



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

NATIONAL BULLETIN NO. 24 (BOB/06/2024)

TIME OF ISSUE: 1330 HOURS IST

DATED: 25.10.2024

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

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Subject: Cyclonic storm "DANA" over north coastal Odisha

The cyclonic storm "DANA" (pronounced as DANA) moved north-northwestwards with a speed of 7 kmph and lay centred near latitude 21.4°N and longitude 86.6°E at 1130 hrs IST of today, the 25th October, about 40 km north-northeast of Bhadrak and 70 km north-northwest of Dhamara. The maximum sustained wind speed around the centre of the cyclone is about 65-75 kmph gusting to 85 kmph.

It is likely to move nearly westwards across north Odisha and weaken gradually into a deep depression during next 06 hours.

The system is under continuous surveillance of the doppler weather radar at Paradip. Please find the attached bulletin.

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
25.10.24/1130	21.4/86.6	65-75 gusting to 85	Cyclonic Storm
25.10.24/1730	21.5/86.3	50-60 gusting to 70	Deep Depression
25.10.24/2330	21.4/85.9	30-40 gusting to 50	Depression

(i) Rainfall Warning:

- ❖ Light to moderate rainfall at most places with **heavy rainfall over to very heavy rainfall** at a few places over **Keonjhar, Mayurbhanj, Balasore, Bhadrak, Dhenkanal, Cuttack, Jajpur, Kendrapara, Angul, Nayagarh, Khorda, Puri and Jagatsinghpur** districts of Odisha on 25th October. **Extremely heavy rainfall (≥ 21 cm)** at isolated places is very likely over **Keonjhar, Mayurbhanj, Balasore and Bhadrak** 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 **East & West Medinipur**, districts of Gangetic West Bengal on 25th October.
- ❖ Light to moderate rainfall at many places with **heavy to very heavy rainfall** at isolated places is likely over south Jharkhand on 25th October.

(ii) Wind Warning:

Northwest Bay of Bengal: Gale wind speed reaching 65-75 gusting to 85 kmph is prevailing and would gradually decrease becoming squally wind speed reaching 50-60 kmph gusting to 70 kmph from evening of 25th October 2024.

Along & off Odisha-west Bengal coasts and adjoining interior districts: Gale wind speed reaching 60-70 kmph gusting to 80 kmph would prevail over Balasore, Mayurbhanj, Keonjhar, Bhadrak, Kendrapara districts of Odisha and East Medinipur district of West Bengal till evening of 25th October 2024 and decrease thereafter.

Squally wind speed reaching 40-60 kmph gusting to 70 kmph would prevail over Jagatsinghpur, Cuttack, Dhenkanal, Angul & adjoining areas of Sundargarh & Khorda districts of Odisha and south 24 Parganas, West Medinipur & Jhargram districts of West Bengal till evening of 25th October and decrease thereafter.

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

(iii) Storm surge warning:

Storm surge of upto 1.0 m height above astronomical tide is very likely to inundate low lying areas of Balasore districts of Odisha and 0.5 to 1.0 m over Bhadrak district of Odisha and East Medinipur districts of West Bengal during next 3 hours.

Storm surge of upto 0.5 m height above astronomical tide is very likely to inundate low lying areas of South 24-Parganas district of West Bengal during next 3 hours.

(iv) Sea Condition:

Northwest Bay of Bengal and along & off Odisha-west Bengal coasts: Sea condition is likely to be **High to Very rough** till 25th evening and improve gradually thereafter.

(v) Fishermen Warning:

- Total suspension of fishing operations over Northwest Bay of Bengal till 25th October afternoon.
- Fishermen are advised not to venture into Northwest 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 rainfall over to very heavy rainfall** at a few places over **Keonjhar, Mayurbhanj, Balasore, Bhadrak, Dhenkanal, Cuttack, Jajpur,**

Kendrapara, Angul, Nayagarh, Khorda, Puri and Jagatsinghpur districts of Odisha on 25th October. **Extremely heavy rainfall (≥ 21 cm)** at isolated places is very likely over **Keonjhar, Mayurbhanj, Balasore and Bhadrak** districts of Odisha on 25th October.

Squally wind speed reaching 50-60 kmph gusting to 70 kmph is likely to prevail over **interior districts of north Odisha** from 25th October afternoon till night and decrease gradually thereafter.

❖ **Impact Expected over districts of Odisha (Baleswar, Bhadrak, Mayurbhanj, Keonjhar, Dhenkanal) and West Bengal (East & West Medinipur and Jhargram) till 25th October evening**

- Damage to thatched houses/ huts. Unattached metal sheets may fly.
- Breaking of tree branches and uprooting of trees.
- Partial damage to power and communication lines.
- damage to Kutcha and some damage to Pucca roads. Flooding of escape routes.
- Damage to vulnerable structure.
- Damage to standing crops including banana, papaya, horticultural and vegetable crops due to inundation and wind.
- 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, Mayurbhanj, Keonjhar and Dhenkanal) and West Bengal (East & West Medinipur and Jhargram) till 25th October evening**

- Total suspension of fishing operations over Northwest Bay of Bengal till 25th afternoon.
 - ✓ Fishermen are advised not to venture into Northwest Bay of Bengal and along & off Odisha and West Bengal coasts on 25th October.
- Movement in motor boats unsafe
- 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.

(vi) Adverse weather during past 24 hours till 0830 hours IST of 25th October 2024:

Realised Rainfall: Widespread rainfall occurred over North coastal districts with heavy to very heavy rainfall at a few places over Bhadrak, Kendrapara and Jagatsinghpur districts of North coastal Odisha, heavy rainfall at isolated places over East & West Medinipur districts of West Bengal and heavy rainfall at isolated places over South Jharkhand. 24 hours cumulative rainfall realised during 0830 hours IST of 24th October to 0830 hours IST of 25th October is given in annexure 1.

Realised maximum Wind: The estimated maximum wind at the time of landfall over

Kendrapara and Bhadrak districts of Odisha was about 100-110 kmph gusting to 120 kmph.

Realised Storm Surge: Maximum estimated storm surge of height 1-2 m inundated low-lying areas of Kendrapara and Bhadrak districts of Odisha during landfall.

(vii) Observed Rainfall (mm) (0830 hrs IST to 1130 hours IST of 25th October 2024):

- Odisha:- Chandbali 77.8; Balasore- 26.6.
- West Bengal:- Alipore 58.8; Dumdum 35.0; Saltlake 29; Haldia 23; Diamond Harbour 21;

Next bulletin will be issued at 1730 hours IST of today, the 25th October, 2024.

**(Akhil Srivastava)
Scientist-D, IMD, New Delhi**

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

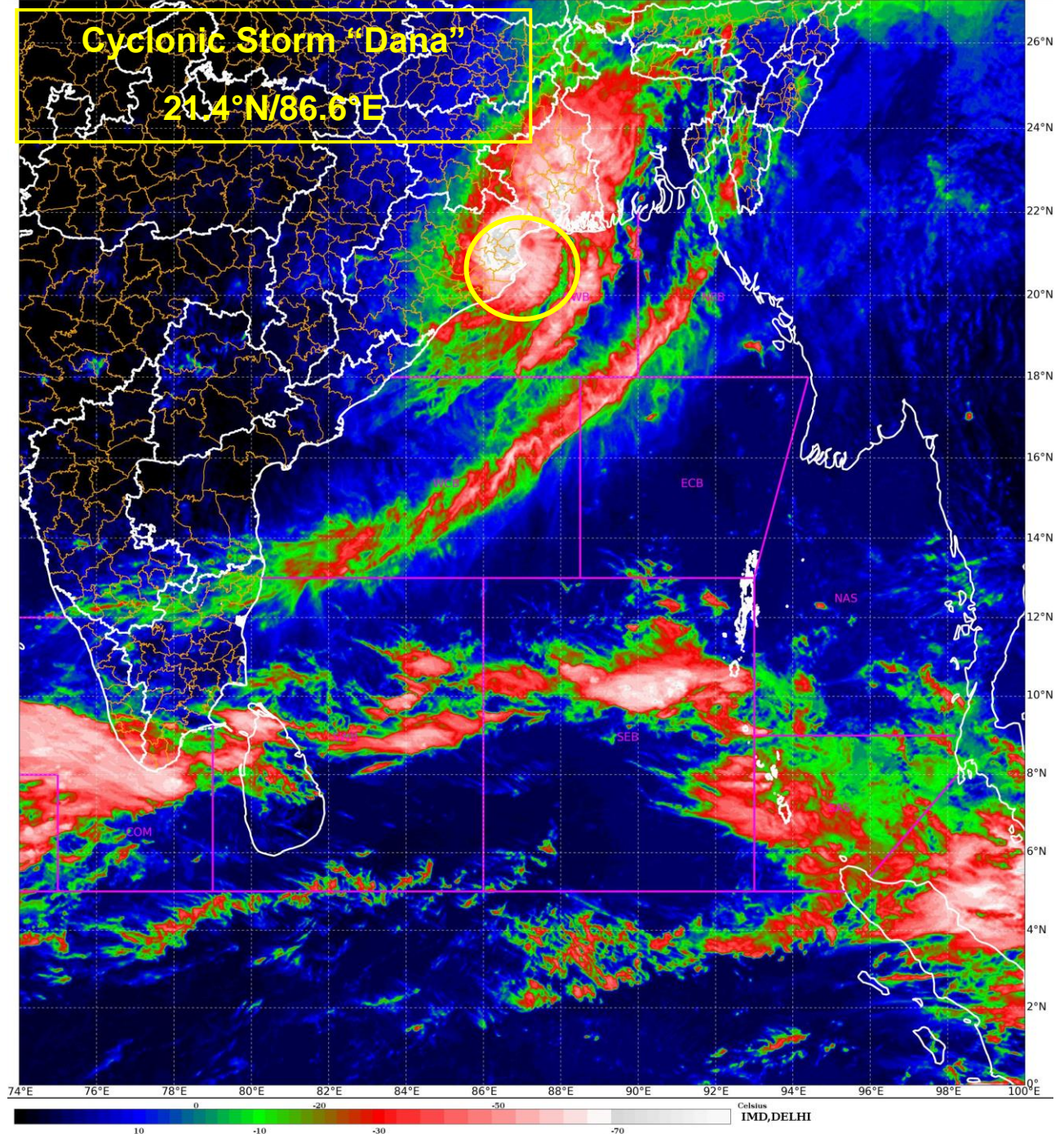
Annexure-1

Rainfall during past 24hours (in mm) till 0830 IST of today, 25.10.2024 over Odisha & West Bengal.

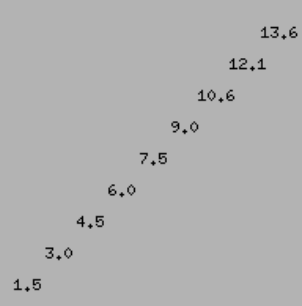
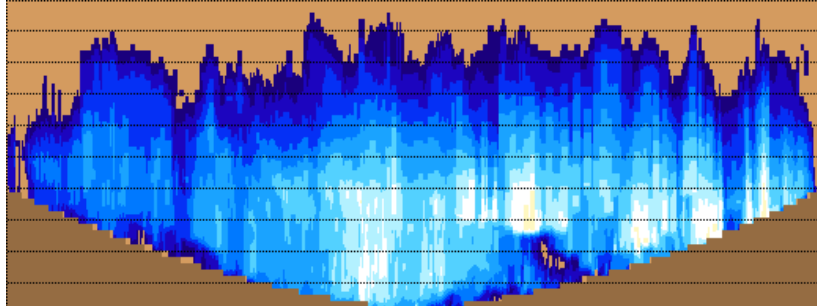
Odisha: Chandbali (Bhadrak) 16, Rajkanika (Kendrapara) 16, Nawana (Mayurbhanj) 14, Marsaghai (Kendrapara) 11, Basudevpur (Bhadrak) 11, Oupada (Balasore) 11, Rajnagar (Kendrapara) 10, Mohakalapada (Kendrapara) 9, Aul (Kendrapara) 8, Paradeep Cwr (Jagatsinghpur) 8, Derabis (Kendrapara) 7, Bhadrak (Bhadrak) 7, Balasore (Balasore) 7, Jajpur Pto (Jajpur) 7, Kendrapada Pto (Kendrapara) 7, Nilgiri (Balasore) 7, Kendrapara (Kendrapara) 7, Pattamundai (Kendrapara) 7,

Gangetic West Bengal: Diamond Harbour (South 24 Parganas) 9, Kalaikunda (dist West Midnapore) 9, Kharagpur (West Midnapore) 9, Durgachack (East Midnapore) 8, Mohanpur (West Midnapore) 7, Jhargram (Jhargram) 7, Uluberia (Howrah) 7;

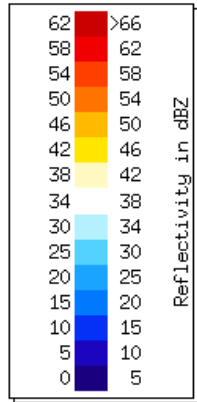
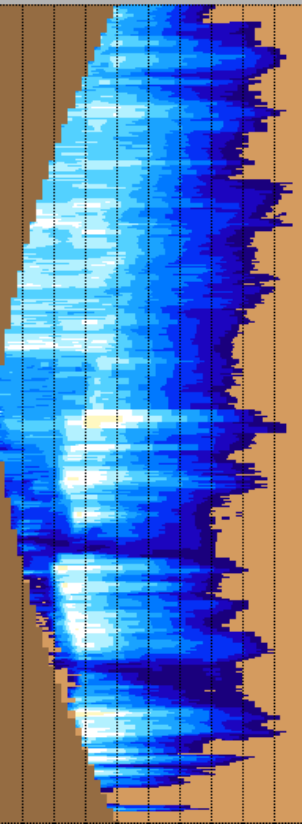
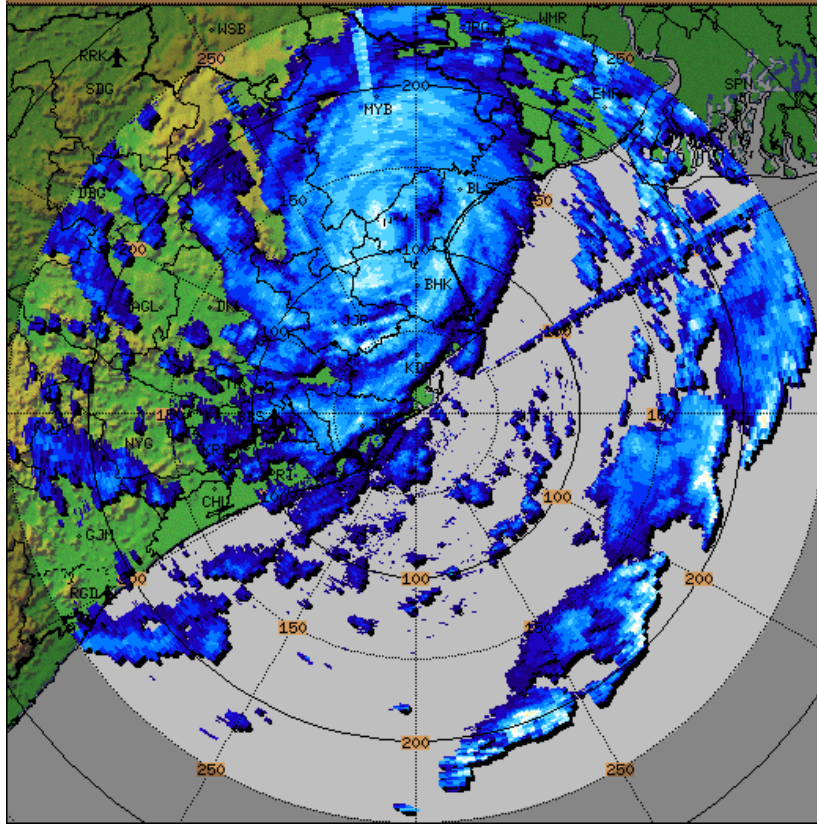
Jharkhand: Gurabandha (East Singbhum) 7;



Paradip Doppler Weather Radar (MAX_Z)

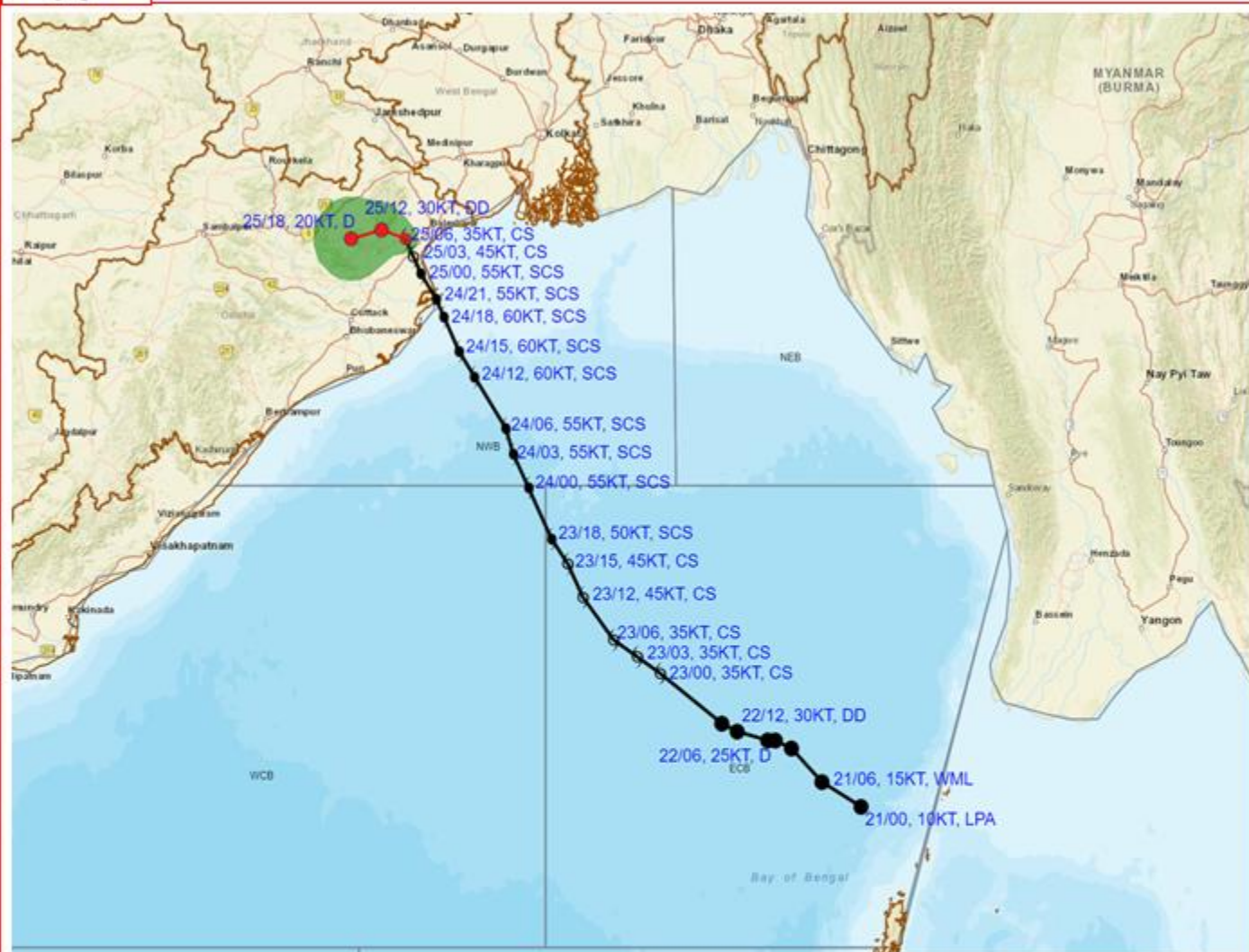


PARADEEP-RADAR
 Max with panels
 MAX_Z
 Task: IMD-B
 Min Hgt:0.0 km
 Max Hgt:15.0 km
 Max Range:250 km
06:42:23Z
25 OCT 2024 UTC
 12:12:23 IST





OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM 'DANA' OVER NORTH COASTAL ODISHA BASED ON 0600 UTC (1130 Hrs. IST) OF 25th OCTOBER 2024



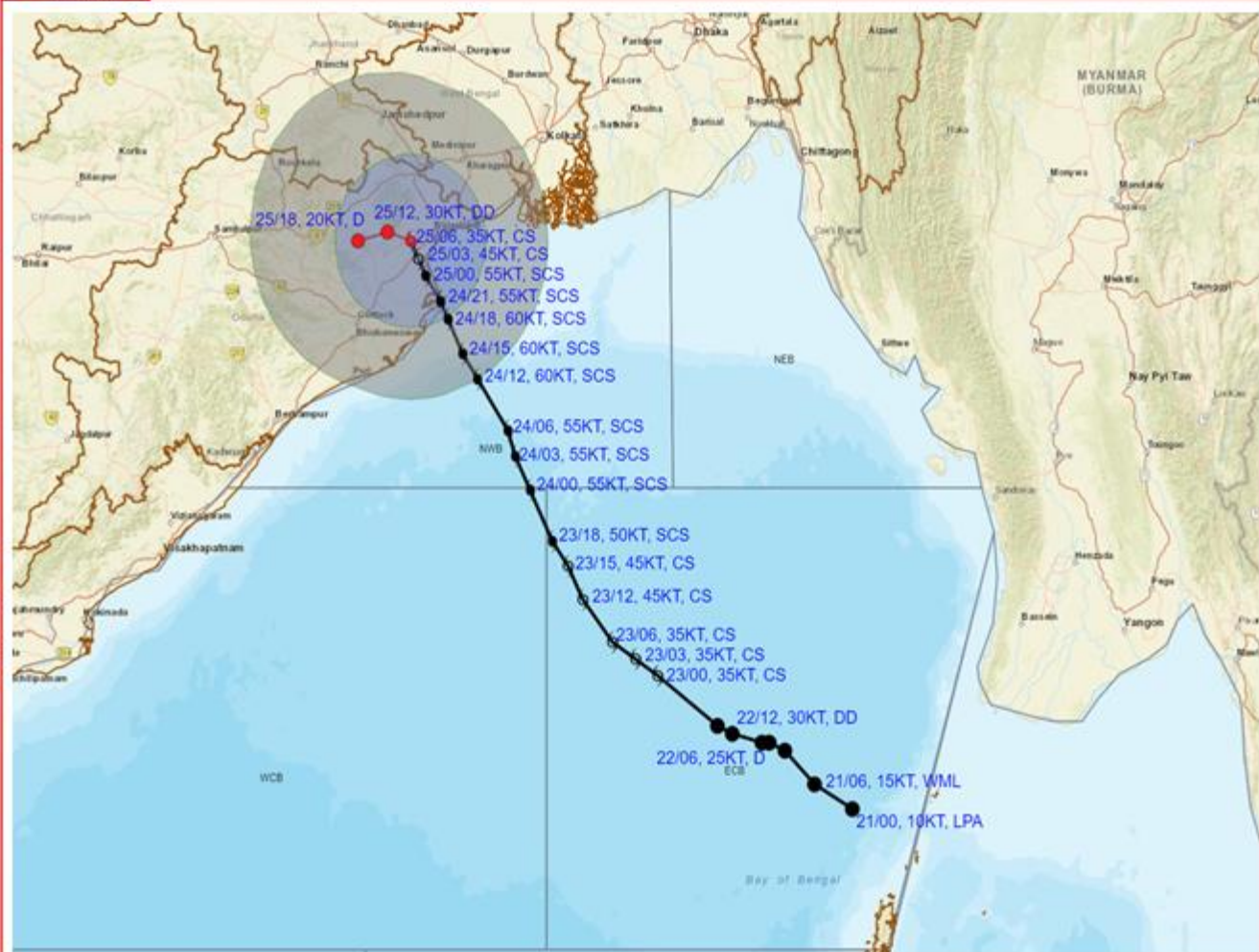
DATE/TIME : IN UTC
 IST : UTC + 0530
 KT : NAUTICAL MILE S/HOUR = 1.85 KM/HOUR
 LPA : LOW PRESSURE AREA
 WML : WELL MARKED LOW PRESSURE AREA
 D : DEPRESSION (17-27 KT)
 DD : DEEP DEPRESSION (28-33 KT)
 CS : CYCLONIC STORM (34-47 KT)
 SCS : SEVERE CYCLONIC STORM (48-63 KT)
 VSCS : VERY SEVERE CYCLONIC 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)	BHADRAK	DHAMARA
25.10.24/0600	40, NNE	70, NNW



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM 'DANA' OVER NORTH COASTAL ODISHA BASED ON 0600 UTC (1130 Hrs. IST) OF 25th OCTOBER 2024

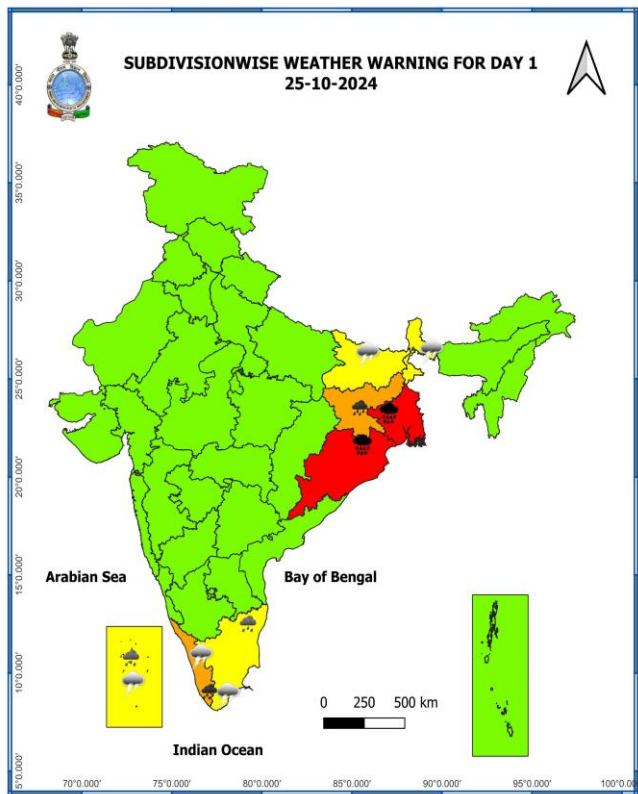


DATE/TIME : IN UTC
IST : UTC + 0530
KT : NAUTICAL MILE/SHOUR = 1.85 KM/HOUR
LPA : LOW PRESSURE AREA
WML : WELL MARKED LOW PRESSURE AREA
D : DEPRESSION (17-27 KT)
DD : DEEP DEPRESSION (28-33 KT)
CS : CYCLONIC STORM (34-47 KT)
SCS : SEVERE CYCLONIC STORM (48-63 KT)
VSCS : VERY SEVERE CYCLONIC STORM (64-89 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
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)

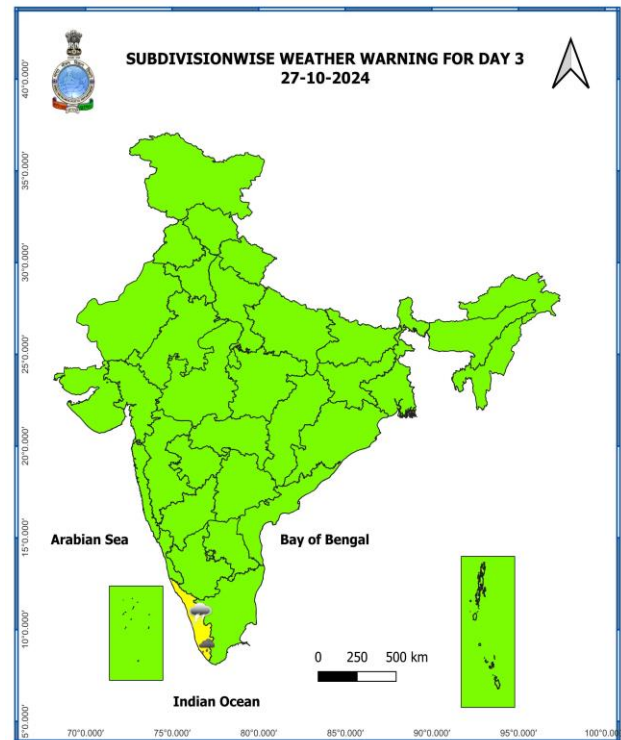
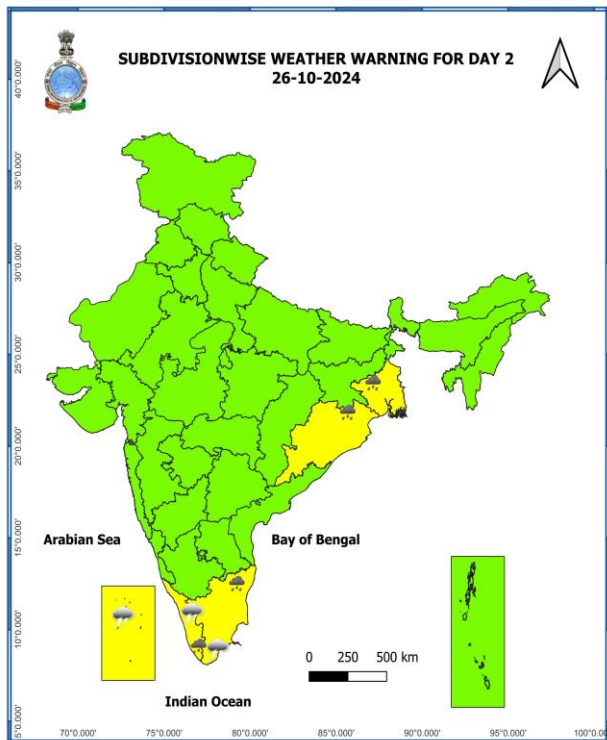
Watch (Be Aware)

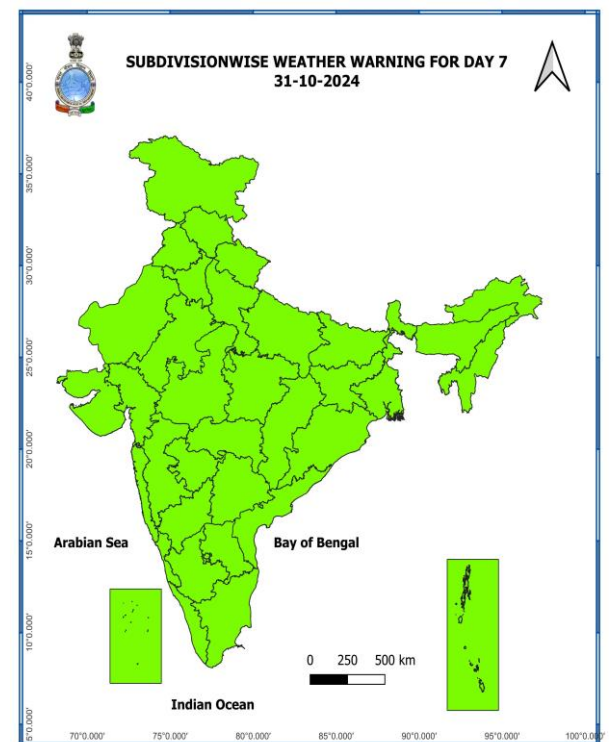
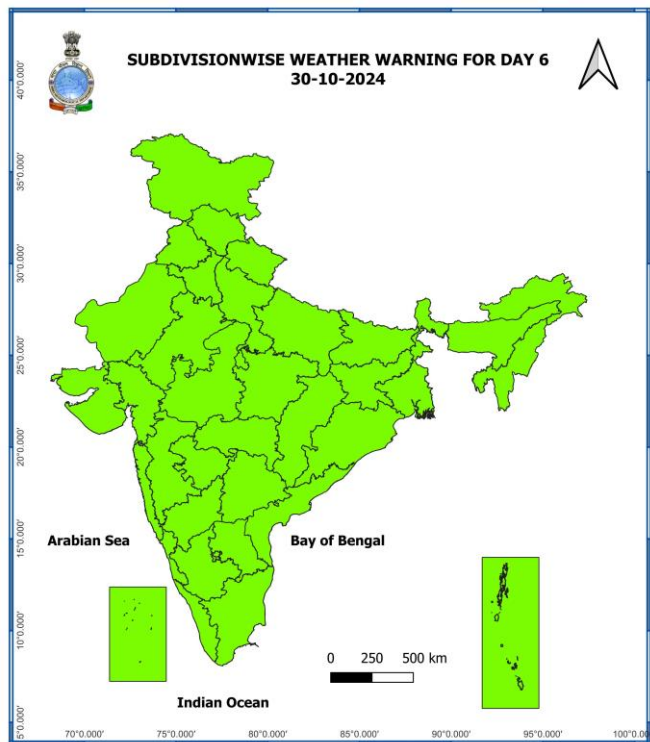
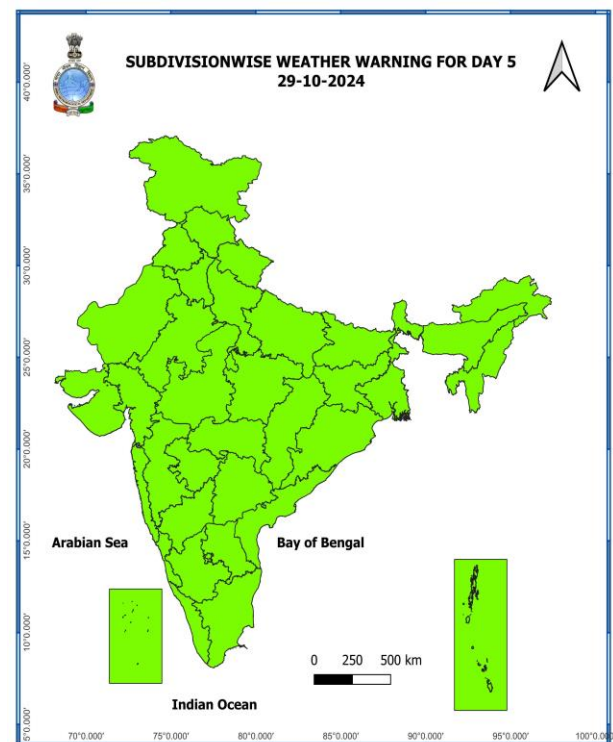
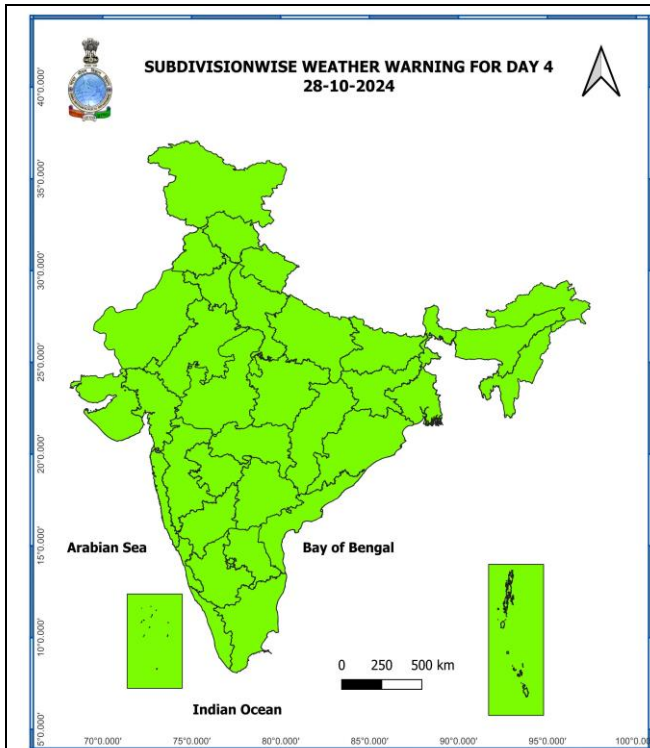
Alert (Be Prepared To Take Action)

Warning (Take Action)

Probabilistic Forecast

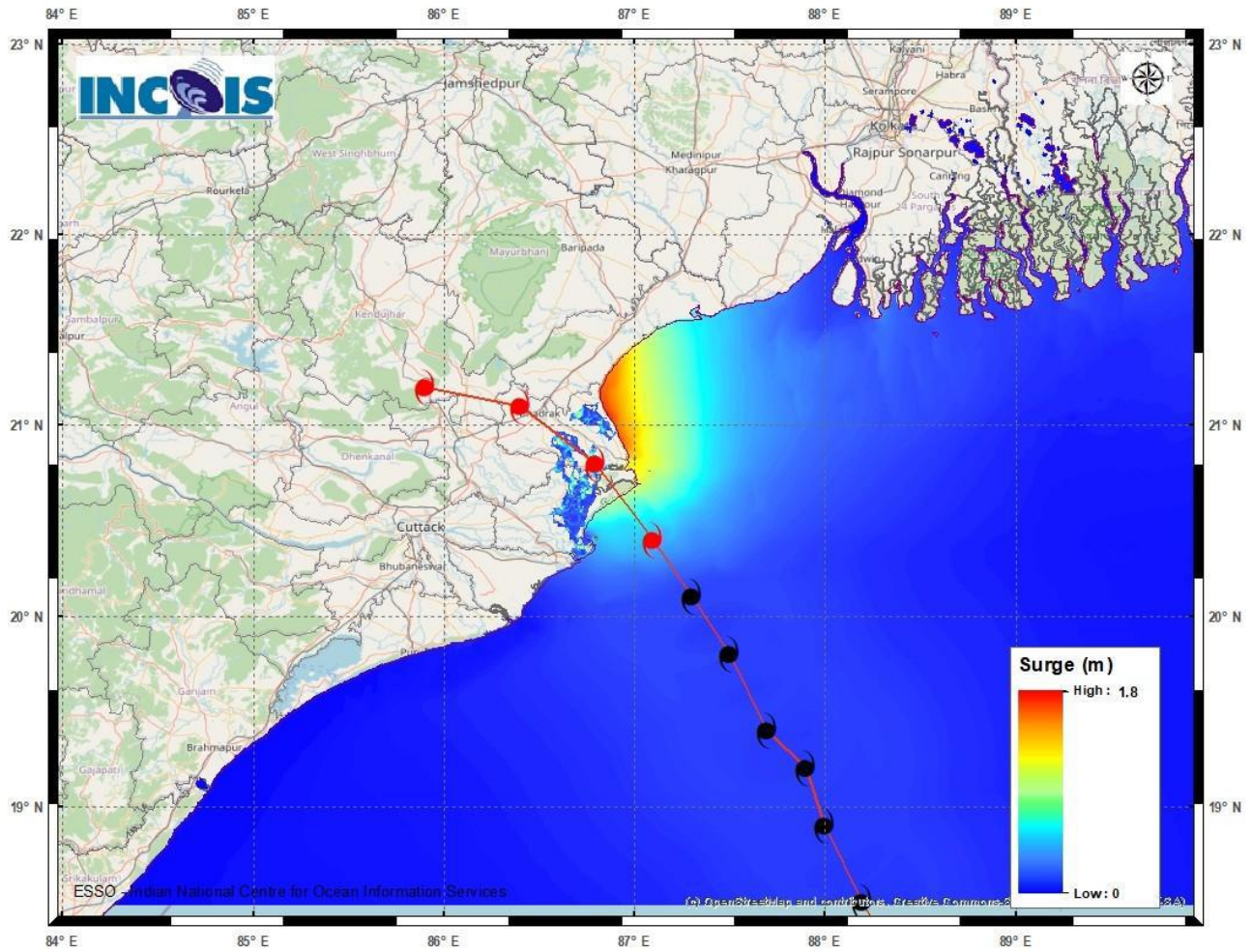
Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75





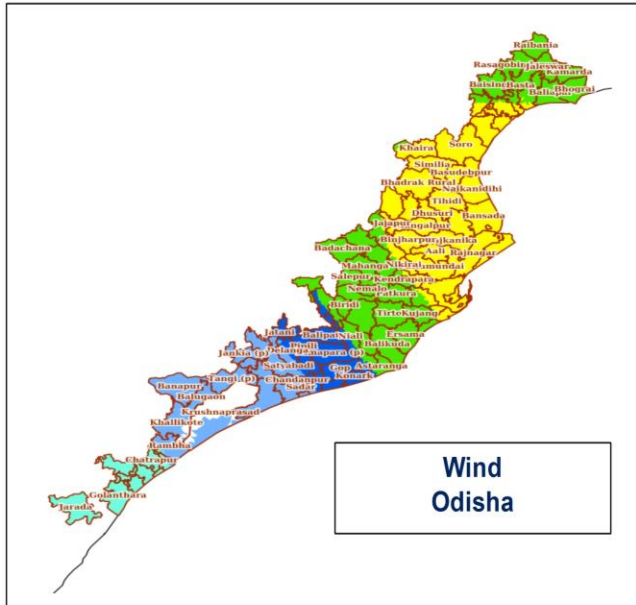
- Action may be taken based on **ORANGE AND RED** COLOUR warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

Storm Surge warning graphics

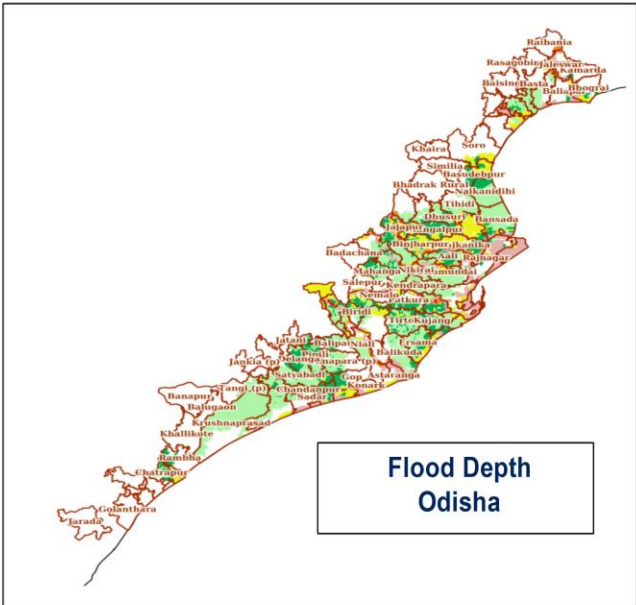


DISTRICT	STATE/UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)*	EXPECTED INUNDATION EXTENT (km)
Bhadrak	Odisha	Mohanpur	1.3-1.8	Upto 1.15
Baleswar	Odisha	Kumbhargari	0.4-1.6	Upto 1.08
Kendrapara	Odisha	Tikayat Nagar	0.2-1.3	Upto 3.01
Jagatsinghapur	Odisha	Musadia	0.2-0.5	Upto 2.91
Purba Medinipur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

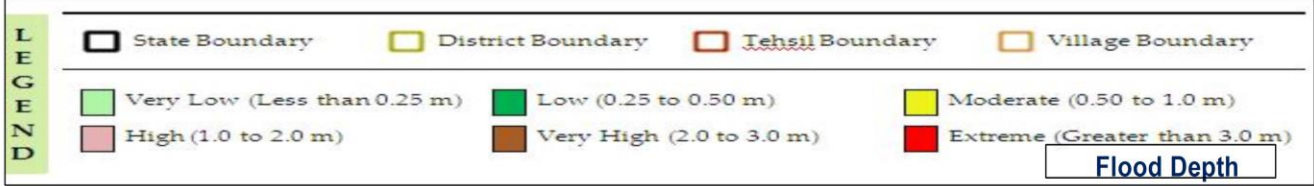
Impact Based Forecast by Web-Based Dynamic Composite Risk Atlas & Decision Support System (Web-DCRA & DSS)



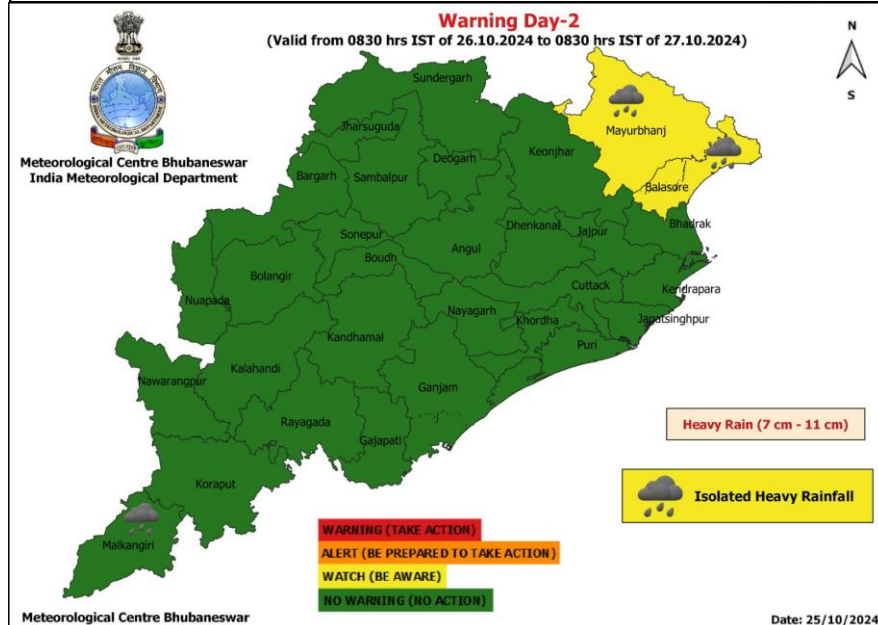
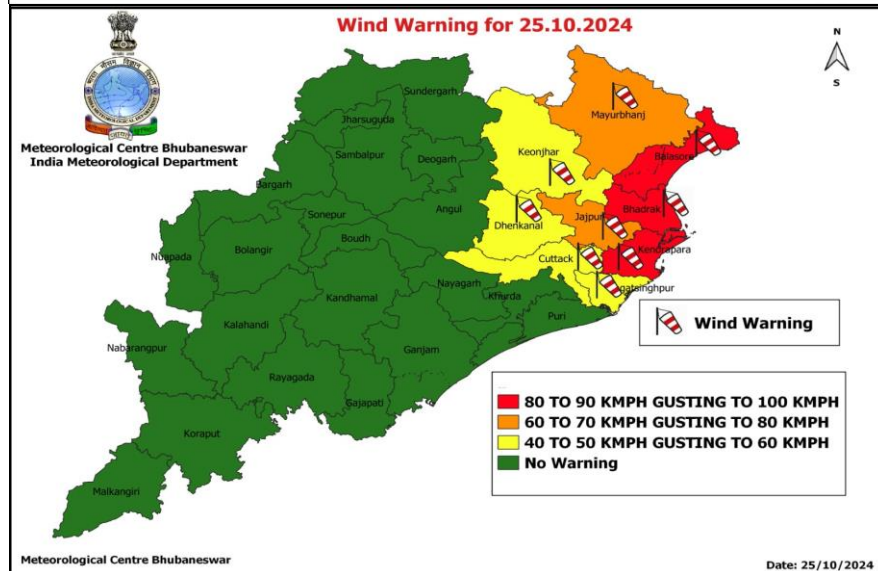
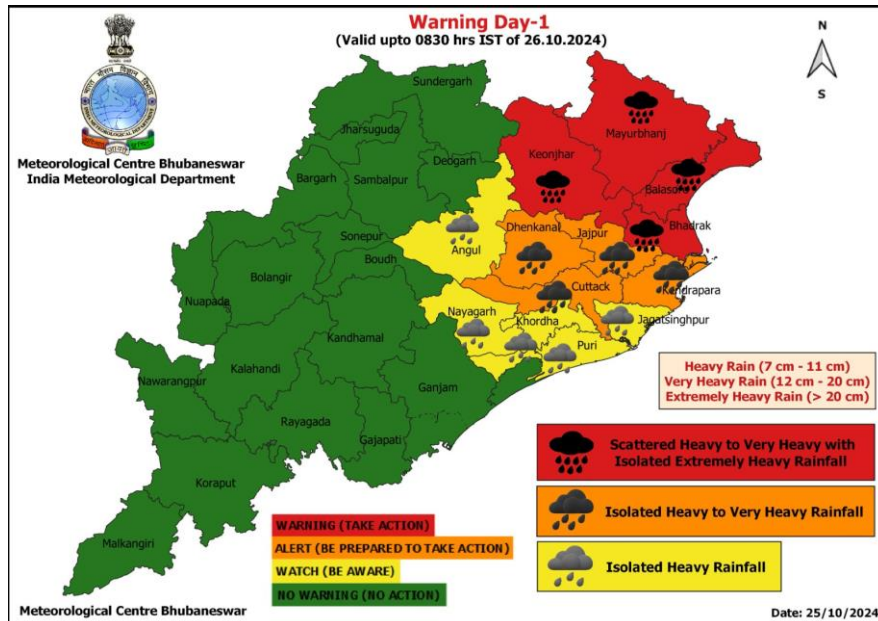
**Wind
Odisha**



**Flood Depth
Odisha**



WARNING MAPS FOR ODISHA



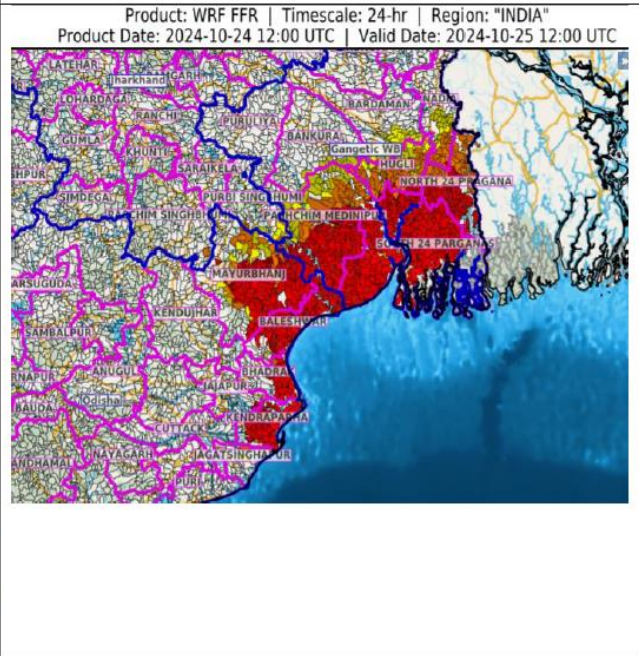
24 HOURS OUTLOOK FOR THE FLASH FLOOD RISK

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

