



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 09<sup>th</sup> September, 2024

Time of Issue: 1330 hours IST

**Subject: Under the influence of Deep Depression over Northwest Bay of Bengal heavy to very heavy rainfall at a few places and extremely heavy rainfall at isolated places over south Odisha, east Vidarbha, south Chhattisgarh on 9<sup>th</sup> September and over East Madhya Pradesh on 10<sup>th</sup> September**

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

**Heavy to very heavy rainfall with isolated extremely heavy falls** at a few places over Chhattisgarh, Odisha, East Rajasthan **Heavy to very heavy rainfall** at isolated places over Vidarbha; **Heavy rainfall** at isolated places over Haryana, West Madhya Pradesh, Assam & Meghalaya, Madhya Maharashtra, Gujarat Region, Coastal Karnataka.

**Weather Systems:**

- ✓ Yesterday's depression over Westcentral & adjoining Northwest Bay of Bengal concentrated into a Deep Depression over Northwest & adjoining Westcentral Bay of Bengal at 2330 hours IST of yesterday. It moved nearly north-northwestwards and lay centred at 0830 hours IST of today, the 9<sup>th</sup> September, 2024 over northwest Bay of Bengal near latitude 19.6°N and longitude 86.2°E, about 50 km east-southeast of Puri (Odisha), 90 km southwest of Paradip (Odisha), 140 km east-northeast of Gopalpur (Odisha), 140 km south-southwest of Chandbali (Odisha), 260 km east-northeast of Kalingapatnam (Andhra Pradesh) and 260 km south-southwest of Digha (West Bengal). It is very likely to move nearly northwestwards and cross Odisha coast near Puri during next 3 hours of today, the 9<sup>th</sup> September, 2024. Continuing to move further northwestwards across Odisha, it is likely to maintain its intensity of Deep Depression till evening and weaken gradually into a Depression by midnight of today, the 9<sup>th</sup> September. Thereafter, it is likely to move west-northwestwards across Chhattisgarh during subsequent 24 hours.
- ✓ A trough runs from Southwest Uttar Pradesh to the centre of Deep Depression over northwest Bay of Bengal across north Madhya Pradesh, Chhattisgarh & Odisha and extends upto 3.1 km above mean sea level tilting southwards with height
- ✓ The **monsoon trough** is south of its normal position at mean sea level. It is likely to continue so for next 3-4 days.

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

❖ **South Peninsular India:**

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Coastal Karnataka, Kerala & Mahe, Lakshadweep; Scattered to Fairly widespread light/moderate rainfall over Coastal Andhra Pradesh & Yanam, Telangana; isolated to scattered rainfall

over Rayalaseema, Tamil Nadu, Puducherry & Karaikal and Interior Karnataka during the week.

- ✓ Isolated **very heavy rainfall** very likely over Telangana and Coastal Andhra Pradesh & Yanam on 09<sup>th</sup> September.
- ✓ Isolated **heavy rainfall** very likely over Kerala and Mahe, South Interior Karnataka, Coastal Andhra Pradesh & Yanam on 09<sup>th</sup> & 10<sup>th</sup>; Coastal Karnataka during 09<sup>th</sup>-11<sup>th</sup> September.

### East & Northeast India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Nagaland, Manipur, Mizoram & Tripura, Andaman & Nicobar Islands, West Bengal & Sikkim, Odisha during the week; Scattered to Fairly widespread light/moderate rainfall very likely over Arunachal Pradesh, Assam & Meghalaya, Bihar during the week.
- ✓ **Isolated extremely heavy rainfall very likely over Odisha on 09<sup>th</sup> September.**
- ✓ Isolated **very heavy rainfall** very likely over Odisha on 10<sup>th</sup>; Meghalaya on 12<sup>th</sup> & 13<sup>th</sup>; Nagaland, Manipur, Mizoram & Tripura during 11<sup>th</sup> -13<sup>th</sup> September.
- ✓ Isolated **heavy rainfall** very likely over Jharkhand during 09<sup>th</sup> -13<sup>th</sup>; Gangetic West Bengal and Arunachal Pradesh during 10<sup>th</sup>-13<sup>th</sup>; Sub-Himalayan West Bengal & Sikkim, Bihar during 11<sup>th</sup> -13<sup>th</sup>; Odisha on 11<sup>th</sup>; Assam & Meghalaya during 10<sup>th</sup>-14<sup>th</sup>; Nagaland, Manipur, Mizoram & Tripura during 09<sup>th</sup>-13<sup>th</sup> September.

### West & Central India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over West and Central India during the week.
- ✓ **Isolated extremely heavy rainfall very likely over Vidarbha, Chhattisgarh on 09<sup>th</sup> and over East Madhya Pradesh on 10<sup>th</sup> September.**
- ✓ **Isolated very heavy rainfall very likely over** West Madhya Pradesh on 10<sup>th</sup> & 11<sup>th</sup>; East Madhya Pradesh during 09<sup>th</sup> -11<sup>th</sup>; Vidarbha on 10<sup>th</sup> September.
- ✓ Isolated **heavy rainfall** very likely over Madhya Pradesh during next 7 days; Chhattisgarh on 10<sup>th</sup>; Vidarbha, Konkan & Goa, ghats area of Madhya Maharashtra, Gujarat Region during 09<sup>th</sup> -11<sup>th</sup> September.

### Northwest India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Uttarakhand, East Rajasthan, Uttar Pradesh; isolated to scattered rainfall over the remaining region during the week.
- ✓ Isolated **very heavy rainfall** very likely over East Uttar Pradesh on 10<sup>th</sup> & 11<sup>th</sup>; West Uttar Pradesh during 11<sup>th</sup> -13<sup>th</sup>; East Rajasthan on 11<sup>th</sup> & 12<sup>th</sup>; Haryana on 12<sup>th</sup>; Uttarakhand on 12<sup>th</sup> & 13<sup>th</sup> September.
- ✓ Isolated **heavy rainfall** very likely over East Rajasthan during next 7 days; West Uttar Pradesh, Uttarakhand during 09<sup>th</sup> -14<sup>th</sup>; East Uttar Pradesh during 10<sup>th</sup> -14<sup>th</sup> and over Haryana on 11<sup>th</sup> September.

**Wind warning**

- ✓ Squally weather with wind speed reaching 55-65 kmph gusting to 75 kmph is prevailing over Northwest and adjoining westcentral Bay of Bengal and along & off Andhra Pradesh-Odisha-West Bengal coasts and is likely to continue next 3 hours. It is likely to decrease, gradually becoming 45-55 kmph gusting to 65 kmph by evening of 9th September. It will decrease gradually thereafter.
- ✓ Squally weather with wind speed reaching 45-55 kmph gusting to 65 kmph is likely over interior districts of north Odisha and adjoining districts of Jharkhand and north Chhattisgarh from noon to midnight of 09th September. It will decrease gradually thereafter.

**Sea Condition:**

- ✓ Rough to very rough sea condition over Northwest and adjoining westcentral Bay of Bengal and along & off Andhra Pradesh-Odisha-West Bengal coasts till evening of 9th and rough sea condition on 10th September. It is likely to improve gradually thereafter.

**For more details, kindly refer:**

[https://mausam.imd.gov.in/responsive/all\\_india\\_forecast\\_bulletin.php](https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php)

**For District wise warnings refer:**

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

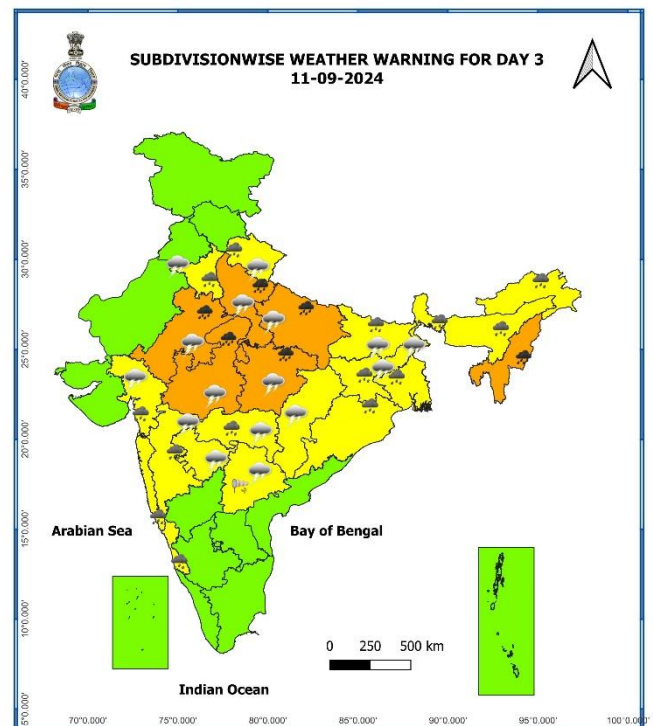
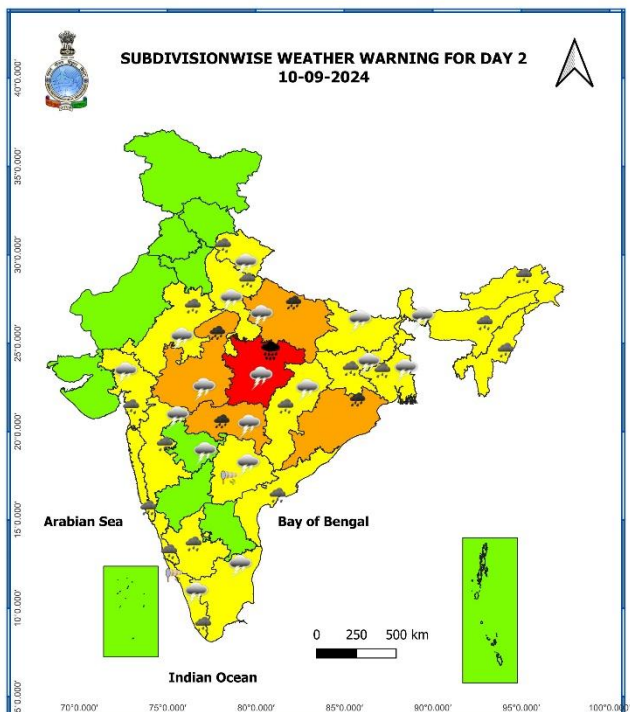
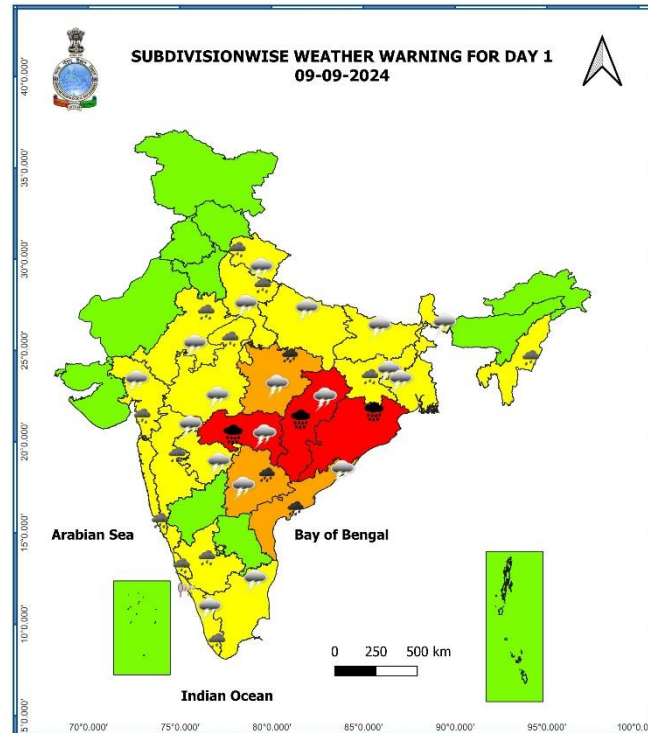
**Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 09.09.2024 (in cm):**

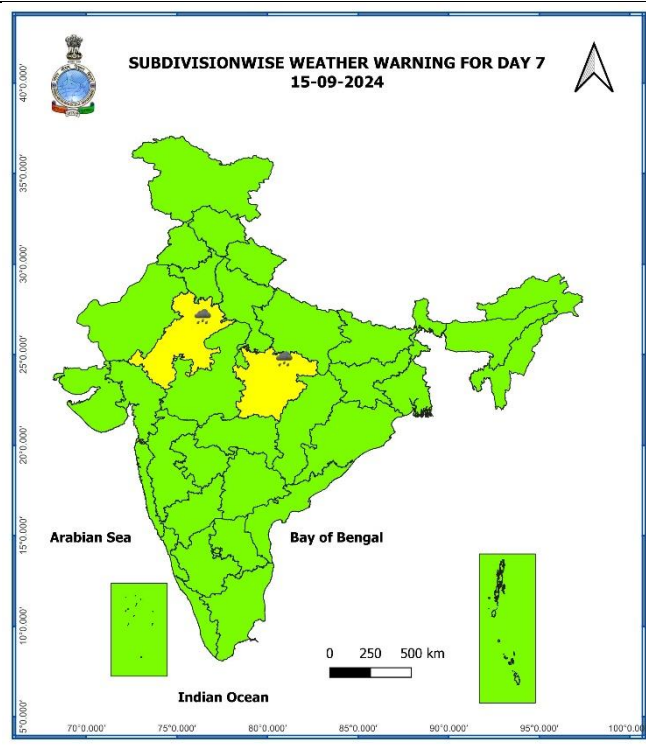
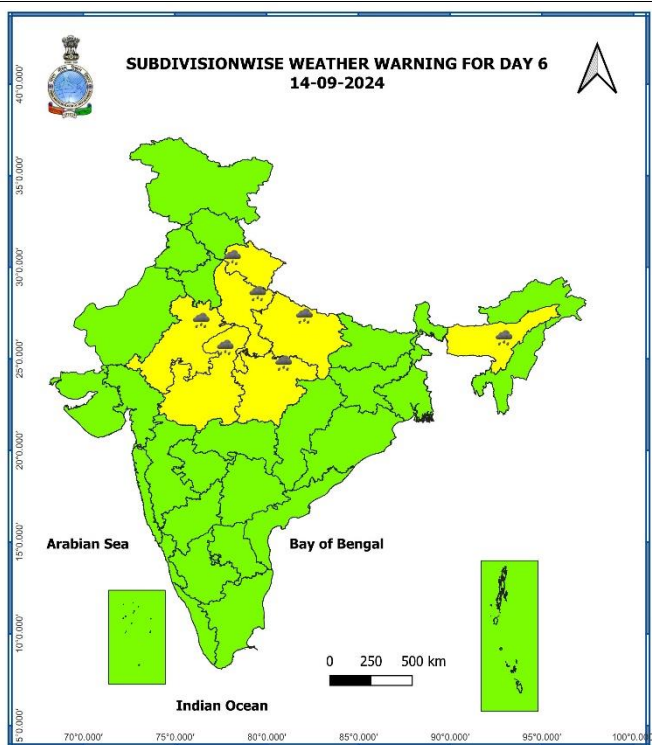
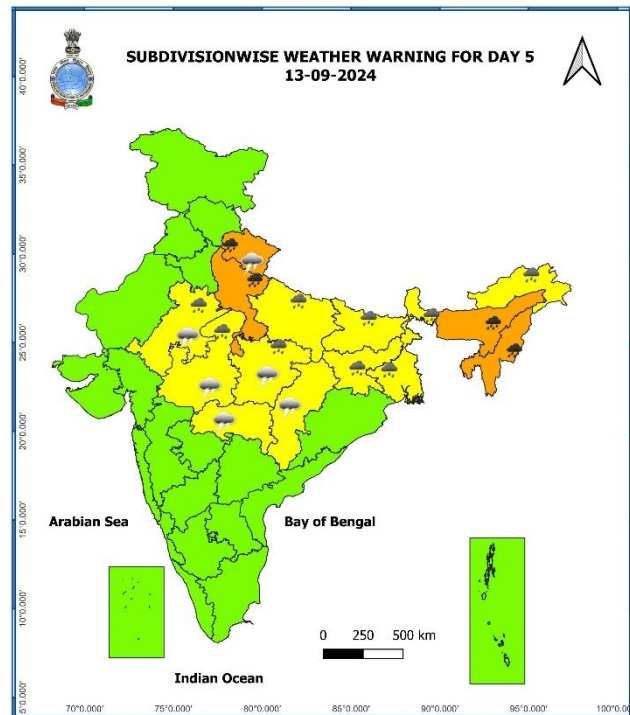
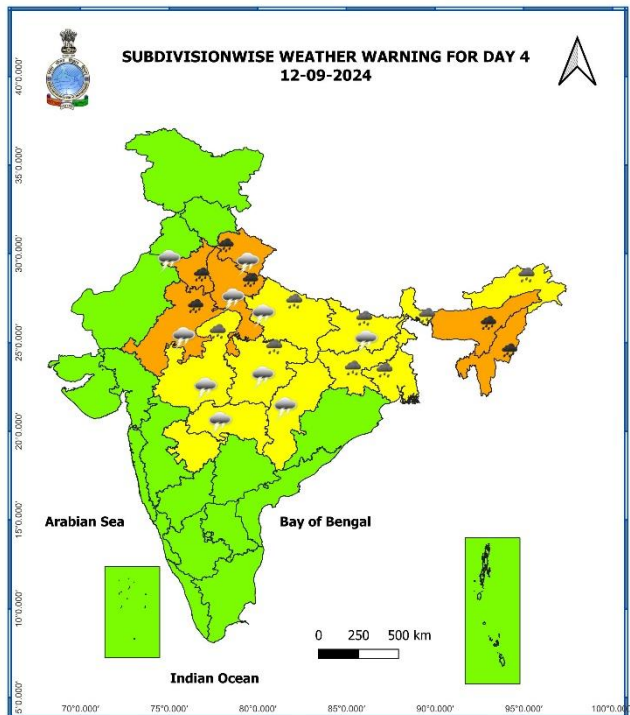
- ❖ **Odisha:** Malkangiri ( Malkangiri) 25, Chitrakunda K Guma ( Malkangiri) 23, Korukunda ( Malkangiri) 20, Mathili ( Malkangiri) 15, Lamataput ( Koraput) 13, Ambadola ( Rayagada) 12, Padia ( Malkangiri) 10, Chhatrapur ( Ganjam) 10, Digapahandi ( Ganjam) 9, Gopalpur ( Ganjam) 9, Jeypore ( Koraput) 9, Similiguda ( Koraput) 9, Madanpur Rampur ( Kalahandi) 8, Ranpur (Nayagarh) 8, Kotpad ( Koraput) 8, Chikiti ( Ganjam) 8, Nandapur ( Koraput) 8, Lanjigarh (Kalahandi) 8, Ullunda ( Sonapur) 7, Nandahandi ( Nawarangpur) 7, Ganjam ( Ganjam) 7, Berhampur ( Ganjam) 7, Rangeilunda ( Ganjam) 7, Chandahandi ( Nawarangpur) 7, Koksara (Kalahandi) 7, Koraput ( Koraput) 7, Th Rampur ( Kalahandi) 7, Udala ( Mayurbhanj) 7, Nawana (Mayurbhanj) 7,
- ❖ **East Rajasthan:** Nagar Sr (dist Bharatpur) 22, Pahari Sr (dist Bharatpur) 12, Pratapgarh (dist Pratapgarh) 9, Dausa (dist Dausa) 9, Dhambola (dist Dungarpur) 9, Nithuwa Sr (dist Dungarpur) 9, Bagidora Sr (dist Banswara) 8, Baran (dist Baran) 7, Kishanganj (dist Baran) 7,
- ❖ **Chhattisgarh:** Bhairamgarh (dist Bijapur) 21, Bijapur (dist Bijapur) 21, Kutaru (dist Bijapur) 21, Chhotedongar (dist Narayanpur) 20, Orcha (dist Narayanpur) 20, Kohkameta (dist Narayanpur) 20, Narayanpur (dist Narayanpur) 19, Tongpaal (dist Sukma) 18, Sukma (dist Sukma) 17, Gangalur (dist Bijapur) 16, Gadiras (dist Sukma) 14, Gidam (dist Dantewada) 14, Bastanar (dist Bastar) 14, Antagarh (dist Kanker) 14, Bade Bacheli (dist Dantewada) 13, Dantewara (dist Dantewada) 11, Dornapal (dist Sukma) 11, Kuakonda (dist Dantewada) 11, Pakhanjur (dist Kanker) 11, Jagargunda (dist Sukma) 11, Bhopalpatnam (dist Bijapur) 10, Dhanora (dist Kondagaon) 10, Nangur (dist Bastar) 10, Bhanupratappur (dist Kanker) 10, Konta (dist Sukma) 10, Kanker (dist Kanker) 10, Pharasgaon (dist Kondagaon) 10, Keshkal (dist Kondagaon) 9, Usoor (dist Bijapur) 9, Lohandiguda (dist Bastar) 9, Charama (dist Kanker) 8, Barsur (dist Dantewada) 7, Baderajpur (dist Kondagaon) 7, Belargaon (dist Dhamtari) 7,
- ❖ **Vidarbha** Bhamragad (dist Gadchiroli) 16, Etapalli (dist Gadchiroli) 7, Ahiri (dist Gadchiroli) 7,
- ❖ **Coastal Andhra Pradesh & Yanam:** Chintapalle (dist Alluri Sitharamaraju) 13, Ranastalam (dist Srikakulam) 11, Pusapatirega (dist Vizianagaram) 10, Bondapalle (dist Vizianagaram) 10, Bheemunipatnam (dist Vishakhapatnam) 10, Merakamudidam (dist Vizianagaram) 9, Cheepurupalle (dist Vizianagaram) 9, Visakhapatnam Ap (dist Vishakhapatnam) 9, Garividi (dist Vizianagaram) 9, Denkada (dist Vizianagaram) 8, Visakhapatnam (dist Vishakhapatnam) 8, Narsipatnam (dist Anakapalli) 8, Gajapathinagaram (dist Vizianagaram) 8, Srungavarapukota (dist Vizianagaram) 8, Vepada (dist Vizianagaram) 7, Vizianagaram (dist Vizianagaram) 7, Yelamanchili (dist Anakapalli) 7, Chodavaram (dist Anakapalli) 7, Tuni (dist Kakinada) 7, Therlam (dist Vizianagaram) 7, Araku Valley (dist Alluri Sitharamaraju) 7,
- ❖ **Haryana:** Nagina Rev (dist Nuh) 10,
- ❖ **Assam & Meghalaya:** B P Ghat (dist Karimganj) 8, A P Ghat (dist Cachar) 7,
- ❖ **Coastal Karnataka:** Shirali Pto (dist Uttara Kannada) 8,
- ❖ **West Madhya Pradesh:** Karera (dist Shivpuri) 8, Satwas (dist Dewas) 8, Sanjeet (dist Mandsaur) 7,

7 Days Rainfall Forecast								
S. No.	Subdivision	09-Sep	10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	FWS	FWS	FWS	FWS	FWS	FWS	FWS
2	ARUNACHAL PRADESH	SCT	SCT	FWS	FWS	FWS	SCT	SCT
3	ASSAM & MEGHALAYA	SCT	FWS	FWS	FWS	FWS	SCT	SCT
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	FWS	WS	WS	WS	FWS	FWS	FWS
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	SCT	FWS	WS	WS	WS	WS	FWS
6	GANGETIC WEST BENGAL	FWS	WS	WS	WS	WS	WS	FWS
7	ODISHA	WS	WS	FWS	FWS	FWS	SCT	SCT
8	JHARKHAND	FWS	WS	WS	WS	FWS	FWS	FWS
9	BIHAR	SCT	SCT	FWS	FWS	FWS	FWS	SCT
10	EAST UTTAR PRADESH	SCT	WS	WS	WS	FWS	FWS	SCT
11	WEST UTTAR PRADESH	SCT	FWS	WS	WS	FWS	SCT	ISOL
12	UTTARAKHAND	FWS	FWS	FWS	WS	WS	WS	FWS
13	HARYANA CHANDIGARH & DELHI	SCT	SCT	SCT	FWS	SCT	ISOL	ISOL
14	PUNJAB	ISOL	ISOL	ISOL	SCT	ISOL	ISOL	ISOL
15	HIMACHAL PRADESH	ISOL	SCT	ISOL	ISOL	ISOL	ISOL	ISOL
16	JAMMU & KASHMIR AND LADAKH	ISOL	ISOL	DRY	DRY	DRY	ISOL	ISOL
17	WEST RAJASTHAN	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
18	EAST RAJASTHAN	WS	FWS	FWS	FWS	SCT	SCT	SCT
19	WEST MADHYA PRADESH	FWS	FWS	FWS	WS	WS	FWS	FWS
20	EAST MADHYA PRADESH	FWS	FWS	WS	WS	FWS	FWS	FWS
21	GUJARAT REGION	SCT	SCT	SCT	SCT	SCT	ISOL	ISOL
22	SAURASHTRA & KUTCH	WS	WS	WS	WS	WS	SCT	SCT
23	KONKAN & GOA	WS	WS	WS	WS	WS	WS	WS
24	MADHYA MAHARASHTRA	SCT	SCT	SCT	FWS	FWS	FWS	SCT
25	MARATHAWADA	WS	FWS	SCT	FWS	FWS	SCT	SCT
26	VIDARBHA	FWS	WS	WS	FWS	FWS	SCT	FWS
27	CHHATTISGARH	WS	WS	FWS	SCT	SCT	SCT	SCT
28	COASTAL ANDHRA PRADESH & YANAM	FWS	SCT	SCT	ISOL	ISOL	SCT	SCT
29	TELANGANA	FWS	SCT	SCT	ISOL	ISOL	ISOL	ISOL
30	RAYALASEEMA	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
32	COASTAL KARNATAKA	WS	WS	WS	WS	FWS	SCT	SCT
33	NORTH INTERIOR KARNATAKA	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
34	SOUTH INTERIOR KARNATAKA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
35	KERALA & MAHE	WS	WS	WS	FWS	FWS	SCT	SCT
36	LAKSHADWEEP	WS	WS	FWS	FWS	FWS	SCT	SCT

- As the lead period increases forecast accuracy decreases.

## ANNEXURE III





- 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.

## Impact due to

- ✓ Isolated **extremely heavy rainfall** very likely over Odisha, Vidarbha, Chhattisgarh on 09<sup>th</sup> and over East Madhya Pradesh on 10<sup>th</sup> September.
- ✓ **Very heavy rainfall** at isolated over Telangana and Coastal Andhra Pradesh & Yanam on 09<sup>th</sup>; East Uttar Pradesh on 10<sup>th</sup> & 11<sup>th</sup>; West Uttar Pradesh, Nagaland, Manipur, Mizoram & Tripura during 11<sup>th</sup> -13<sup>th</sup>; East Rajasthan on 11<sup>th</sup> & 12<sup>th</sup>; Haryana on 12<sup>th</sup>; Uttarakhand, Meghalaya on 12<sup>th</sup> & 13<sup>th</sup> September. West Madhya Pradesh on 10<sup>th</sup> & 11<sup>th</sup>; East Madhya Pradesh during 09<sup>th</sup> -11<sup>th</sup>; Vidarbha, Odisha on 10<sup>th</sup> September.
- ✓ **Low to moderate flash flood risk** likely over few watersheds & neighbourhoods of Coastal Andhra Pradesh & Yanam, Vidarbha, Chhattisgarh, Odisha on 09<sup>th</sup> & 10<sup>th</sup> September. **(ANNEXURE IV)**

## Impact Expected

- ✓ 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.
- ✓ Reduction of visibility over sea and adjoining coastal areas due to sea spray induced by strong wind and heavy rainfall.
- ✓ Disruption of traffic in major cities due to water logging in roads leading to increased travel time.
- ✓ Minor damage to kutcha roads.
- ✓ Possibilities of damage to vulnerable structure.
- ✓ Localized Landslides/Mudslides/landslips/mud slips/land sinks/mud sinks.
- ✓ Damage to horticulture and standing crops in some areas due to inundation.
- ✓ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)
- ✓ Uprooting of small trees and breaking of tree branches e.g. Banana, Papaya, Moringa, Orchards and etc. along coastal districts of North Odisha & adjoining West Bengal.

## Action Suggested

- ✓ Fishermen are advised not to venture into Northwest and adjoining Northeast & Central Bay of Bengal; along & off Andhra Pradesh-Odisha-West Bengal coasts till 10<sup>th</sup> September.
- ✓ Judicious regulation of offshore/onshore Operations
- ✓ 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 for Heavy Rainfall likely over various parts of the country

- Postpone transplanting of rice in North Coastal **Andhra Pradesh**.
- Drain out excess water from rice, finger millet, maize and groundnut in **Odisha**; from rice, maize, sugarcane, black gram, horse gram and niger crops in **Chhattisgarh**; from rice, cotton, soybean, pigeon pea, orchards and vegetables in **Vidarbha**; from maize, sorghum, pearl millet, groundnut, pulses and vegetables in **East Rajasthan**; from cotton, maize, soybean, pulses and vegetables in **East Madhya Pradesh** to prevent water logging.
- Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Uttarakhand, West Madhya Pradesh, Konkan & Goa, Madhya Maharashtra, Gujrat region, Kerala and Coastal Karnataka.
- Provide mechanical support to horticultural crops & staking to vegetables.
- Keep the harvested produce at safer place

**Flash Flood Guidance:**

24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 10-09-2024 :

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

Coastal AP & Yanam - East Godavari, Srikakulam, Vishakhapatnam and Vizianagaram districts.

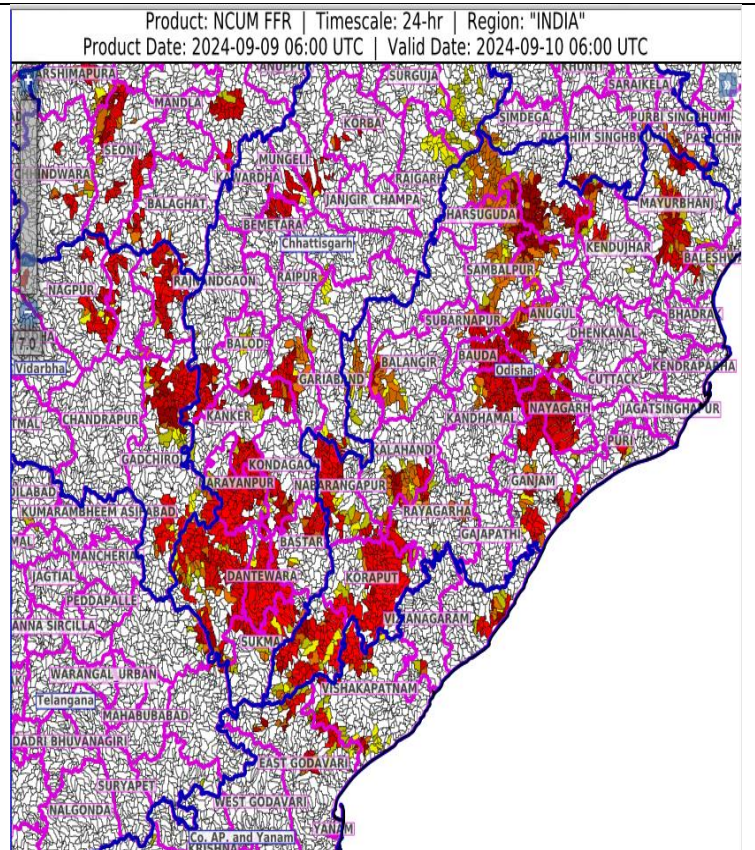
Vidarbha - Bhandara, Gadchiroli, Gondiya and Nagpur

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

Chhattisgarh - Balod, Bastar, Bemetara, Bijapur, Bilaspur, Dantewara, Dhamtari, Gariaband, Kanker, Kondagaon, Mungeli, Narayanpur and Sukma districts.

Odisha - Balangir, Baleshwar, Bauda, Deogarh, Ganjam, Jagatsinghapur, Kalahandi, Kandhamal, Kendujhar, Koraput, Malkangiri, Mayurbhanj, Nabarangapur, Nayagarh, Nuaparha, Puri, Rayagarha, Sambalpur, Subarnapur and Sundargarh 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.

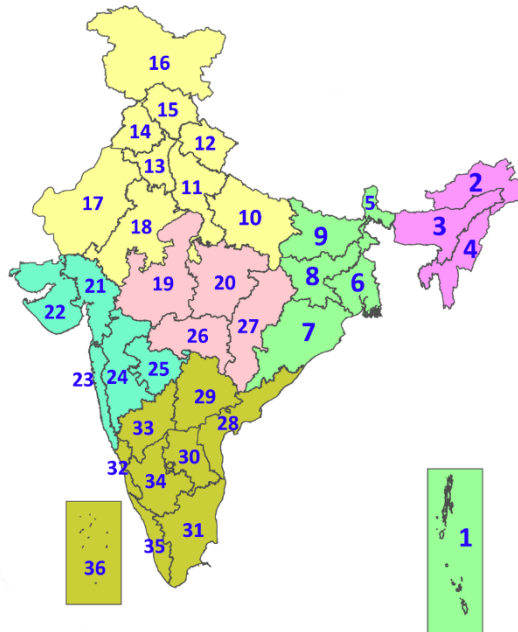


## Legends & abbreviations:

- ❖ **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.

## 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  $4.5^{\circ}\text{C}$  to  $6.4^{\circ}\text{C}$ .

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  $40^{\circ}\text{C}$

Warm Night: When minimum temperature departure  $4.5^{\circ}\text{C}$  to  $6.4^{\circ}\text{C}$ .

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  $-4.5^{\circ}\text{C}$  to  $-6.4^{\circ}\text{C}$ .

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  $-4.5^{\circ}\text{C}$  to  $-6.4^{\circ}\text{C}$ .

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)

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