



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 17th September, 2024

Time of Issue: 1300 hours IST

Subject: The depression over Northeast Chhattisgarh and adjoining Jharkhand is likely to move nearly west-northwestwards and cause heavy to very heavy rainfall over north Madhya Pradesh & southeast Uttar Pradesh today.

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

Heavy to very heavy rainfall at isolated places over Jharkhand, Chhattisgarh, East Madhya Pradesh, Odisha; **Heavy rainfall** at isolated places over East Uttar Pradesh, Gangetic West Bengal & Bihar.

Weather Systems:

- ✓ Yesterday's **deep depression** over Gangetic West Bengal & adjoining Jharkhand weakened into a **depression** over Jharkhand and adjoining north Chhattisgarh at 0530 hours IST of today. It moved west-northwestwards and lay centered at 0830 hours IST of today over Northeast Chhattisgarh and adjoining Jharkhand near latitude 23.7° N and longitude 83.7° E, around 50 km southwest of Daltonganj (Jharkhand), 80 km northeast of Ambikapur (Chhattisgarh), 200 km east-southeast of Sidhi (Madhya Pradesh), 210 km east-northeast of Pendra Road (Chhattisgarh) and 290 km east of Umaria (Madhya Pradesh). It is likely to continue to move west-northwestwards across north Chhattisgarh, south Uttar Pradesh and adjoining northeast Madhya Pradesh and weaken into a **Well-Marked Low Pressure** Area during next 12 hours.
- ✓ The western end of monsoon trough is north of its normal position and eastern end is south of its normal position.

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

Central India:

- ✓ Scattered to Fairly Widespread light to moderate rainfall very likely over Madhya Pradesh, Vidarbha, Chhattisgarh during the week.
- ✓ Isolated **very heavy rainfall** very likely over north Madhya Pradesh on 17th September and isolated **heavy rainfall** very likely over Northwest Madhya Pradesh on 18th and over North Chhattisgarh on 17th September.

Northwest India

- ✓ Scattered to Fairly widespread light to moderate rainfall very likely over Uttarakhand & Uttar Pradesh and East Rajasthan on 17th & 18th and isolated light rainfall during subsequent 5 days; Isolated to scattered light/moderate rainfall very likely over the remaining region during the week.
- ✓ Isolated **very heavy rainfall** very likely over southeast Uttar Pradesh on 17th September and heavy rainfall on 18th September.
- ✓ Isolated **heavy rainfall** very likely over Uttarakhand & west Uttar Pradesh on 17th & 18th; Haryana and East Rajasthan on 18th September.

East & Northeast India

- ✓ Fairly widespread to Widespread light/moderate rainfall very likely over Andaman & Nicobar Islands; Isolated to scattered light/moderate rainfall very likely over East & Northeast India during the week.
- ✓ Isolated **heavy rainfall** very likely over Andaman & Nicobar Islands during 17th-20th; Bihar & Jharkhand on 17th; Assam & Meghalaya on 19th; Nagaland, Manipur, Mizoram & Tripura on 18th & 19th September.

West & South Peninsular India

- ✓ Fairly Widespread to Widespread light/moderate rainfall very likely over Konkan & Goa; Isolated to scattered light/moderate rainfall very likely over remaining region during the week.

Wind warning

- ✓ Squally wind speed reaching 40-50 kmph gusting to 60 kmph over North Chhattisgarh and adjoining Southeast Uttar Pradesh & Jharkhand & till 17th September evening and decrease thereafter.

For more details, kindly refer:

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

For District wise warnings refer:

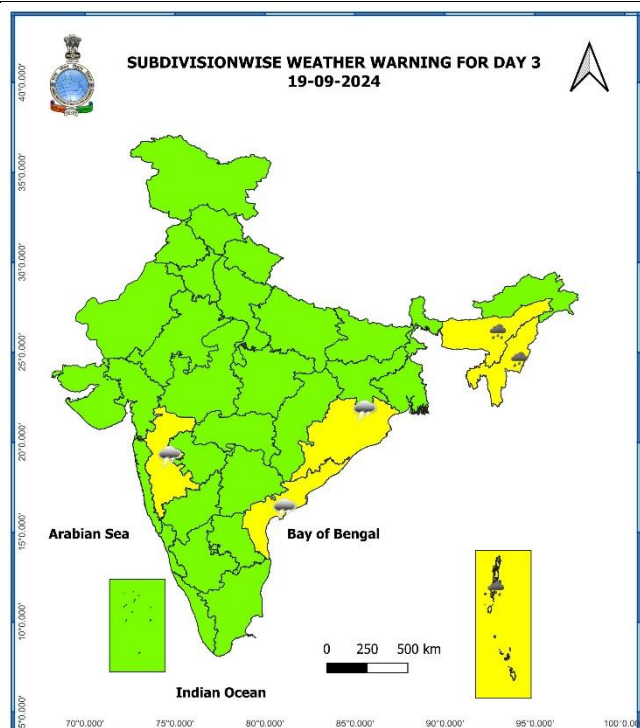
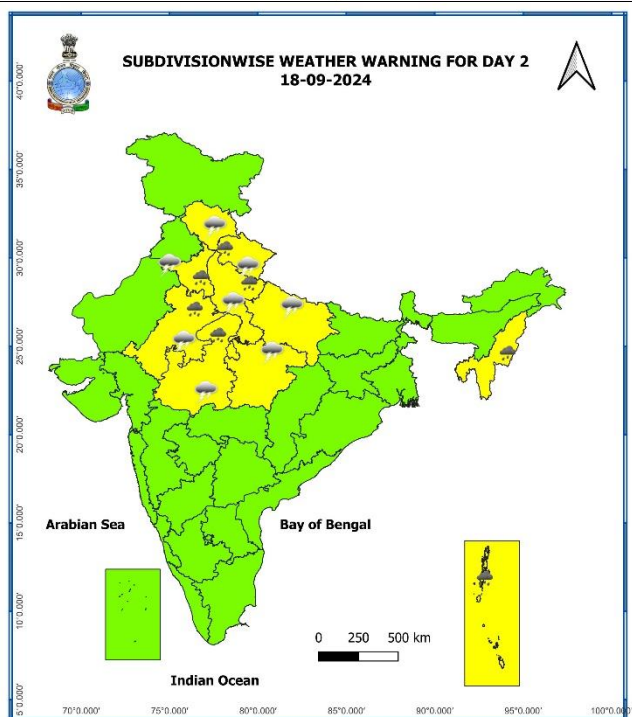
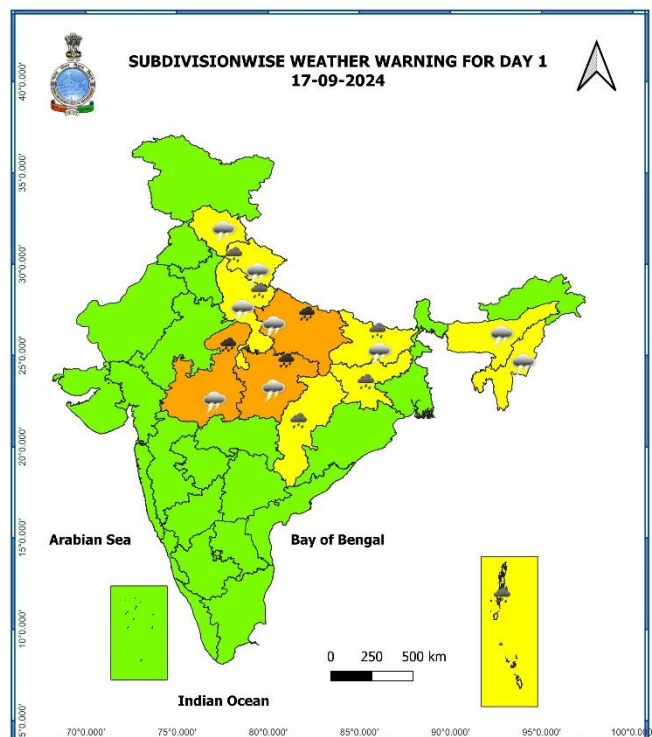
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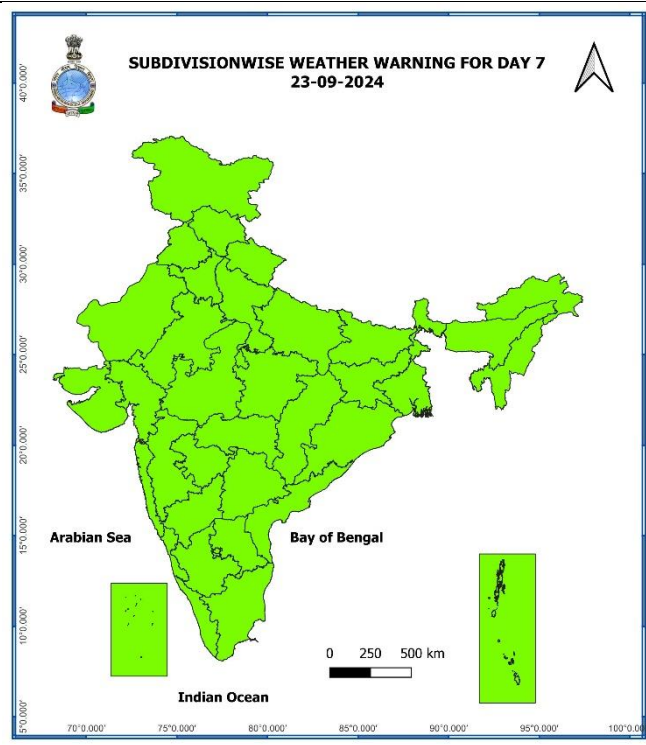
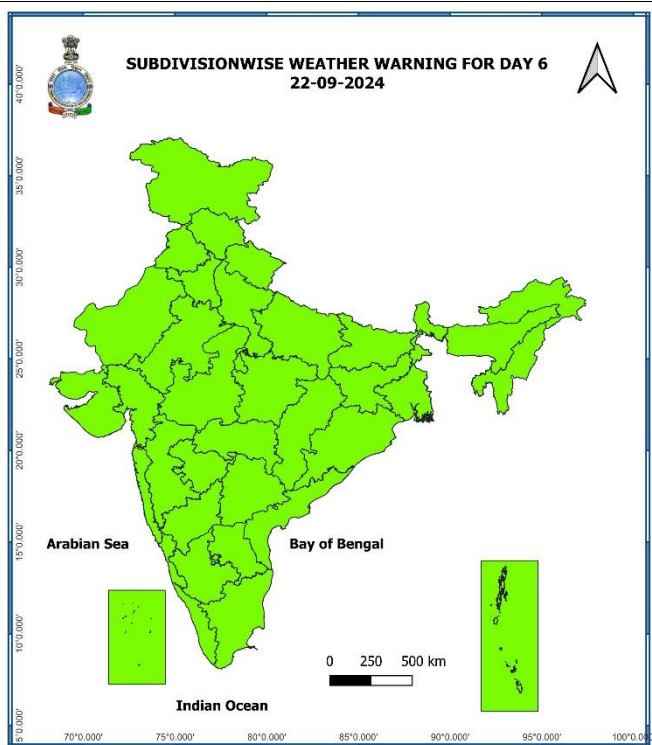
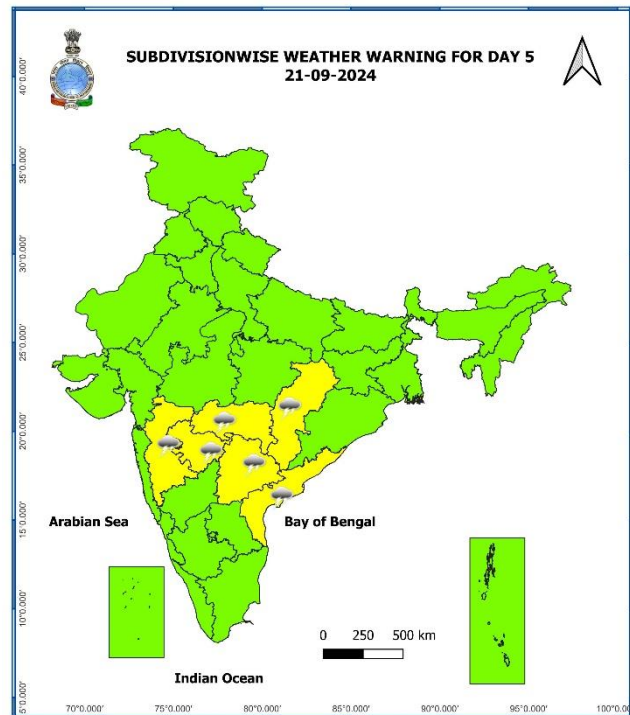
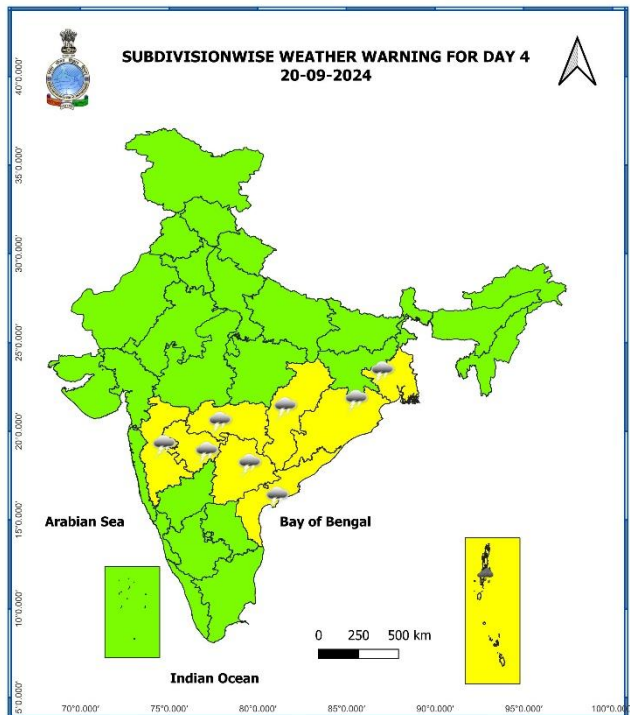
**Significant Rainfall recorded during past 24 hours till 0830 hours IST of today
17.09.2024 (in cm):**

- ❖ **Jharkhand:** Latehar Balumat Kvk Aws (dist Latehar) 20, Nandadih (dist Giridih) 15, Chandankiary (dist Bokaro) 12, Ranchi Aero (dist Ranchi) 12, Garu (dist Latehar) 12, Saryu (dist Latehar) 11, Hendigir (dist Hazaribag) 11, Chakradharpur (dist West Singhbhum) 11, Bariyatu (dist Latehar) 11, Putki (dist Dhanbad) 11, Icar Namkum (dist Ranchi) 10, Nawadih, (dist Bokaro) 10, Pathalgada (dist Chatra) 10, Barkisuriya (dist Giridih) 10, Khalari (dist Ranchi) 9, Mandar (dist Ranchi) 9, Tilaiya (dist Koderma) 9, Giridih Bengbad Kvk Aws (dist Giridih) 9, Narayanpur (dist Jamtara) 9, Ramgarh (dist Ramgarh) 9, Phusro (dist Bokaro) 9, Chandwa (dist Latehar) 9, Ramgarh(bdo) (dist Ramgarh) 9, Bhurkunda (dist Ramgarh) 9, Dumri Dvc (dist Giridih) 9, Jamtara (dist Jamtara) 9, Tuladih (dist Giridih) 8, Jamtara Fmo (dist Jamtara) 8, Balumath (dist Latehar) 8, Sisai (dist Gumla) 8, Murhu (dist Khunti) 8, Parsabad (dist Koderma) 8, Tilaiya Dvc (dist Koderma) 8, Sindri Dvc (dist Dhanbad) 8, Maithon (dist Dhanbad) 7, Mandu (dist Ramgarh) 7, Maithon Dvc (dist Dhanbad) 7, Chandrapura (dist Bokaro) 7, Karmatand (dist Jamtara) 7, Koner Dvc (dist Hazaribag) 7, Gobindpur Dvc (dist Dhanbad) 7, Lohardaga Kvk Aws (dist Lohardaga) 7, Panchet Dvc (dist Dhanbad) 7, Putki Dvc (dist Dhanbad) 7, Daltonganj (dist Palamu) 7, Sadar Chaibasa (dist West Singhbhum) 7, Padma Dvc (dist Hazaribag) 7, Goilkeria (dist West Singhbhum) 7, Shilaichak (dist Chatra) 7, Palganj (dist Giridih) 7, Koderma Dvc (dist Koderma) 7,
- ❖ **Chhattisgarh:** Kusmi (dist Balrampur) 15, Ramchandrapur (dist Balrampur) 14, Samari (dist Balrampur) 12, Biharpur (dist Surajpur) 12, Ramanujganj (dist Balrampur) 11, Odagi (dist Surajpur) 9, Sonhat (dist Koriya) 9, Chando (dist Balrampur) 9, Pondi Bachra (dist Koriya) 8, Balrampur (dist Balrampur) 8, Rajpur (dist Balrampur) 7, Bhaiyathan (dist Surajpur) 7, Manora (dist Jashpur) 7, Pasaan (dist Korba) 7,
- ❖ **East Madhya Pradesh:** Churhat (dist Sidhi) 14, Panagar (dist Jabalpur) 12, Bilhari (dist Katni) 10, Jabalpur-aws (dist Jabalpur) 10, Bargi (dist Jabalpur) 10, Mada (dist Singrauli) 9, Bijadandi (dist Mandla) 7, Sarai (dist Singrauli) 7, Nowrozabad (dist Umaria) 7, Chitrangi (dist Singrauli) 7,
- ❖ **Odisha:** Bhandaripokhari (Bhadrak) 12, Bari (Jajpur) 12, Kantapada (Cuttack) 10, Akhuapada (Bhadrak) 10, Dhamnagar (Bhadrak) 10, Jajpur (Jajpur) 10, Jajpur Pto (Jajpur) 9, Biridi (Jagatsinghpur) 9, Tensa (Sundargarh) 9, Binjharpur (Jajpur) 9, Derabis (Kendrapara) 8, Bhadrak (Bhadrak) 8, Balikuda (Jagatsinghpur) 7, Nh5 Gobindpur (Balasore) 7, Betanati (Mayurbhanj) 7, Mahanga (Cuttack) 7,
- ❖ **Gangetic West Bengal:** Kharidwar (dist Purulia) 11, Kansabati Dam (dist Bankura) 9, Tusuma (dist Purulia) 8, Purulia (dist Purulia) 8, Phulberia (dist Purulia) 7,
- ❖ **East Uttar Pradesh:** Rihand Dam Fmo (dist Sonbhadra) 10, Dudhi (dist Sonbhadra) 9, Churk (dist Sonbhadra) 9, Robertsganj (dist Sonbhadra) 8,
- ❖ **Bihar:** Adhwara (dist Bhabua) 9, Rohtas (dist Rohtas) 9, Bhagwanpur (dist Bhabua) 7, Rajpur (dist Rohtas) 7,

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

Impact due to

- ✓ **Very heavy rainfall** at isolated places over East Uttar Pradesh & Madhya Pradesh on 17th September.
- ✓ **Low to Moderate flash flood risk** likely over few watersheds & neighbourhoods of Uttar Pradesh & Madhya Pradesh on 17th & 18th 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.
- ✓ Disruption of traffic in major cities and roadways due to water logging in roads leading to increased travel time.
- ✓ Minor damage to kutchha 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 and wind.
- ✓ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)

Action Suggested

- ✓ 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

- ✓ Drain out excess water from maize, pulses and millets in **Chhattisgarh**; from cotton, maize, soybean, pulses and vegetables in **East Madhya Pradesh**; from rice, groundnut, brinjal, cucurbits and betel vine gardens in **Gangetic West Bengal**; from pulse crops and vegetables in **Jharkhand** to prevent water logging.
- ✓ Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Andaman & Nicobar Islands, Bihar, Uttarakhand, East Uttar Pradesh and West Madhya Pradesh.
- ✓ 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 18-09-2024:**

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

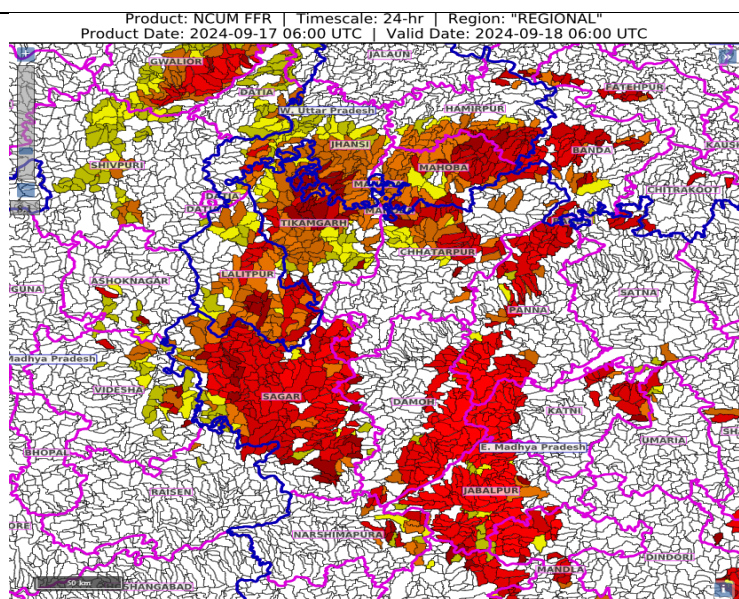
East Uttar Pradesh – Banda district

West Uttar Pradesh - Hamirpur, Jhansi, Lalitpur and Mahoba districts.

East Madhya Pradesh - Chhatarpur, Damoh, Jabalpur, Katni, Mandla, Narshimpura, Panna, Sagar and Seoni districts.

West Madhya Pradesh - Ashoknagar, Bhind, Datia, Gwalior, Shivpuri and Videsha districts.

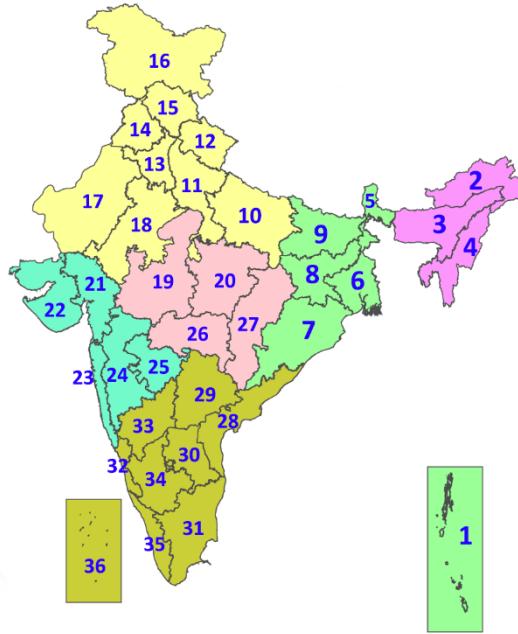
Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.

**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.
 - **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)

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