



**India Meteorological Department
(Ministry of Earth Sciences)**

National Bulletin No. 26 (BOB/06/2023)

TIME OF ISSUE: 0445 HOURS IST

DATED: 05.12.2023

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23093750)

CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, ODISHA (FAX NO. 0674-2536660)

CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO 0413-2334145)

ADMINISTRATOR, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

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 Bay of Bengal off south Andhra Pradesh and adjoining north Tamilnadu coasts moved north-northwestwards with a speed of 07 kmph during past 06 hours and lay centered at 0230 hours IST of today, the 5th December, 2023 over the same region near Latitude 14.6°N and Longitude 80.2°E, about 20 km north-northeast of Nellore, 170 km north of Chennai, 150 km south of Bapatla and 210 km south-southwest of Machilipatnam.

As the system is nearly moving northwards close to coast, some parts of the wall cloud region lies over 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 during forenoon 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 (IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
05.12.23/0230	14.6/80.2	90-100 kmph gusting to 110 kmph	Severe Cyclonic Storm
05.12.23/0530	15.1/80.2	90-100 kmph gusting to 110 kmph	Severe Cyclonic Storm
05.12.23/1130	15.7/80.3	85-95 kmph gusting to 105 kmph	Severe Cyclonic Storm
05.12.23/1730	16.2/80.5	75-85 kmph gusting to 95 kmph	Cyclonic Storm
05.12.23/2330	16.6/80.8	65-75 kmph gusting to 85 kmph	Cyclonic Storm
06.12.23/0530	17.3/81.6	40-50 kmph gusting to 60 kmph	Depression

Warnings:

(i) Rainfall Warning (graphics enclosed):

- **North Coastal Tamil Nadu & Puducherry:** Light to moderate rainfall at most isolated heavy rainfall on 5th December and decrease thereafter.
- **Coastal Andhra Pradesh:** Light to moderate rainfall at most places and heavy to very heavy rainfall at a few places with extremely heavy falls at isolated places over coastal Andhra Pradesh & Yanam on 5th December. **Exceptionally heavy rainfall** at one or two places is also likely over north coastal and adjoining south coastal Andhra Pradesh on 5th December. Isolated heavy rainfall is likely over north coastal Andhra Pradesh on 6th December.
- **Rayalaseema:** Light to moderate rainfall at many places with isolated heavy rainfall on 5th December and decrease thereafter.
- **Telangana:** Light to moderate rainfall at most places with isolated heavy to extremely heavy rainfall on 5th December.
- **Odisha:** Light to moderate rainfall at most places with isolated heavy rainfall is likely over south Coastal and adjoining south Interior Odisha on 6th with isolated heavy to very heavy rainfall over the same region on 5th December.

(ii) Wind warning:

- **Southwest Bay of Bengal along & off north Tamil Nadu-Puducherry Coasts:**
Squally wind speed reaching **50-60 kmph gusting to 70 kmph** is prevailing along and off north Tamilnadu coast (Chennai and to its north). It would decrease gradually becoming **40-50 kmph gusting to 60 kmph** by early morning of 5th and **30-40 kmph gusting to 50 kmph** by forenoon of 5th December.
- **Westcentral Bay of Bengal and along & off south Andhra Pradesh Coast:**
Gale wind speed reaching **90-100 kmph gusting to 110 kmph** would prevail over westcentral Bay of Bengal around system centre till morning of 5th and gradually decreases thereafter.
Gale wind speed reaching **80-90 kmph gusting to 100 kmph** is prevailing along and off Nellore district & **90-100 kmph gusting to 110 kmph** along and off remaining districts of south Andhra Pradesh coast till 5th December forenoon and gradually decrease thereafter.
- **Along & off north Andhra Pradesh Coast:**
Squally wind speed reaching **50-60 kmph gusting to 65 kmph** is prevailing, it is likely to gradually increase becoming **60-70 kmph gusting to 80 kmph** from 5th December morning for subsequent 24 hours. It would gradually decrease thereafter.

- **Along & off Odisha Coast:**

Squally wind speed reaching **35-45 kmph gusting to 55 kmph** is prevailing, it is likely to gradually increase becoming **40-50 kmph gusting to 60 kmph** from 5th December evening for subsequent 12 hours. It would gradually decrease thereafter.

(iii) Sea Condition:

- **Southwest Bay of Bengal and along & off north Tamil Nadu-Puducherry Coasts:**

High sea condition is prevailing and likely to continue during next 6 hours and likely to become high to very rough from 4th December night and very rough to rough thereafter till 5th December morning. It is likely to improve thereafter gradually.

- **Westcentral Bay of Bengal and along & off south Andhra Pradesh Coast:**

High to very high sea condition is prevailing over the region. It is likely to continue till 5th December noon. It is likely to improve thereafter gradually becoming high to very rough from 5th evening and very rough to rough from 6th morning for subsequent 12 hours.

- **Along & off North Andhra Pradesh Coast:**

Rough to Very Rough to sea condition is likely during next 6 hours, very rough to high on 5th and very rough to rough on 6th December.

- **Along & off Odisha Coast:**

Rough to Very Rough to sea condition is likely till 6th December morning.

(iv) Fishermen Warning (graphics attached):

Fishermen are advised not to venture into:

- Southwest Bay of Bengal and along & off North Tamil Nadu-Puducherry Coasts till 5th December.
- Westcentral Bay of Bengal and along & off Andhra Pradesh Coast till 6th December.
- Northwest Bay of Bengal and along & off Odisha coast till 6th December.

(v) Storm Surge (Graphics enclosed):

Storm surge of about 1-1.5 meter above astronomical tide likely to inundate south Coastal Andhra Pradesh districts at the time of landfall.

(vi) Post landfall outlook:

After landfall while weakening gradually, the system will maintain the intensity of cyclonic storm for about 12 hours. The wind speed will gradually decrease to 75-85 kmph gusting to 95 kmph by evening of 5th December and further gradually decrease thereafter. Light to moderate rainfall at many places with isolated heavy fall over south Chattisgarh on 6th December 2023.

(vii) Damage Expected over coastal districts of South Andhra Pradesh (Nellore, Tirupati Prakasam, Bapatla, Guntur, Krishna and West Godavari) and adjoining coastal districts of North Tamil Nadu-Puducherry:

- Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly.
- Possibilities of damage to vulnerable structure.
- Breaking of tree branches, uprooting of large avenue trees. Major damage to banana and papaya trees. Large dead limbs blown from trees.
- Minor damage to power and communication lines due to breaking of branches and uprooting of trees.
- Major damage to Kutcha and minor damage to Pucca roads due to heavy rain.
- Damage to paddy crops, horticultural crops and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments
- Inundation of low lying areas in coastal districts due to heavy rainfall and flash flood
- Localized Flooding of roads and closure of underpasses mainly in urban areas of the above region.

- Occasional reduction in visibility due to heavy rainfall.
- Disruption of traffic due to water logging and squally winds
- Localized Landslides/Mudslides
- It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)

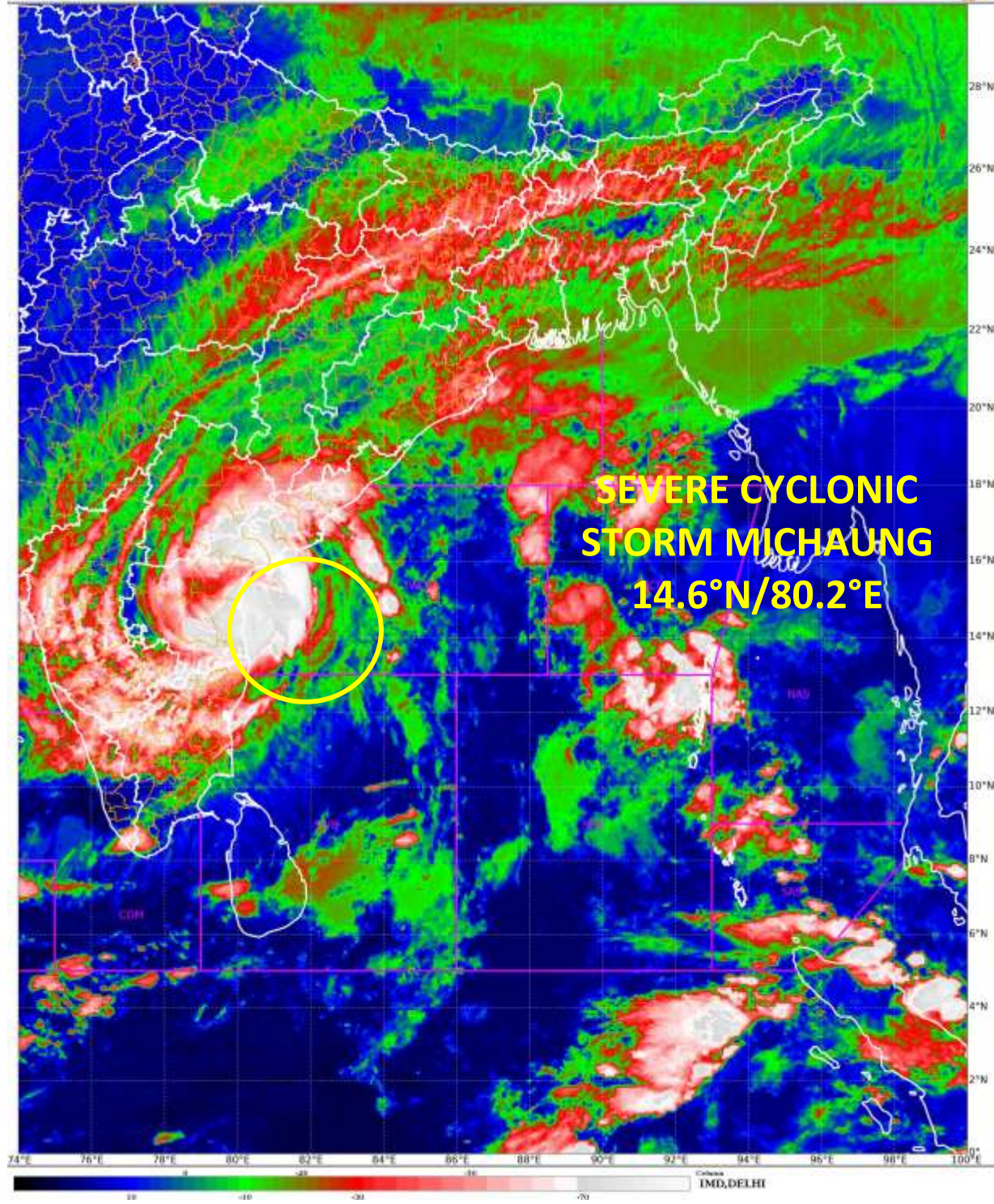
(viii) Action Suggested for coastal districts of South Andhra Pradesh and adjoining coastal districts of North Tamil Nadu-Puducherry:

- Total suspension of fishing operations.
- Surface transport and shipping operations need to be regulated
- Onshore & Offshore operation need to be regulated as per guidelines
- Coastal hutment dwellers to be in safer places.
- People in affected areas to remain indoors.
- Avoid going to areas that face the water logging problems often.
- Avoid staying in vulnerable structure.

The system is under continuous surveillance and the next message will be issued at 0830 hours IST of 05th December, 2023.

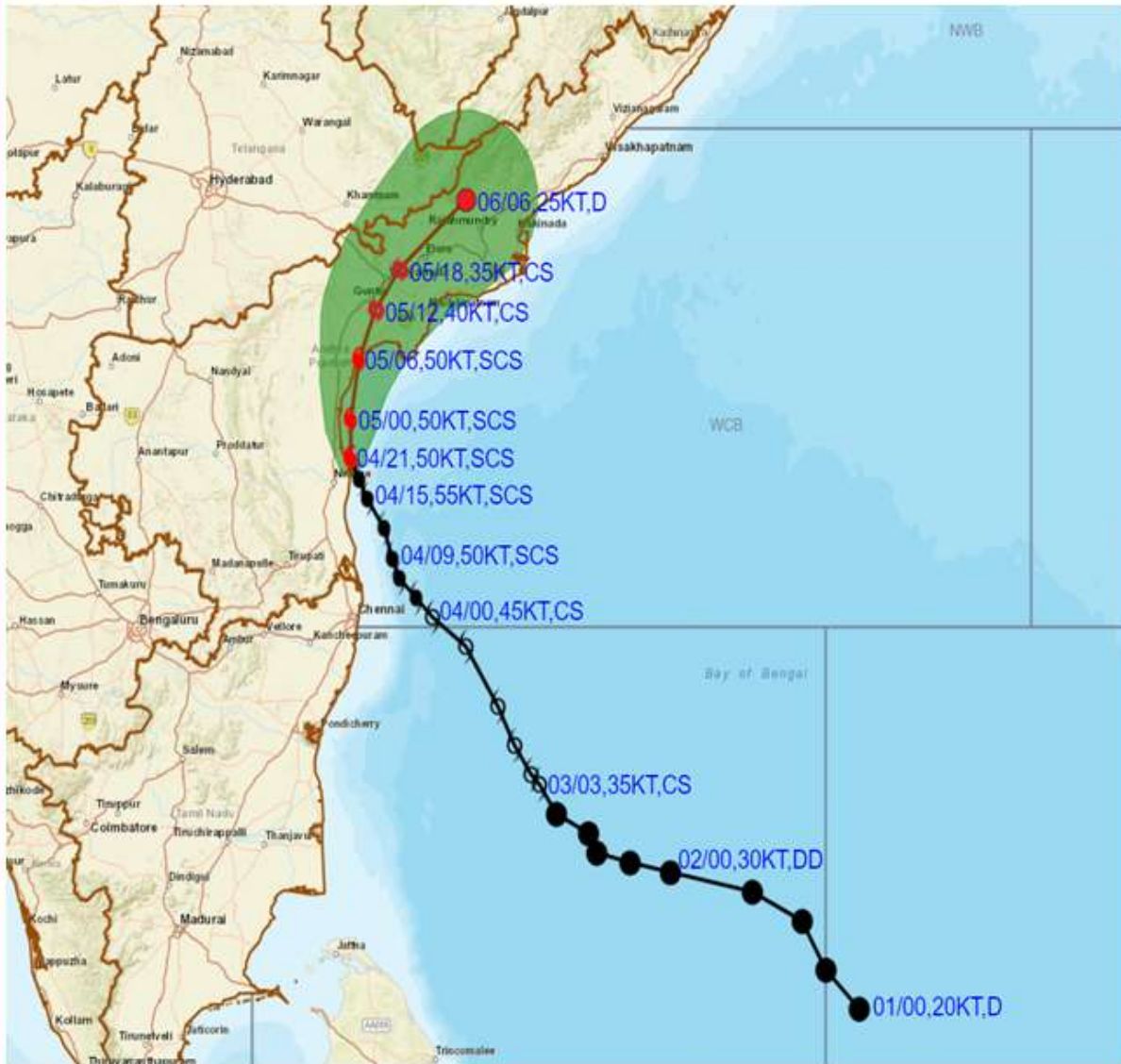
(S.P. SINGH)
Scientist C, Cyclone Warning Division, New Delhi

Copy to: ACWC Chennai/ ACWC Kolkata/ CWC Bhubaneswar/ CWC Vishakhapatnam/ MC Amravati





OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY IN ASSOCIATION WITH SEVERE CYCLONIC STORM "MICHAUNG" OVER WESTCENTRAL BAY OF BENGAL BASED ON 2100 UTC (0230 IST OF 05TH DECEMBER 2023) OF 4TH DECEMBER 2023.



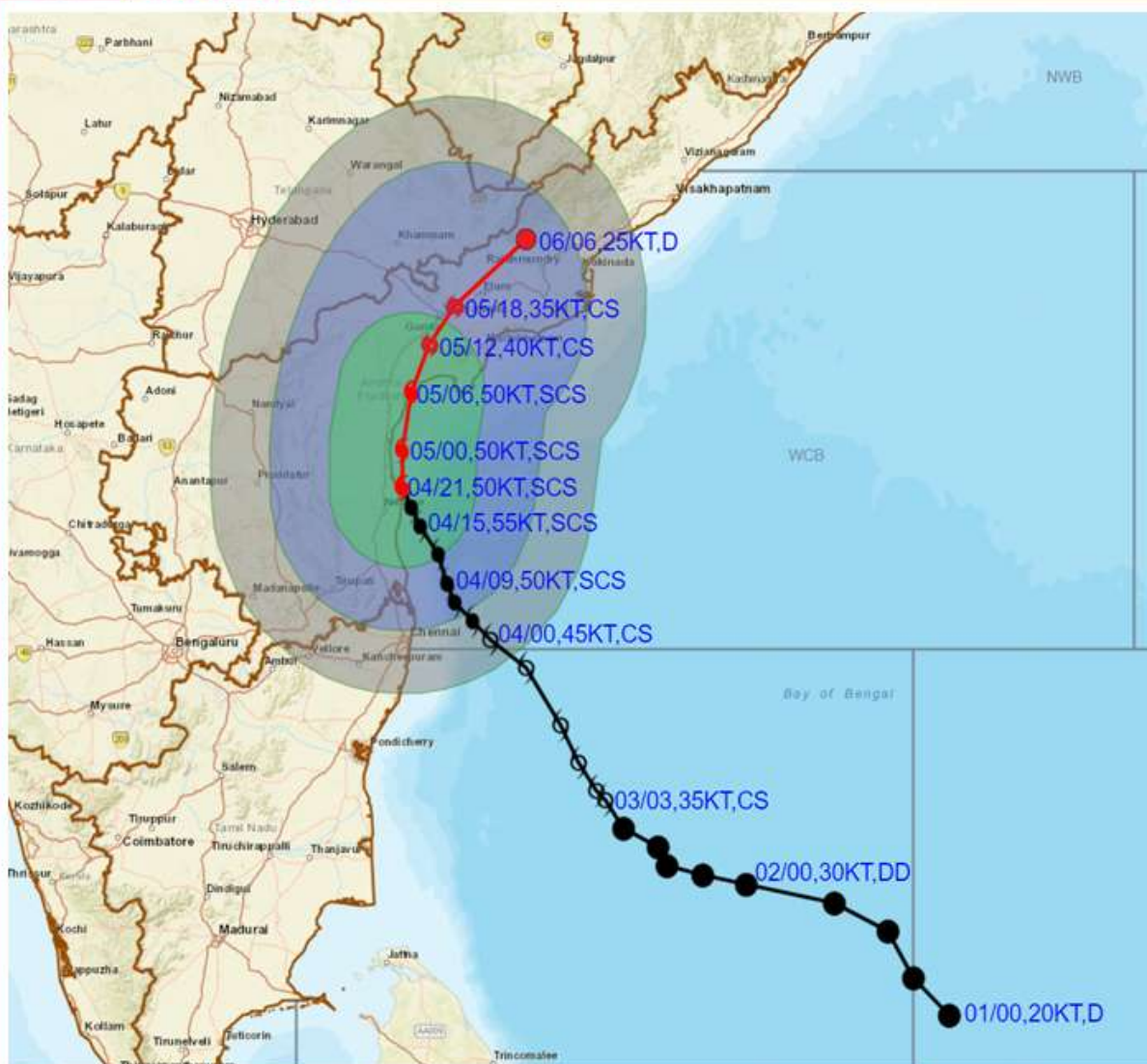
DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (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 Date and Time (UTC)	DISTANCE (KM) AND DIRECTION FROM STATIONS				
	CHENNAI/MINAMB AKKAM	NELLORE	MO PONDICHERRY	BAPATLA	MACHILIPATNAM/ FRANCHPET
04.12.23/2100	190, N	40, NE	310, N	130, SSW	190, SSW
05.12.23/1800	410, N	260, NNE	530, NNE	90, NNE	60, NW



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.



DATE/TIME IN UTC
IST=UTC + 0530

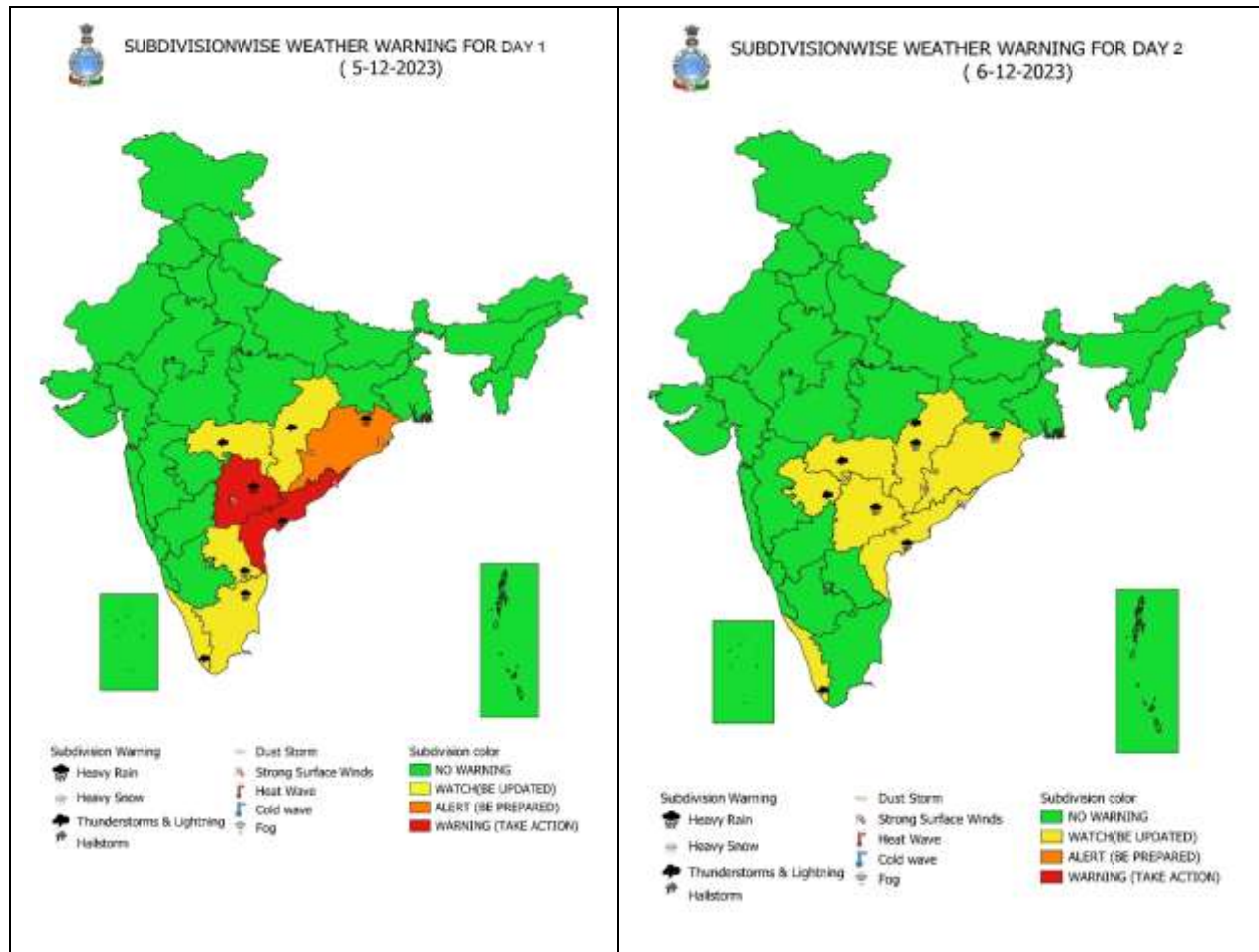
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
○ 34.47 KT
● ≥ 48 KT
— OBSERVED TRACK
— FORECAST TRACK
— CONE OF UNCERTAINTY
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

Weather Warning Graphics





**SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
(7-12-2023)**



- | | | |
|--|---|---|
| Subdivision Warning
Heavy Rain
Heavy Snow
Thunderstorms & Lightning
Hailstorm | Dust Storm
Strong Surface Winds
Heat Wave
Cold wave
Fog | Subdivision color
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION) |
|--|---|---|



**SUBDIVISIONWISE RAINFALL FORECAST FOR DAY 4
(8-12-2023)**



- | | | |
|--|---|---|
| Subdivision Warning
Heavy Rain
Heavy Snow
Thunderstorms & Lightning
Hailstorm | Dust Storm
Strong Surface Winds
Heat Wave
Cold wave
Fog | Subdivision color
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION) |
|--|---|---|

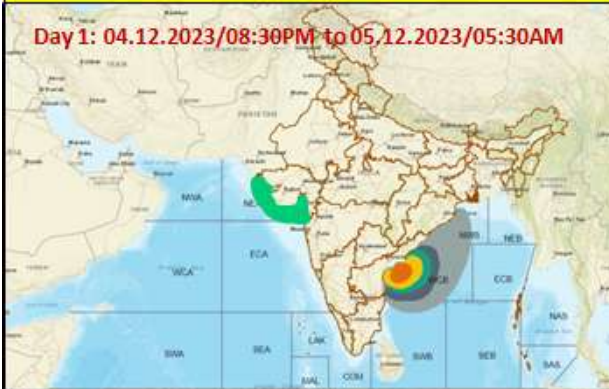
WARNING



- | | | | |
|--------------|------------|--------------|--------------|
| Heavy Rain | Heavy Snow | Thunderstorm | Dust Storm |
| Strong Winds | Visibility | Cyclone | Squall/ Hail |
| Frost | Cold Wave | Heat Wave | Sea State |

Fishermen Warning Graphics

Day 1: 04.12.2023/08:30PM to 05.12.2023/05:30AM



Day 2: 05.12.2023/05:30AM to 06.12.2023/05:30AM



Day 3: 06.12.2023/05:30AM to 07.12.2023/05:30AM



Day 4: 07.12.2023/05:30AM to 08.12.2023/05:30AM



Day 5: 08.12.2023/05:30AM to 09.12.2023/05:30AM



Squally Weather with wind speed 40-45 kmph gusting to 55 kmph

Squally wind speed with wind speed 45-55 kmph gusting to 65 kmph

Squally wind speed with wind speed 50-60 kmph gusting to 70 kmph

CS with gale wind speed 60-90 kmph gusting to 110 kmph

SCS with gale wind speed 90-110 kmph gusting to 120 kmph

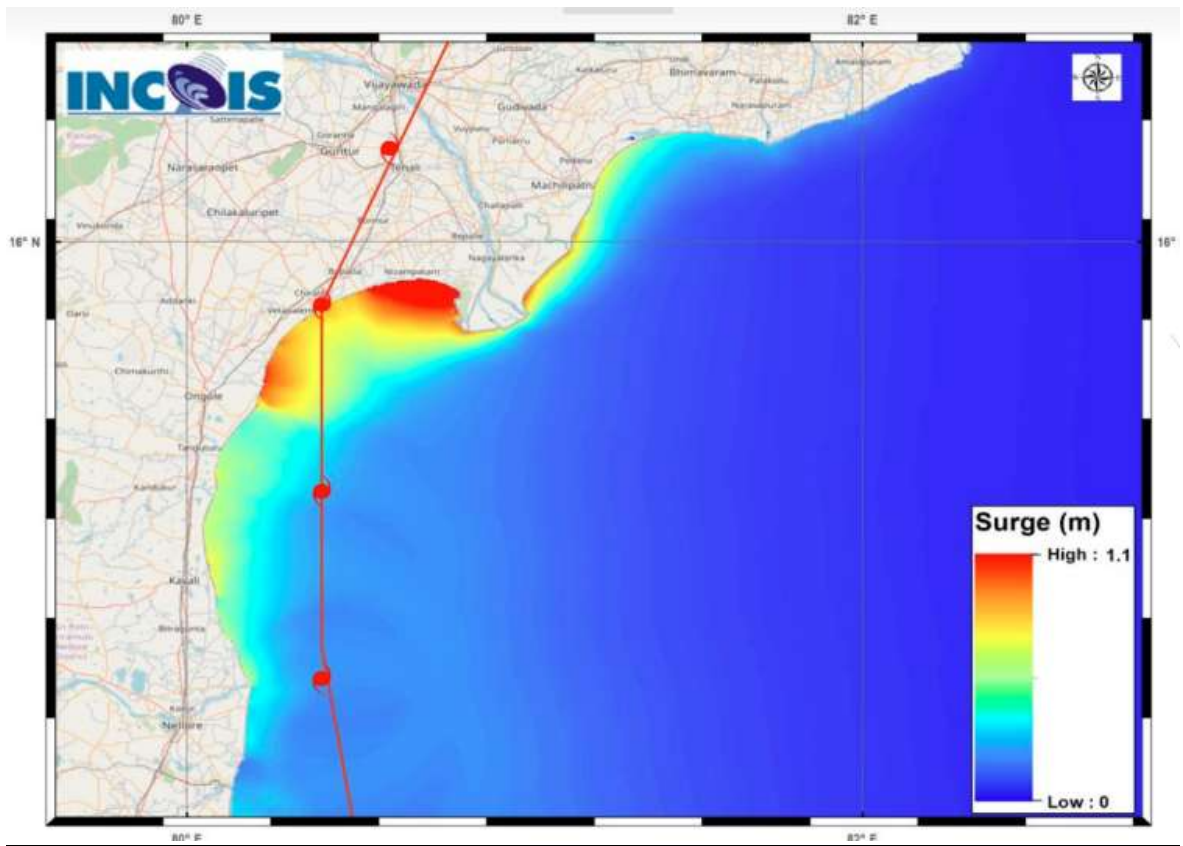
Fishermen are advised not to venture into the marked areas.

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
Avanigadda	Krishna	Andhra Pradesh	Ramakrishnapuram	0.3-0.9	Upto 0.25
Bapatla	Guntur	Andhra Pradesh	Bapatla	0.4-0.7	Upto 0.19
Sullurpeta	Nellore	Andhra Pradesh	Duggaraja Patnam	0.2-0.7	Upto 0.18
Chirala	Prakasam	Andhra Pradesh	Kotha Peta (Rural)	0.4-0.5	Upto 0.12
Machilipatnam	Krishna	Andhra Pradesh	Chinagollapalem	0.2-0.5	Upto 0.15
Ongole	Prakasam	Andhra Pradesh	Kanuparthi	0.2-0.6	Upto 0.15

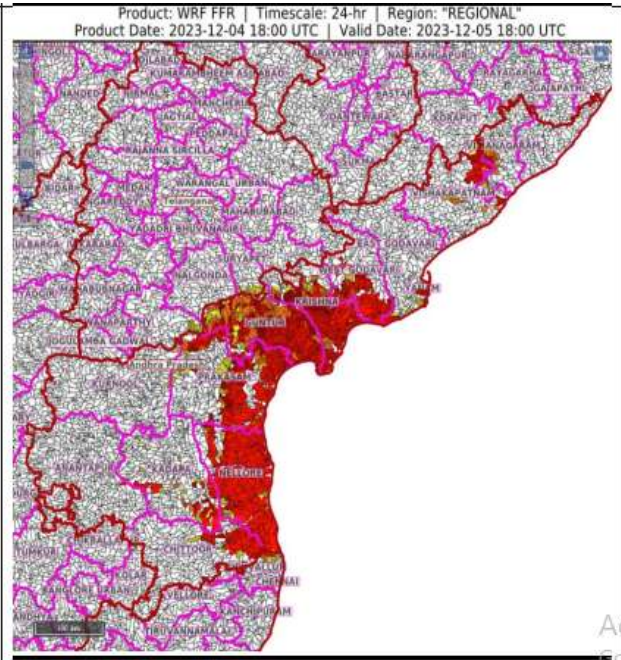


Flash Flood Guidance

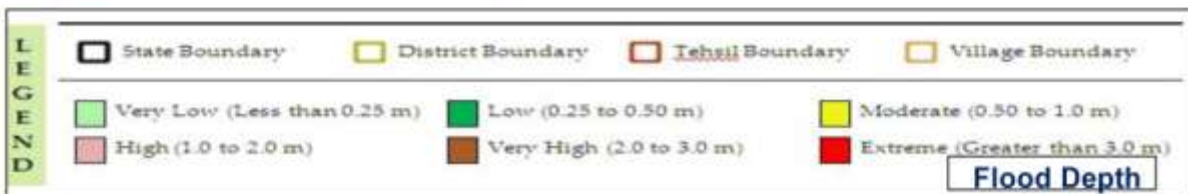
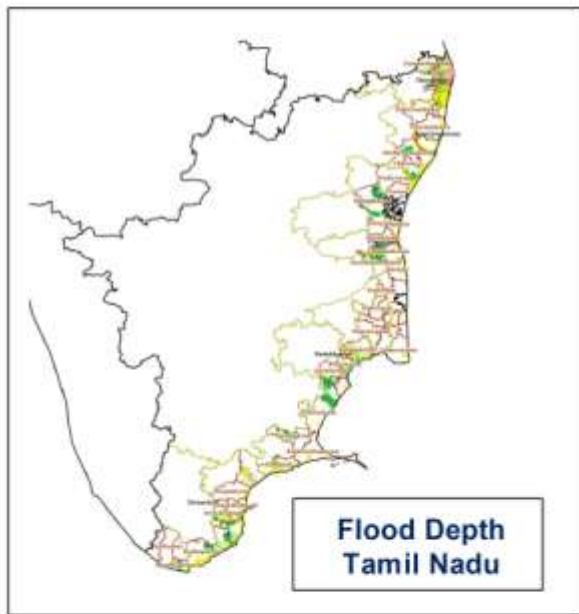
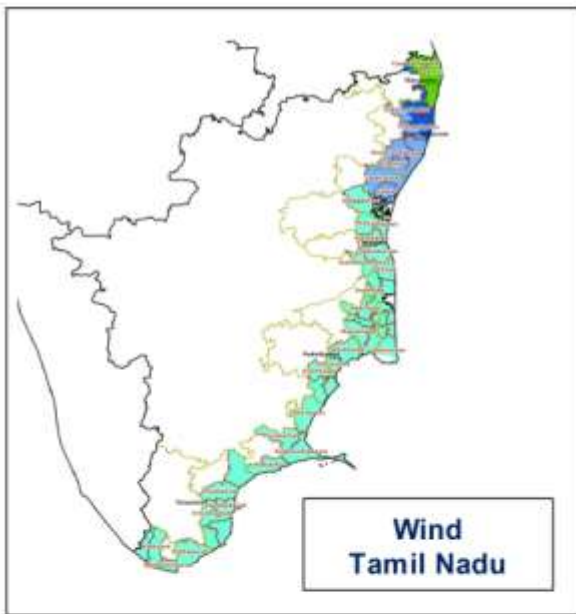
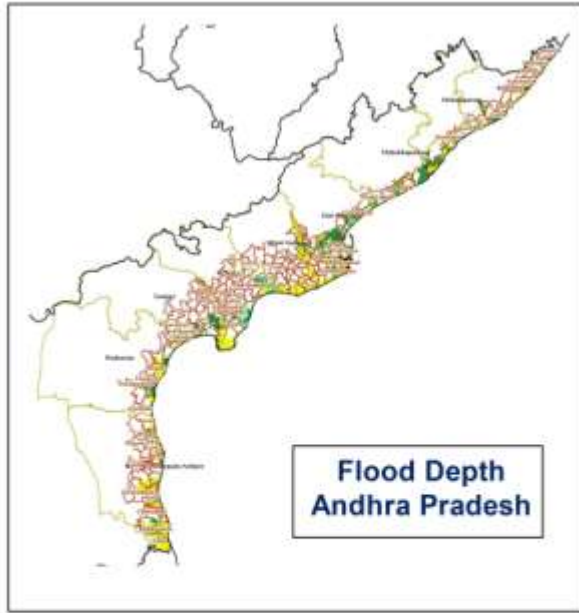
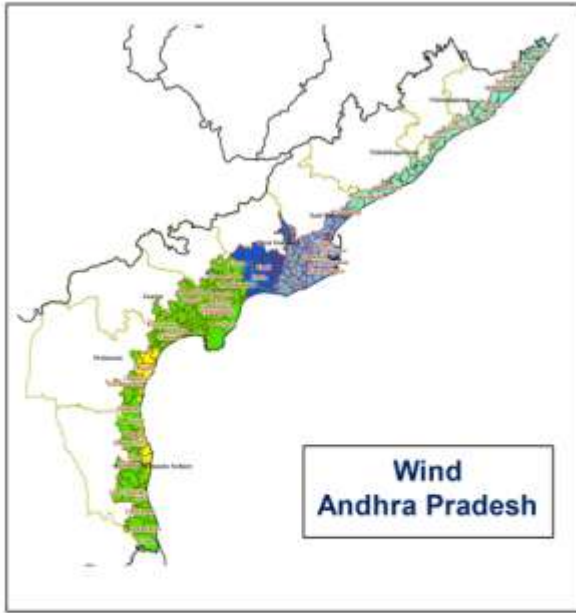
24 hours Outlook for the Flash Flood Risk (FFR) till 2330 IST of 05-12-2023 :

Moderate to High flash flood risk likely over few watersheds & neighbourhoods of following coastal districts of **Andhra Pradesh, Telangana, Puducherry and Tamil Nadu** during next 24 hours.

Vizianagarm, Vishakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Kadapa, Kurnool, Chittoor, Prakasam and Nellore districts of **Andhra Pradesh**; Tiruvallur and Chennai districts of **Tamil Nadu**; Yanam district of **Puducherry** and Suryapet and Nagarkurnool districts of **Telangana**.



Hazard Map with Severe Cyclonic Storm MICHAUNG over Westcentral & adjoining off south Andhra Pradesh and adjoining north Tamilnadu coasts



Realized Rainfall (mm) during past 06 hours from 0830-1730 hours IST of today (04.12.2023):

TAMILNADU, PUDUCHERRY & KARAIKAL: Sholinganallur - 232; Icehouse - 234; Greater Chennai Corporation (GCC) - 215; Royapuram - 163; Kodambakkam - 199; Tondaiyarpet-156; Valasaravakkam - 163; National Institute Ocean of Technology (NIOT) - 152; Taramani - 171; Nungambakkam - 173; Kattapakkam - 184; Puzhal - 142; Alandur - 130;_Meenambakkam - 156; Manali - 107; YMCA Nandanam - 139; Tirur - 134; Anna University - 151; Teynampet - 96

COASTAL ANDHRA PRADESH: Nellore - 68.6; Kavali - 53.6; Narsapur - 39.1; Ongole - 26; Machilipatnam - 25.2; Kakinada - 23.8; Bapatla - 14.4; Nellore-92.5; Podalakur-38; Narsapur - 34; Kakinada-21; Venkataramannagudem-20.5; Gangavaram_Port - 20; Repalle - 17; Chinna_Ganjam - 14; Kalavacharla - 11.5; Gopannapalem- 10.5; Yellamanchilli- 8.5