REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI

TROPICAL CYCLONE ADVISORY NO. 15

FROM: RSMC TROPICAL CYCLONES NEW DELHI DATED 04.12.2023

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. 15 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2100 UTC OF 04.12.2023 BASED ON 1800 UTC OF 04.12.2023

SUB: SEVERE CYCLONIC STORM "MICHAUNG" (PRONOUNCED AS MIGJAUM) OVER WESTCENTRAL BAY OF BENGAL OFF SOUTH ANDHRA PRADESH AND ADJOINING NORTH TAMILNADU COASTS (CYCLONE WARNING FOR ANDHRA PRADESH AND ADJOINING NORTH TAMIL NADU-PUDUCHERRY COASTS: RED MESSAGE)

THE SEVERE CYCLONIC STORM **"MICHAUNG" (PRONOUNCED AS MIGJAUM)** OVER WESTCENTRAL & ADJOINING SOUTHWEST BAY OF BENGAL OFF SOUTH ANDHRA PRADESH AND ADJOINING NORTH TAMILNADU COASTS MOVED NORTH-NORTHWESTWARDS WITH A SPEED OF 11 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 1800 UTC OF TODAY, THE 4TH DECEMBER, 2023 OVER WESTCENTRAL BAY OF BENGAL OFF SOUTH ANDHRA PRADESH AND ADJOINING NORTH TAMILNADU COASTS NEAR LATITUDE 14.5°N AND LONGITUDE 80.3°E, ABOUT 30 KM EAST OF NELLORE (43245), 150 KM NORTH OF CHENNAI (43279), 150 KM SOUTH OF BAPATLA (43220) AND 210 KM SOUTH-SOUTHWEST OF MACHILIPATNAM (43185).

AS THE SYSTEM IS NEARLY MOVING NORTHWARDS CLOSE TO COAST, SOME PART OF THE WALL CLOUD REGION LIES OVER THE LAND. THE SYSTEM IS LIKELY TO MOVE NEARLY NORTHWARDS PARALLEL AND CLOSE TO SOUTH ANDHRA PRADESH COAST AND CROSS SOUTH ANDHRA PRADESH COAST BETWEEN NELLORE AND MACHILIPATNAM, CLOSE TO BAPATLA BY 0600 UTC OF 5TH DECEMBER AS A SEVERE CYCLONIC STORM WITH A MAXIMUM SUSTAINED WIND SPEED OF 90-100 KMPH GUSTING TO 110 KMPH.

TRACK AND INTENSITY FORECASTS:

DATE/TIME (UTC	POSITION (LAT. ^{0}N/ LONG. ^{0}E	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONI DISTURBANCE
04.12.23/1800	14.5/80.3	90-100 KMPH GUSTING TO 110 KMPH	SEVERE CYCLONIC STOR
05.12.23/0000	15.1/80.2	90-100 KMPH GUSTING TO 110 KMPH	SEVERE CYCLONIC STOR
05.12.23/0600	15.7/80.3	85-95 KMPH GUSTING TO 105 KMPH	SEVERE CYCLONIC STOR
05.12.23/1200	16.2/80.5	75-85 KMPH GUSTING TO 95 KMPH	CYCLONIC STORM
05.12.23/1800	16.6/80.8	65-55 KMPH GUSTING TO 65 KMPH	CYCLONIC STORM
06.12.23/0600	17.3/81.6	40-50 KMPH GUSTING TO 60 KMPH	DEPRESSION

INSAT-3D IMAGERY AT 1800 UTC OF 4TH DECEMBER, INDICATES THE ORGANISATION OF CLOUD MASS. ASSOCIATED INTENSITY IS T3.5. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDED INTENSE TO VERY INTENSE CONVECTION LAY OVER WESTCENTRAL ADJOINING SOUTH-WEST BAY OF BENGAL BETWEEN LATITUDE 10.0°N TO 18.0°N LONGITUDE 80.0E TO 87.0E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93 DEGREE CELSIUS.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 55 KNOTS GUSTING TO 65 KNOTS. ESTIMATED CENTRAL PRESSURE IS 988 HPA. SEA CONDITION IS LIKELY TO BE HIGH TO VERY HIGH OVER SOUTHWEST BAY OF BENGAL.

MADDEN JULIAN OSCILLATION (MJO) IS CURRENTLY IN PHASE 4 WITH AMPLITUDE GREATER THAN 1. SEA SURFACE TEMPERATURE IS 27^{0}C AROUND SYSTEM. TROPICAL CYCLONE HEAT POTENTIAL IS 60-70 KJ/CM^2 OVER SOUTHWEST BOB.

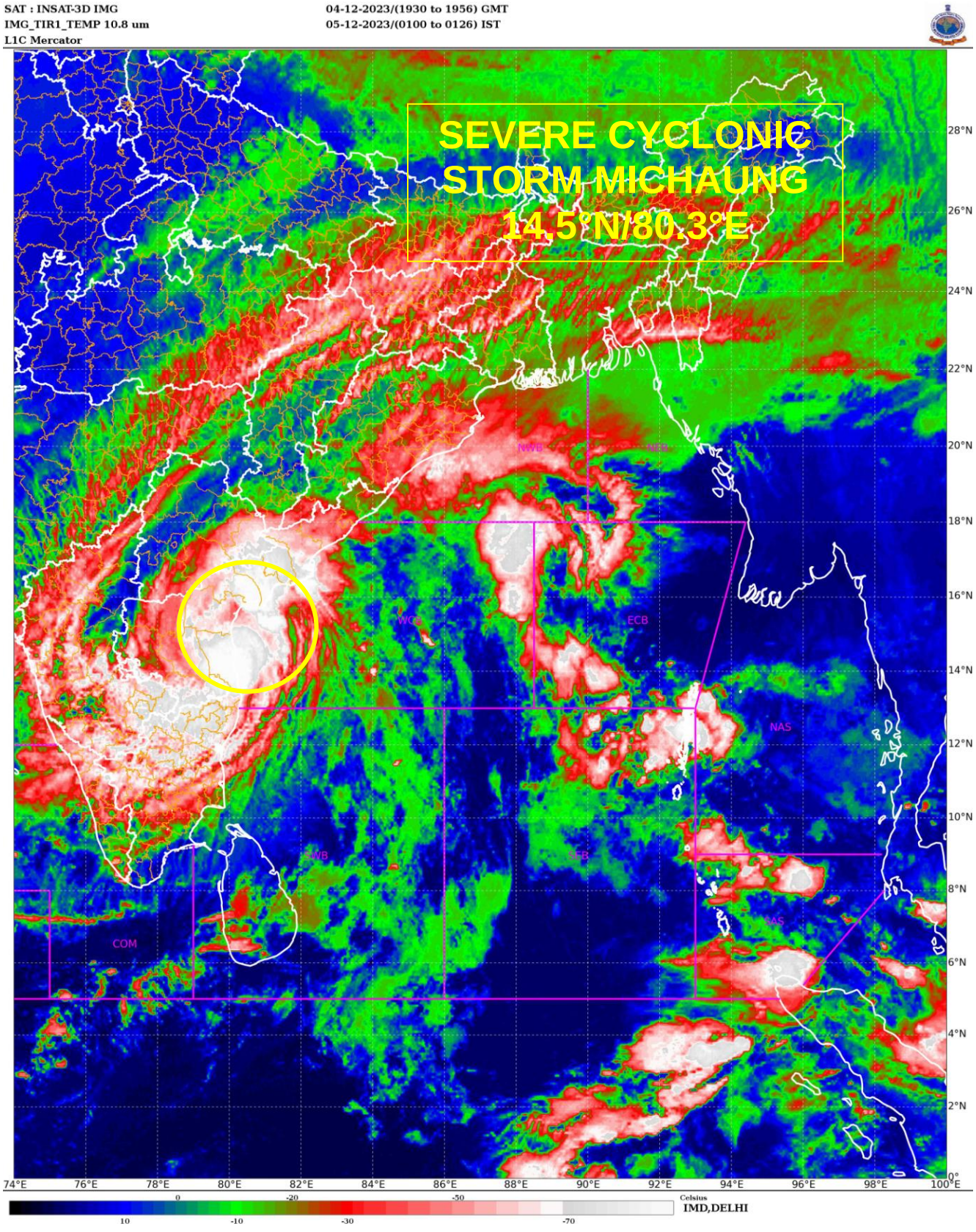
CURRENT ENVIRONMENTAL FEATURES INDICATE, THE LOW LEVEL VORTICITY OF ABOUT 250X10^{-6}S^{-1} AROUND SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. POSITIVE LOW LEVEL CONVERGENCE HAS INCREASED AND IS ABOUT 20 X 10^{-5} S^{-1} TO THE EAST OF SYSTEM CENTRE. POSITIVE UPPER LEVEL DIVERGENCE IS ABOUT 20 X 10^{-5} S^{-1} TO

UPPER TROPOSPHERIC RIDGE RUNS ALONG 15^{0}N. THE SYSTEM IS CLOSER TO THE RIDGE AND HENCE WOULD MOVE NEARLY NORTHWARDS TILL 5TH DECEMBER 0000 UTC AND RECURVE NORTHEASTWARDS THEREAFTER. UPPER TROPOSPHERIC WINDS ARE OF THE ORDER OF 50-60 KNOTS OVER NORTH ANDHRA PRADESH AND ODISHA COASTS. IT WOULD LEAD TO HIGHER WIND SHEAR.

MOST OF THE MODELS ARE INDICATING INTIAL NORTHWESTWARDS MOVEMENT TOWARDS ANDHRA PRADESH COAST. THE LANDFALL POINT IS VARYING BETWEEN LATITUDE 15.1-15.7^{0}N/80.0-80.3^{0}E. THE LANDFALL TIME IS VARYING BETWEEN 5TH/0000 UTC TO 5TH /0900 UTC.

CONSIDERING ALL THE ABOVE, THE SYSTEM IS LIKELY TO MOVE NEARLY NORTHWARDS PARALLEL AND CLOSE TO SOUTH ANDHRA PRADESH COAST AND CROSS SOUTH ANDHRA PRADESH COAST BETWEEN NELLORE AND MACHILIPATNAM, CLOSE TO BAPATLA BY 0600 UTC OF 5TH DECEMBER AS A SEVERE CYCLONIC STORM WITH A MAXIMUM SUSTAINED WIND SPEED OF 90-100 KMPH GUSTING TO 110 KMPH.

(M. T. BUSHAIR)
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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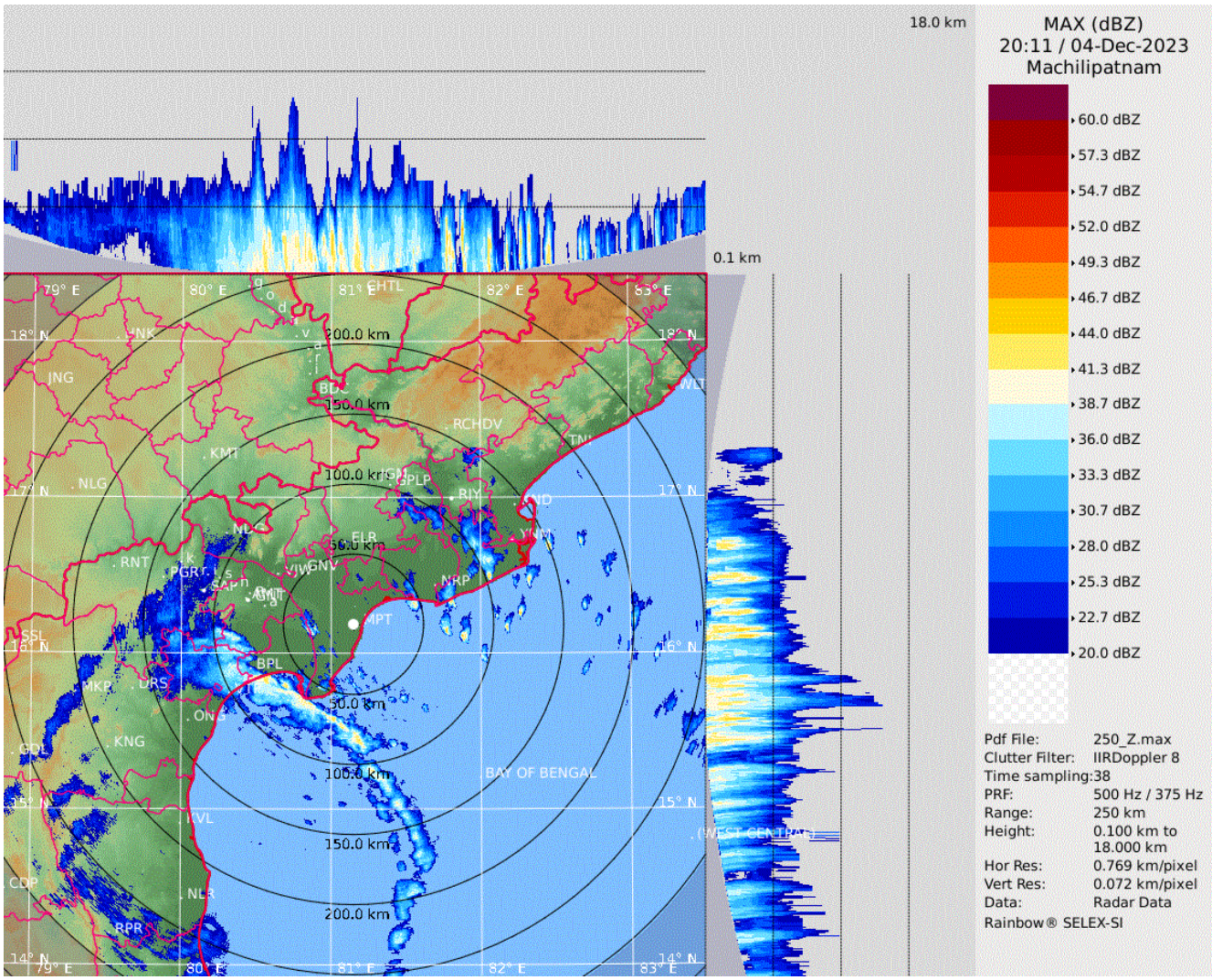

MACHILIPATNAM DWR

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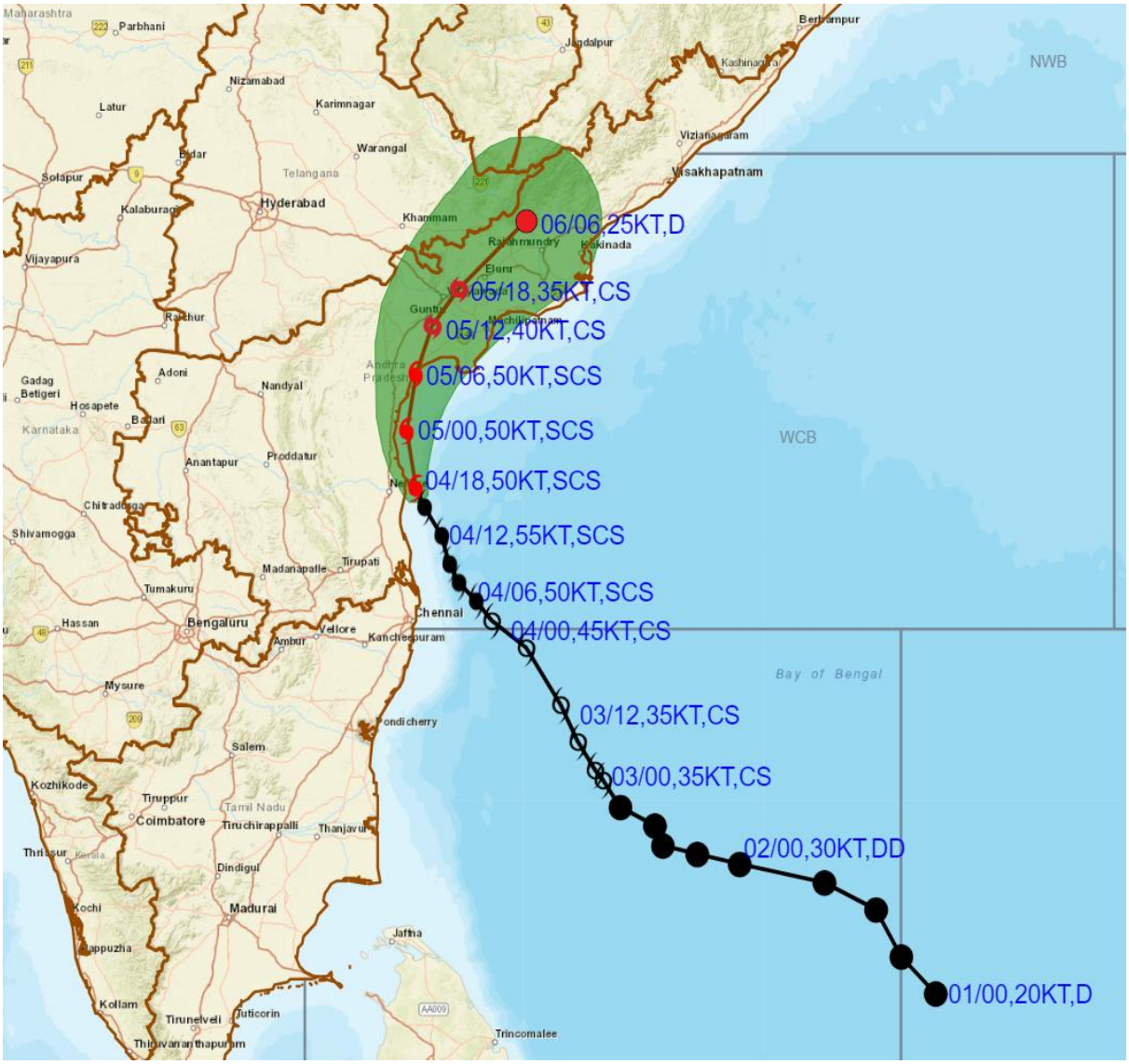
OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINITY IN ASSOCIATION WITH SEVERE CYCLONIC STORM "MICHAUNG" OVER WESTCENTRAL BAY OF BENGAL BASED ON 1800 UTC (2330 IST) OF 4TH DECEMBER 2023.



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 (≥ 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)	CHENNAI/MINAMBAKKAM	NELLORE	MO PONDICHERRY	BAPATLA	MACHILIPATNAM/ FRANCHPET
04.12.23/1800	170, N	40, E	290, N	150, S	210, SSW
05.12.23/1800	410, N	260, NNE	530, NNE	90, NNE	60, NW

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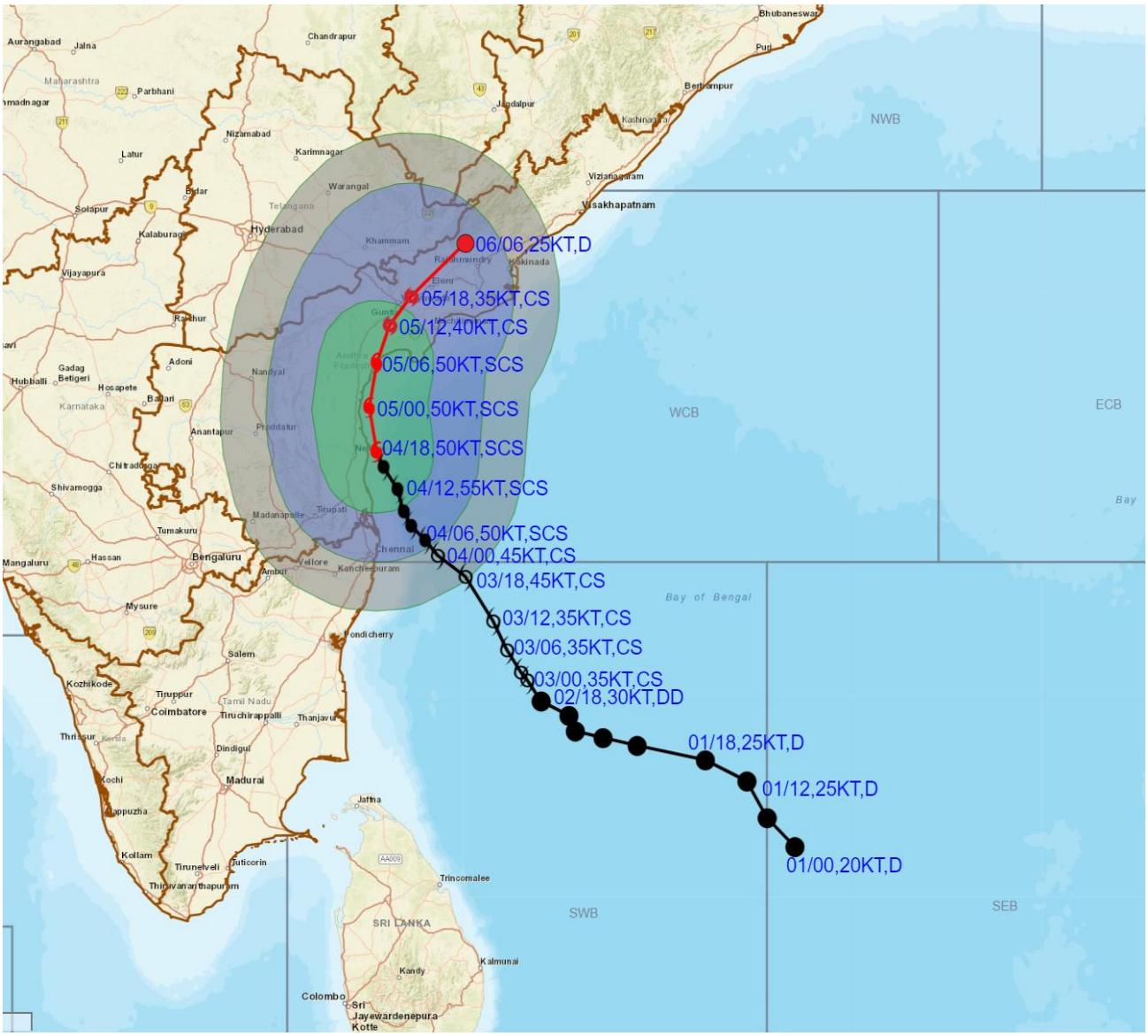
OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND IN ASSOCIATION WITH SEVERE CYCLONIC STORM "MICHAUNG" OVER WESTCENTRAL BAY OF BENGAL BASED ON 1800 UTC (2330 IST) OF 4TH DECEMBER 2023.



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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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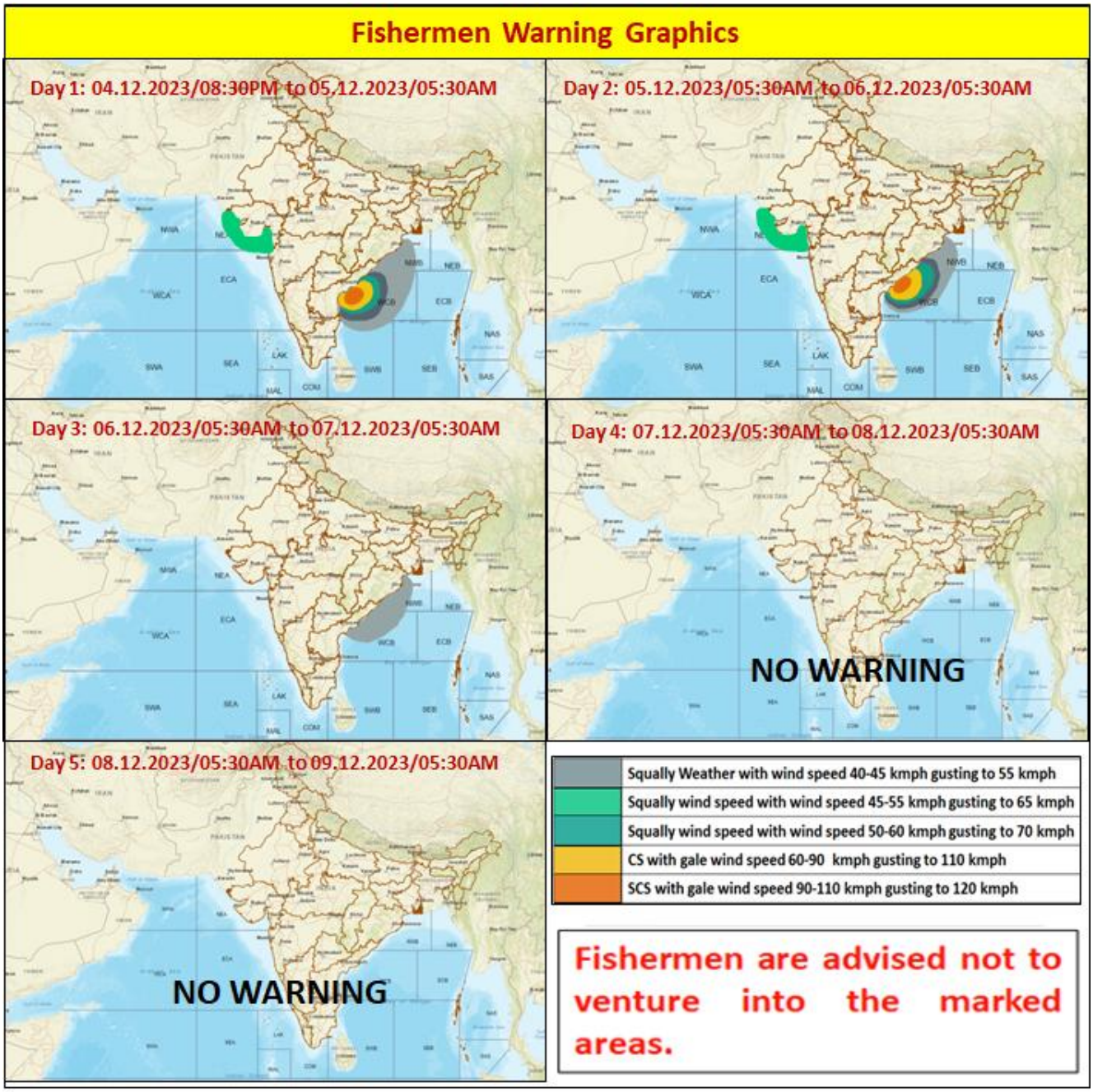

Storm Surge Warning Graphics based on Forecast Track

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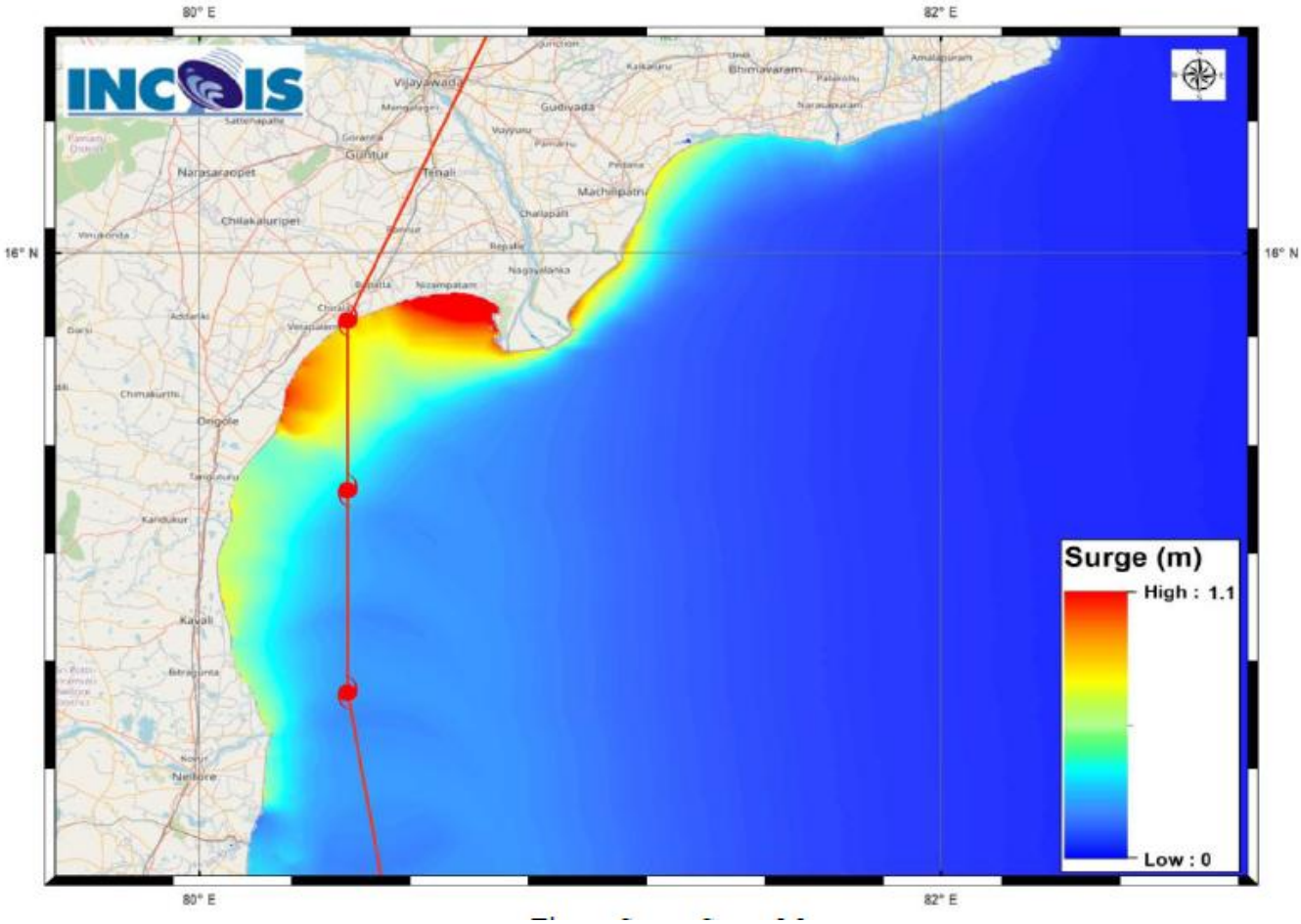

STORM SURGE HEIGHT INFORMATION:

* 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)
Repalle	Guntur	Andhra Pradesh	Repalle	0.4-1.1	Upto 0.25
Bapatla	Guntur	Andhra Pradesh	Bapatla	0.4-0.8	Upto 0.19
Avanigadda	Krishna	Andhra Pradesh	Ramakrishnapuram	0.3-0.8	Upto 0.25
Chirala	Prakasam	Andhra Pradesh	Kotha Peta (Rural)	0.4-0.6	Upto 0.12
Machilipatnam	Krishna	Andhra Pradesh	Perupalem	0.2-0.5	Upto 0.16
Ongole	Prakasam	Andhra Pradesh	Kanuparthi	0.2-0.6	Upto 0.15
Sullurpeta	Nellore	Andhra Pradesh	Duggaraja Patnam	0.2-0.7	Upto 0.18

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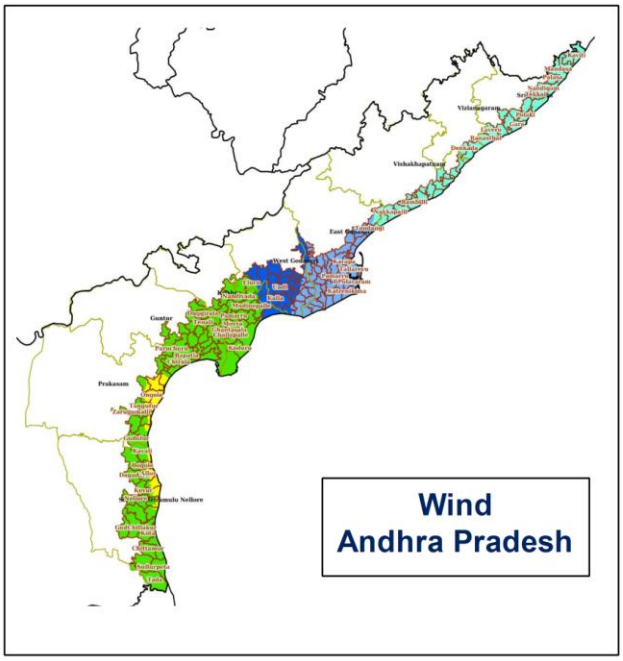
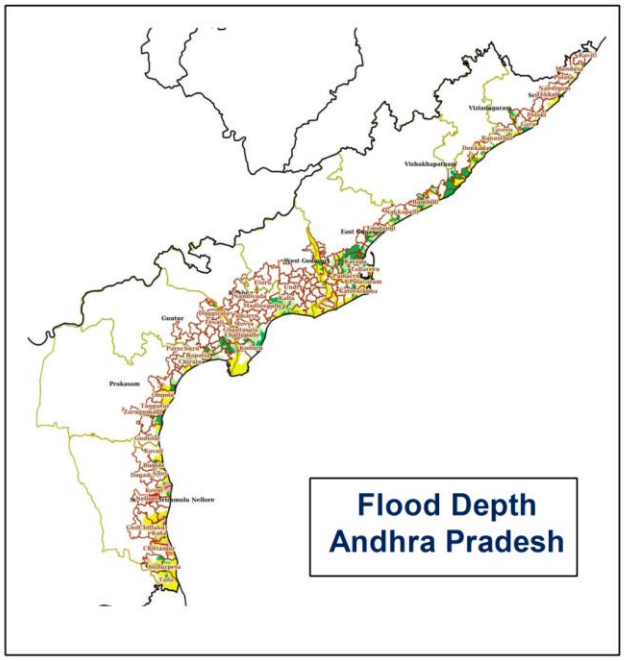
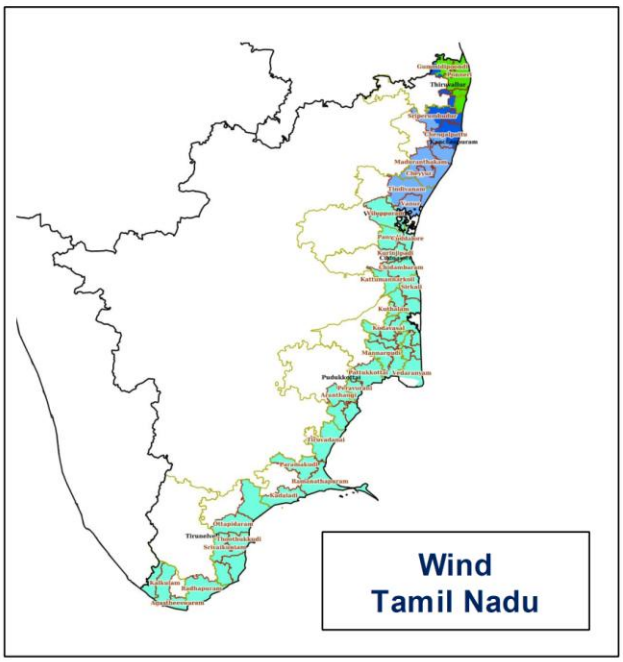
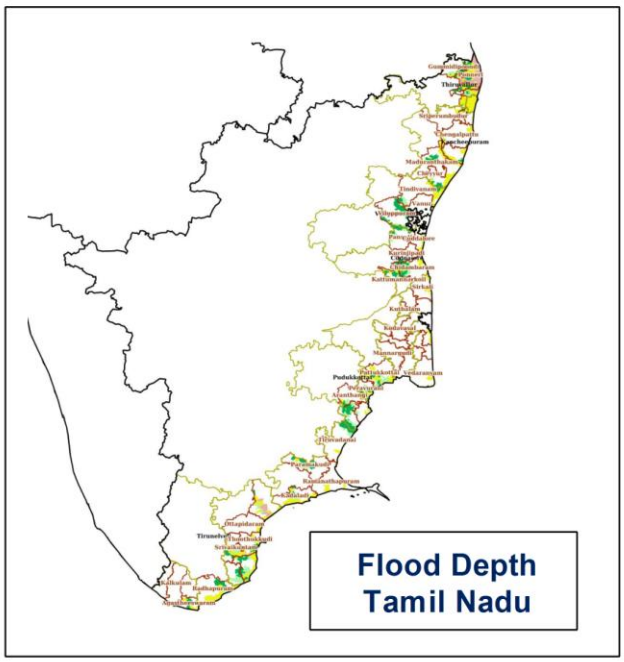
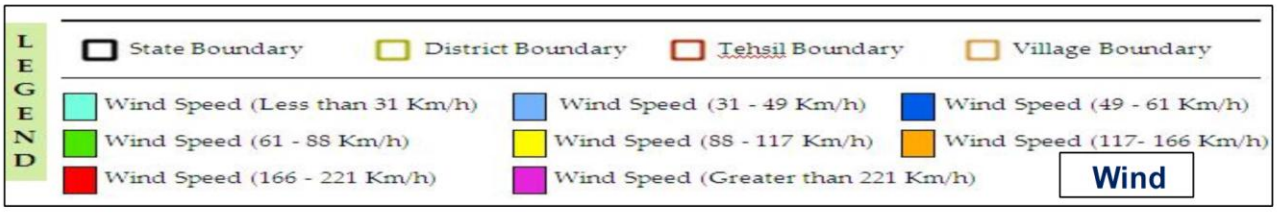
Hazard Map with CYCLONIC STORM "MICHAUNG" Over Southwest Bay of Bengal

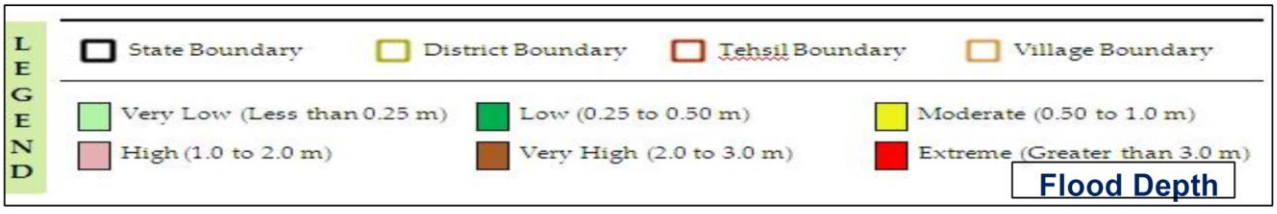












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