF UNCERTAINTY

Forecast	DISTANCE (KM) AND DIRECTION FROM STATIONS			
Date and Time (UTC)	CHENNAI/MINAMB AKKAM	MO PONDICHERRY	NAGAPPATTINAM	TRINCOMALEE
30.11.24/0300	110, SE	120, ENE	210, NE	420, N
30.11.24/0600	90, SSE	80, ENE	180, NNE	420, N
30.11.24/1200	90, SSW	30, NE	160, N	430, NNW
30.11.24/1800	110, SSW	20, NW	150, N	430, NNW

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# OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "FENGAL" OVER SOUTHWEST BAY OF BENGAL BASED ON 0300 UTC (0830 HRS. IST) OF 30<sup>TH</sup> NOVEMBER. 2024.



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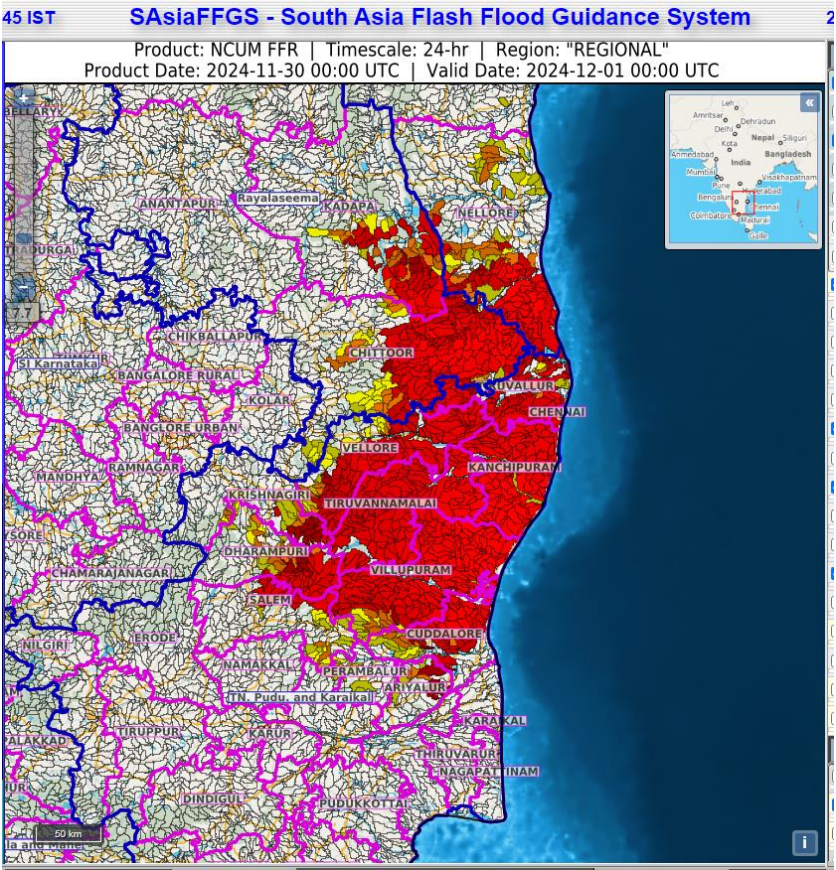
● LESS THAN 34 KT  
○ 34-47 KT  
○  $\geq 48$  KT  
— OBSERVED TRACK  
— FORECAST TRACK  
— CONE OF UNCERTAINTY  
AREA OF MAXIMUM SUSTAINED WIND SPEED:  
■ 28-33 KT (52-61 KMPH)  
■ 34-49 KT (62-91 KMPH)  
■ 50-63 KT (92-117 KMPH)  
■  $\geq 64$  KT ( $\geq 118$  KMPH)

## 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

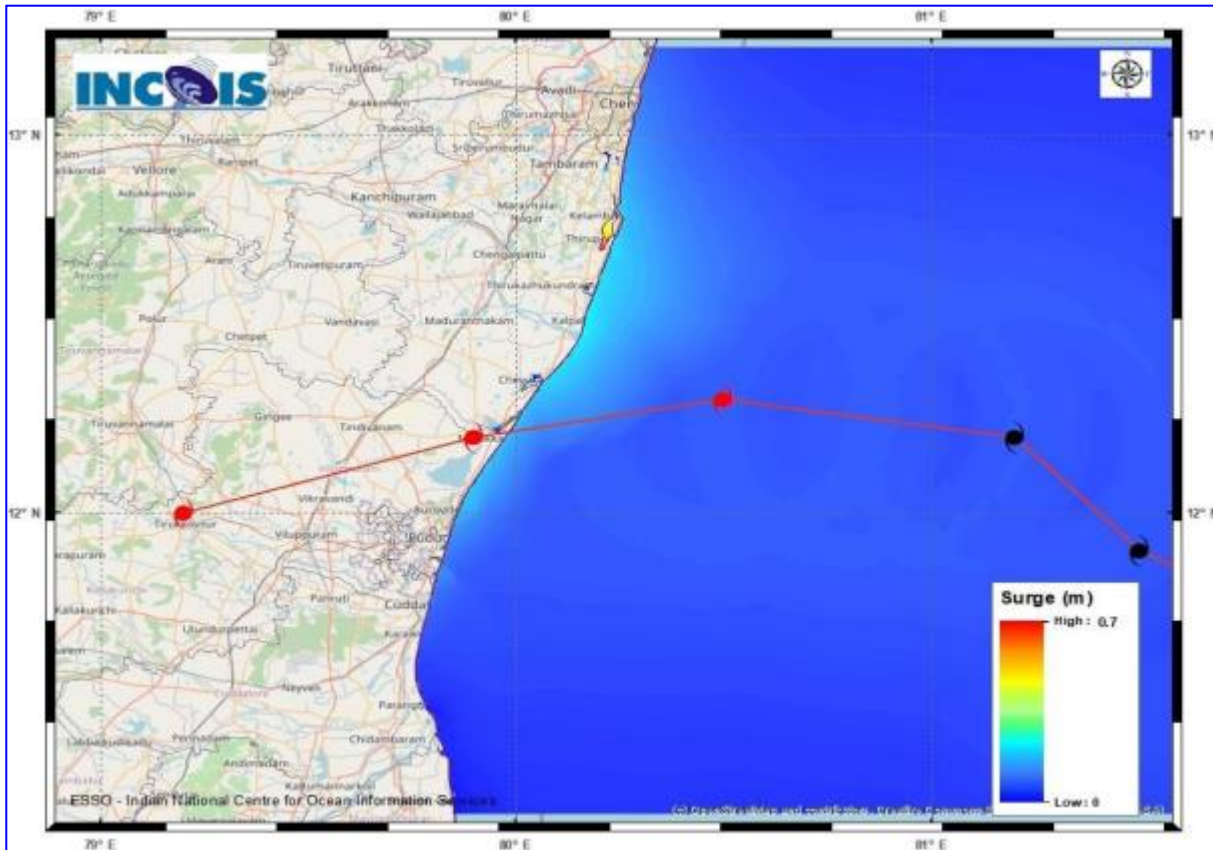
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FLASH FLOOD GUIDANCE



Flash Flood Risk	
<div></div>	High Risk (Take Action)
<div></div>	Moderate Risk (Be Prepared)
<div></div>	Low Risk (Be Updated)

## 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

