



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

NATIONAL BULLETIN NO. 22 (BOB/06/2024)

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

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Subject: Severe Cyclonic storm "DANA" over north coastal Odisha

The severe cyclonic storm "DANA" (pronounced as Dana) over north coastal Odisha moved north-northwestwards with a speed of 10 kmph and lay centred at 0530 hrs IST of today, the 25th October, over the same region near latitude 21.0° N and longitude 86.8°E, about 20 km north-northwest of Dhamara, 30 km east of Bhadrak and 40 km north-northwest of Habalikhati nature camp (Bhitarkanika).

It is likely to move nearly northwestwards across north Odisha and weaken gradually into a cyclonic storm by forenoon of today, the 25th October.

The system is under continuous surveillance of the doppler weather radar at Paradip.

Forecast track and intensity are given in the following table:

Date/Time (IST)	Position (Lat. °N/ Long. °E)	Maximum Sustained Surface Wind Speed (Kmph)	Category Of Cyclonic Disturbance
25.10.24/0530	21.0/86.8	95-105 gusting to 115	Severe Cyclonic Storm
25.10.24/1130	21.3/86.5	80-90 gusting to 100	Cyclonic Storm
25.10.24/1730	21.5/86.1	50-60 gusting to 70	Deep Depression
25.10.24/2330	21.7/85.6	30-40 gusting to 50	Depression

(i) Rainfall Warning:

- ❖ Light to moderate rainfall at most places with **heavy to very heavy rainfall** at a few places and **extremely heavy rainfall (≥ 21 cm)** at isolated places over **Baleswar, Mayurbhanj, Bhadrak, Kendrapara, Jagatsingpur Keonjhar, Jajpur, Cuttack and Dhenkanal, Khorda and Puri** districts of Odisha on 25th October.
- ❖ **Light to moderate rainfall at most places with heavy to very heavy rainfall** at a few places with **extremely heavy rainfall** at isolated places over **South & North 24 Parganas, East & West Medinipur, Jhargram, Howrah, Hooghly, Kolkata and Bankura** districts of Gangetic West Bengal on 25th October.
- ❖ Light to moderate rainfall at most places with **heavy to very heavy rainfall** at isolated places is likely over south Jharkhand on 25th October.
- ❖ Light to moderate rainfall at most places with **heavy rainfall** at isolated places is likely over South Bihar on 25th October.

(ii) Wind Warning:

Northwest Bay of Bengal: Gale wind speed reaching 95-105 gusting to 115 kmph is likely to prevail till forenoon of 25th October.

Along & off Odisha-west Bengal coasts: Gale wind speed reaching 80-90 kmph gusting to 100 kmph along & off north Odisha (Bhadrak and Balasore districts) and east Medinipur district of West Bengal is likely till forenoon of 25th October and decrease gradually thereafter.

Gale wind speed reaching 60-80 kmph gusting to 90 kmph along & off south Odisha (Kendrapara, Cuttack, Jajpur, Dhenkanal, Keonjhar and Mayurbhanj districts) is likely till 25th Oct forenoon and decrease gradually thereafter.

Adjoining areas of central Bay of Bengal: Squally wind speed reaching 40-50 kmph gusting to 60 kmph is prevailing and likely to continue till 25th Oct forenoon. It is likely to decrease gradually thereafter.

Adjoining areas of northeast Bay of Bengal: Squally wind speed reaching 50-60 kmph gusting to 70 kmph is likely to prevail till 25th forenoon and decrease gradually thereafter.

South Jharkhand: Squally wind speed reaching 40-50 gusting to 60 kmph is very likely to prevail from morning of 25th till evening of 26th October.

(iii) Storm surge warning:

Storm surge of 1.0 to 2.0 m height above astronomical tide is very likely to inundate low lying areas of Kendrapara, Bhadrak & Balasore districts of Odisha and East Medinipur districts of West Bengal during the time of landfall.

Storm surge of 0.5 to 1.0 m height above astronomical tide is very likely to inundate low lying areas of South 24-Parganas district of West Bengal and Jagatsinghpur district of Odisha during the time of landfall.

(iv) Sea Condition:

Northwest Bay of Bengal: Sea condition is likely to be **Very High** till 25th forenoon and improve gradually thereafter.

Along & off Odisha-west Bengal coasts: **High to Very High** till 25th Oct forenoon and improve gradually thereafter.

Adjoining areas of central Bay of Bengal: Sea condition is likely to be **very Rough** till 25th October forenoon. It is likely to improve gradually thereafter.

Adjoining areas of northeast Bay of Bengal: Sea condition is likely to be **Rough to Very Rough** till 25th forenoon and improve gradually thereafter.

(v) Fishermen Warning:

- Total suspension of fishing operations on 25th Oct over Northwest Bay of Bengal.
- Fishermen are advised not to venture into
 - Adjoining areas of central Bay of Bengal till 25th Oct. forenoon.
 - Northwest & adjoining northeast Bay of Bengal and along & off Odisha and West Bengal coasts on 25th October.

❖ Post Landfall Outlook for the interior districts of North Odisha

Light to moderate rainfall at most places with **heavy to very heavy rainfall at a few places** and **extremely heavy rainfall at isolated places** is likely over **interior districts of north Odisha** on 25th October.

Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely to commence over **interior districts of north Odisha** from 25th forenoon and increase gradually becoming 50-60 kmph gusting to 70 kmph from 25th afternoon till morning of 26th October.

❖ Impact Expected over districts of Odisha (Baleswar, Bhadrak, Kendrapara, Jajpur, Jagatsinghpur, Mayurbhanj, Keonjhar, Dhenkanal) and West Bengal (East & West Medinipur, South 24 Parganas and Jhargram)

- Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly.
- Breaking of tree branches and uprooting of trees. Large dead limbs blown from trees.
- Damage to power and communication lines.
- Major damage to Kutchha and some damage to Pucca roads. Flooding of escape routes.
- Damage to vulnerable structure.
- Major damage to standing crops including banana, papaya, horticultural and vegetable crops due to inundation and wind.
- Damage to embankments/ salt pans.
- Localized Flooding of roads, water logging in low lying areas and closure of underpasses mainly in urban areas of the above region.
- Occasional reduction in visibility due to heavy rainfall.
- Disruption of traffic in major cities and roadways due to water logging in roads and poor visibility due to heavy rain leading to increased travel time and incidents
- Localized Landslides/Mudslides/landslips/mud slips/land sinks/mud sinks.
- Likely disruption of marine and inland water transportation like small boats and trawlers.
- It may lead to riverine flooding in some river catchments (for riverine flooding please visit Webpage of Central Water Commission)

❖ Action Suggested for districts of Odisha (Baleswar, Bhadrak, Kendrapara, Jajpur, Jagatsinghpur, Mayurbhanj, Keonjhar and Dhenkanal) and West Bengal (East & West Medinipur, South 24 Parganas and Jhargram)

- Total suspension of fishing operations on 25th Oct over North Bay of Bengal.
- Fishermen are advised not to venture into
 - ✓ **Adjoining areas of central Bay of Bengal** till 25th Oct forenoon.

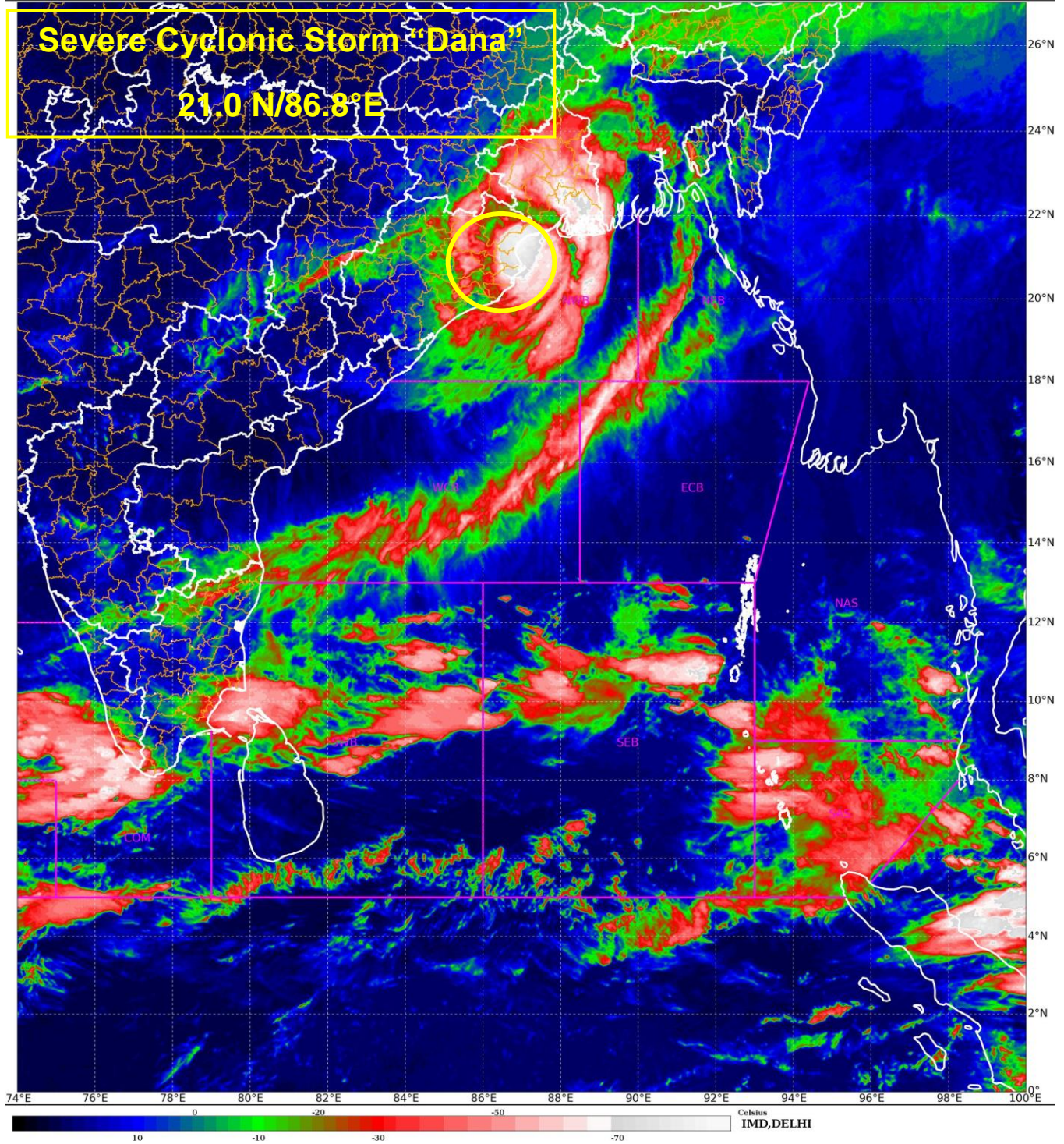
✓ **Northwest and adjoining northeast Bay of Bengal and along & off Odisha and West Bengal coasts** on 25th October forenoon.

- Movement in motor boats unsafe
- Coastal hutment dwellers to be moved to safer places.
- People in affected areas to remain indoors.
- Judicious regulation of onshore/offshore, Port and maritime activities including shipping.
- Judicious regulation of tourism activities in coastal areas.
- Judicious regulation of surface transports including railways and roadways.
- Check for traffic congestion on your route before leaving for your destination.
- Follow any traffic advisories that are issued in this regard.
- Avoid going to areas that face the water logging problems often.
- Avoid staying in vulnerable structure.

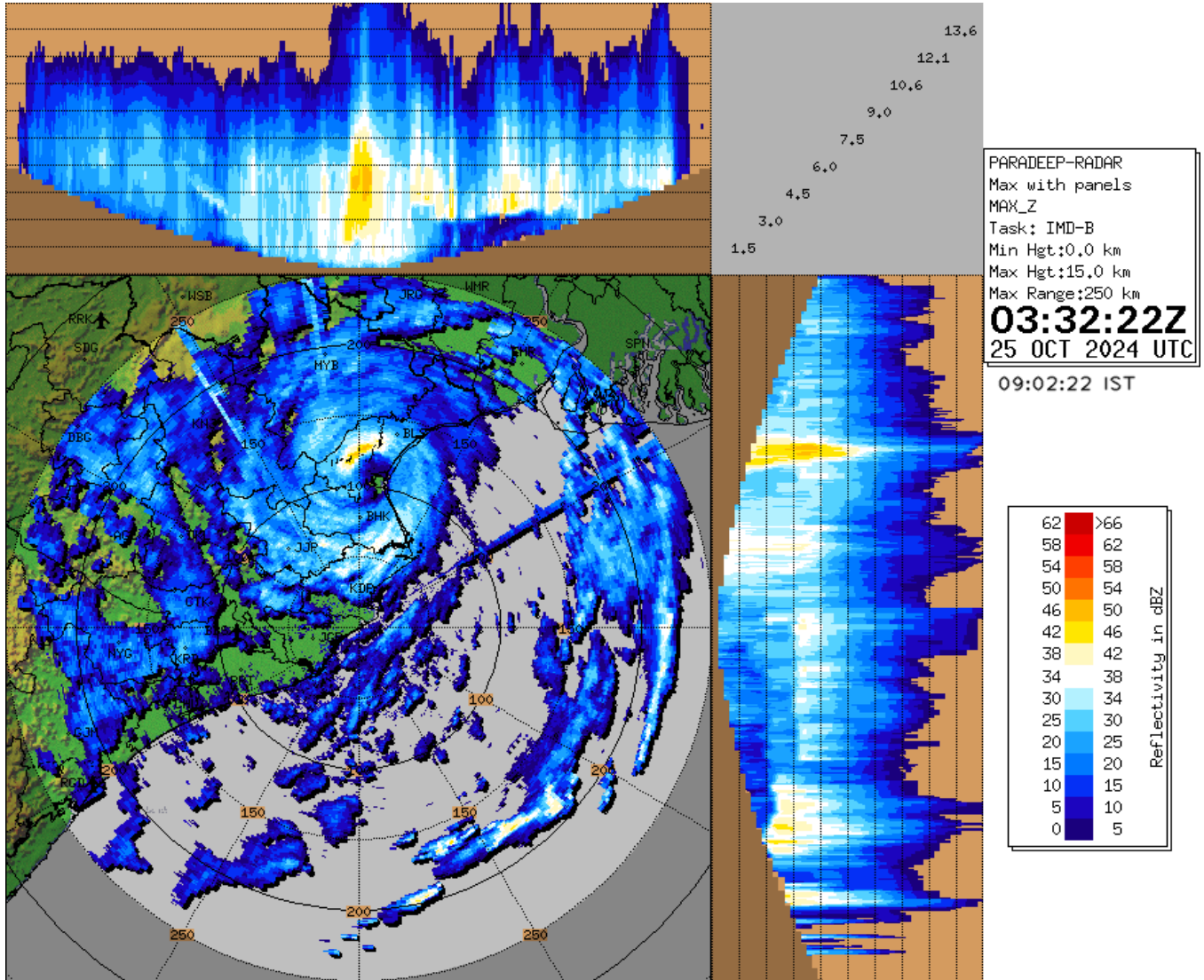
Next bulletin will be issued at 1230 hours IST of today, the 25th October, 2024.

(Ananda Kumar Das)
Scientist-F, RSMC & IMD, New Delhi

Copy to: ACWC Kolkata/ACWC Chennai/CWC Bhubaneswar/CWC Vishakhapatnam/Meteorological Centre Port Blair/MC Ranchi/MC, Patna

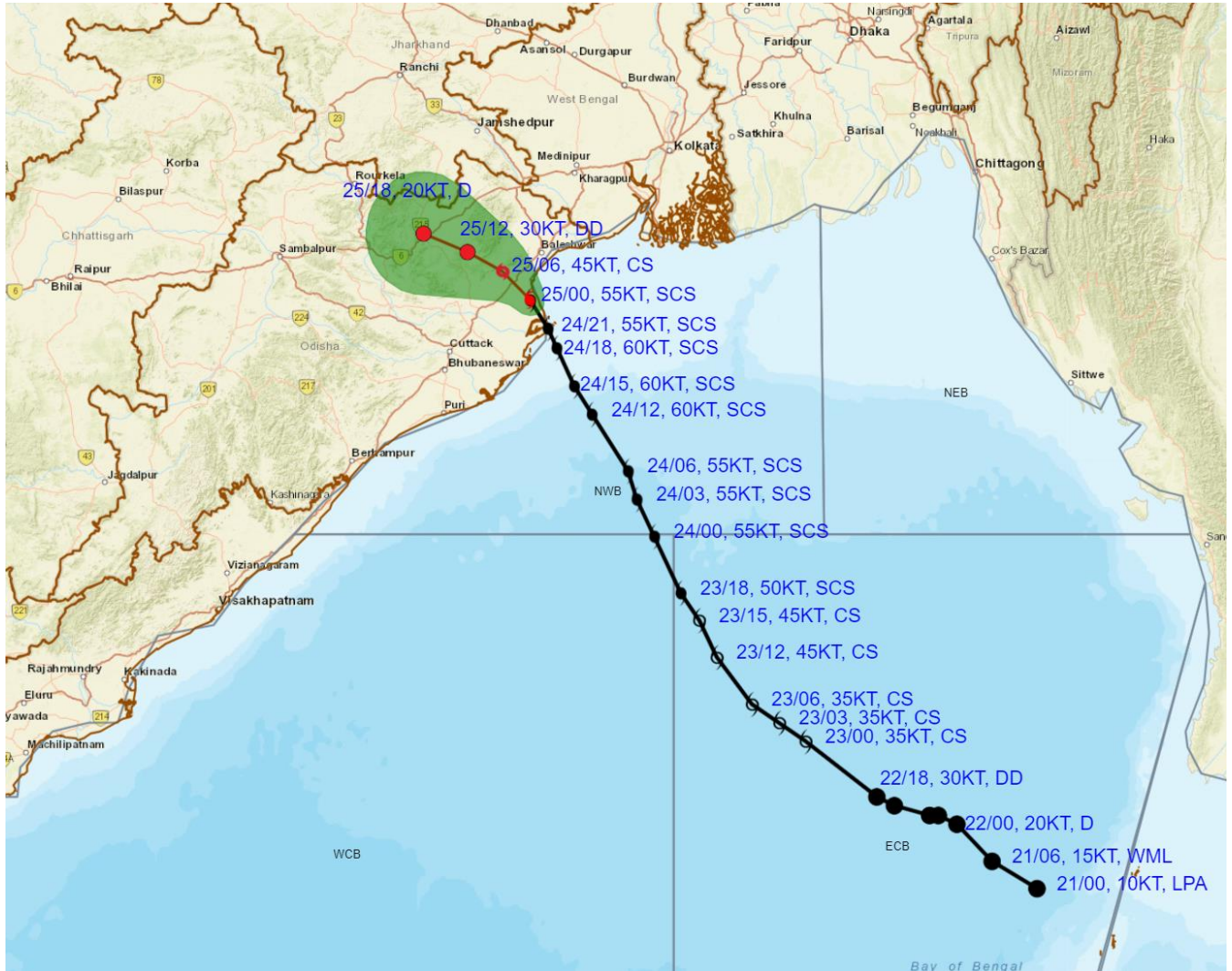


Paradip Doppler Weather Radar (MAX_Z)





OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF SEVERE CYCLONIC STORM 'DANA' OVER NORTH COASTAL ODISHA BASED ON 0000 UTC (0530 Hrs. IST) OF 25th OCTOBER 2024



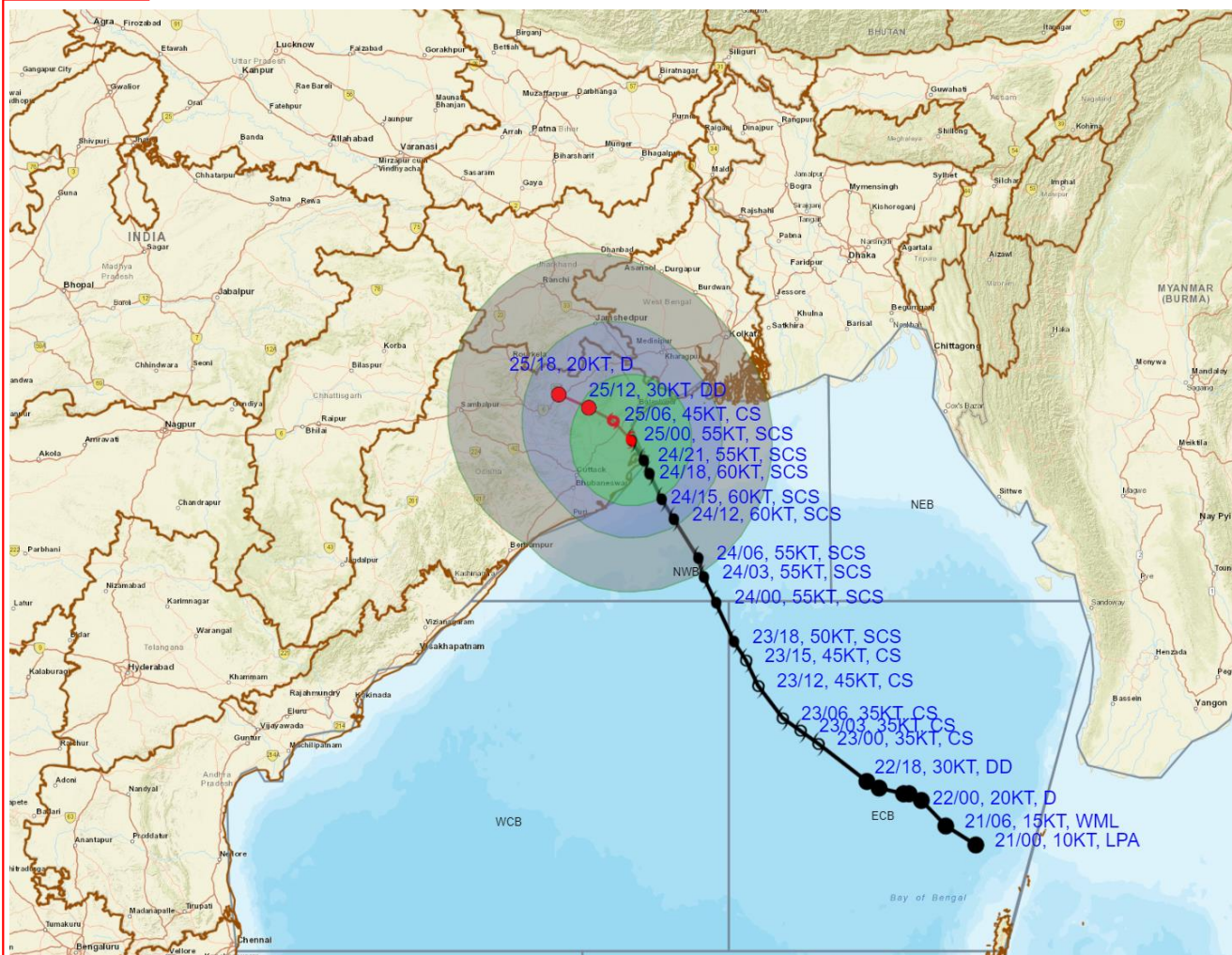
DATE/TIME : IN UTC
 IST : UTC + 0530
 KT : NAUTICAL MILE S/HOUR = 1.85 KM/HOUR
 LPA : LOW PRESSURE AREA
 WML : WELL MARKED LOW PRESSURE AREA
 D : DEPRESSION (17-27 KT)
 DD : DEEP DEPRESSION (28-33 KT)
 CS : CYCLONIC STORM (34-47 KT)
 SCS : SEVERE CYCLONIC STORM (48-63 KT)
 VSCS : VERY SEVERE CYCLONIC 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)	PARADIP (CWR)	DHAMARA	SAGAR ISLAND
25.10.24/0000	80, N	20, NNW	150, WSW



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF SEVERE CYCLONIC STORM 'DANA' OVER NORTH COASTAL ODISHA BASED ON 0000 UTC (0530 Hrs. IST) OF 25th OCTOBER 2024

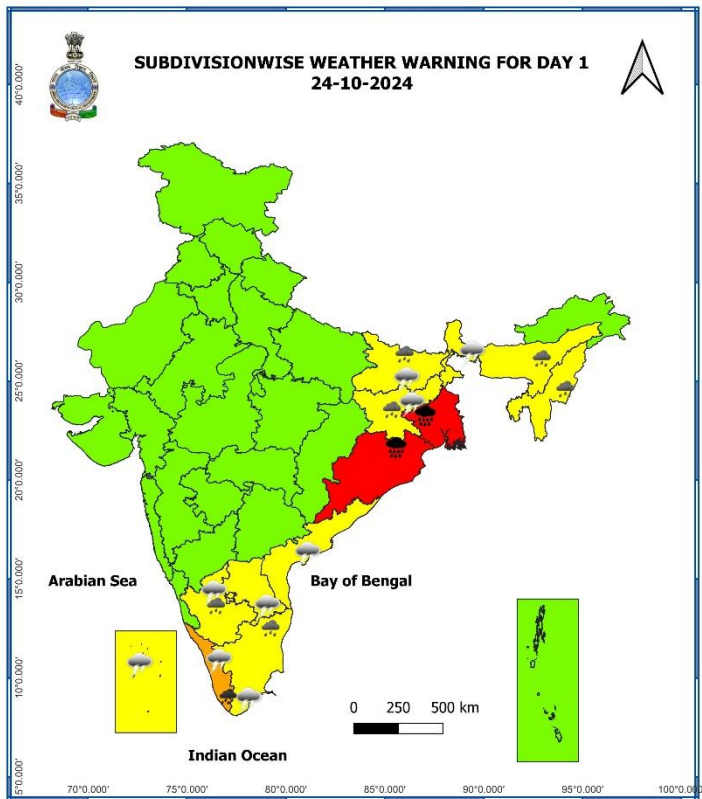


DATE/TIME : IN UTC
IST : UTC + 0530
KT : NAUTICAL MILE S/HOUR = 1.85 KM/HOUR
LPA : LOW PRESSURE AREA
WML : WELL MARKED LOW PRESSURE AREA
D : DEPRESSION (17-27 KT)
DD : DEEP DEPRESSION (28-33 KT)
CS : CYCLONIC STORM (34-47 KT)
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VSCS : VERY SEVERE CYCLONIC 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



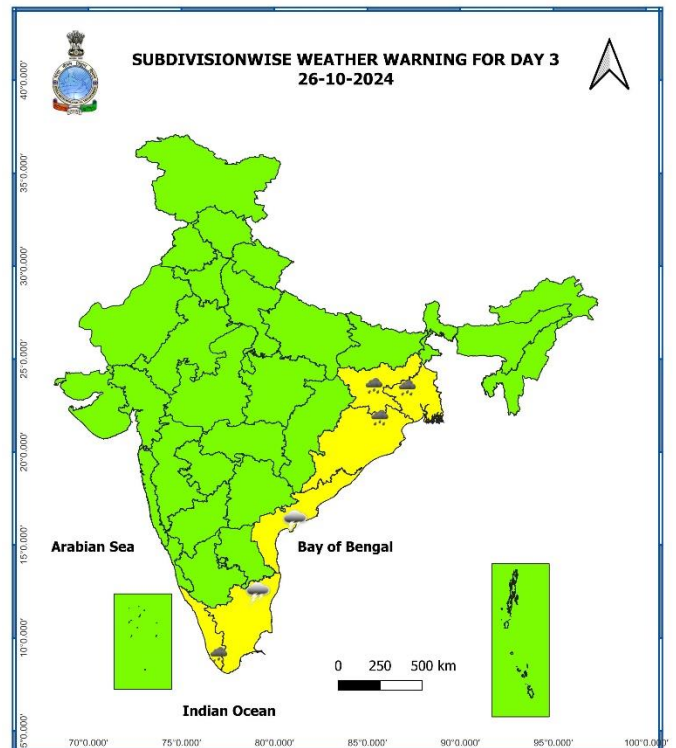
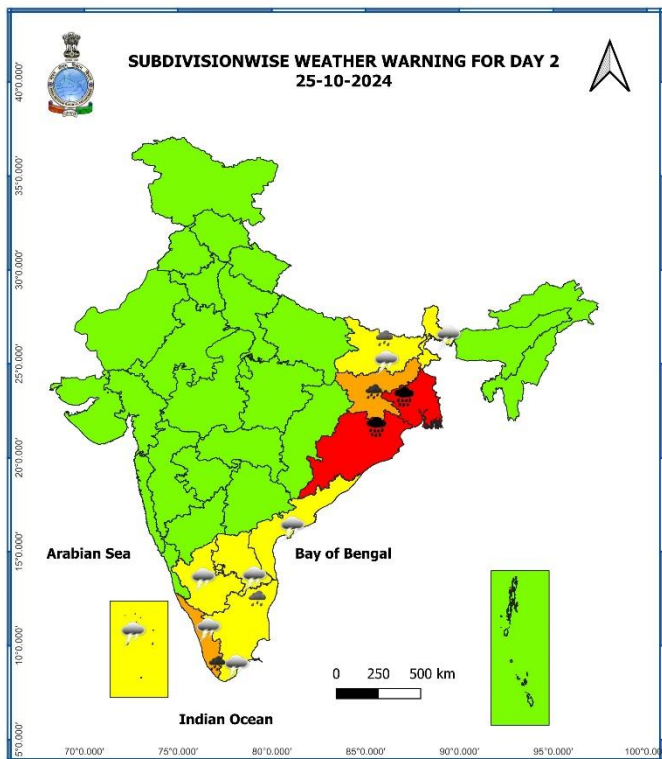
- Heavy Rain
- Very Heavy Rain
- Extremely Heavy Rain

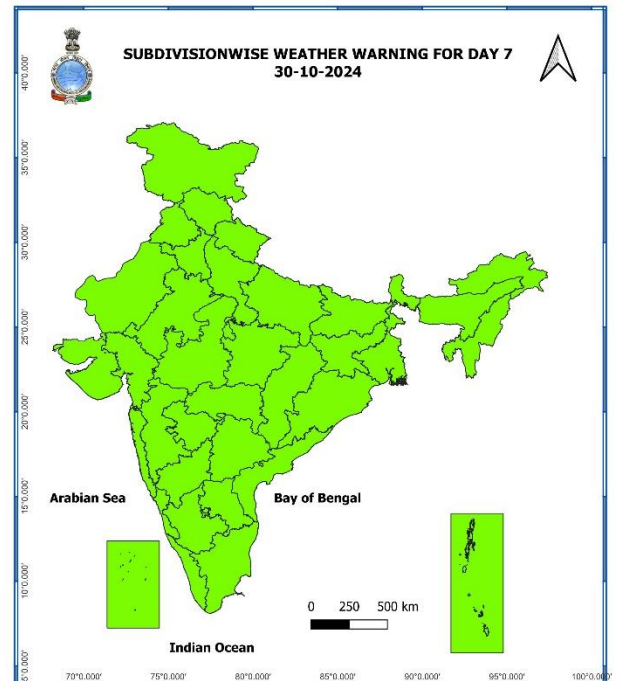
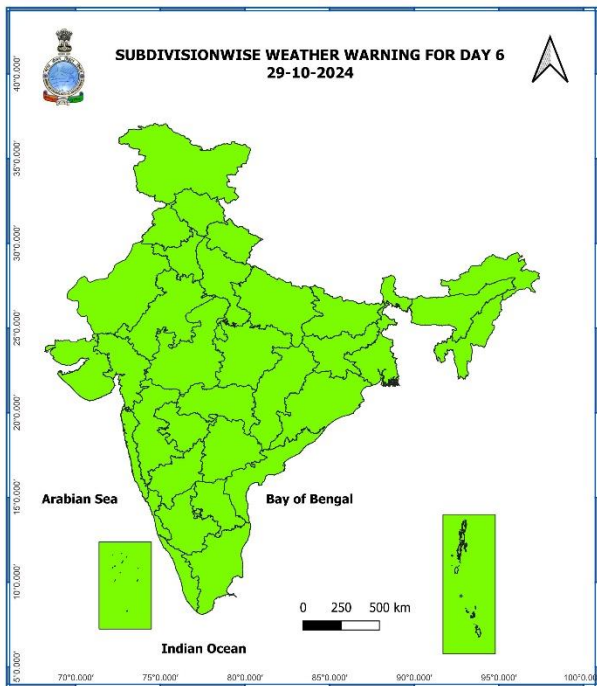
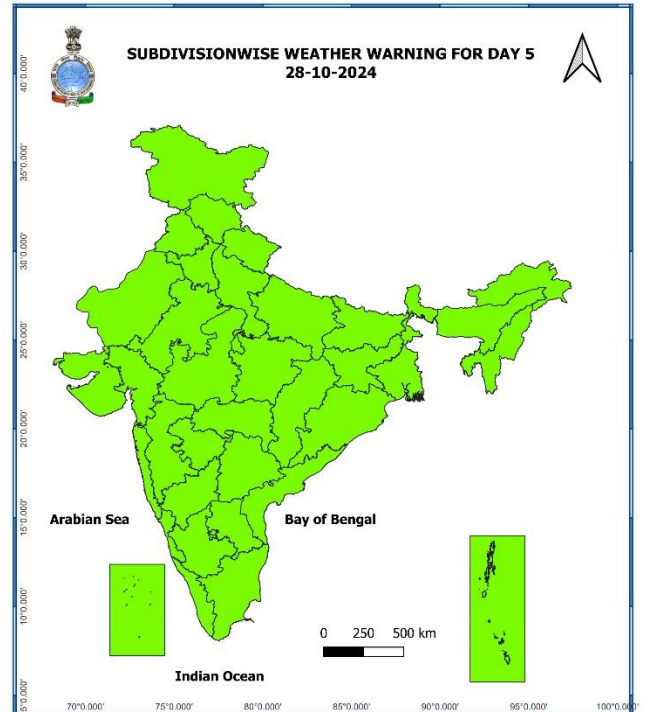
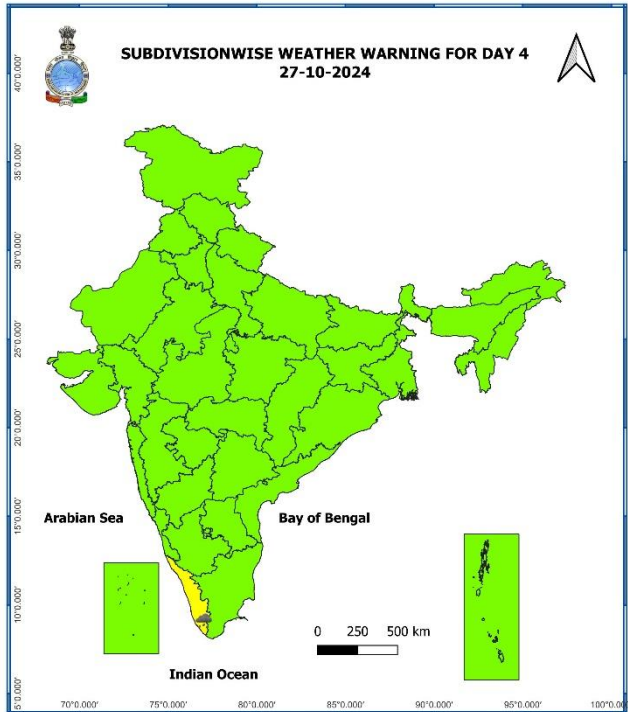
COLOUR CODED WARNING

- No Warning (No Action)
- Watch (Be Aware)
- Alert (Be Prepared To Take Action)
- Warning (Take Action)

Probabilistic Forecast

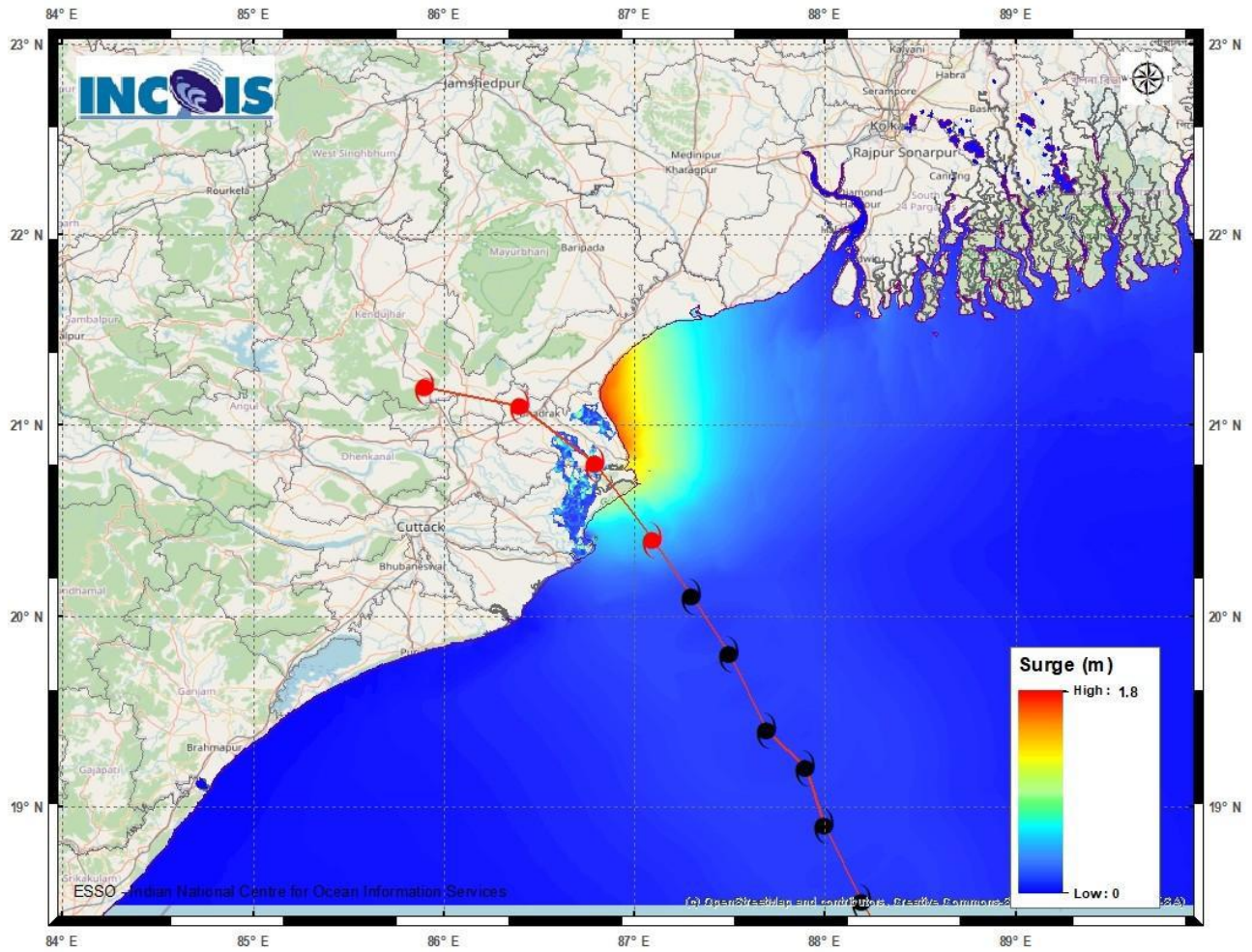
Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75





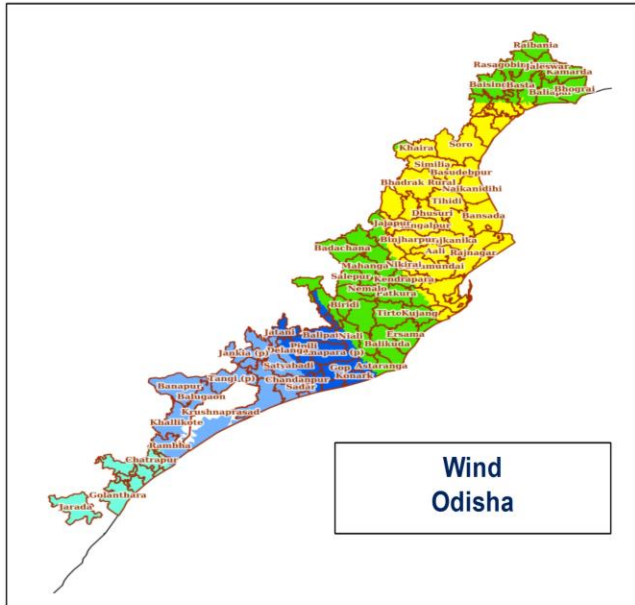
- Action may be taken based on **ORANGE AND RED** COLOUR warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

Storm Surge warning graphics

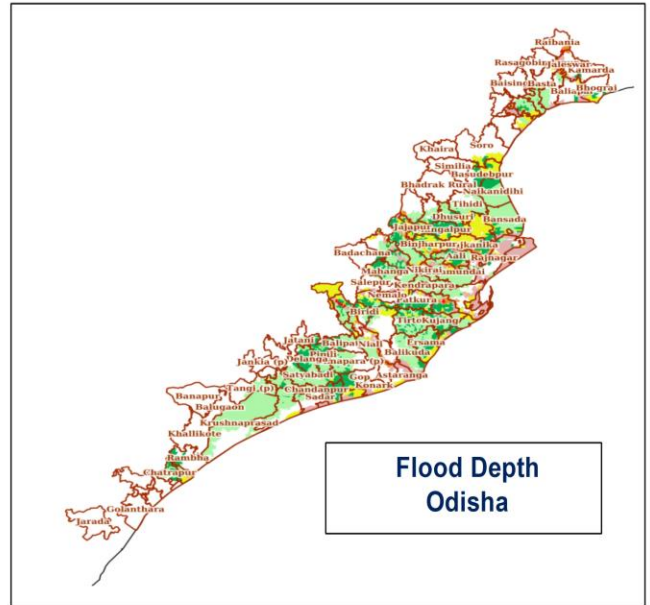


DISTRICT	STATE/UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)*	EXPECTED INUNDATION EXTENT (km)
Bhadrak	Odisha	Mohanpur	1.3-1.8	Upto 1.15
Baleswar	Odisha	Kumbhargari	0.4-1.6	Upto 1.08
Kendrapara	Odisha	Tikayat Nagar	0.2-1.3	Upto 3.01
Jagatsinghapur	Odisha	Musadia	0.2-0.5	Upto 2.91
Purba Medinipur	West Bengal	Dakshin Purushottampur	0.3-0.5	Upto 0.98

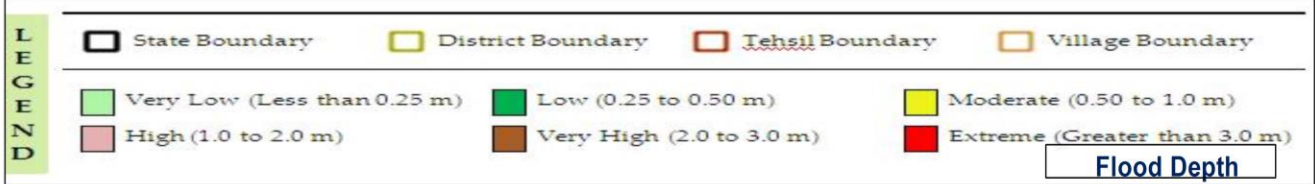
Impact Based Forecast by Web-Based Dynamic Composite Risk Atlas & Decision Support System (Web-DCRA & DSS)



**Wind
Odisha**



**Flood Depth
Odisha**



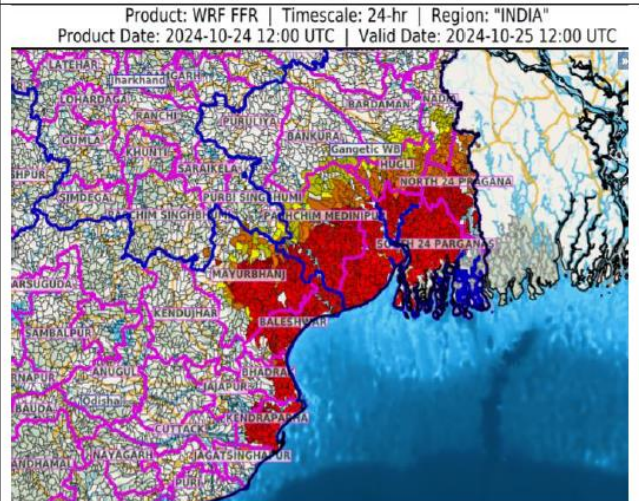
24 HOURS OUTLOOK FOR THE FLASH FLOOD RISK

24 hours Outlook for the Flash Flood Risk (FFR) till 1730 IST of 25-10-2024 :

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

Odisha - Baleshwar, Bhadrak, Jagatsinghapur, Kendraparha and Mayurbhanj districts.
Gangetic West Bengal - Bankura, Bardaman, Eastmednipur, Haora, Hugli, Nadia, North 24 Pragana, Pashchim Medinipur and South 24 Parganas districts.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over 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

