

Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 23rd October, 2024

Time of Issue: 1300 hours IST

Subject: (i) A Cyclonic Storm “DANA” over eastcentral Bay of 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.
(ii) Isolated extremely heavy rainfall very likely over Odisha, Gangetic West Bengal on 24th & 25th October 2024.

Realised rainfall during past 24 hours till 0830 hours IST of today (Annexure I)

- ❖ **Heavy rainfall** at isolated places over Tamil Nadu, Puducherry & Karaikal, South Interior Karnataka, Andaman & Nicobar Islands.
- ❖ **Hailstorm** at isolated places over Himachal Pradesh.

Weather Systems:

- ❖ Yesterday's **Depression** over eastcentral Bay of Bengal intensified into a deep depression at 1730 hours IST of yesterday, further into a **cyclonic storm “DANA”** (pronounced as Dana) over the same region at 0830 hrs IST of today, the 23rd October and lay centred near latitude 16.5°N and longitude 89.6°E, about 520 km southeast of Paradip (Odisha), 600 km south-southeast of Sagar Island (West Bengal) and 610 km south-southeast of Khepupara (Bangladesh). 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.
- ❖ An **upper air cyclonic circulation** lies over Comorin area & neighbourhood in lower and middle tropospheric levels.

Forecast & Warnings (upto 7 days) (Annexure II & III):

East India

- ✓ 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 23rd October & **heavy to very heavy rainfall** at a few places and **extremely heavy rainfall (≥ 21 cm)** at isolated places over **Baleswar, Mayurbhanj, Bhadrak, Kendrapara, Jagatsingpur Kendujhar, Jajpur, Cuttack and Dhenkanal, Khorda and Puri** districts of Odisha on 24th & 25th October.

- ✓ **Light to moderate rainfall at most places with heavy rainfall** at isolated places is very likely on 23rd 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 24th & 25th October.
- ✓ Light to moderate rainfall at most places is likely over south Jharkhand with **heavy rainfall** at isolated places on 24th and **heavy to very heavy rainfall** at isolated places on 25th October.

South Peninsular India

- ✓ Light to moderate rainfall at a few places accompanied with isolated thunderstorm and lightning very likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, South Interior Karnataka, Coastal Andhra Pradesh & Yanam, Rayalaseema during next 3-4 days and light rainfall at isolated places is likely to prevail subsequent 3 days; light to moderate rainfall at Isolated places very likely over rest of the region during the week.
- ✓ **Isolated heavy rainfall** very likely over South Interior Karnataka on 23rd, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe on 23rd & 24th, Coastal Andhra Pradesh & Yanam on 25th October.

Northeast India

- ✓ Light to moderate rainfall at many places accompanied with isolated thunderstorm and lightning very likely over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during next 3 days and light to moderate rainfall at isolated places is likely to prevail during next subsequent 4 days; light to moderate rainfall at Isolated places very likely over Arunachal Pradesh during next 7 days.
- ✓ **Isolated heavy rainfall** very likely over Arunachal Pradesh on 23rd; Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 23rd & 24th October.

Central, West & Northwest India

- ✓ No significant rainfall likely over these regions during the week.
- ✓ Shallow to moderate Fog very likely in the morning hours over Punjab on 23rd & 24th October.

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 23rd evening till 24th 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 23rd afternoon and 90-100 kmph gusting to 110 kmph from 24th morning till 24th 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 23rd evening till 24th night and thereafter 100-110 kmph gusting to 120 kmph till 25th 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 23rd night, becoming 50-60 kmph gusting to 70 kmph from 24th till 25th 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 23rd Oct evening. It would gradually increase becoming gale wind speed reaching 60-70 kmph gusting to 80 kmph from 24th 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 24th night till 25th Oct morning and decrease gradually thereafter.

Fishermen Warning (ANNEXURE IV):

- ✓ **Total suspension of fishing operations during 23rd to 25th Oct over Central and North Bay of Bengal.**
- ✓ Fishermen are advised not to venture into
 - Eastcentral Bay of Bengal during 23rd to 24th October.
 - **Adjoining areas of Westcentral Bay of Bengal till 24th Oct.**
 - **Northwest & adjoining northeast Bay of Bengal and along & off Odisha, West Bengal and Bangladesh coasts during till 25th October.**

For more details, kindly refer National Weather Bulletin:

https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

For District wise warnings refer:

<https://mausam.imd.gov.in/responsive/districtWiseWarningGIS.php>

For Fishermen warnings, kindly refer:

https://rsmcnewdelhi.imd.gov.in/uploads/archive/51/51_bdf575_GRAPHIC.png

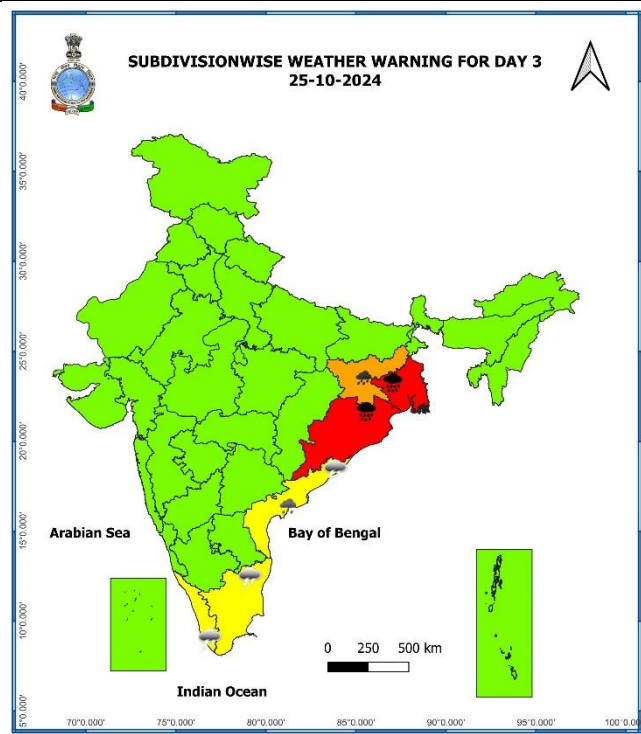
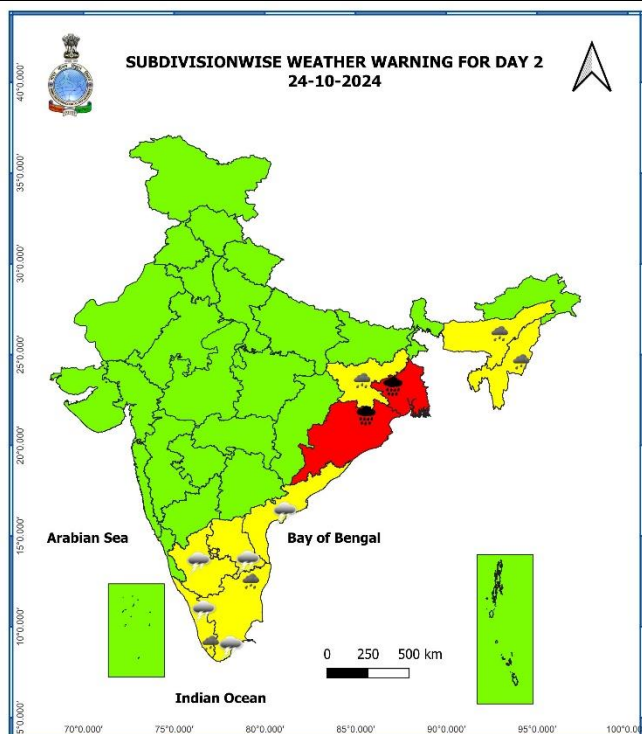
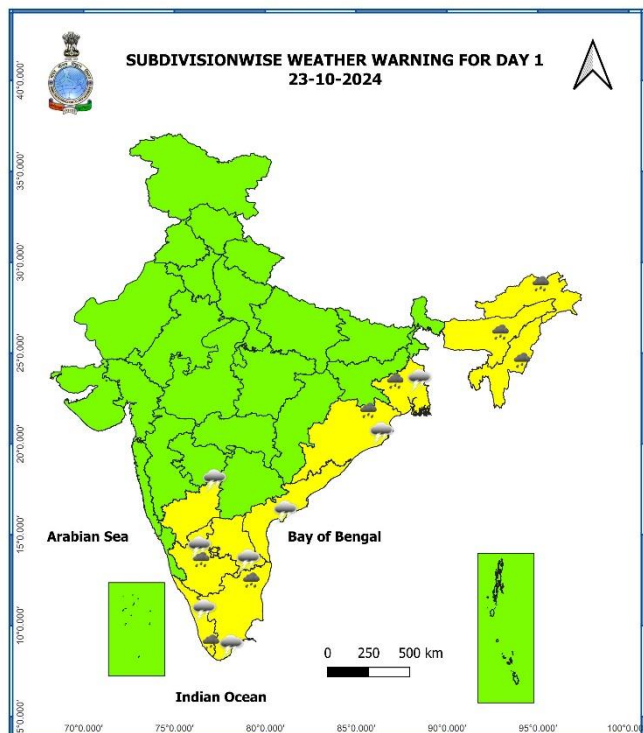
ANNEXURE I

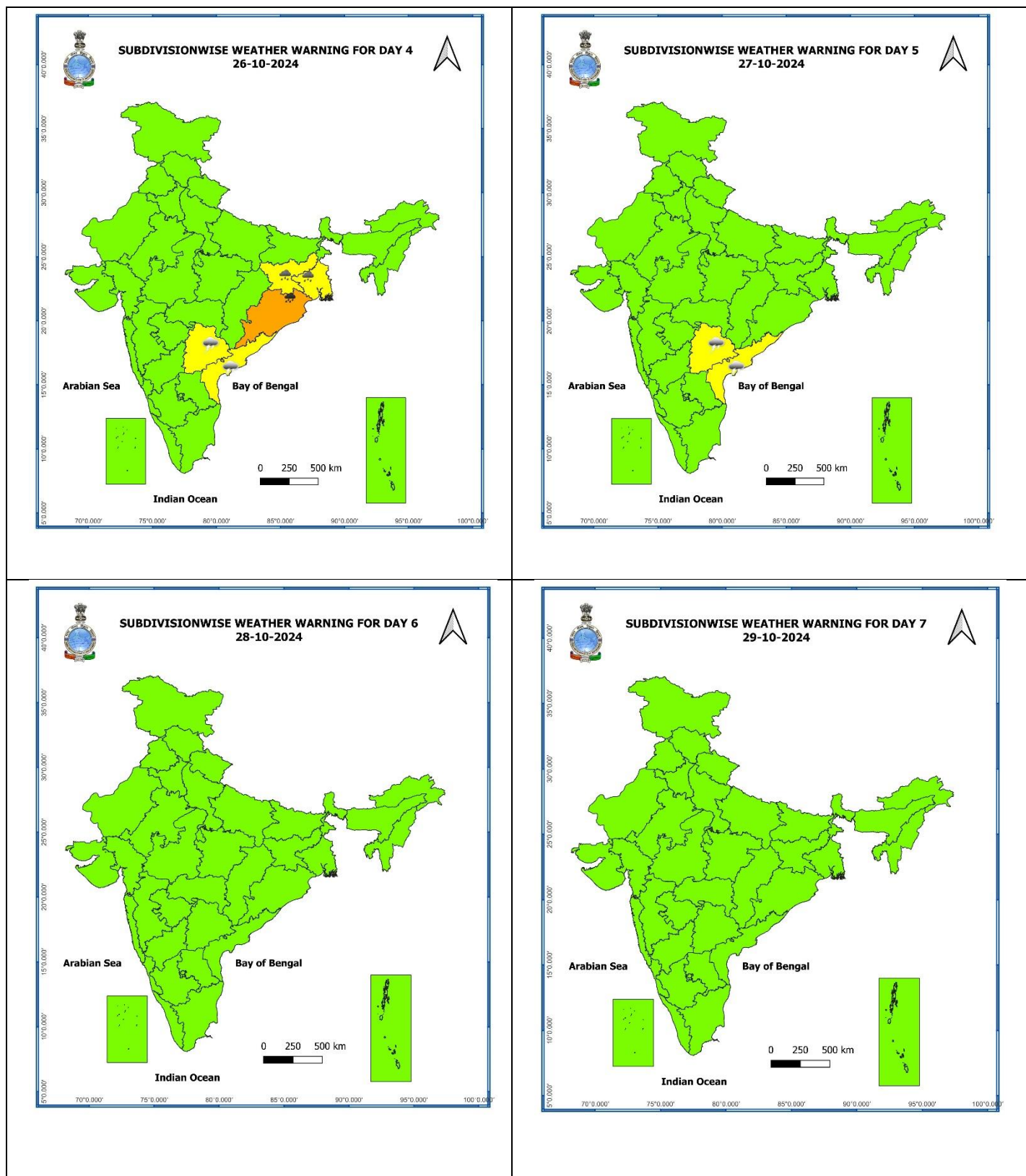
Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 23.10.2024 (in cm):

- ❖ **Tamil Nadu, Puducherry & Karaikal:** Coimbatore AP (dist Coimbatore) 9; Coimbatore AWS (dist Coimbatore), Valparai PAP (dist Coimbatore), Tiruppur IB PWD (dist Tiruppur), Natham (dist Dindigul), Sholayar (dist Coimbatore), Valparai Taluk Office (dist Coimbatore), Kundadam (dist Tiruppur), Coimbatore South (dist Coimbatore), Shencottah (dist Tenkasi), Manapparai (dist Thiruchirappalli), Natham AWS (dist Dindigul) 7 each;
- ❖ **Andaman & Nicobar Islands:** Port Blair (dist South Andaman) 9,
- ❖ **South Interior Karnataka:** Bellur (dist Mandya) 7,

7 Days Rainfall Forecast								
S. No.	Subdivision	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct	29-Oct
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	WS	WS	WS	WS	FWS	FWS	FWS
2	ARUNACHAL PRADESH	SCT	SCT	SCT	ISOL	ISOL	ISOL	ISOL
3	ASSAM & MEGHALAYA	FWS	FWS	ISOL	ISOL	ISOL	ISOL	ISOL
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	WS	FWS	SCT	ISOL	ISOL	ISOL	ISOL
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	ISOL	SCT	SCT	ISOL	ISOL	ISOL	ISOL
6	GANGETIC WEST BENGAL	FWS	WS	WS	FWS	ISOL	ISOL	ISOL
7	ODISHA	SCT	WS	WS	FWS	SCT	ISOL	ISOL
8	JHARKHAND	ISOL	FWS	WS	FWS	ISOL	DRY	DRY
9	BIHAR	ISOL	SCT	SCT	ISOL	ISOL	ISOL	ISOL
10	EAST UTTAR PRADESH	DRY	ISOL	ISOL	DRY	DRY	DRY	DRY
11	WEST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
12	UTTARAKHAND	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
13	HARYANA CHANDIGARH & DELHI	DRY	DRY	DRY	DRY	DRY	DRY	DRY
14	PUNJAB	DRY	DRY	DRY	DRY	DRY	DRY	DRY
15	HIMACHAL PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
16	JAMMU & KASHMIR AND LADAKH	ISOL	ISOL	DRY	DRY	DRY	ISOL	ISOL
17	WEST RAJASTHAN	DRY	DRY	DRY	DRY	DRY	DRY	DRY
18	EAST RAJASTHAN	DRY	DRY	DRY	DRY	DRY	DRY	DRY
19	WEST MADHYA PRADESH	ISOL	DRY	DRY	DRY	DRY	DRY	ISOL
20	EAST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
21	GUJARAT REGION	DRY	DRY	DRY	DRY	DRY	DRY	DRY
22	SAURASHTRA & KUTCH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
23	KONKAN & GOA	ISOL	ISOL	DRY	DRY	DRY	ISOL	ISOL
24	MADHYA MAHARASHTRA	ISOL	ISOL	DRY	DRY	DRY	ISOL	ISOL
25	MARATHAWADA	ISOL	DRY	DRY	DRY	ISOL	ISOL	ISOL
26	VIDARBHA	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
27	CHHATTISGARH	DRY	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
28	COASTAL ANDHRA PRADESH & YANAM	ISOL	ISOL	ISOL	ISOL	SCT	ISOL	ISOL
29	TELANGANA	ISOL	DRY	DRY	ISOL	SCT	ISOL	ISOL
30	RAYALASEEMA	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	SCT	SCT	ISOL	ISOL	ISOL	ISOL	ISOL
32	COASTAL KARNATAKA	ISOL	ISOL	DRY	DRY	DRY	ISOL	ISOL
33	NORTH INTERIOR KARNATAKA	SCT	ISOL	DRY	DRY	DRY	ISOL	ISOL
34	SOUTH INTERIOR KARNATAKA	WS	FWS	SCT	ISOL	ISOL	ISOL	ISOL
35	KERALA & MAHE	FWS	FWS	FWS	SCT	SCT	SCT	SCT
36	LAKSHADWEEP	FWS	FWS	FWS	FWS	SCT	SCT	SCT

- As the lead period increases forecast accuracy decreases.



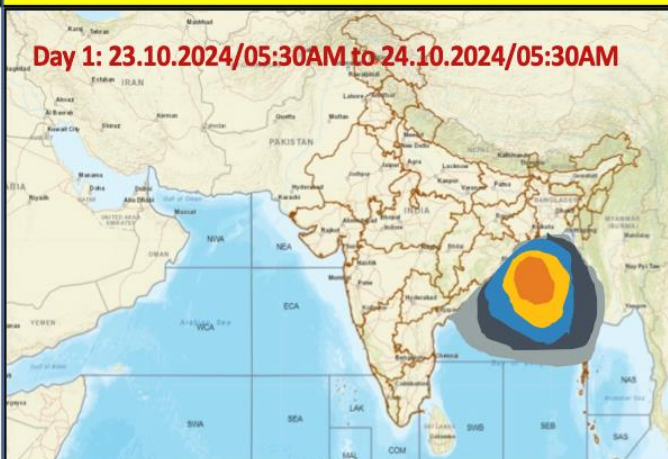


- Action may be taken based on ORANGE AND RED COLOUR warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

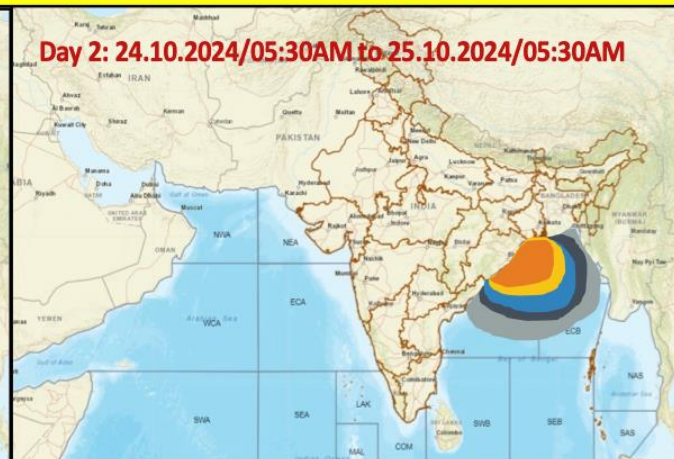


Fishermen Warning Graphics

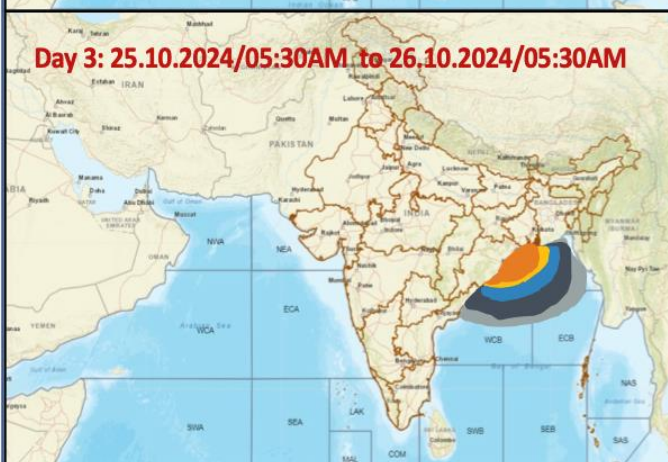
Day 1: 23.10.2024/05:30AM to 24.10.2024/05:30AM



Day 2: 24.10.2024/05:30AM to 25.10.2024/05:30AM



Day 3: 25.10.2024/05:30AM to 26.10.2024/05:30AM



Day 4: 26.10.2024/05:30AM to 27.10.2024/05:30AM



Day 5: 27.10.2024/05:30AM to 28.10.2024/05:30AM



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.

Impact due to

- ✓ **Isolated extremely heavy rainfall** very likely over Odisha, Gangetic West Bengal on 24th & 25th October.
- ✓ **Isolated heavy to very heavy rainfall** very likely over Jharkhand on 25th and Odisha on 26th October.

Impact Expected

- 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 Kutcha 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

- Total suspension of fishing operations during 23rd to 25th Oct over Central and North Bay of Bengal.
- Fishermen are advised not to venture into
 - ✓ Eastcentral Bay of Bengal during 23rd to 24th October.
 - ✓ **Adjoining areas of Westcentral Bay of Bengal on 23rd and 24th Oct.**
 - ✓ **Northwest and adjoining northeast Bay of Bengal and along & off Odisha, West Bengal and Bangladesh coasts** during 23rd to 25th 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.

Agromet advisories in view of Cyclonic storm over eastcentral Bay of Bengal (Cyclone Alert for Odisha and West Bengal coast)

- ✓ In **Odisha**, the harvesting of rice crop if 85% of grains are matured in a panicle. Immediately harvest matured maize, black gram, green gram, groundnut, vegetables and fruits. Withhold sowing of pre-rabi pulses and winter vegetables. Provide propping in sugarcane by tying leaves from four to five plants together to prevent their lodging.
- ✓ In **Gangetic West Bengal**, drain out excess water from Aman rice, groundnut, pulses and vegetables. Complete harvesting of kharif rice, vegetables, and fruits as soon as possible.
- ✓ In Andaman & Nicobar Islands, collect and safely dispose of fallen fruits and vegetables to prevent the spread of fungal diseases. Collect fallen coconuts and transport them to the market as soon as possible. For harvested rice, ensure proper sun-drying when the weather conditions are clear to minimize moisture retention and reduce the risk of mould or spoilage.
- ✓ Shift the harvested produce to safer places at the earliest.
- ✓ Make arrangements for adequate drainage to avoid water logging in crop fields.
- ✓ Provide mechanical support to young fruit plants and staking in vegetables to prevent their lodging.

Agromet advisories for Heavy Rainfall likely over various parts of the country

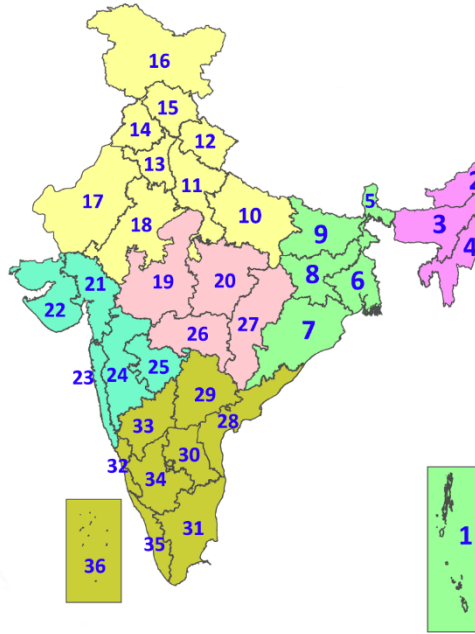
- In **Tamil Nadu**, drain out excess water from rice nurseries and fields of rice, maize, pepper and newly planted turmeric. Undertake detrashing and propping of more than five-months-old sugarcane to avoid lodging. Provide support to banana plantations.
- Make necessary arrangements to drain out excess water from standing crop fields and fruit orchards to avoid water stagnation in Kerala, South Interior Karnataka and North Eastern States.
- Keep the harvested produce at safer places.
- Provide mechanical support to horticultural crops & staking to vegetables.

Legends & abbreviations:

- ❖ **Heavy Rain:**64.5-115.5mm; **Very Heavy Rain:**115.6-204.4mm; **Extremely Heavy Rain:** >204.4mm.
- ❖ **Obsy:** Observatory; **AWS:** Automatic Weather Station; **ARG:** Automatic Rain Gauge; **dist:** District; **NH:** National Highway; **KVK:** Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation; **PTO:** Part Time Office, **Aero:** Aerodrome, **IAF:** Indian Air Force.
- ❖ **Region wise classification of meteorological Sub-Divisions:**
 - **Northwest India:** Western Himalayan Region (Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand); Punjab, Haryana-Chandigarh-Delhi; West Uttar Pradesh, East Uttar Pradesh, West Rajasthan and East Rajasthan.
 - **Central India:** West Madhya Pradesh, East Madhya Pradesh, Vidarbha and Chhattisgarh.
 - **East India:** Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim; Gangetic West Bengal, Odisha and Andaman & Nicobar Islands.
 - **Northeast India:** Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
 - **West India:** Gujarat Region, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra and Marathawada.
 - **South India:** Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal Karnataka, North Interior Karnataka, South Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.

LEGENDS

1. अंडमान और निकोबार द्वीपसमूह
2. अरुणाचल प्रदेश
3. असम और मेघालय
4. नागालैंड, मणिपुर, मिजोरम और त्रिपुरा
5. उप-हिमालयी पश्चिम बंगाल और सिक्किम
6. गंगीय पश्चिम बंगाल
7. ओडिशा
8. झारखंड
9. बिहार
10. पूर्वी उत्तर प्रदेश
11. पश्चिम उत्तर प्रदेश
12. उत्तराखंड
13. हरियाणा, चंडीगढ़ और दिल्ली
14. पंजाब
15. हिमाचल प्रदेश
16. जम्मू और कश्मीर और लद्दाख
17. पश्चिम राजस्थान
18. पूर्वी राजस्थान
19. पश्चिम मध्य प्रदेश
20. पूर्वी मध्य प्रदेश
21. गुजरात
22. सौराष्ट्र
23. कोंकण और गोवा
24. मध्य महाराष्ट्र
25. मराठवाड़ा
26. विदर्भ
27. छत्तीसगढ़
28. तटीय आंध्र प्रदेश और यनम
29. तेलंगाना
30. रायलसीमा
31. तमिलनाडु, पुडुचेरी और कराईकल
32. तटीय कर्नाटक
33. आंतरिक उत्तरी कर्नाटक
34. आंतरिक दक्षिणी कर्नाटक
35. केरल और माहे
36. लक्षद्वीप



1. Andaman & Nicobar Islands
2. Arunachal Pradesh
3. Assam & Meghalaya
4. Nagaland, Manipur, Mizoram & Tripura
5. Sub-Himalayan West Bengal & Sikkim
6. Gangetic West Bengal
7. Odisha
8. Jharkhand
9. Bihar
10. East Uttar Pradesh
11. West Uttar Pradesh
12. Uttarakhand
13. Haryana, Chandigarh & Delhi
14. Punjab
15. Himachal Pradesh
16. Jammu & Kashmir and Ladakh
17. West Rajasthan
18. East Rajasthan
19. West Madhya Pradesh
20. East Madhya Pradesh
21. Gujarat
22. Saurashtra
23. Konkan & Goa
24. Madhya Maharashtra
25. Marathwada
26. Vidarbha
27. Chhattisgarh
28. Coastal Andhra Pradesh & Yanam
29. Telangana
30. Rayalaseema
31. Tamilnadu, Puducherry & Karaikal
32. Coastal Karnataka
33. North Interior Karnataka
34. South Interior Karnataka
35. Kerala & Mahe
36. Lakshadweep

SPATIAL DISTRIBUTION (% of Stations reporting)

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/A Few Places)
51-75	Fairly Widespread (FWS/Many Places)	1-25	Isolated (ISOL)



Fog



Heavy Snow



Cold Wave



Heavy Rain



Dust Storm



Cold Day



Very Heavy Rain



Heat Wave



Ground Frost



Extremely Heavy Rain



Warm Night



Thunder & Lightning



Hot Day



Hailstorm



Hot & Humid



Dust Raising Winds



Strong Surface Winds

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

* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.
For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599
(Service to the Nation since 1875)

DEFINITION/CRITERIA

Rain/ Snow *

Heavy: 64.5 to 115.5 mm/cm *
Very Heavy: 115.6 to 204.4 mm/cm*
Extremely Heavy: > 204.4 mm/cm *

Heat Wave

When maximum temperature of a station reaches $\geq 40^{\circ}\text{C}$ for plains and $\geq 30^{\circ}\text{C}$ for hilly regions
(a) Based on Departure from normal

Heat Wave: Maximum Temperature Departure from normal 4.5°C to 6.4°C .

Severe Heat Wave: Maximum Temperature Departure from normal $\geq 6.5^{\circ}\text{C}$

(b). Based on Actual maximum temperature

Heat Wave: When actual maximum temperature $\geq 45^{\circ}\text{C}$.

Severe Heat Wave: When actual maximum temperature $\geq 47^{\circ}\text{C}$

(c) Criteria for heat wave for coastal stations

When maximum temperature departure is $> 4.5^{\circ}\text{C}$ from normal. Heat Wave may be described provided maximum temperature $\geq 37^{\circ}\text{C}$

Warm Night

When maximum temperature remains 40°C

Warm Night: When minimum temperature departure 4.5°C to 6.4°C .

Severe Warm Night: When minimum temperature departure $> 6.4^{\circ}\text{C}$.

Cold Wave

When minimum temperature of a station $\leq 10^{\circ}\text{C}$ for plains and $\leq 0^{\circ}\text{C}$ for hilly regions.

(a). Based on departure

Cold Wave: Minimum Temperature Departure from normal -4.5°C to -6.4°C .

Severe Cold Wave: Minimum Temperature Departure from normal $\leq -6.5^{\circ}\text{C}$

(b) Based on actual Minimum Temperature (for Plains only)

Cold Wave: When Minimum Temperature is $\leq 4.0^{\circ}\text{C}$

Severe Cold Wave: When Minimum Temperature is $\leq 2.0^{\circ}\text{C}$

(c) For Coastal Stations

When Minimum Temperature departure is $\leq -4.5^{\circ}\text{C}$ & actual Minimum Temperature is $\leq 15^{\circ}\text{C}$

Cold Day

When minimum temperature of a station $\leq 10^{\circ}\text{C}$ for plains and $\leq 0^{\circ}\text{C}$ for hilly regions

Based on departure

Cold Day: Maximum Temperature Departure from normal -4.5°C to -6.4°C .

Severe Cold Day: Maximum Temperature Departure from normal $\leq -6.5^{\circ}\text{C}$

Fog

Phenomenon of small droplets suspended in air and the horizontal visibility $< 1\text{ km}$

Moderate Fog: When the visibility between 500-200 metres

Dense Fog: when the visibility between 50- 200 metres

Very Dense Fog: when the visibility < 50 metres

Thunderstorm

Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)

Dust/Sand Storm

An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.

Frost

Ice deposits on ground

Air temperature $\leq 4^{\circ}\text{C}$ (over Plains)

Squall

A strong wind that rises suddenly, lasts for atleast 1 minute.

Moderate: Wind speed 52-61 kmph

Severe: Wind speed 62-87 kmph

Very Severe: Wind speed > 87 kmph

Sea State

Effect of various waves in the sea over specific area

Rough to very rough: Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre

High to very high: Wind speed 63-117 kmph (34-63 knots) & Wave height 6-14 metre

Phenomenal: Wind speed > 117 kmph (> 63 knots) & Wave height > 14 metre

Cyclone

Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots)

Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)

Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots)

Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots)

Super Cyclone Strom: Wind speed > 220 kmph (> 119 knots)

* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.
For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599
(Service to the Nation since 1875)