



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY NO. 06**

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. 06 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0300 UTC OF 30.11.2024 BASED ON 0000 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 NORTH-NORTHWESTWARDS WITH A SPEED OF 12 KMPH DURING PAST 6 HOURS AND LAY CENTRED AT 0000 UTC OF 29TH NOVEMBER 2024 OVER THE SAME REGION NEAR LATITUDE 12.2°N AND LONGITUDE 81.2°E, ABOUT 150 KM EAST OF PUDUCHERRY (43331), 140 KM SOUTHEAST OF CHENNAI (43279) 210 KM NORTHEAST OF NAGAPPATTINAM (43347), AND 400 KM NORTH OF TRINCOMALEE (43418).

IT IS LIKELY TO MOVE NEARLY WESTWARDS AND CROSS NORTH TAMIL NADU-PUDUCHERRY COASTS BETWEEN KARAIKAL AND MAHABALIPURAM CLOSE TO PUDUCHERRY AS A CYCLONIC STORM WITH A WIND SPEED OF 70-80 KMPH GUSTING TO 90 KMPH DURING EVENING OF 30TH NOVEMBER.

THE SYSTEM IS BEING CONTINUOUSLY MONITORED.

ESTIMATED CENTRAL PRESSURE IN ASSOCIATION WITH THE SYSTEM IS 996 HPA AND ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 45 KTS GUSTING TO 55 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 T3.0. CLOUDS ARE ORGANISED IN CDO 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 8.0N TO 18.0N 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
30.11.24/0000	12.0/81.2	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	12.2/79.9	70-80 GUSTING TO 90	CYCLONIC STORM
30.11.24/1800	12.0/79.2	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 30TH NOVEMEBR.
- FISHERMEN OUT AT SEA ARE ADVISED TO RETURN TO COAST.

REMARKS:

THE SYSTEM IS OVER AN AREA WITH SEA SURFACE TEMPERATURE (SST) ABOUT 29⁰C. THE SST IS LIKELY TO BE RELATIVELY LESS (28⁰C) 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/CM² 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 29TH TO 30TH 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 29TH - 30TH 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 $200 \times 10^{-5} \text{ S}^{-1}$ OVER THE SYSTEM AREA WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL AND NO TILTING. THE LOW LEVEL CONVERGENCE IS $30 \times 10^{-5} \text{ S}^{-1}$ AROUND THE SYSTEM AREA AND IS $30 \times 10^{-5} \text{ S}^{-1}$ TO THE SOUTHEAST OF THE SYSTEM. UPPER LEVEL DIVERGENCE IS AROUND $30 \times 10^{-5} \text{ S}^{-1}$ TO THE NORTH-NORTHEAST AND $40 \times 10^{-5} \text{ S}^{-1}$ TO THE SOUTHEAST OF SYSTEM CENTRE. VERTICAL WIND SHEAR IS LOW TO MODERATE (10-15 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.

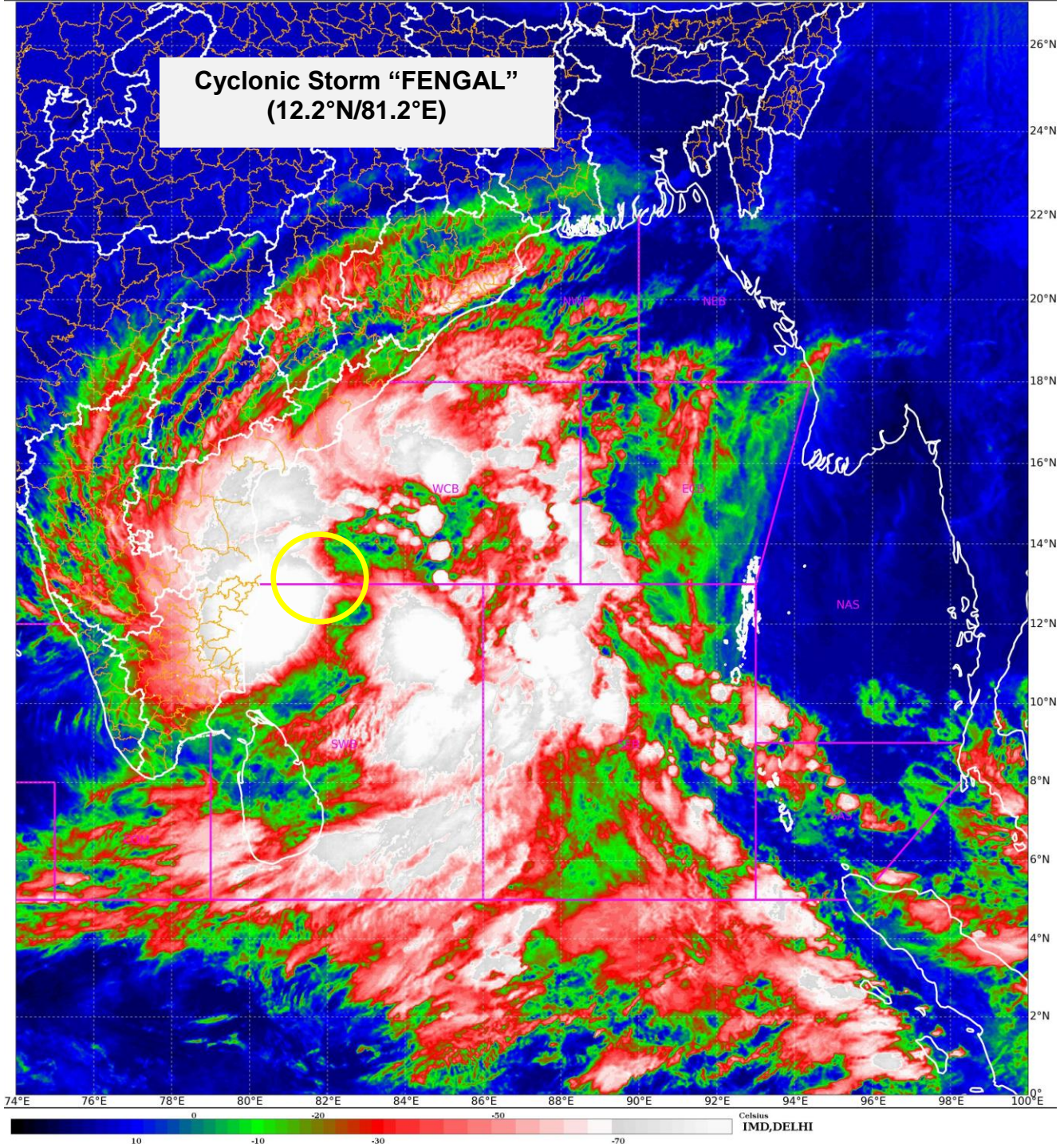
THERE ARE LARGE VARIATIONS AMONG THE MODELS WITH RESPECT TO THE LAND FALL TIMING. ECMWF MODEL SHOWING LANDFALL TIME IS AROUND 0300 UTC OF 01 DECEMBER, IMDGFS AROUND 1600 UTC OF 30 NOVEMBER, NCUM INDICATING AROUND 1100 UTC OF 30 NOVEMBER, NCEPGFS INDICATING AROUND 2300 UTC OF 02 DECEMBER 2024.

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 DURING EVENING OF 30TH NOVEMBER

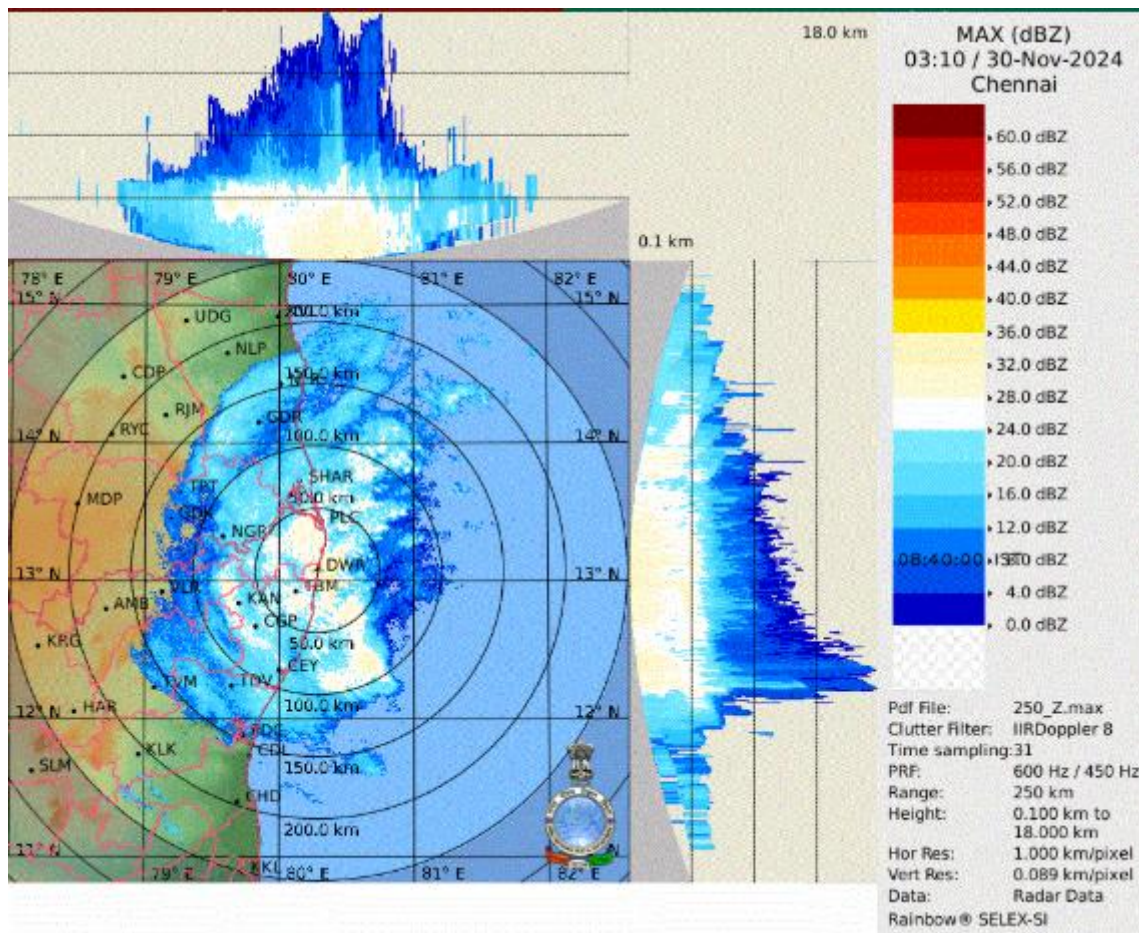
NEXT BULLETIN WILL BE ISSUED AT 0600 UTC OF 30TH NOVEMBER, 2024.

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SCIENTIST C, RSMC, NEW DELHI



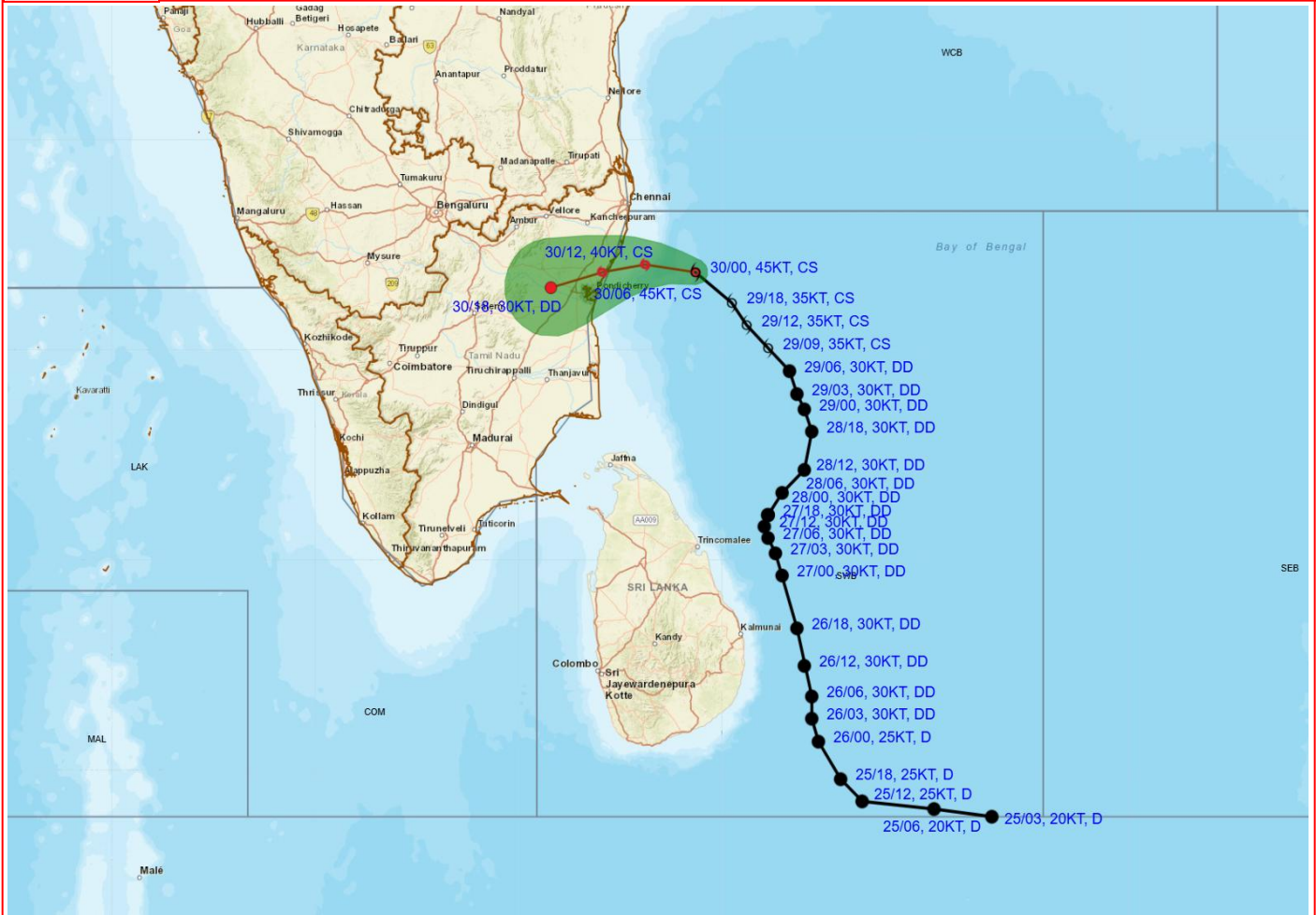
Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
PROBABILITY OF CYCLOGENESIS (FORMATION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



OBSERVED AND FORECAST TRACK ALONG WITH CONE OF UNCERTAINTY OF CYCLONIC STORM “FENGAL” OVER SOUTHWEST BAY OF BENGAL BASED ON 0000 UTC (0530 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)
 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)

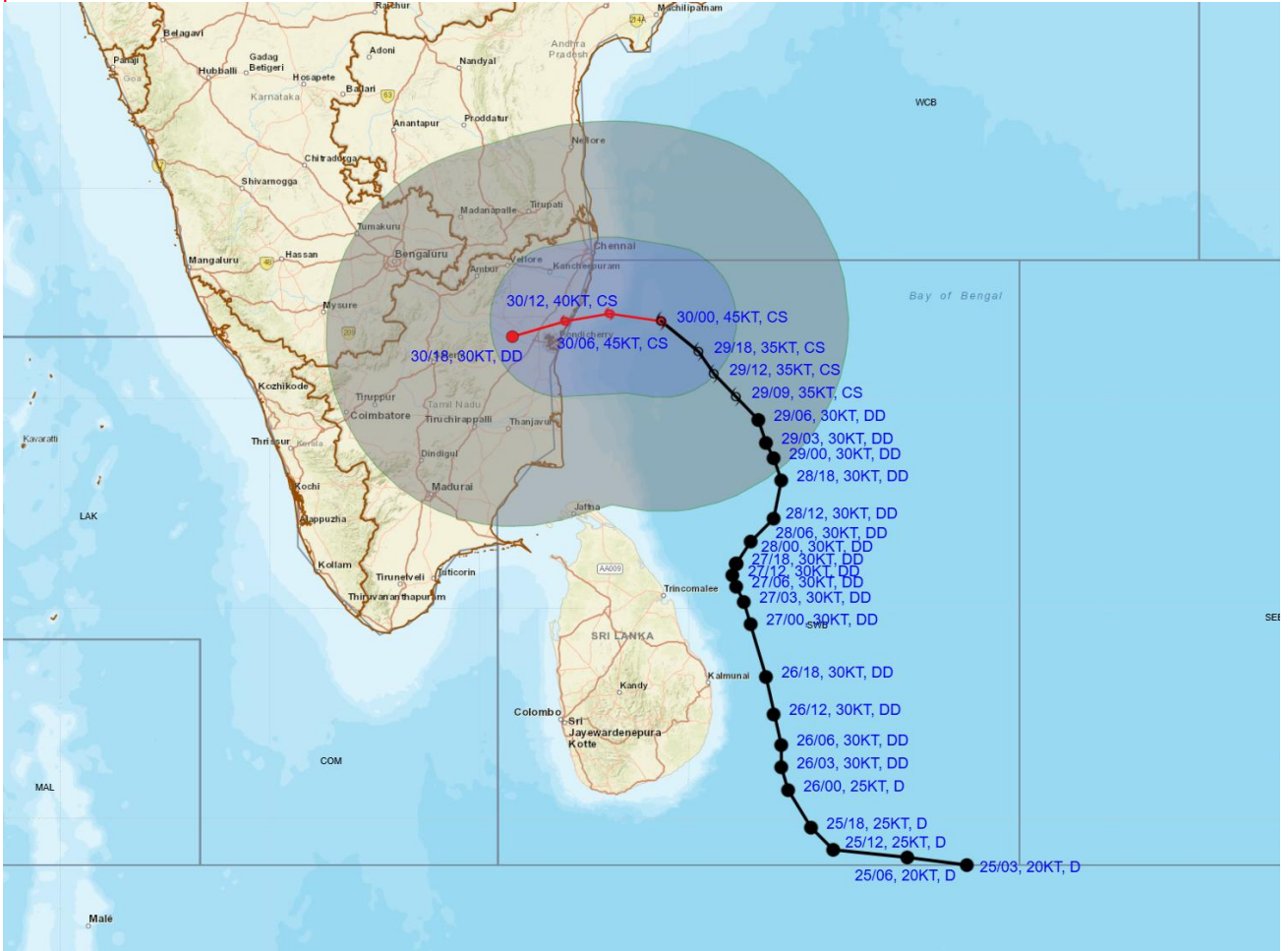
LESS THAN 34 KT
 34-47 KT
 ≥ 48 KT
 OBSERVED TRACK
 FORECAST TRACK
 CONE OF UNCERTAINTY

Forecast	DISTANCE (KM) AND DIRECTION FROM STATIONS				
Date and Time (UTC)	TRINCOMALEE	BATTICALOA	NAGAPPATTINAM	PUDUCHERRY	CHENNAI/MINAMBAKKAM
30.11.24/0000	400, N	500, N	220, NE	150, E	140, SE

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OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "FENGAL" OVER SOUTHWEST BAY OF BENGAL BASED ON 0000 UTC (0530 HRS. IST) OF 30TH NOVEMBER, 2024.



DATE/TIME : IN UTC
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● 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

Flash Flood Guidance

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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24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 30-11-2024 :

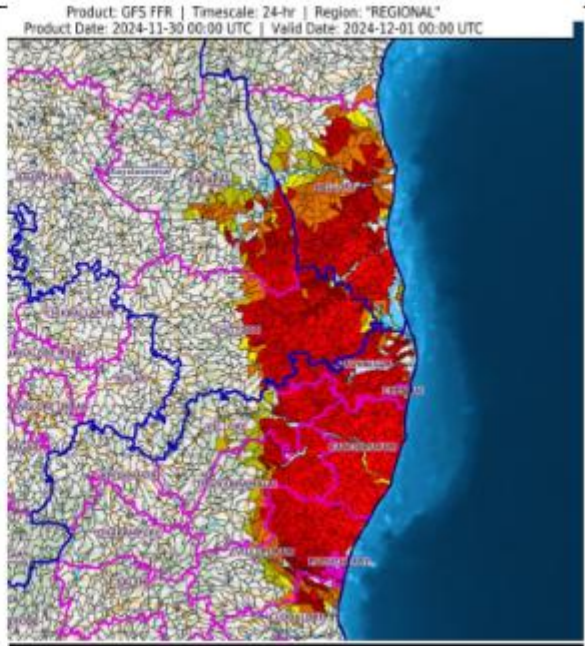
Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 24 hours.




Coastal Andhra Pradesh & Yanam - Nellore district.

Rayalaseema - Chittoor and Kadapa districts.

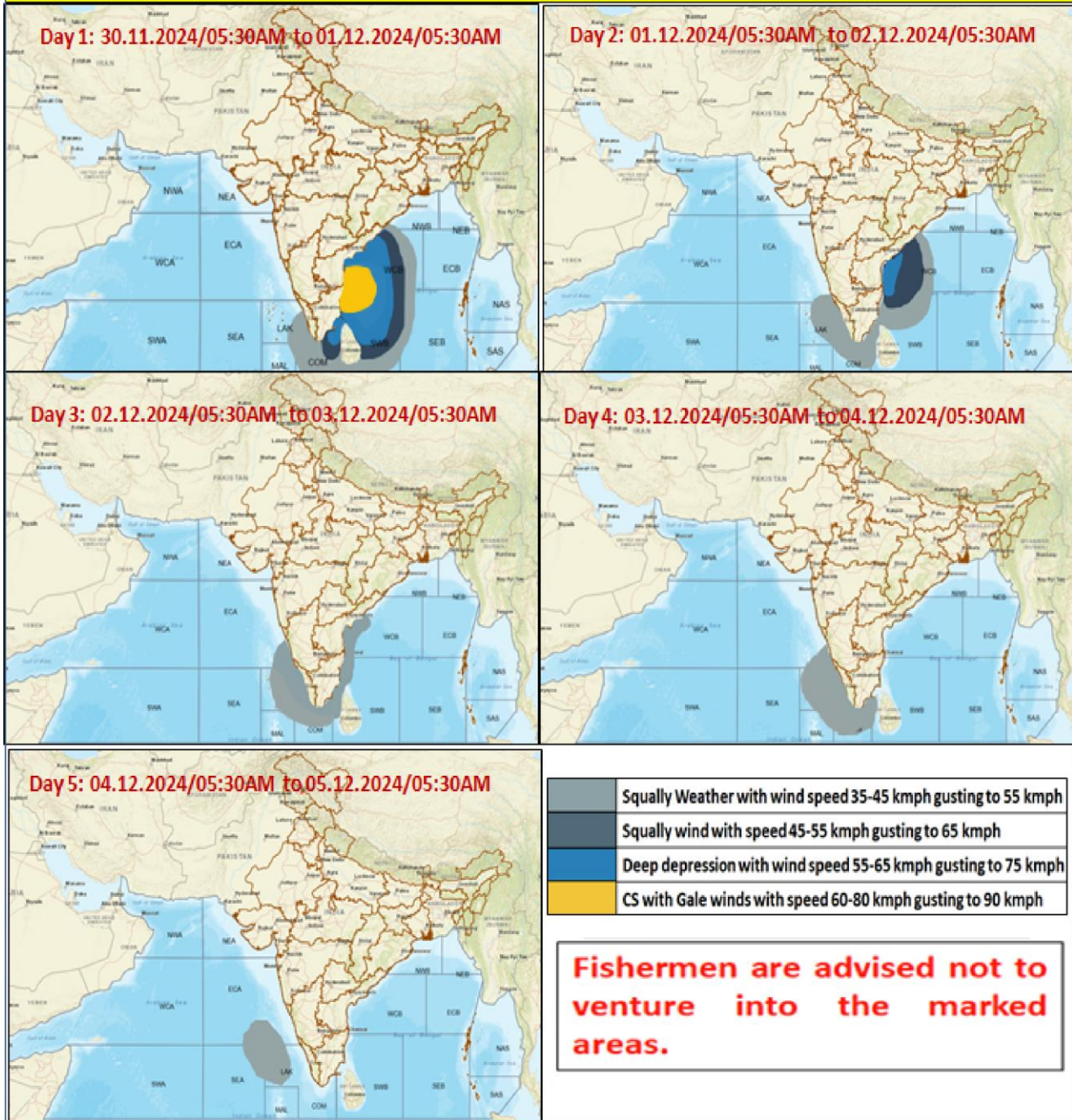
Tamil Nadu - Puducherry & Karaikal - Puduchery, Chennai, Cuddalore, Kanchipuram, Tiruvallur, Tiruvannamalai, Vellore and Villupuram districts.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over Area of Concern (AoC) as shown in map due to expected rainfall occurrence in next 24 hours.



Flash Flood Risk	
	High Risk (Take Action)
	Moderate Risk (Be Prepared)
	Low Risk (Be Updated)

Fishermen Warning Graphics



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