



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

**NATIONAL BULLETIN NO. 8 (BOB/06/2024)**

**TIME OF ISSUE: 1400 HOURS IST**

**DATED: 23.10.2024**

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

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**Subject: Cyclonic storm “DANA” over eastcentral Bay of Bengal (Cyclone Warning for Odisha and West Bengal coasts: **Orange Message**)**

The cyclonic storm “DANA” (pronounced as Dana) over Eastcentral Bay of Bengal moved northwestwards with a speed of 13 kmph during past 6 hours and lay centred at 1130 hrs IST of today, the 23<sup>rd</sup> October, over the same region near latitude 16.7° N and longitude 89.3°E, about 490 km southeast of Paradip (Odisha), 520 km south-southeast of Dhamara (Odisha) and 570 km south-southeast of Sagar Island (West Bengal).

It is very likely to move northwestwards and intensify into a severe cyclonic storm over northwest Bay of Bengal by early morning of 24th and cross north Odisha and West Bengal coasts between Puri and Sagar Island close to Bhitarkanika and Dhamara (Odisha) during night of 24th to morning of 25th October, 2024 as a severe Cyclonic Storm with a wind speed of 100-110 kmph gusting 120 kmph.

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
23.10.24/1130	16.7/89.3	70-80 gusting to 90	Cyclonic Storm
23.10.24/1730	17.3/88.7	80-90 gusting to 100	Cyclonic Storm
23.10.24/2330	18.0/88.3	90-100 gusting to 110	Severe Cyclonic Storm
24.10.24/0530	18.7/88.0	100-110 gusting to 120	Severe Cyclonic Storm
24.10.24/1130	19.4/87.7	100-110 gusting to 120	Severe Cyclonic Storm
24.10.24/2330	20.5/87.3	100-110 gusting to 120	Severe Cyclonic Storm
25.10.24/1130	21.2/86.6	95-105 gusting to 115	Severe Cyclonic Storm
25.10.24/2330	21.6/85.7	65-75 gusting to 85	Cyclonic Storm
26.10.24/1130	21.8/84.8	40-50 gusting to 60	Depression

### (i) Rainfall Warning:

- ❖ Light to moderate rainfall at most places with **heavy rainfall (07-11 cm)** at isolated places is very likely over **Balasore, Bhadrak, Kendrapara, Jagatsingpur, Puri and Khorda**, districts of Odisha commencing from evening of 23<sup>rd</sup> Oct. & **heavy to very heavy rainfall** at a few places and **extremely heavy rainfall ( $\geq 21$  cm)** at isolated places over **Baleswar, Mayurbhanj, Bhadrak, Kendrapara, Jagatsingpur Kendujhar, Jajpur, Cuttack and Dhenkanal, Khorda and Puri** districts of Odisha on 24<sup>th</sup> & 25<sup>th</sup> October.
- ❖ **Light to moderate rainfall at most places with heavy rainfall** at isolated places is very likely on 23<sup>rd</sup> October and 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 24<sup>th</sup> & 25<sup>th</sup> October.
- ❖ Light to moderate rainfall at most places is likely over south Jharkhand with **heavy rainfall** at isolated places on 24<sup>th</sup> and **heavy to very heavy rainfall** at isolated places on 25<sup>th</sup> October.

### (ii) Wind Warning:

**Eastcentral Bay of Bengal:** Gale wind speed reaching 65-75 kmph gusting to 85 kmph is prevailing and likely to increase becoming 70-90 kmph gusting to 100 kmph from 23<sup>rd</sup> evening till 24<sup>th</sup> morning. It is likely to decrease thereafter.

**Adjoining areas of Westcentral Bay of Bengal:** Gale wind speed reaching 60-70 kmph gusting to 80 kmph is prevailing. It is likely to increase gradually becoming 80-90 kmph gusting to 100 kmph from 23<sup>rd</sup> afternoon and 90-100 kmph gusting to 110 kmph from 24<sup>th</sup> morning till 24<sup>th</sup> afternoon. It is likely to decrease thereafter.

**Northwest Bay of Bengal:** Squally wind speed reaching 40-50 kmph gusting to 60 kmph is prevailing. It is very likely to increase gradually becoming Gale wind speed reaching 70-90 kmph gusting to 100 kmph from 23<sup>rd</sup> evening till 24<sup>th</sup> night and thereafter 100-110 kmph gusting to 120 kmph till 25<sup>th</sup> Oct morning. It is likely to decrease gradually thereafter.

**Adjoining areas of northeast Bay of Bengal:** Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence from 23<sup>rd</sup> night, becoming 50-60 kmph gusting to 70 kmph from 24<sup>th</sup> till 25<sup>th</sup> morning and decrease gradually thereafter.

**Along & off Odisha-west Bengal coasts:** Squally wind speed reaching 40-50 gusting to 60 kmph is very likely to commence from 23<sup>rd</sup> Oct evening. It would gradually increase becoming gale wind speed reaching 60-70 kmph gusting to 80 kmph from 24<sup>th</sup> morning and 100-110

kmph gusting to 120 kmph along & off north Odisha and east Medinipur district of West Bengal; Gale wind speed reaching 60-80 kmph gusting to 90 kmph is likely along & off south Odisha and remaining districts of coastal West Bengal from 24<sup>th</sup> night till 25<sup>th</sup> Oct morning and decrease gradually thereafter.

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

**(ii) 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 Jagatsingpur district of Odisha during the time of landfall.

**(iii) Sea Condition:**

**Eastcentral Bay of Bengal:** Sea condition is likely to be **high till 24<sup>th</sup> October evening** and improve gradually thereafter.

**Adjoining areas of Westcentral Bay of Bengal:** Sea condition is likely to be **very Rough to high** on 23<sup>rd</sup> and **high** till 24<sup>th</sup> October **evening**. It is likely to improve gradually thereafter.

**Northwest Bay of Bengal:** Sea condition is likely to be **Very Rough till 23<sup>rd</sup> evening** and would become **High to Very High** from 23<sup>rd</sup> night till 25<sup>th</sup> morning and improve gradually thereafter.

**Adjoining areas of northeast Bay of Bengal:** Sea condition is likely to be **Rough to Very Rough** from 23<sup>rd</sup> night till 25<sup>th</sup> morning and improve gradually thereafter.

**Along & off Odisha-west Bengal coasts:** Sea condition is likely to be **Rough to Very Rough** from 23<sup>rd</sup> evening and would become **High to Very High** from 24<sup>th</sup> October morning to 25<sup>th</sup> Oct forenoon and improve gradually thereafter.

**(iv) Fishermen Warning:**

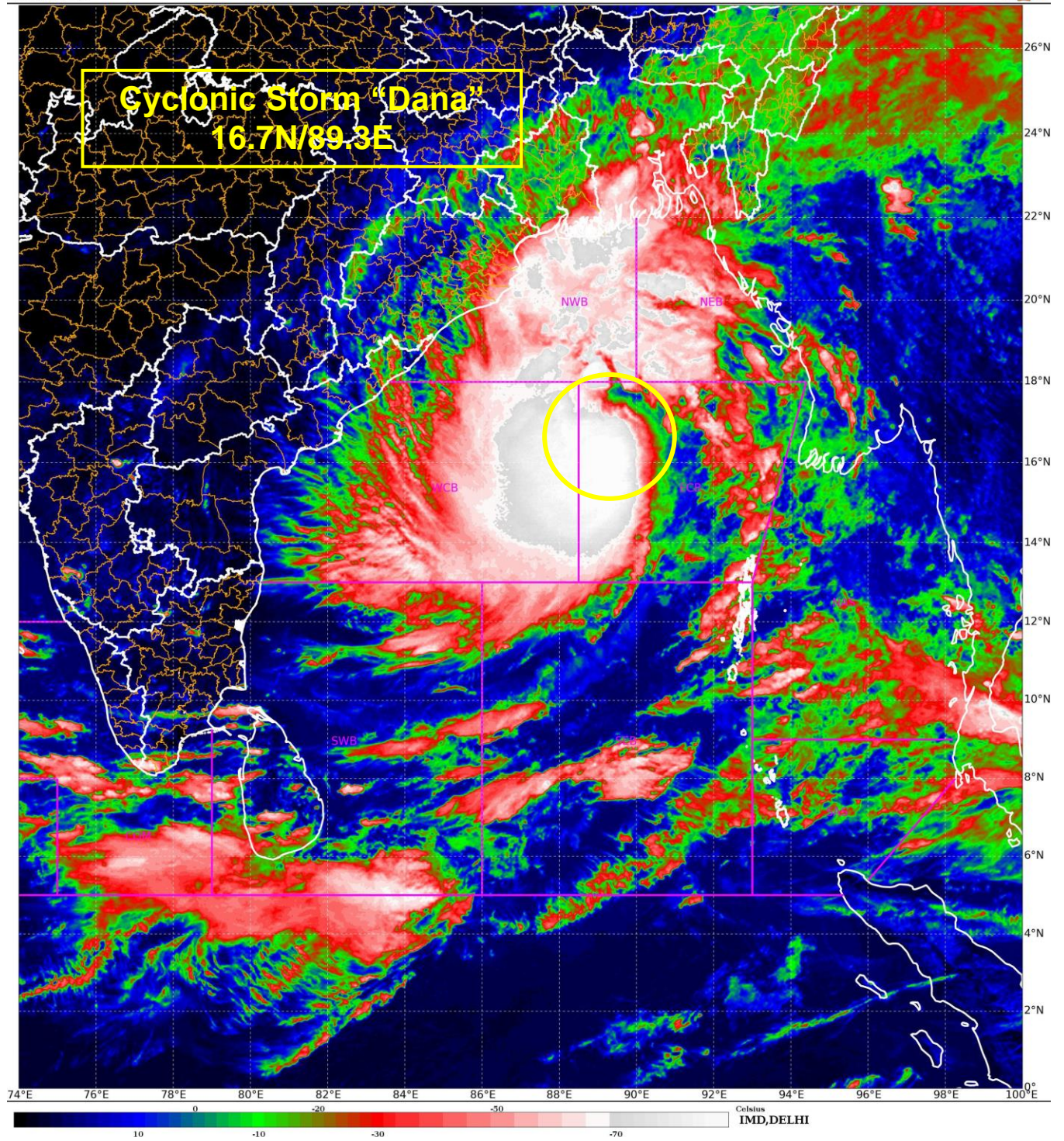
- Total suspension of fishing operations during 23<sup>rd</sup> to 25<sup>th</sup> Oct over Central and North Bay of Bengal.
- Fishermen are advised not to venture into
  - Eastcentral Bay of Bengal during 23<sup>rd</sup> to 24<sup>th</sup> October.
  - **Adjoining areas of Westcentral Bay of Bengal till 24<sup>th</sup> Oct.**
  - **Northwest & adjoining northeast Bay of Bengal and along & off Odisha, West Bengal and Bangladesh coasts** during till 25<sup>th</sup> October.
- ❖ **Impact Expected over districts of Odisha (Baleswar, Bhadrak, Kendrapara, Jajpur, Jagatsinghpur, Puri, Khorda, Mayurbhanj, Kendujhar, Cuttack, Dhenkanal) and West Bengal (East & West Medinipur, South & North 24 Parganas, Jhargram, Howrah, Hooghly, Kolkata, & Bankura)**
- 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, Puri, Khorda, Mayurbhanj, Kendujhar, Cuttack, Dhenkanal) and West Bengal (South & North 24 Parganas, East & West Medinipur, Jhargram, Howrah, Hooghly, Kolkata & Bankura)**
- Total suspension of fishing operations during 23<sup>rd</sup> to 25<sup>th</sup> Oct over Central and North Bay of Bengal.
- Fishermen are advised not to venture into
  - ✓ Eastcentral Bay of Bengal during 23<sup>rd</sup> to 24<sup>th</sup> October.
  - ✓ **Adjoining areas of Westcentral Bay of Bengal on 23<sup>rd</sup> and 24<sup>th</sup> Oct.**
  - ✓ **Northwest and adjoining northeast Bay of Bengal and along & off Odisha, West Bengal and Bangladesh coasts during 23<sup>rd</sup> to 25<sup>th</sup> October morning.**
- 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 1730 hours IST of today, the 23<sup>rd</sup> October, 2024.**

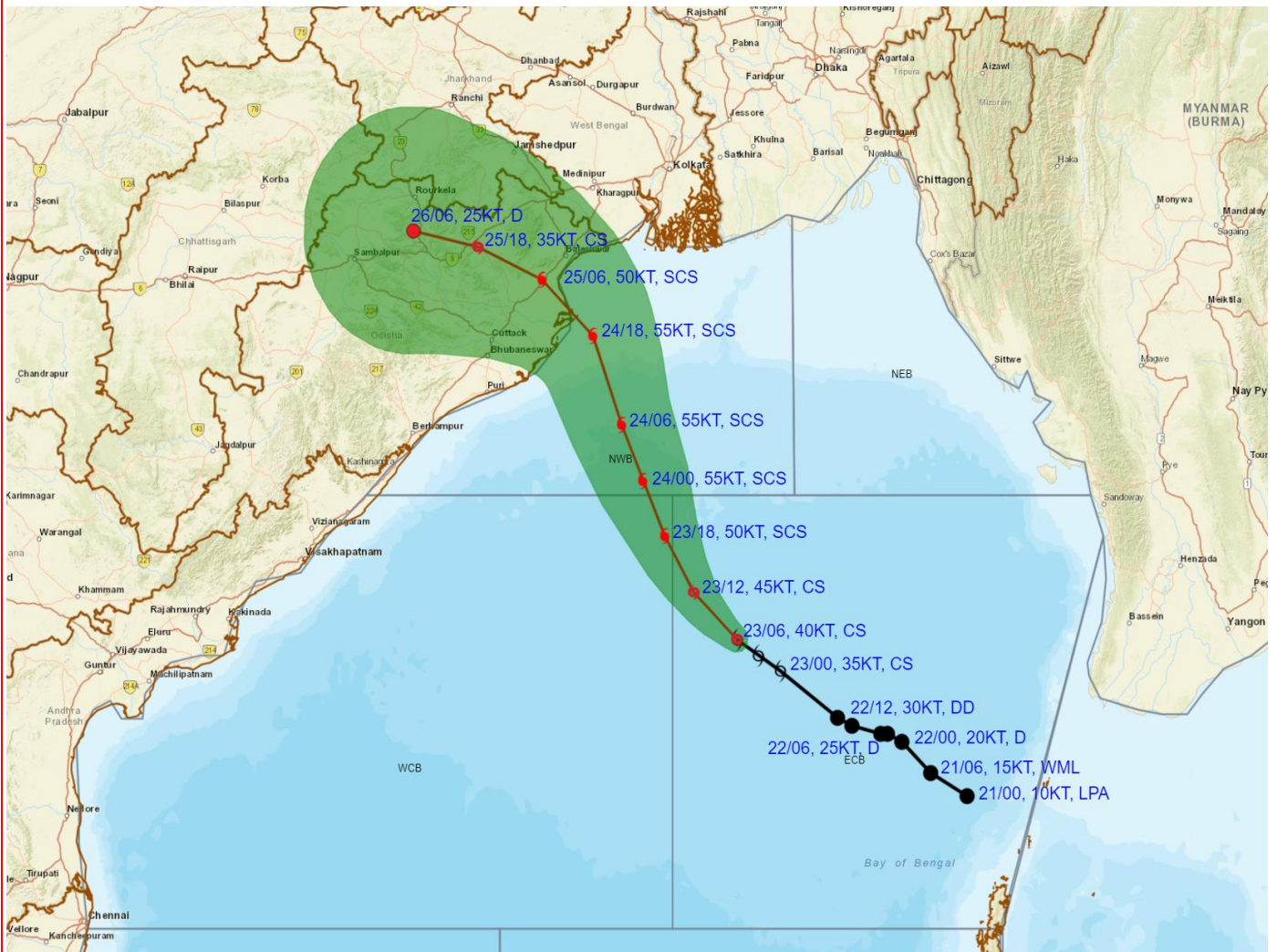
**(Ananda Kumar Das)**  
**Scientist-F, RSMC & IMD, New Delhi**

*Copy to: ACWC Kolkata/ACWC Chennai/CWC Bhubaneswar/CWC Vishakhapatnam/Meteorological Centre Port Blair*





**OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM 'DANA' OVER EASTCENTRAL BAY OF BENGAL BASED ON 0600 UTC (1130 Hrs. IST) OF 23<sup>RD</sup> OCTOBER 2024**



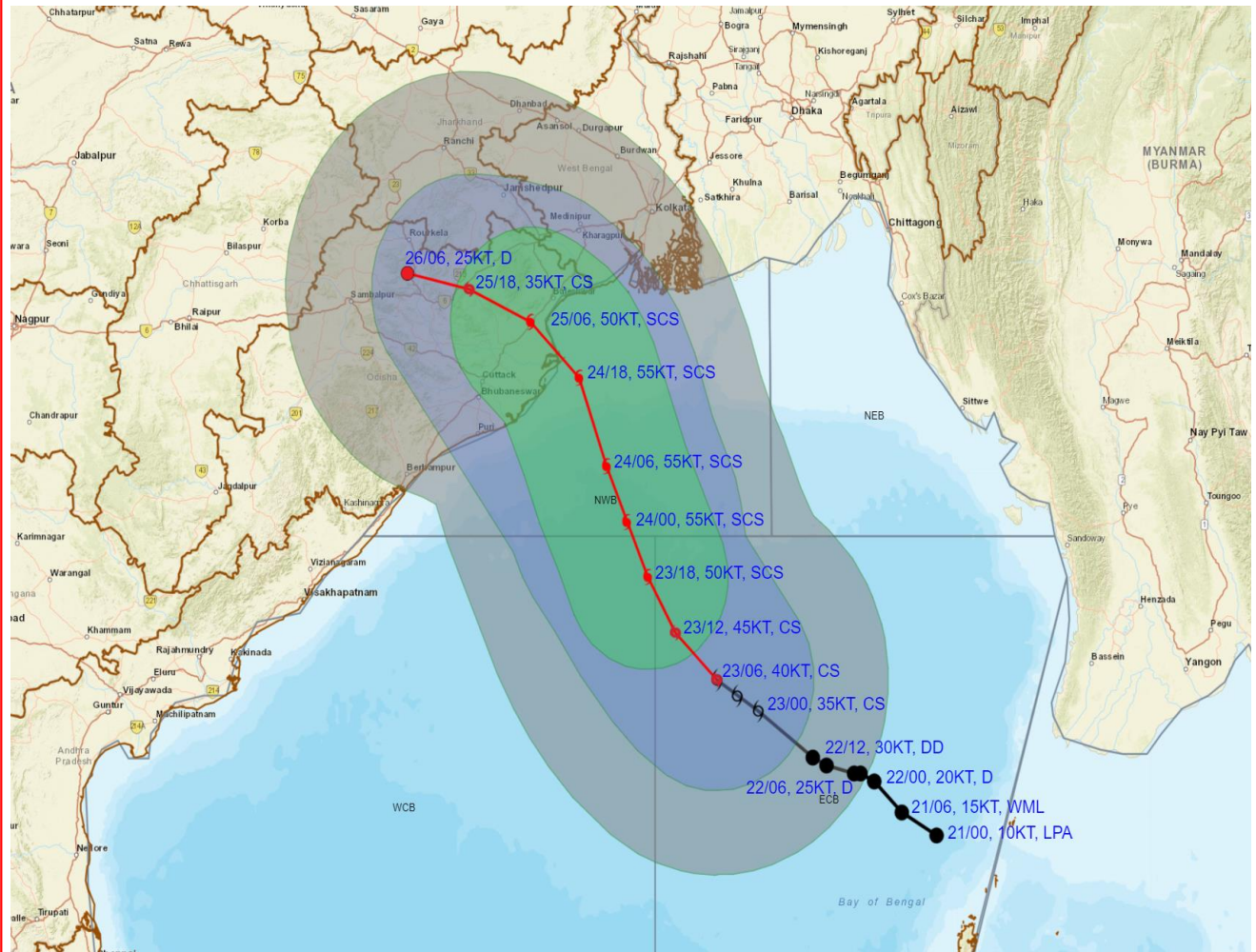
DATE/TIME : IN UTC  
 IST : UTC + 0530  
 KT : NAUTICAL MILE S/HOUR = 1.85 KM/HOUR  
 LPA : LOW PRESSURE AREA  
 WML : WELL MARKED LOW PRESSURE AREA  
 D : DEPRESSION (17-27 KT)  
 DD : DEEP DEPRESSION (28-33 KT)  
 CS : CYCLONIC STORM (34-47 KT)  
 SCS : SEVERE CYCLONIC STORM (48-63 KT)  
 VSCS : VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS : EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)  
 SuCS : SUPER CYCLONIC STORM ( $\geq 120$  KT)

LESS THAN 34 KT  
 34-47 KT  
 $\geq 48$  KT  
 OBSERVED TRACK  
 FORECAST TRACK  
 CONE OF UNCERTAINTY

Forecast	DISTANCE (KM) AND DIRECTION FROM STATIONS		
Date and Time (UTC)	PARADIP (CWR)	DHAMARA	SAGAR ISLAND
<b>23.10.24/0600</b>	<b>490, SE</b>	<b>520, SSE</b>	<b>570, SSE</b>
<b>24.10.24/0600</b>	<b>150, SE</b>	<b>180, SSE</b>	<b>250, S</b>
<b>25.10.24/0600</b>	<b>100, N</b>	<b>50, NW</b>	<b>160, WSW</b>
<b>26.10.24/0600</b>	<b>260, NW</b>	<b>240, WNW</b>	<b>340, W</b>



**OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM 'DANA' OVER EASTCENTRAL BAY OF BENGAL BASED ON 0600 UTC (1130 Hrs. IST) OF 23<sup>RD</sup> OCTOBER 2024**

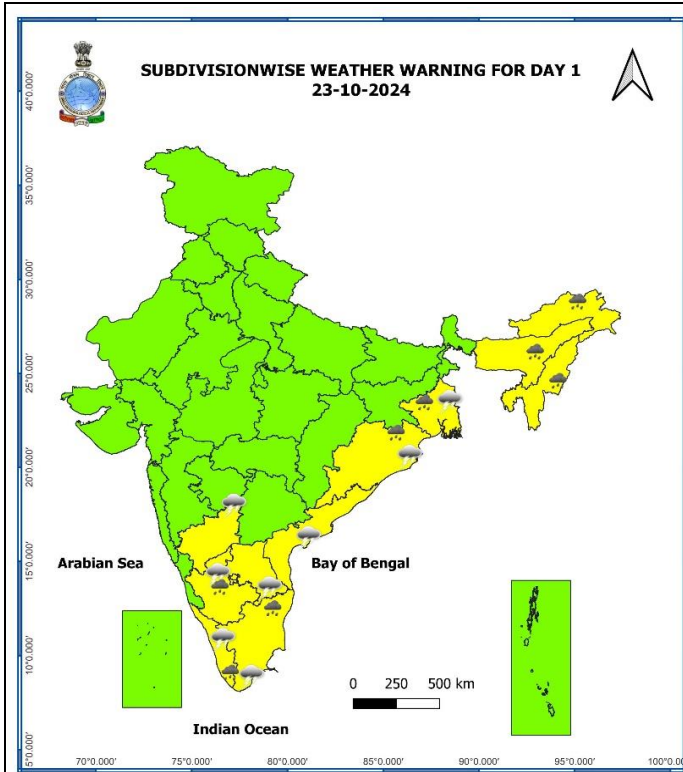


**DATE/TIME** : IN UTC  
**IST** : UTC + 0530  
**KT** : NAUTICAL MILE/HOUR = 1.85 KM/HOUR  
**LPA** : LOW PRESSURE AREA  
**WML** : WELL MARKED LOW PRESSURE AREA  
**D** : DEPRESSION (17-27 KT)  
**DD** : DEEP DEPRESSION (28-33 KT)  
**CS** : CYCLONIC STORM (34-47 KT)  
**SCS** : SEVERE CYCLONIC STORM (48-63 KT)  
**VSCS** : VERY SEVERE CYCLONIC STORM (64-89 KT)  
**ESCS** : EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)  
**SuCS** : SUPER CYCLONIC STORM ( $\geq 120$  KT)

● LESS THAN 34 KT  
 ○ 34-47 KT  
 ●  $\geq 48$  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)  
 ■  $\geq 64$  KT ( $\geq 118$  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
$\geq 64$ ( $\geq 118$ )	Phenomenal	Total suspension of fishing operations



Heavy Rain

Very Heavy Rain

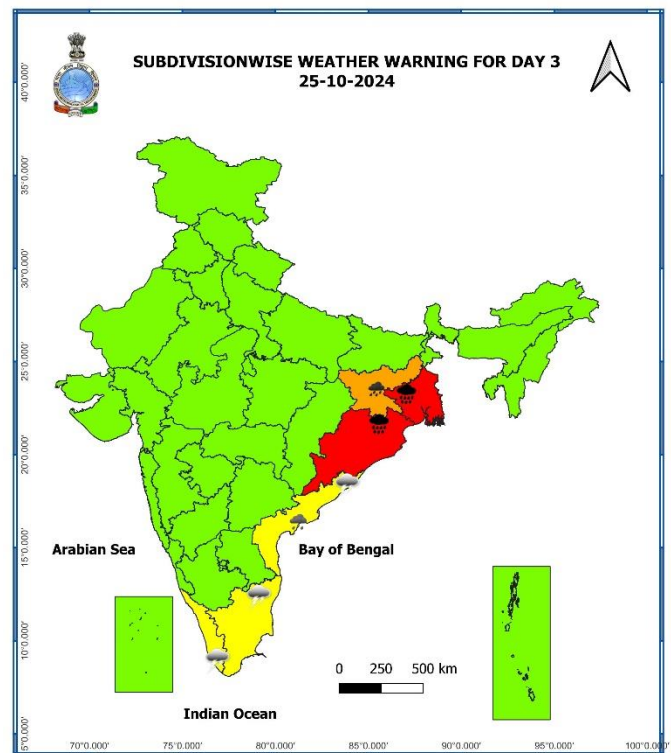
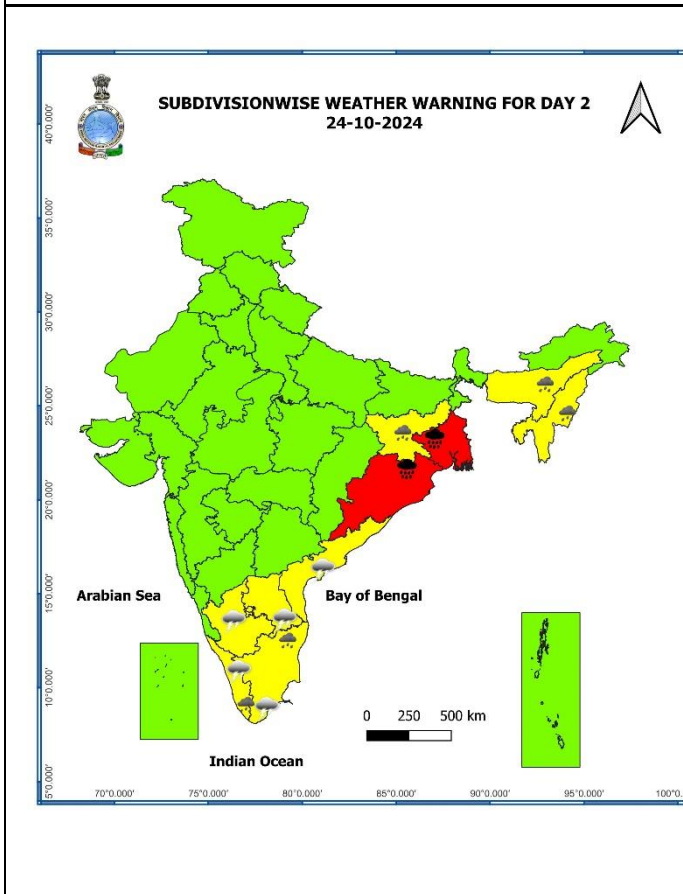
Extremely Heavy Rain

**COLOUR CODED WARNING**

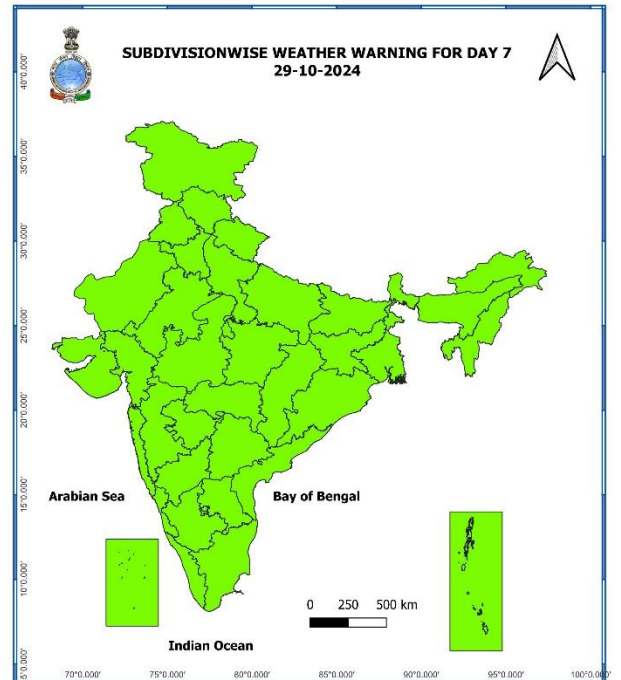
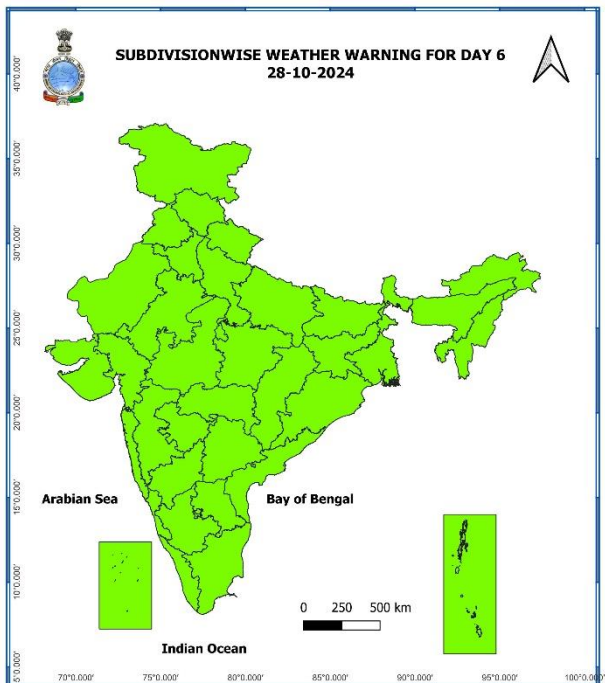
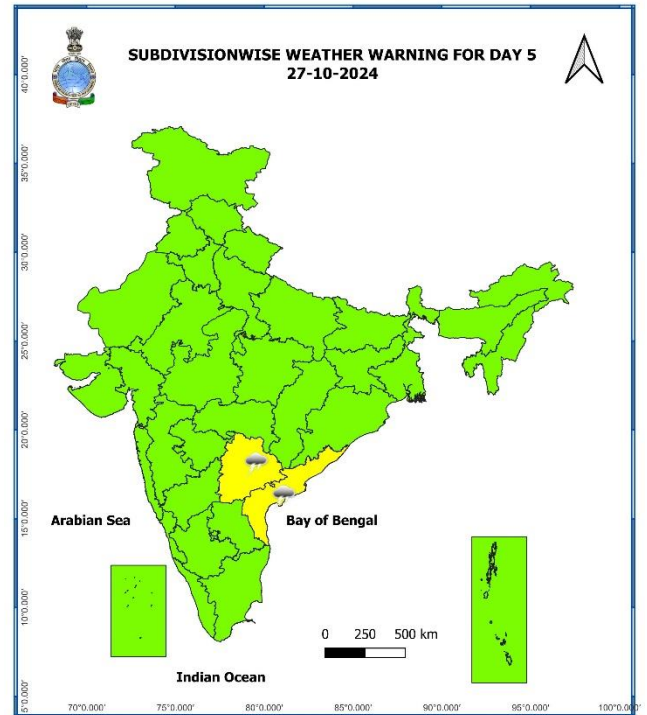
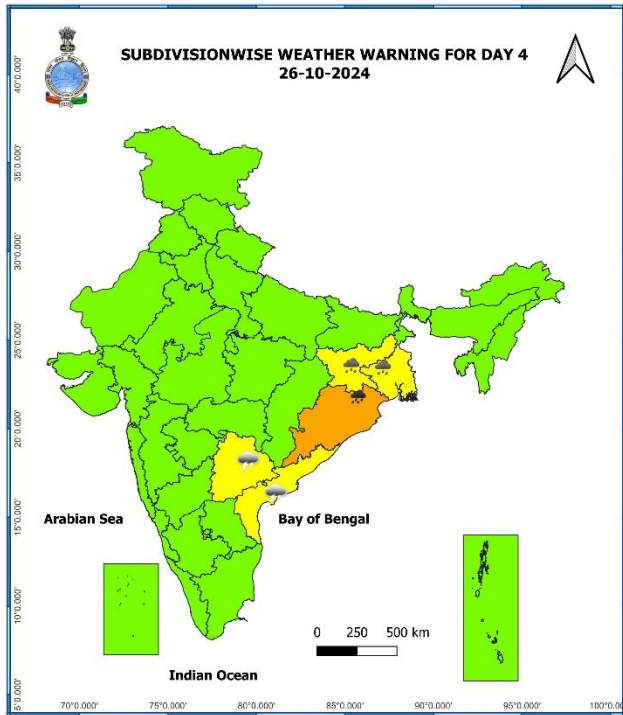


**Probabilistic Forecast**

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

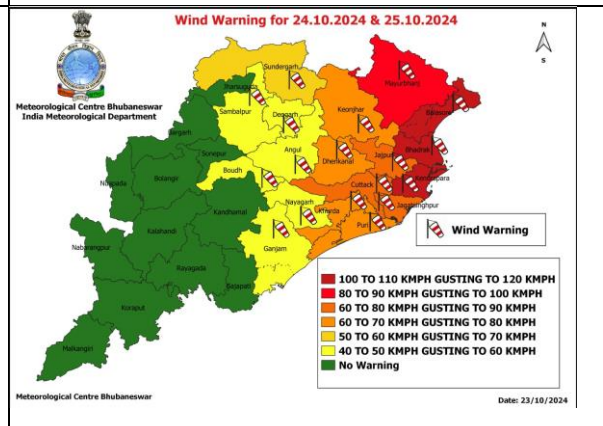
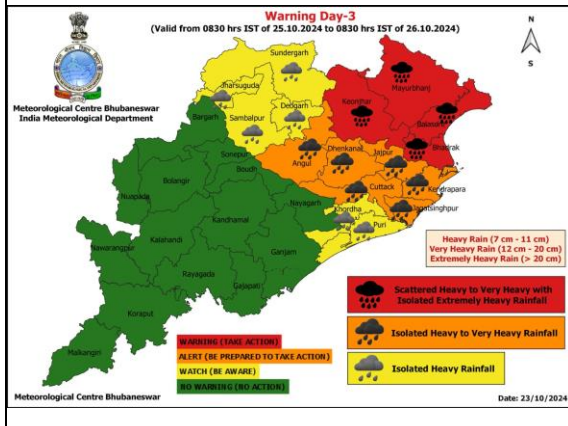
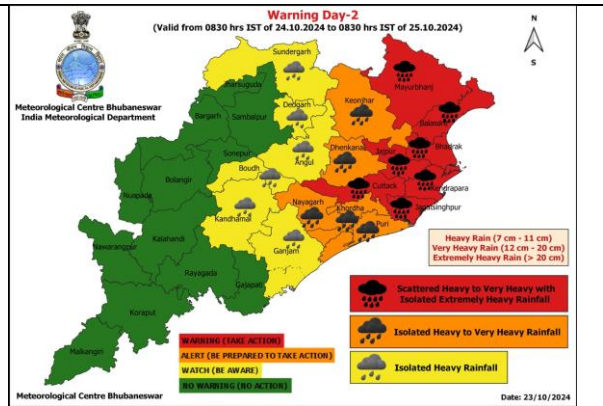
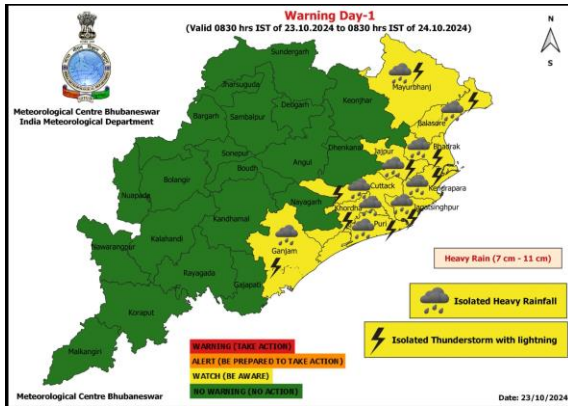




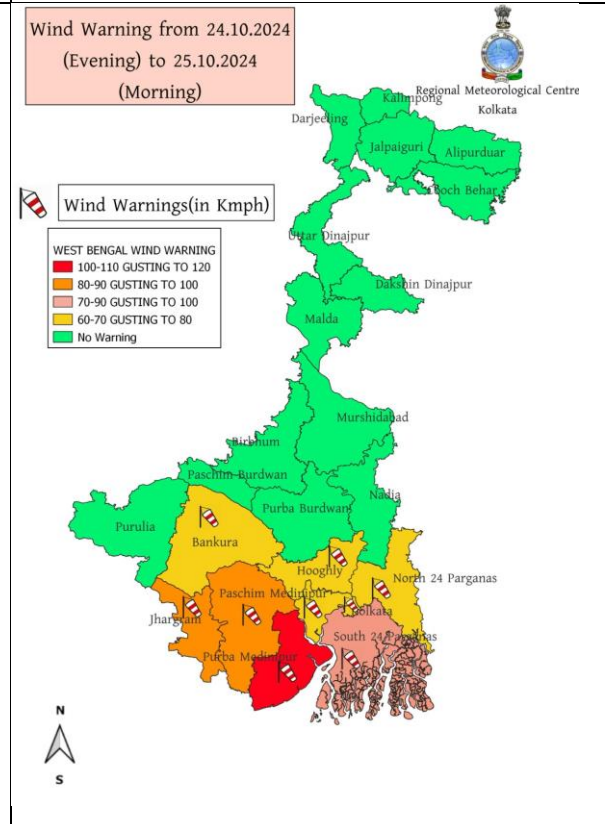
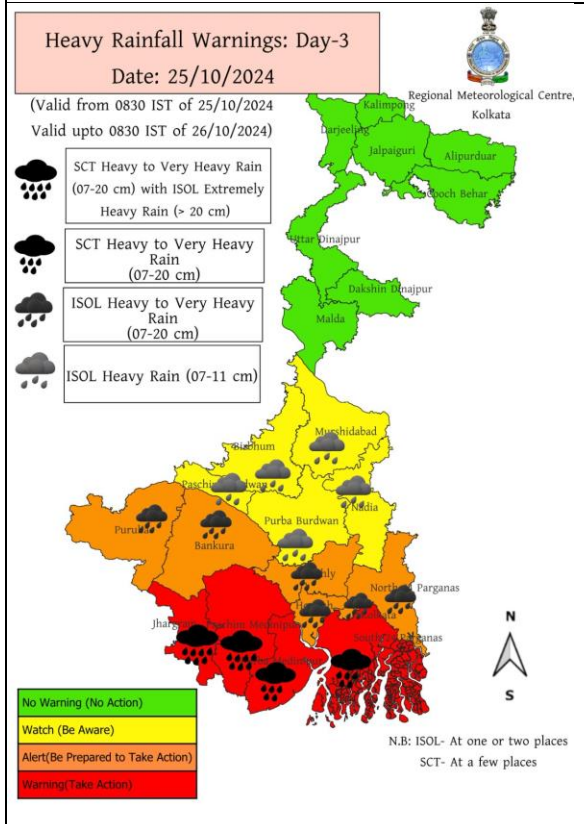
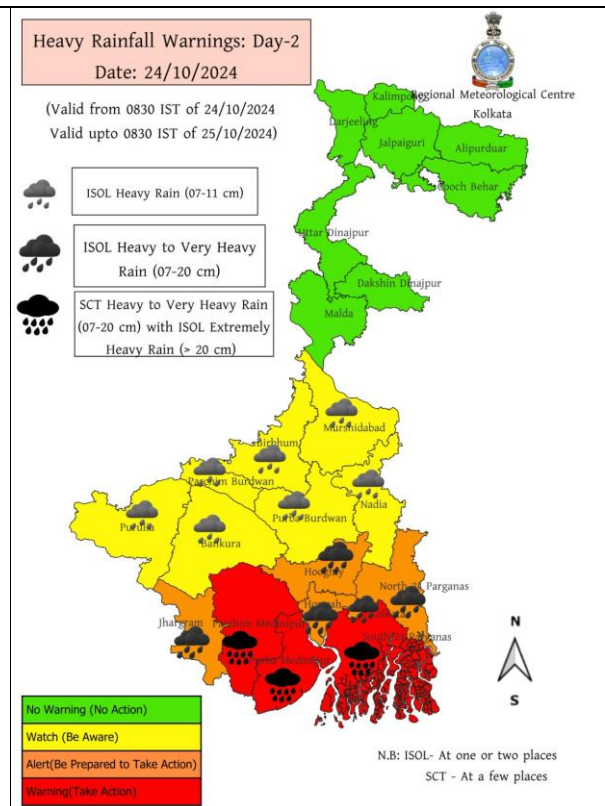
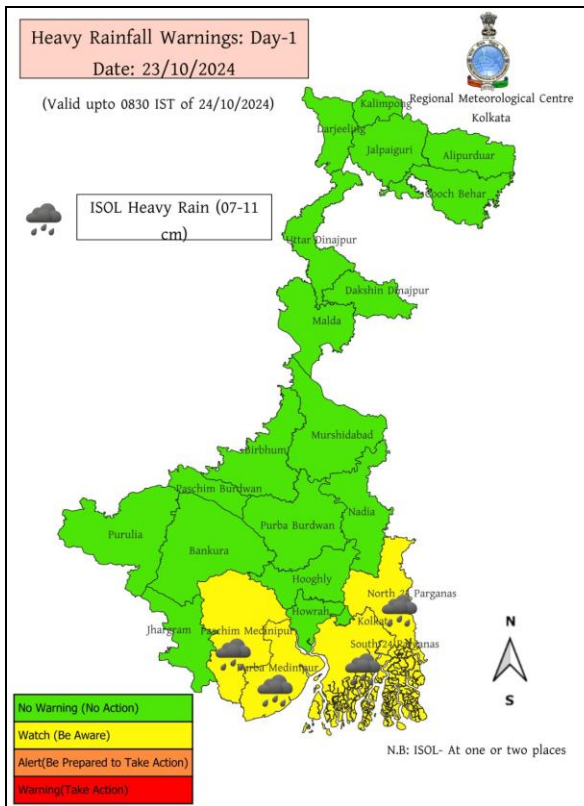


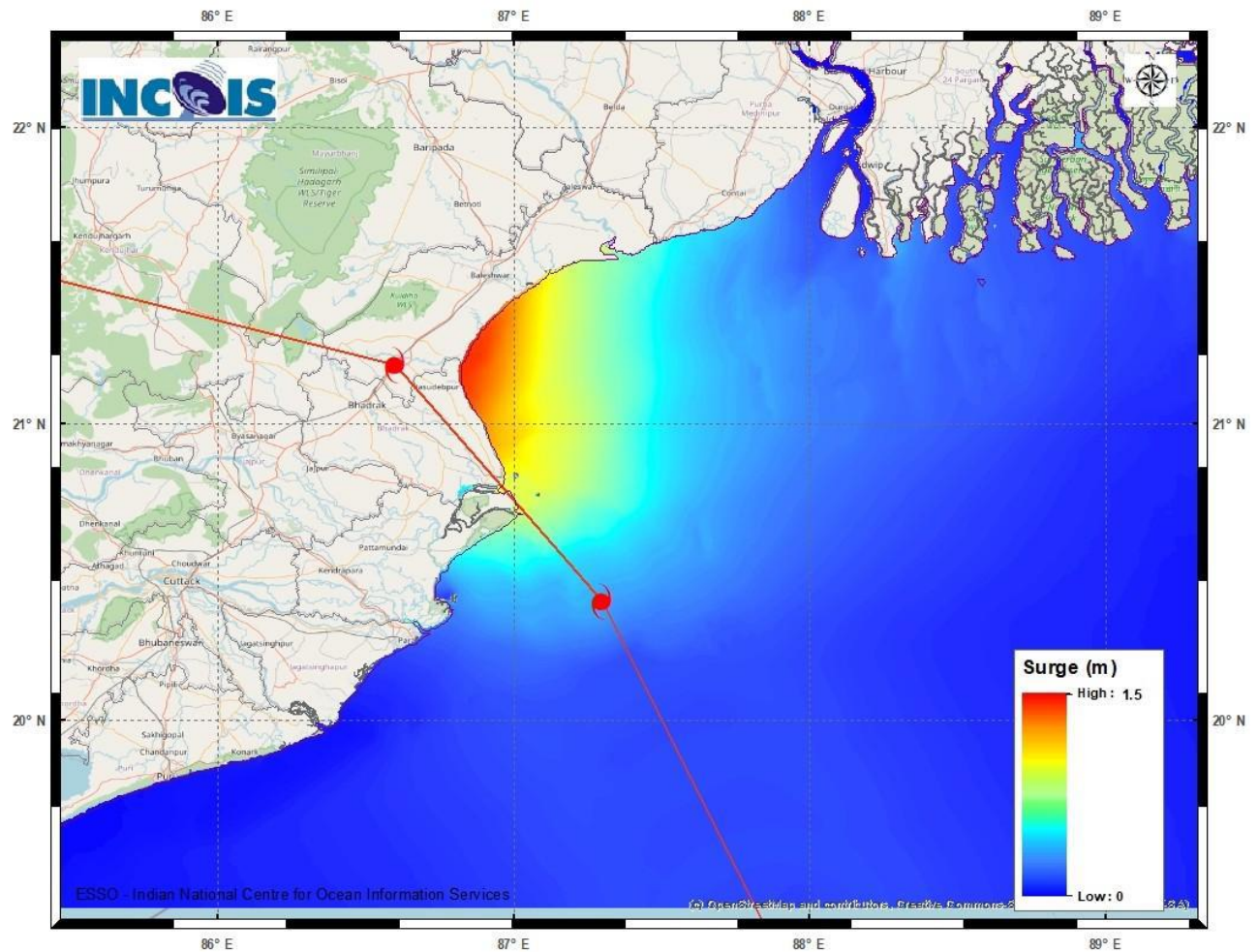
- Action may be taken based on **ORANGE AND RED** COLOUR warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

# District-wise Warning of Odisha



## District-wise Warning of West Bengal

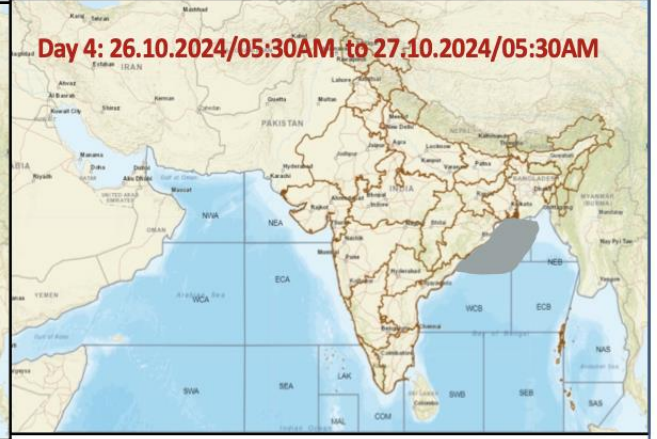
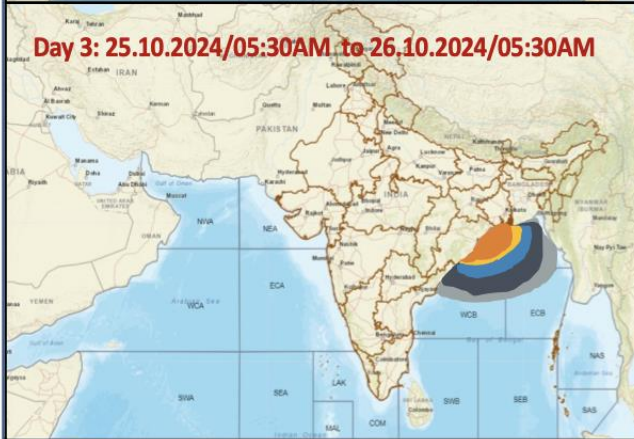
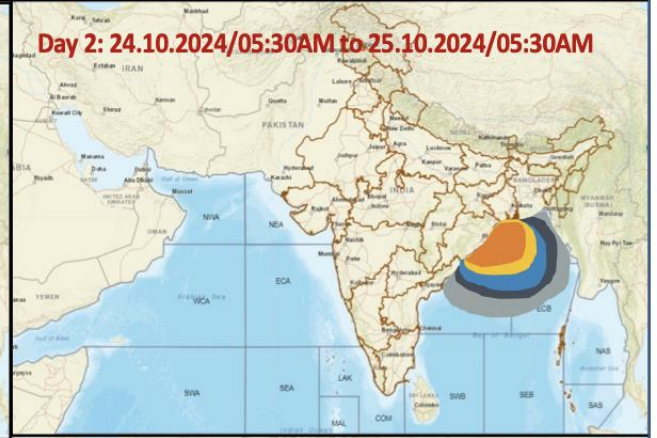
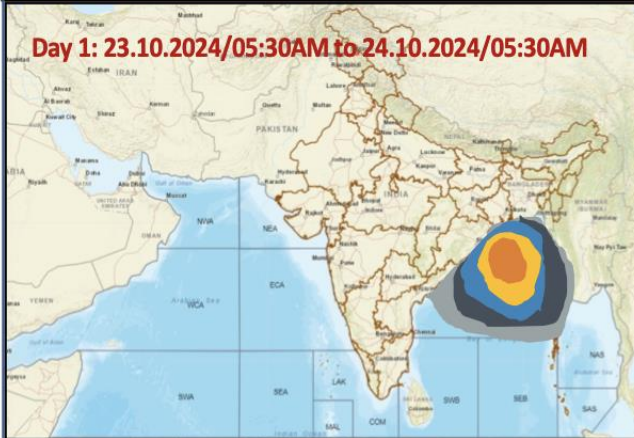




**Storm Surge warning graphics**

DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)*	EXPECTED INUNDATION EXTENT (km)
Baleshwar	Odisha	Kumbhargari	0.5-1.5	Upto 0.92
Bhadrak	Odisha	Mohanpur	0.8-1.4	Upto 0.82
Kendrapara	Odisha	Tikayat Nagar	0.2-0.9	Upto 3.01
Purba Medinipur	West Bengal	Dakshin Purushottampur	0.4-0.6	Upto 0.98

## Fishermen Warning Graphics



	Squally Weather with wind speed 35-45 kmph gusting to 55 kmph
	Squally wind with speed 45-55 kmph gusting to 65 kmph
	Squally winds with speed 50-60 kmph gusting to 75 kmph
	CS with Gale winds with speed 60-90 kmph gusting to 110 kmph
	SCS with Gale wind speed 90-120 kmph gusting to 135 kmph

Fishermen are advised not to venture into the marked areas.