



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI

TROPICAL CYCLONE ADVISORY NO. 18

FROM: RSMC TROPICAL CYCLONES NEW DELHI DATED 05.12.2023

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. 18 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0430 UTC OF 05.12.2023 BASED ON 0300 UTC OF 05.12.2023

SUB: SEVERE CYCLONIC STORM “MICHAUNG” (PRONOUNCED AS MIGJAUM) OVER WESTCENTRAL BAY OF BENGAL OFF SOUTH ANDHRA PRADESH COAST (CYCLONE WARNING FOR ANDHRA PRADESH COAST: **RED MESSAGE**)

THE SEVERE CYCLONIC STORM “MICHAUNG” (PRONOUNCED AS MIGJAUM) OVER WESTCENTRAL BAY OF BENGAL ALONG AND OFF SOUTH ANDHRA PRADESH COAST MOVED NORTHWARDS WITH A SPEED OF 12 KMPH DURING PAST 06 HOURS AND LAY CENTERED AT 0300UTC OF TODAY, THE 5TH DECEMBER, 2023 OVER THE SAME REGION NEAR LATITUDE 15.2°N AND LONGITUDE 80.25°E, ABOUT 40 KM NORTHEAST OF KAVALI(43243), 80 KM NORTH-NORTHEAST OF NELLORE(43245), 80 KM SOUTH-SOUTHWEST OF BAPATLA(43220) AND 140 KM SOUTH-SOUTHWEST OF MACHILIPATNAM(43185).

AS THE SYSTEM IS MOVING NEARLY NORTHWARDS CLOSE TO COAST, SOME PARTS OF THE WALL CLOUD REGION CONTINUES TO LIE OVER LAND. THE SYSTEM IS LIKELY TO MOVE NEARLY NORTHWARDS PARALLEL AND CLOSE TO SOUTH ANDHRA PRADESH COAST AND CROSS SOUTH ANDHRA PRADESH COAST CLOSE TO BAPATLA(43220) DURING NEXT 4 HOURS 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. °N/ LONG. °E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
05.12.23/0300	15.2/80.25	90-100 KMPH GUSTING TO 110 KMPH	SEVERE CYCLONIC STORM
05.12.23/0600	15.7/80.3	85-95 KMPH GUSTING TO 105 KMPH	SEVERE CYCLONIC STORM
05.12.23/1200	16.2/80.5	70-80 KMPH GUSTING TO 90 KMPH	CYCLONIC STORM
05.12.23/1800	16.6/80.8	55-65 KMPH GUSTING TO 75 KMPH	DEEP DEPRESSION
06.12.23/0000	17.3/81.6	40-50 KMPH GUSTING TO 60 KMPH	DEPRESSION

INSAT-3D IMAGERY AT 0300 UTC OF 5TH DECEMBER, INDICATES THE ORGANISATION OF CLOUD MASS. ASSOCIATED INTENSITY IS T3.5 WITH CURVED BAND PATTERN. ASSOCIATED BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER WESTCENTRAL BAY OF BENGAL AND COASTAL ANDHRA PRADESH BETWEEN LATITUDE 13.5°N TO 17.5°N LONGITUDE 80.0E TO 82.5E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 90 DEGREE CELSIUS.

MICROWAVE PASS OF 0102Z SHOWS CENTRE CLOSE TO THE COAST WITH CURVED BAND EMBEDDED WITH VERY INTENSE CONVECTION OVER WEST CENTRAL BAY OF BENGAL AND ADJOINING AREAS OF ANDHRA PRADESH WITH ANOTHER VERY INTENSE CONVECTIVE BAND TO THE NE OF THE SYSTEM CENTRE.

RADAR PICTURE OF MACHILIPATNAM(43185) AT 0300 UTC SHOWS THE SYSTEM IS OVER WESTCENTRAL BAY OF BENGAL ALONG AND OFF SOUTH ANDHRA PRADESH COAST AND PART OF THE WALL CLOUD REGION LIES OVER LAND.

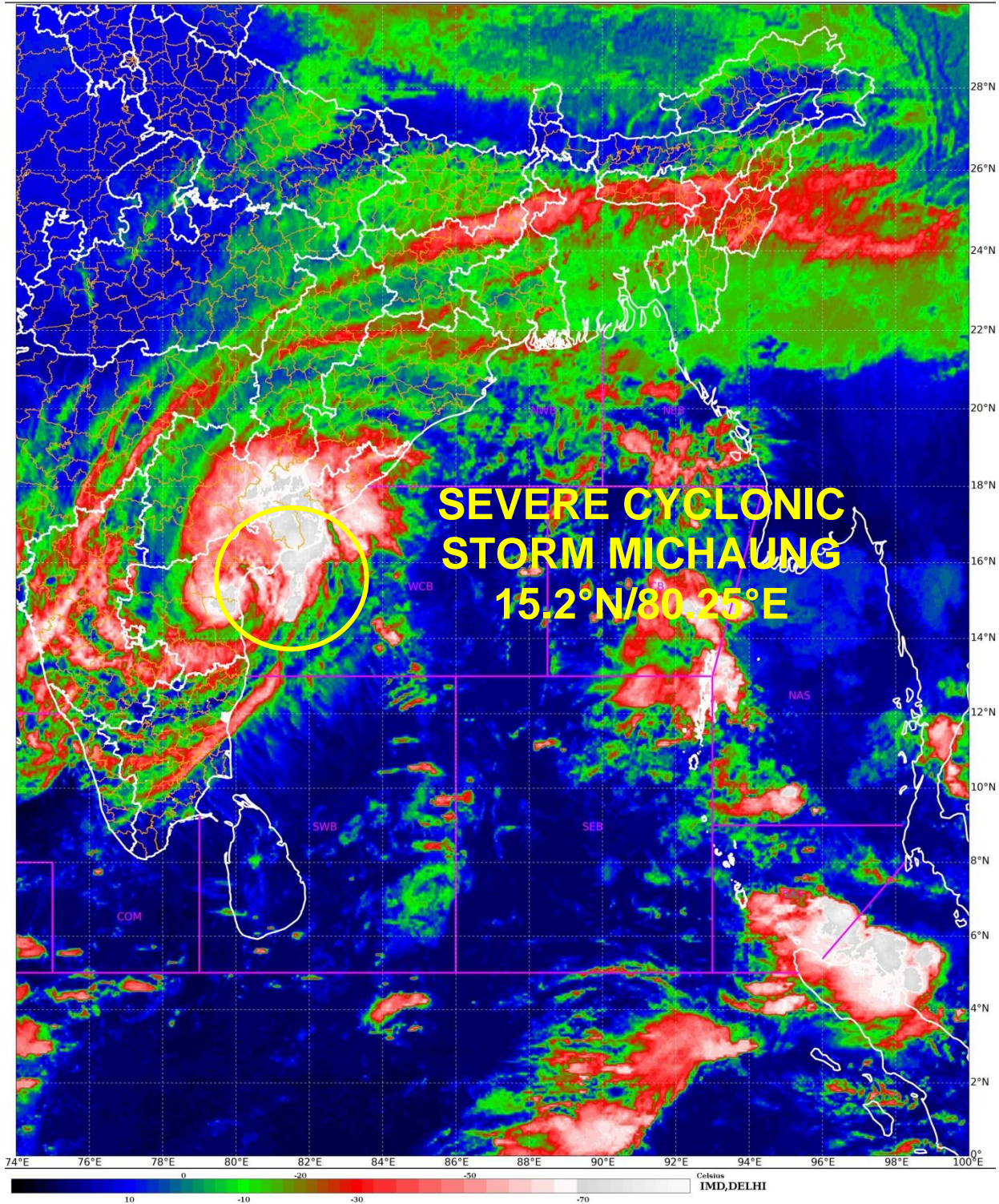
COASTAL SURFACE OBSERVATIONS AT 0300UTC OF TODAY 5TH DEC 2023: KAVALI (04243) WITH MEAN SEA LEVEL PRESSURE AS 993.1 HPA, WIND 270°/9 KNOTS; ONGOLE (43221) WITH MEAN SEA LEVEL PRESSURE 1001.1 HPA WIND 50°/5 KNOTS; NELLORE (43245) WITH MEAN SEA LEVEL PRESSURE 1002.4 HPA, WIND 230°/13 KNOTS AND BAPTLA (43220) WITH MEAN SEA LEVEL PRESSURE 1003.8 HPA, WIND 70°/11 KNOTS

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 50 KNOTS GUSTING TO 60 KNOTS. ESTIMATED CENTRAL PRESSURE IS 988 HPA. SEA CONDITION IS **HIGH TO VERY HIGH SEA CONDITION** IS PREVAILING OVER **WESTCENTRAL BAY OF BENGAL AND ALONG & OFF SOUTH ANDHRA PRADESH COAST.**

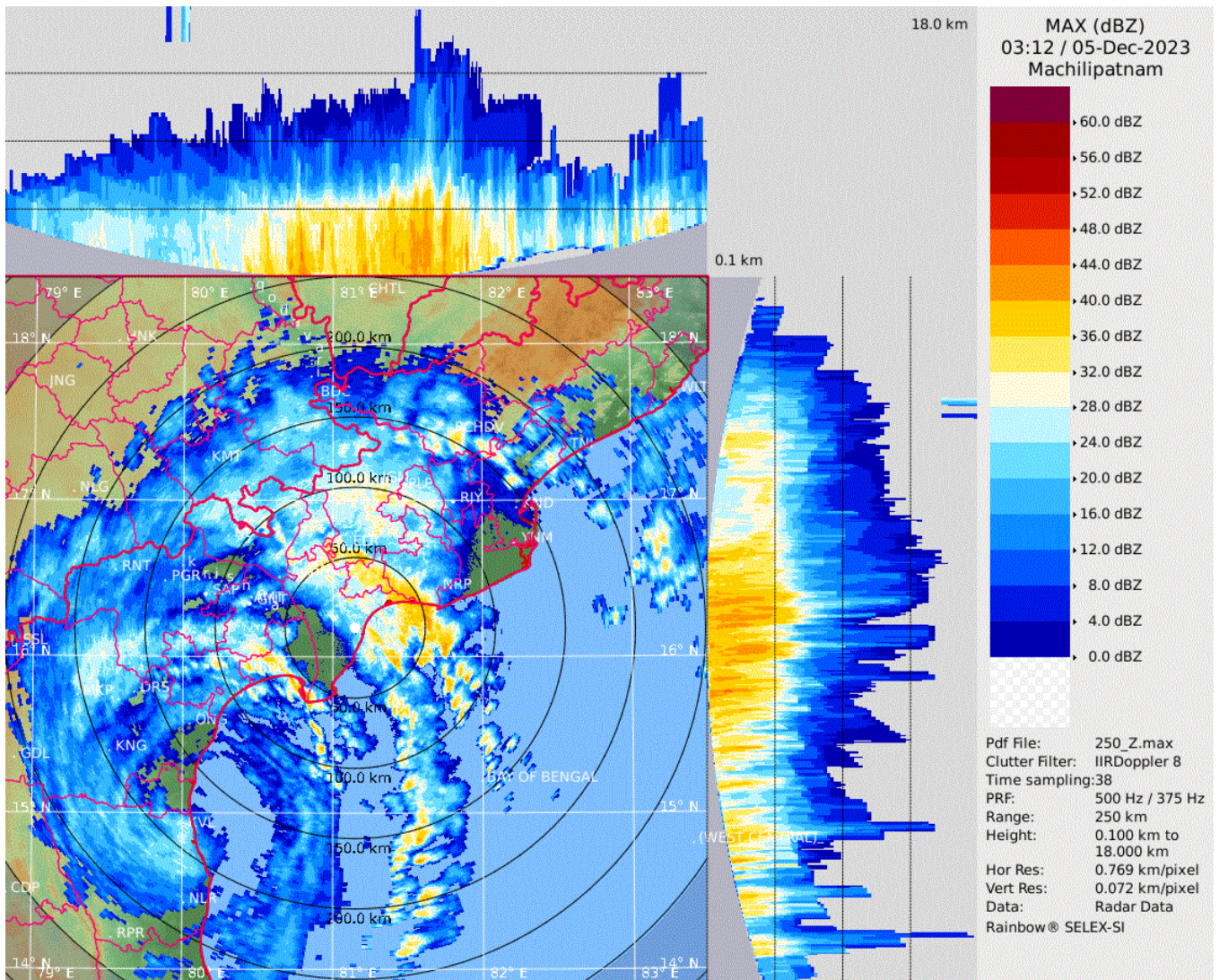
CURRENT ENVIRONMENTAL FEATURES INDICATE, THE LOW LEVEL VORTICITY OF ABOUT $200 \times 10^{-6} \text{S}^{-1}$ AROUND SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. POSITIVE LOW LEVEL CONVERGENCE HAS INCREASED AND IS ABOUT $20 \times 10^{-5} \text{S}^{-1}$ TO THE EAST OF SYSTEM CENTRE. POSITIVE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

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 CLOSE TO BAPATLA(43220) DURING NEXT 4 HOURS AS A SEVERE CYCLONIC STORM WITH A MAXIMUM SUSTAINED WIND SPEED OF 90-100 KMPH GUSTING TO 110 KMPH.

(DR RK JENAMANI)
RSMC NEW DELHI



INSAT 3D Image based on 0230 UTC (0800 hrs IST) of 05th Dec 2023

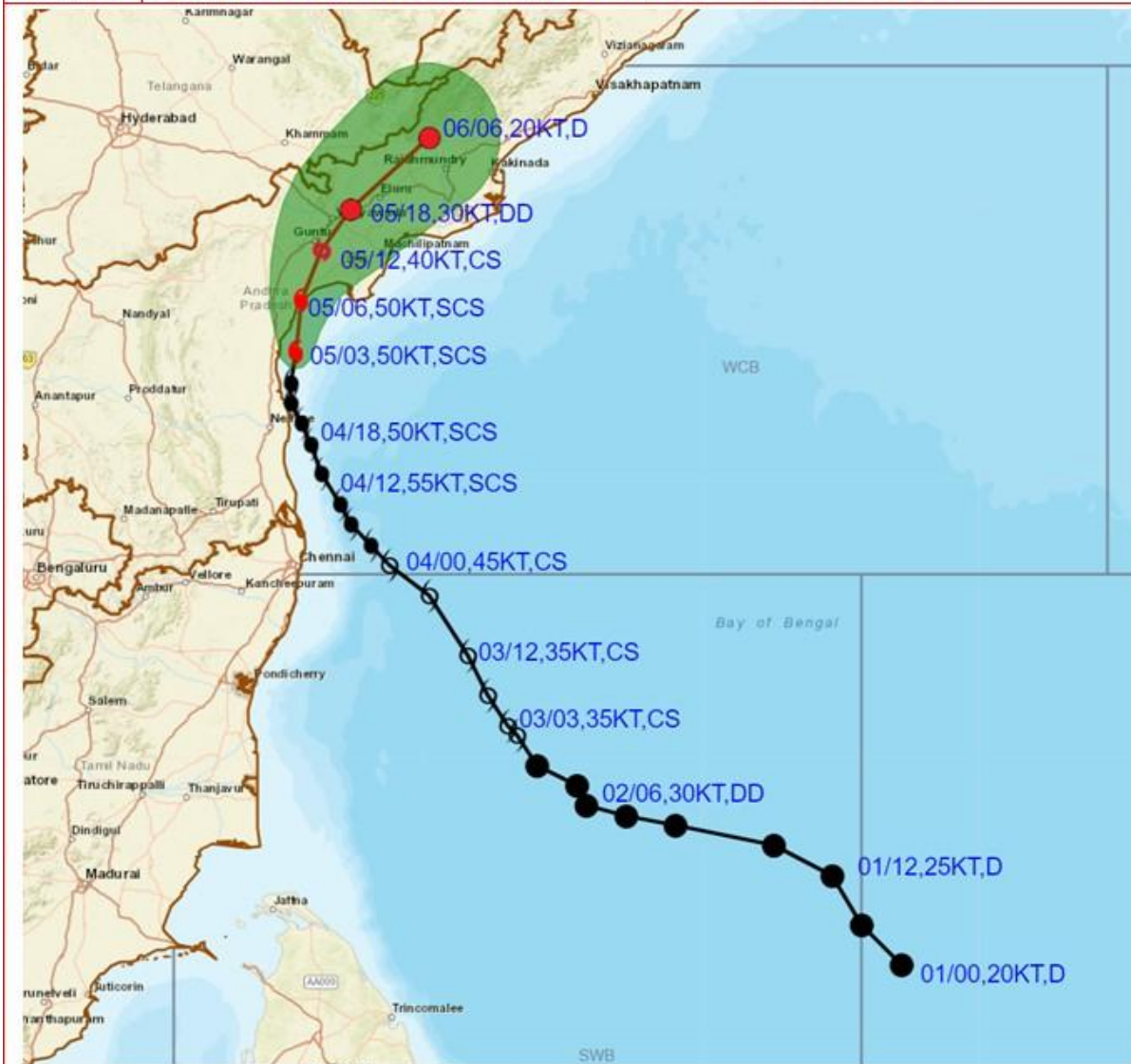


***Maximum Reflectivity from DWR Machilipatnam based on 0312 UTC
(0842 hrs IST) of 05th December 2023***

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



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY IN ASSOCIATION WITH SEVERE CYCLONIC STORM "MICHAUNG" OVER WESTCENTRAL BAY OF BENGAL ALONG AND OFF SOUTH ANDHRA PRADESH COAST BASED ON 0300 UTC (0830 IST) OF 5TH 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

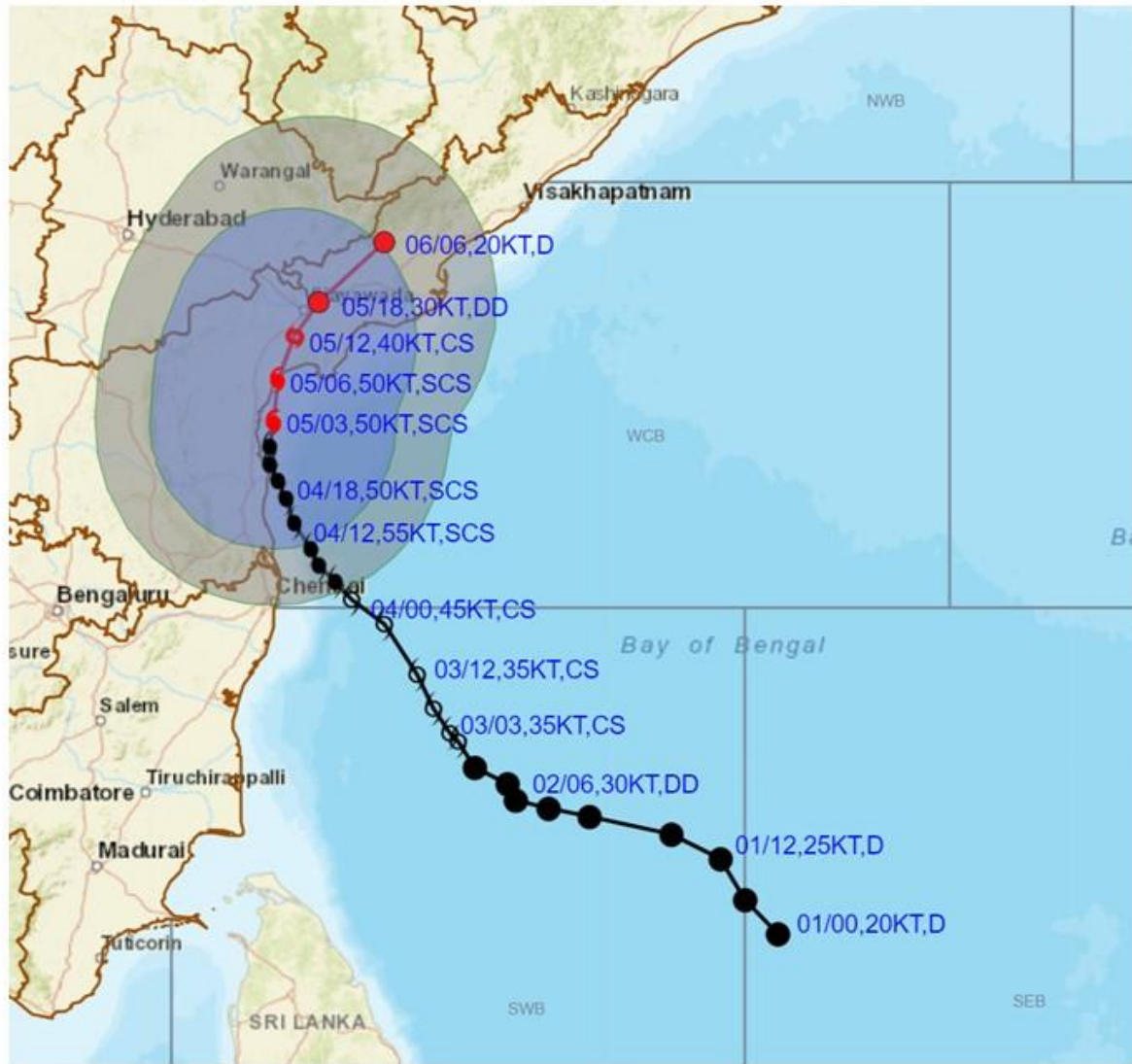
▲ CONE OF UNCERTAINTY

Forecast Date and Time (UTC)	DISTANCE (KM) AND DIRECTION FROM STATIONS			
	NELLORE	BAPATLA	MACHILIPATNAM/ FRANCHPET	MO PONDICHER RY
05.12.23/0300	90, NNE	90, SSW	140, SW	370, N
06.12.23/0600	370, NNE	200, NE	140, NNE	630, NNE

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



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND IN ASSOCIATION WITH SEVERE CYCLONIC STORM "MICHAUNG" OVER WESTCENTRAL BAY OF BENGAL ALONG AND OFF SOUTH ANDHRA PRADESH COAST BASED ON 0300 UTC (0830 IST) OF 5TH 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)
 VS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

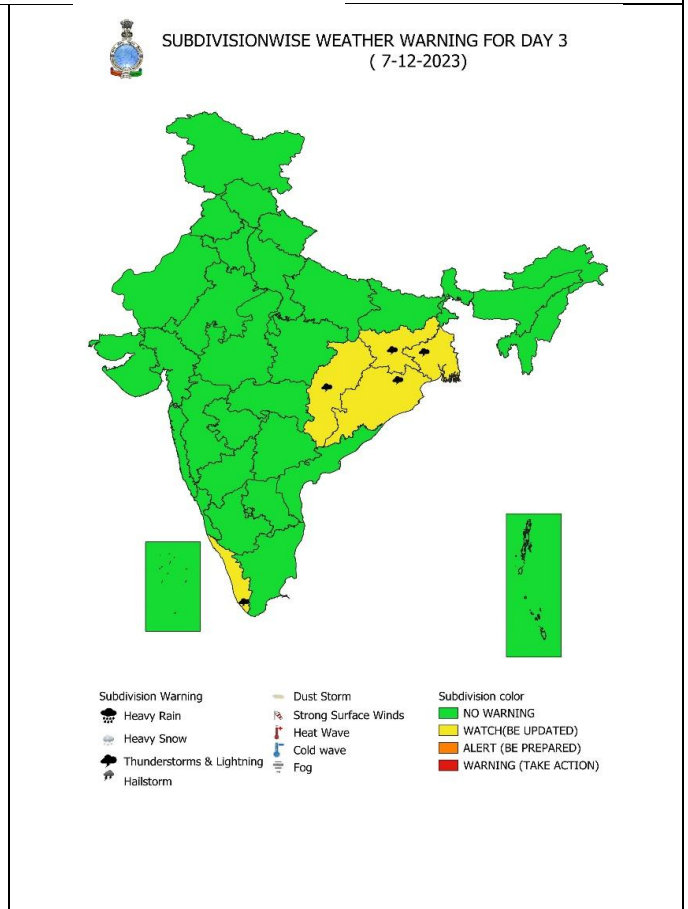
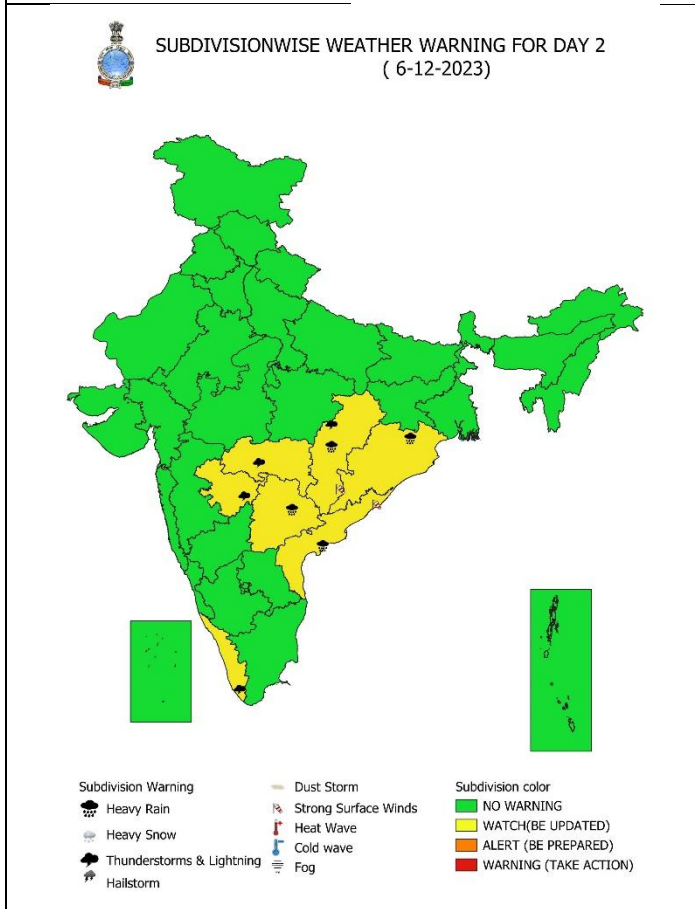
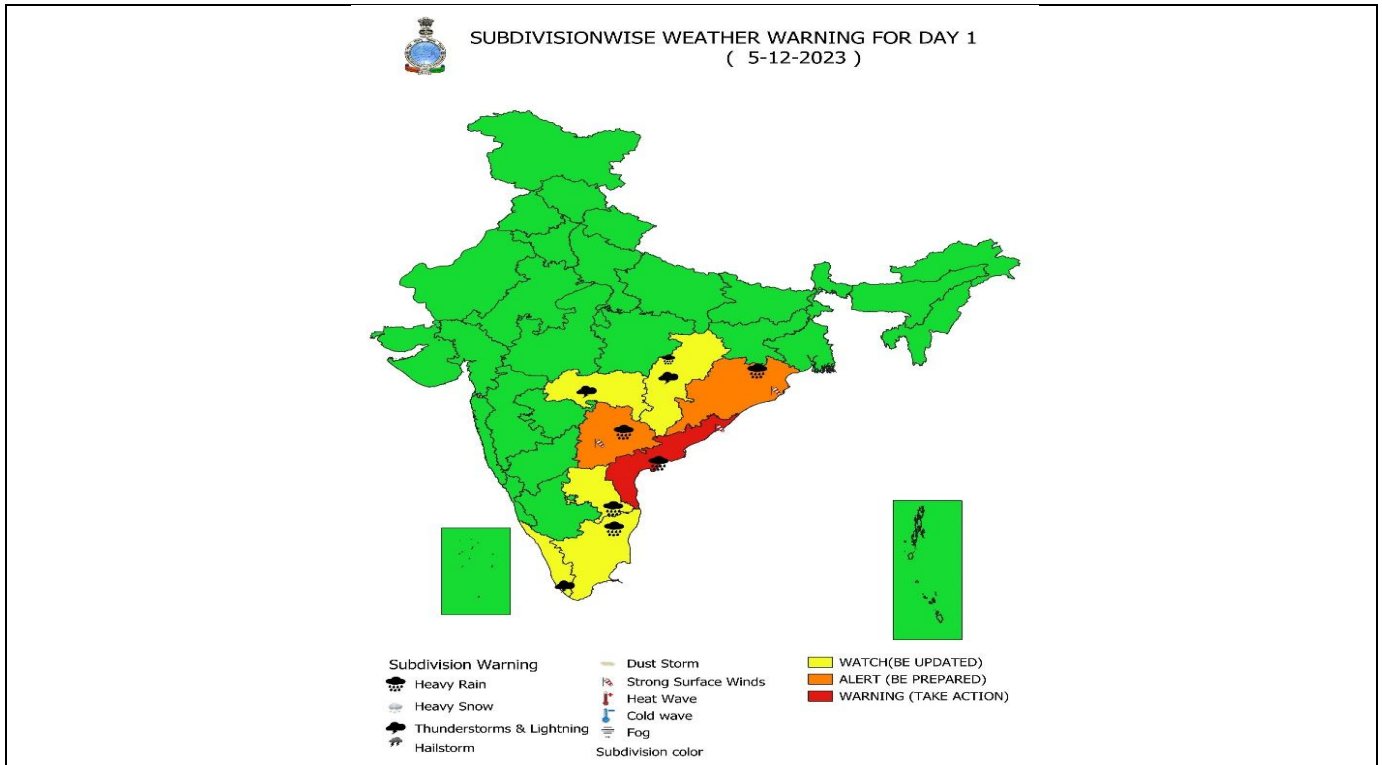
● LESS THAN 34 KT
 ○ 34-47 KT
 ⊙ ≥ 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 — CONE OF UNCERTAINTY
 AREA OF MAXIMUM SUSTAINED WIND SPEED:
 ■ 28-33 KT (52-61 KMPH)
 ■ 34-49 KT (62-91 KMPH)
 ■ 50-63 KT (92-117 KMPH)
 ■ ≥ 64 KT (≥118 KMPH)

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

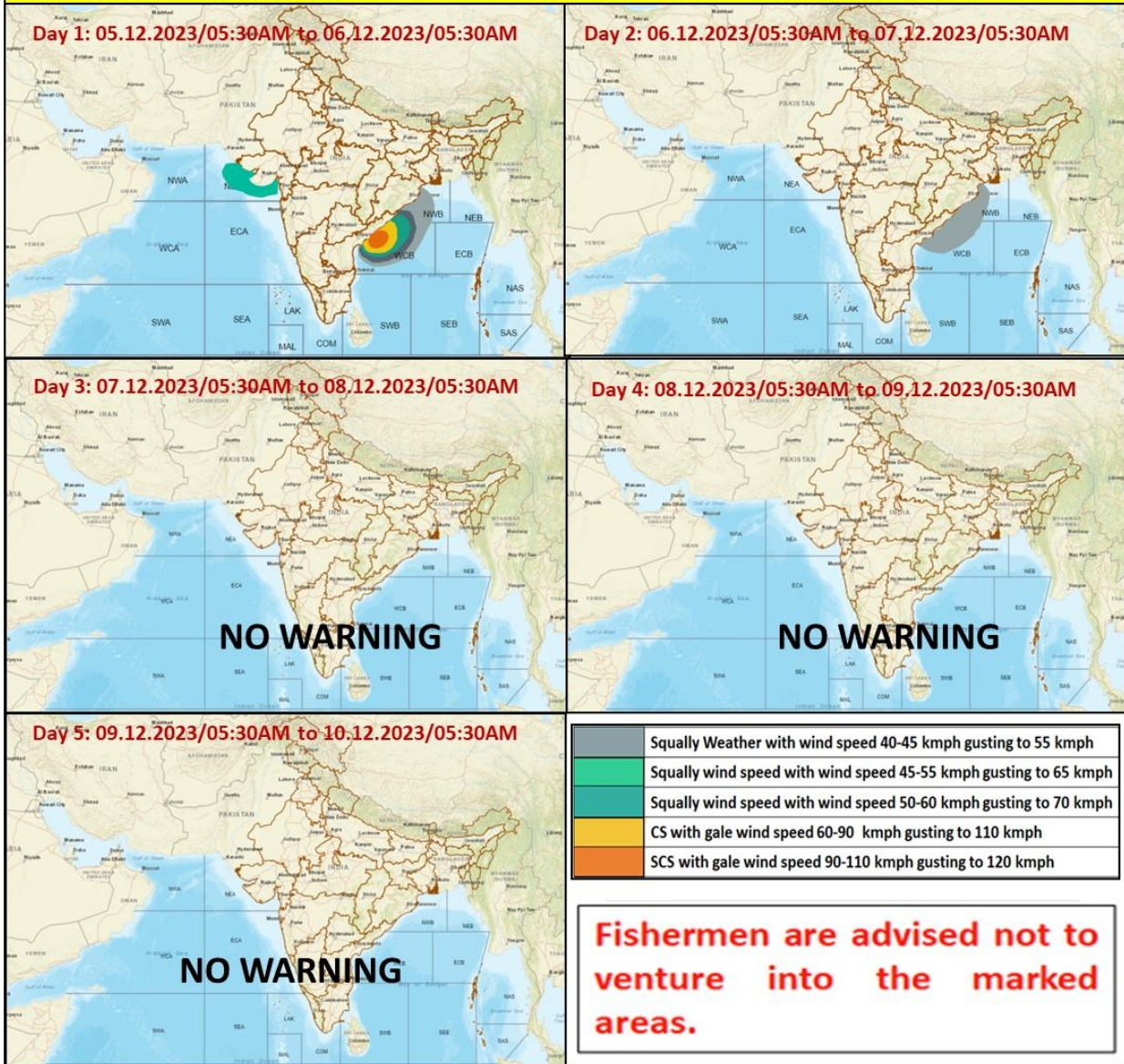
Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
 PROBABILITY OF CYCLOGENESIS (FORMATION 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

Weather Warning Graphics



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

Fishermen Warning Graphics



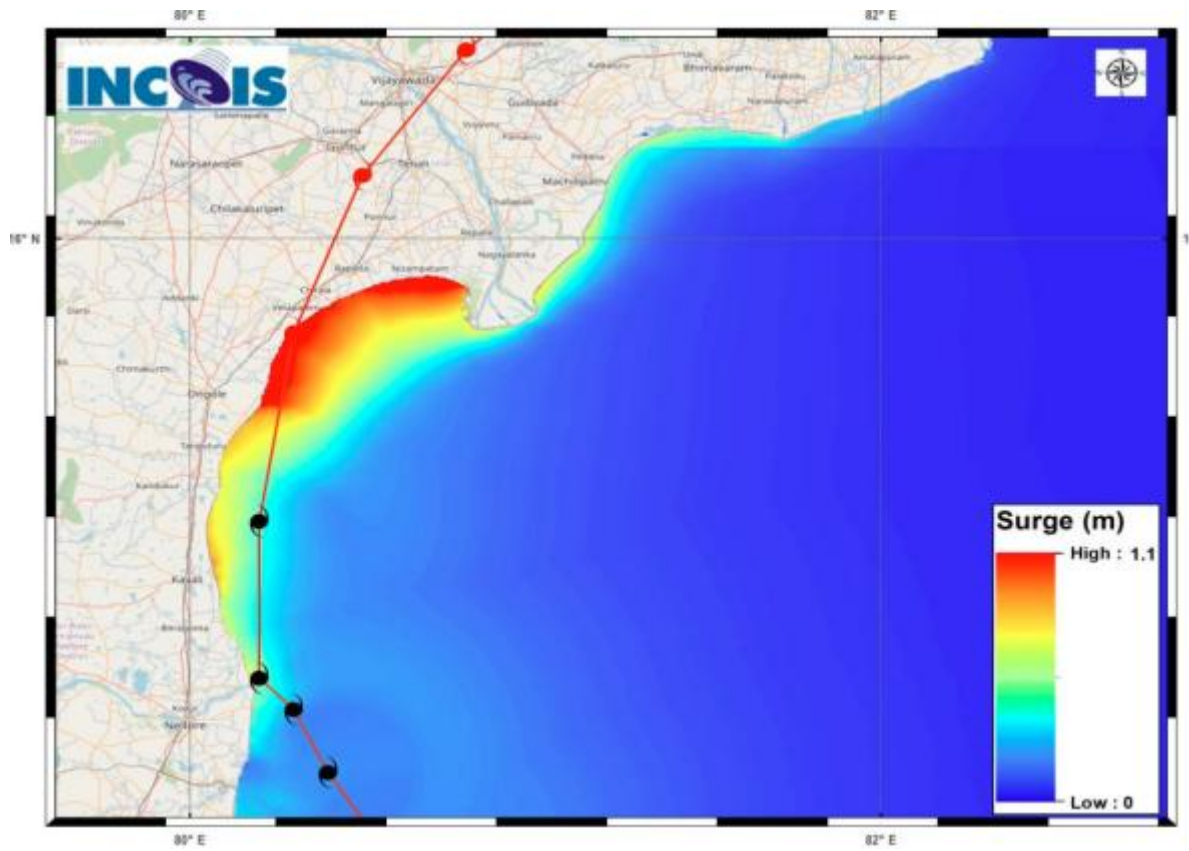
Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C
 PROBABILITY OF CYCLOGENESIS (FORMATION 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

Storm Surge Warning Graphics based on Forecast Track

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	0.5-1.1	Upto 0.23
Sullurpeta	Nellore	Andhra Pradesh	Duggaraja Patnam	0.5-1.0	Upto 0.24
Ongole	Prakasam	Andhra Pradesh	Kanuparthi	0.4-0.0	Upto 0.16
Bapatla	Guntur	Andhra Pradesh	Bapatla	0.6-0.8	Upto 0.19
Chirala	Prakasam	Andhra Pradesh	Kotha Peta (Rural)	0.6-0.8	Upto 0.17
Kovvur	Nellore	Andhra Pradesh	Isakapalle	0.4-0.7	Upto 0.13



Storm Surge Map

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

Flash Flood Guidance

24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 06-12-2023 :

High flash flood risk likely over few watersheds & neighbourhoods of following coastal districts of **Andhra Pradesh**

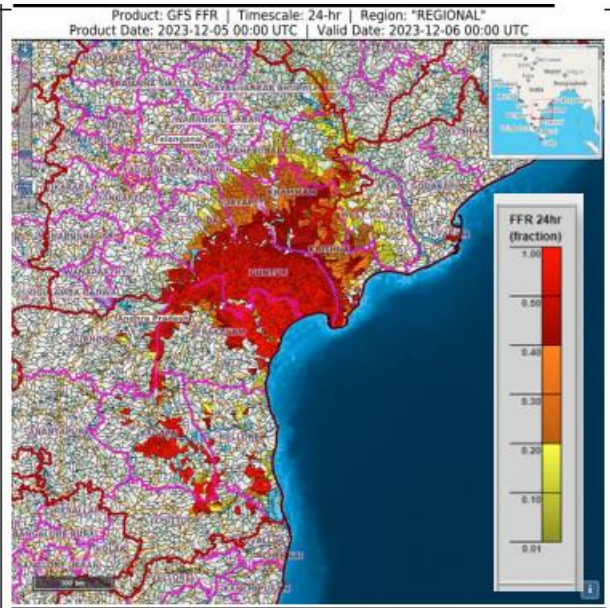
Guntur, Prakasam and Krishna (>50%) districts of **Andhra Pradesh**;

Moderate flash flood risk likely over few watersheds & neighbourhoods of following coastal districts (>20% - <50%) of **Andhra Pradesh and Telangana** during next 24 hours.

Vizianagarm, West Godavari, Krishna, Guntur, Kadapa, Kurnool, Chittoor, Prakasam and Nellore (>20% - <50%) districts of **Andhra Pradesh**;

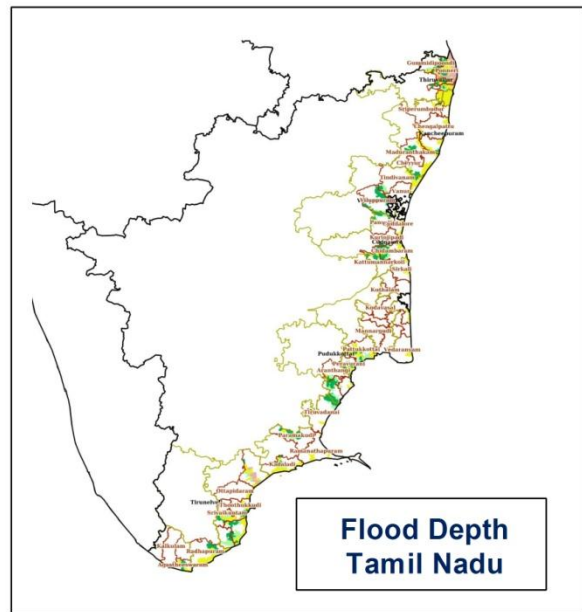
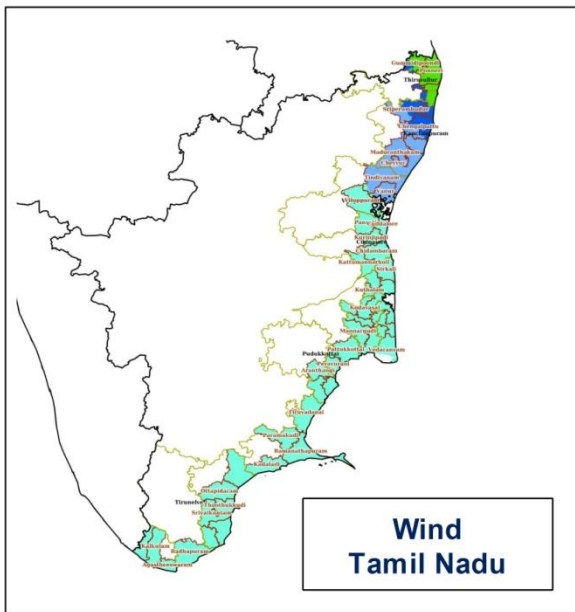
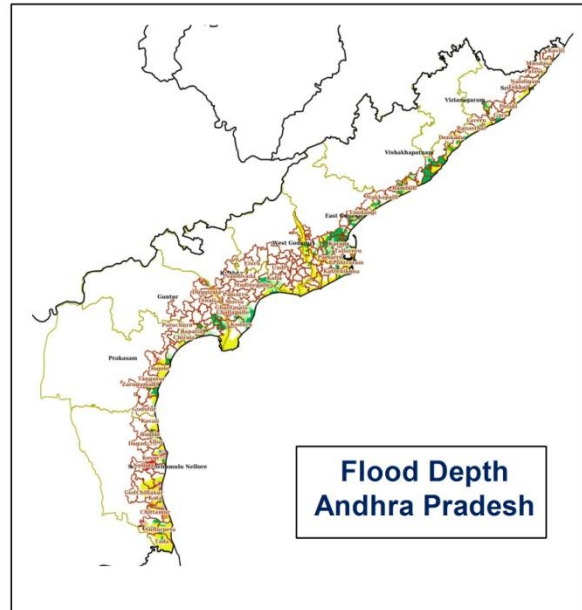
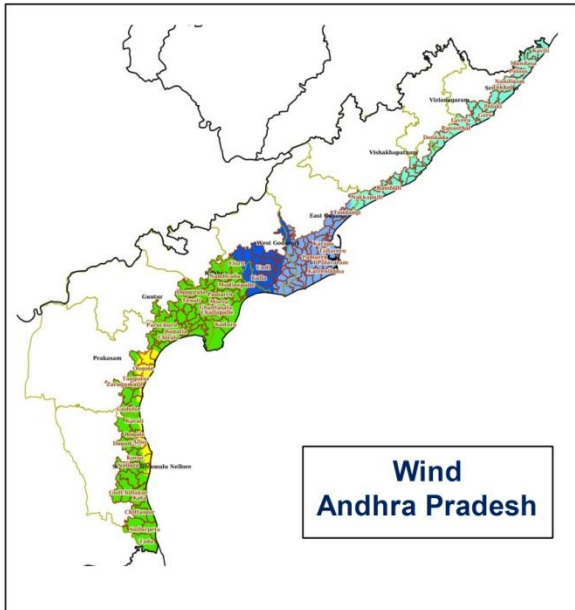
Suryapet, Khammam and Nagarkurnool districts of **Telangana**.

Surface runoff/ Inundation may occur at some fully saturated watersheds & low-lying areas over AoC as depicted in map due to Severe Cyclonic Storm 'Michaung' during next 24 hours.



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

Hazard Map with Severe Cyclonic Storm MICHAUNG over Westcentral & adjoining off south Andhra Pradesh coast



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