



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 11th September, 2024

Time of Issue: 1315 hours IST

Subject: Under the influence of Depression over Northeast Madhya Pradesh, heavy to very heavy rainfall likely over Madhya Pradesh, Uttar Pradesh and Uttarakhand during next 3 days and isolated extremely heavy rainfall also likely over West Madhya Pradesh on 11th & 12th, East Madhya Pradesh on 11th, Southwest Uttar Pradesh on 11th-13th, Southeast Uttar Pradesh on 12th, and Uttarakhand on 12th & 13th September, 2024.

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 Madhya Pradesh, **Heavy to very heavy rainfall** at isolated places over Chhattisgarh, Arunachal Pradesh, Gujarat Region; **Heavy rainfall** at isolated places over Himachal Pradesh, Punjab, West Uttar Pradesh, Rajasthan, Jharkhand, Assam & Meghalaya and Telangana.

Weather Systems:

- ✓ The depression lay centred at 0830 hours IST of today, the 11th September over Northeast Madhya Pradesh near latitude 24.0°N and longitude 80.0°E, about 60 km east-northeast of Damoh (Madhya Pradesh), 110 km south of Khajuraho (Madhya Pradesh), 110 km southwest of Satna (Madhya Pradesh) and 210 km southeast of Jhansi (Uttar Pradesh). It is likely to move slowly north-northwestwards during next 24 hrs. The system is under continuous surveillance of Doppler Weather Radar at Bhopal (Madhya Pradesh).
- ✓ The **monsoon trough** is active and south of its normal position at mean sea level. It is likely to continue so for next 3-4 days.
- ✓ A cyclonic circulation lies over south Gujarat at middle tropospheric levels.

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

Northwest India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Uttarakhand, East Rajasthan, Uttar Pradesh, Himachal Pradesh; isolated to scattered rainfall over the remaining region during the week.
- ✓ **Isolated extremely heavy rainfall** very likely over West Uttar Pradesh during 11th -13th; Uttarakhand on 12th & 13th; East Uttar Pradesh on 12th September.
- ✓ Isolated **very heavy rainfall** very likely over Uttarakhand, West Uttar Pradesh, East Rajasthan during 11th - 13th; East Uttar Pradesh on 11th & 12th September.
- ✓ Isolated **heavy rainfall** very likely over Punjab on 11th; Uttar Pradesh, East Rajasthan during 11th -15th; Uttarakhand, Haryana-Chandigarh during 11th - 14th; Himachal Pradesh on 12th & 13th; West Rajasthan on 11th & 12th September.

West & Central India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Central India and Konkan & Goa, Gujarat Region during the week; Isolated to Scattered light/moderate rainfall very likely over Madhya Maharashtra, Marathwada, Saurashtra & Kutch during the week.
- ✓ **Isolated extremely heavy rainfall** very likely over West Madhya Pradesh on 11th & 12th; East Madhya Pradesh on 11th September.
- ✓ **Isolated very heavy rainfall very likely over** West Madhya Pradesh in 13th & 14th; East Madhya Pradesh on 12th; Gujarat Region on 11th September.
- ✓ Isolated **heavy rainfall** very likely over Konkan & Goa on 11th; Madhya Maharashtra on 11th & 12th; Madhya Pradesh during 11th -15th; Chhattisgarh during 15th -17th September.

East & Northeast India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Nagaland, Manipur, Mizoram & Tripura, Assam & Meghalaya, Andaman & Nicobar Islands, West Bengal & Sikkim, Jharkhand during the week; Scattered to Fairly widespread light/moderate rainfall very likely over Arunachal Pradesh, Bihar, Odisha during the week.
- ✓ Isolated **very heavy rainfall** very likely over Assam & Meghalaya on 11th, 13th & 14th; Nagaland, Manipur, Mizoram & Tripura during 13th & 14th; Gangetic West Bengal on 13th; Jharkhand on 14th September.
- ✓ Isolated **heavy rainfall** very likely over Assam & Meghalaya during next 7 days; Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura during 11th-16th; Gangetic West Bengal during 12th-14th; Sub-Himalayan West Bengal & Sikkim on 13th; Bihar, Odisha on 13th & 14th; Jharkhand during 13th -15th September.

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.

Wind warning

Strong wind speed reaching 30-40 kmph gusting to 50 kmph is likely to prevail over North Madhya Pradesh and adjoining South Uttar Pradesh during next 24 hours.

For more details, kindly refer:

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

For District wise warnings refer:

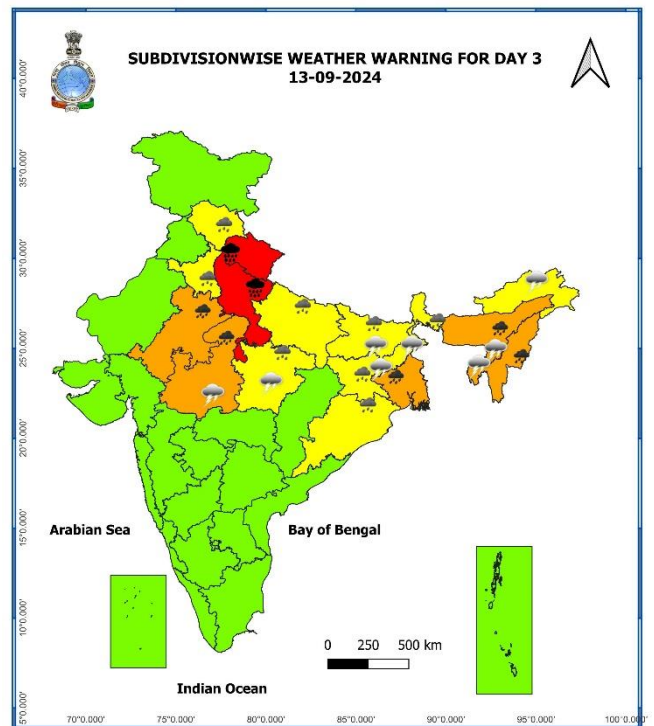
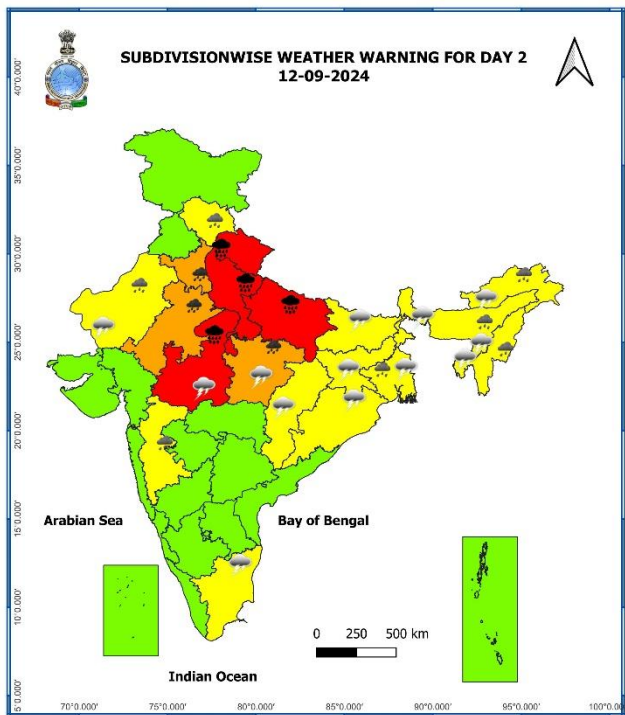
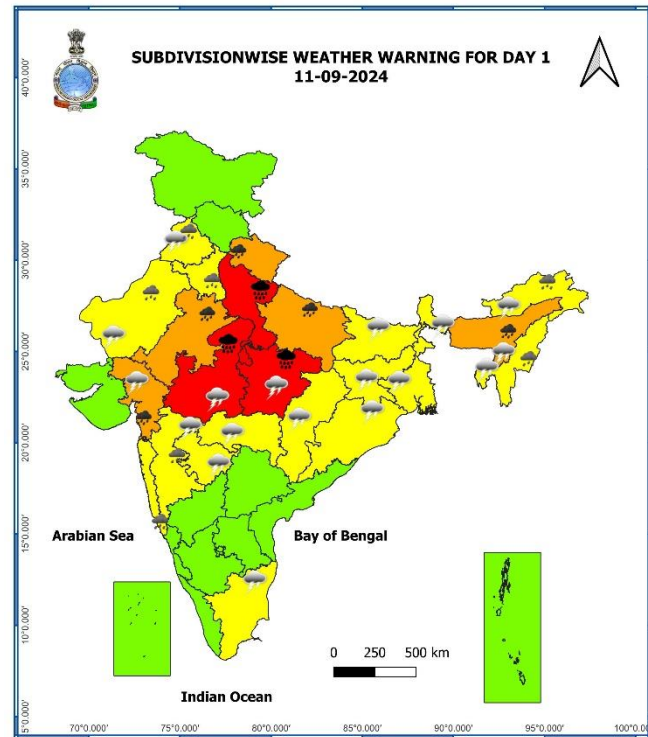
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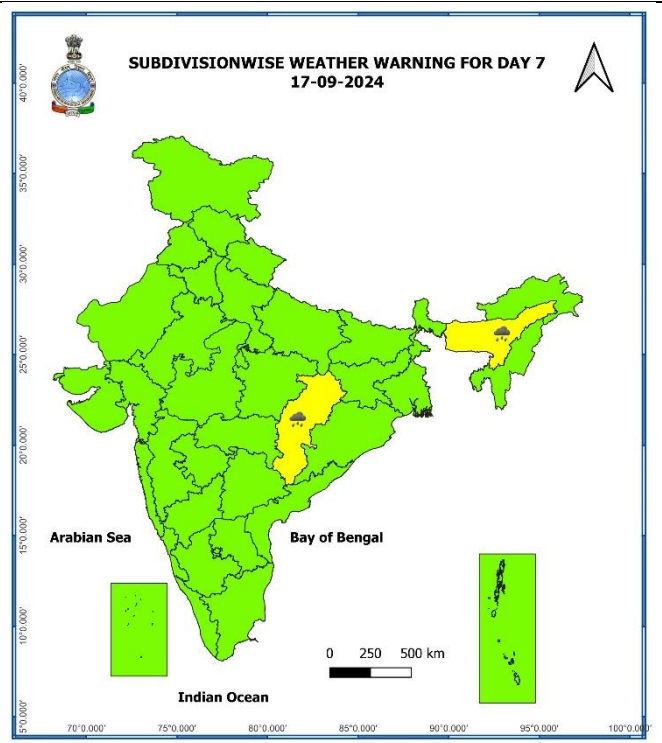
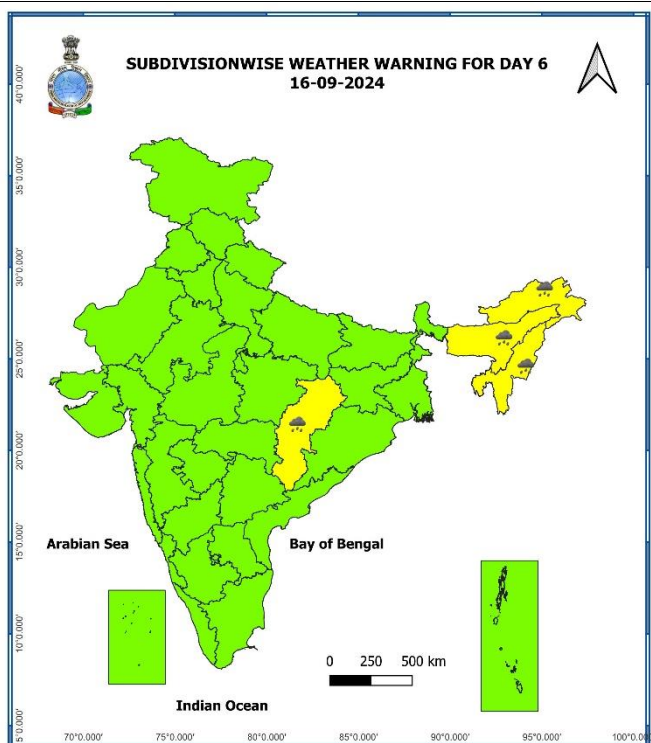
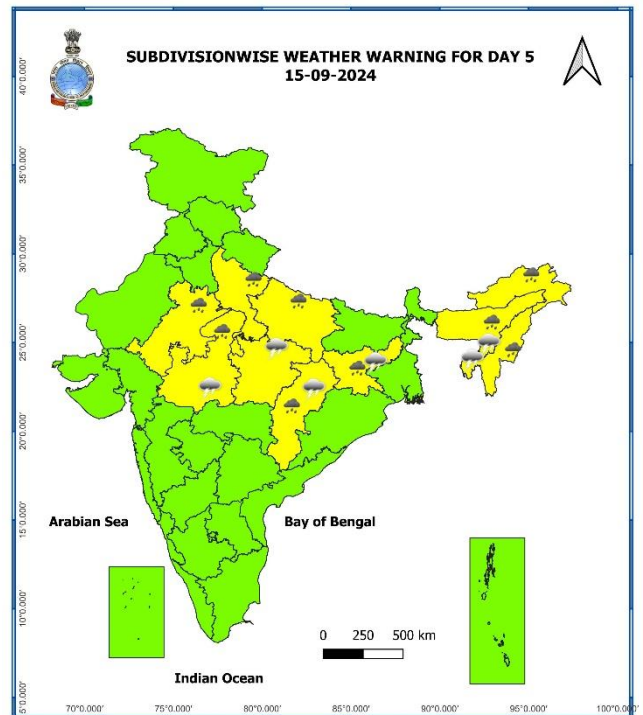
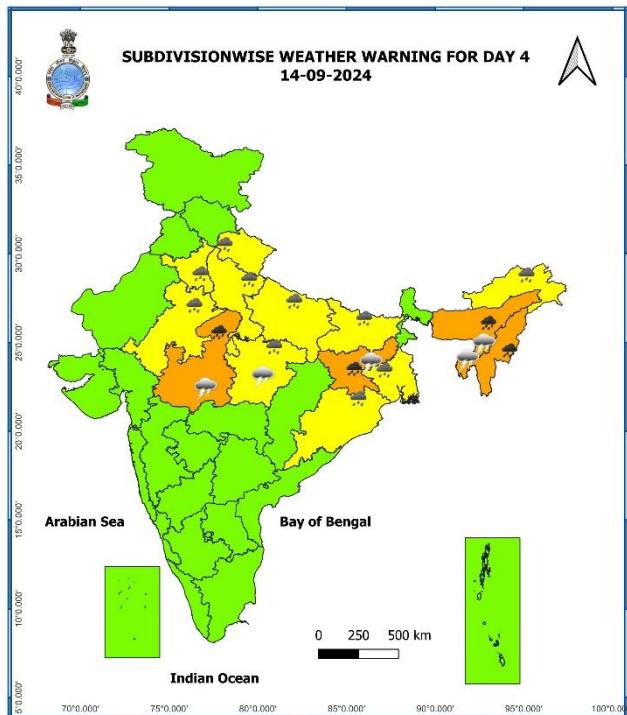
Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 11.09.2024 (in cm):

- ❖ **East Madhya Pradesh:** Shahgarh (dist Sagar) 30, Patharia (dist Damoh) 28, Buxwaha (dist Chhatarpur) 24, Damoh-aws (dist Damoh) 21, Hatta (dist Damoh) 21, Banda (dist Sagar) 21, Baihar (dist Balaghat) 19, Jabalpur-aws (dist Jabalpur) 19, Jabera (dist Damoh) 19, Rehli (dist Sagar) 19, Seoni (dist Seoni) 19, Tendukheda (dist Damoh) 18, Panagar (dist Jabalpur) 18, Narsinghpur-aws (dist Narsinghpur) 18, Garhakota (dist Sagar) 17, Tendukheda (dist Narsinghpur) 17, Kareli (dist Narsinghpur) 17, Matiyari (dist Mandla) 17, Deori (dist Sagar) 16, Bichhia (dist Mandla) 16, Badamalhera (dist Chhatarpur) 15, Mohgaon (dist Mandla) 15, Patera (dist Damoh) 14, Sagar-aws (dist Sagar) 14, Kesli (dist Sagar) 13, Niwas (dist Mandla) 13, Kumdam (dist Jabalpur) 12, Batiyagarh (dist Damoh) 12, Patan (dist Jabalpur) 12, Barghat (dist Seoni) 12,
- ❖ **West Madhya Pradesh:** Udaipura (dist Raisen) 25, Bareli (dist Raisen) 16, Pipariya (dist Narmadapuram) 16, Narwar (dist Shivpuri) 15, Bhander (dist Datia) 12, Seoni Malwa (dist Narmadapuram) 11, Sultanpur (dist Raisen) 11, Pachmarhi (dist Narmadapuram) 11, Navibagh Aet (dist Bhopal) 11, Karera (dist Shivpuri) 10, Deori (dist Raisen) 10, Bankhedi (dist Narmadapuram) 10, Gairatgang (dist Raisen) 9, Raghogarh (dist Guna) 9, Bhitwar (dist Gwalior) 9, Thandla (dist Jhabua) 9, Sohagpur (dist Narmadapuram) 9, Begumganj (dist Raisen) 9, Narsingarh (dist Rajgarh) 9, Bhopal Arera Hills (dist Bhopal) 8, Badi (dist Raisen) 8, Ganjbasoda (dist Vidisha) 8, Babai (makhan Nagar) (dist Narmadapuram) 8, Kolaras (dist Shivpuri) 8, Chinor (dist Gwalior) 8, Alot (dist Ratlam) 8,
- ❖ **Gujarat Region:** Valia (dist Bharuch) 15, Umerpada (dist Surat) 14, Chhotaudepur_kv Aaws (dist Chhota Udepur) 8;
- ❖ **Arunachal Pradesh:** Pasighat_ Aero (dist East Siang) 15, Daparijo (dist Upper Subansiri) 9, Naharlagun (dist Papumpara) 7,
- ❖ **Chhattisgarh:** Gandai (dist Khairagarh Chh Gandai) 11, Rengakhar Kala (dist Kabirdham) 9, Tilda (dist Raipur) 8, Sahaspurlohar (dist Kabirdham) 7;
- ❖ **East Rajasthan:** Khushalgarh (dist Banswara) 11, Banera (dist Bhilwara) 9, Ganeshpur (dist Dungarpur) 8, Shahpura (dist Jaipur) 7, Mounntabu Tehsil (dist Sirohi) 7, Chaksu (dist Jaipur) 7, Baseri (dist Dholpur) 7, Phagi (dist Jaipur) 7, Bansur (dist Alwar) 7, Jaipur Aero (dist Jaipur) 7,
- ❖ **Himachal Pradesh:** Nahan (dist Sirmaur) 9;
- ❖ **West Uttar Pradesh:** Mahroni (dist Lalitpur) 9, Muzaffarnagar (dist Muzaffarnagar) 9, Jhansi (dist Jhansi) 9, Mauranipur (dist Jhansi) 9; Madawara (dist Lalitpur) 9, Pali (dist Lalitpur) 7,
- ❖ **Jharkhand:** Baliapur (dist Dhanbad) 8, Purvi Tundi (dist Dhanbad) 6,
- ❖ **West Rajasthan:** Churu Tehsil (dist Churu) 7, Churu (dist Churu) 7,
- ❖ **Telangana:** Jakranpalle (dist Nizamabad) 9
- ❖ **Jharkhand:** Baliapur (dist Dhanbad) 8, Purvi Tundi (dist Dhanbad) 6,
- ❖ **Punjab:** Samrala (dist Ludhiana) 7, Tibri (dist Gurdaspur) 6;
- ❖ **Assam & Meghalaya:** Dholai (dist Cachar) 7, Naharkatia Arg (dist Dibrugarh) 7, Dhemaji (dist Dhemaji) 7,

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

Impact due to

- ✓ Isolated **extremely heavy rainfall** very likely over West Uttar Pradesh during 11th -13th; Uttarakhand on 12th & 13th; East Uttar Pradesh on 12th September. West Madhya Pradesh on 11th & 12th; East Madhya Pradesh on 11th; **Nagaland, Manipur, Mizoram & Tripura on 13th September.**
- ✓ **Very heavy rainfall** at isolated places over Mizoram & Tripura, Gujarat Region on 11th; Uttarakhand, West Uttar Pradesh, East Rajasthan during 11th -13th; East Uttar Pradesh on 11th & 12th; West Madhya Pradesh in 13th & 14th; East Madhya Pradesh on 12th; Assam & Meghalaya on 11th, 13th & 14th; Nagaland, Manipur, Mizoram & Tripura during 12th -14th; Gangetic West Bengal on 13th; Jharkhand on 14th September.
- ✓ **Moderate to High flash flood risk** likely over West Uttar Pradesh, Madhya Pradesh on 11th & 12th 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 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 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 cotton, maize, soybean, pulses and vegetables in **Madhya Pradesh**; from maize, sorghum, pearl millet, groundnut, pulses and vegetables in **East Rajasthan**; from rice, groundnut, sesame, arhar, black gram and vegetables in **West Uttar Pradesh**; from rice, banana, cotton, pigeon pea, castor in **Gujarat** region to prevent water logging.
- Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Arunachal Pradesh, Uttarakhand, Konkan & Goa and Madhya Maharashtra.
- 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 12-09-2024 :**

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

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

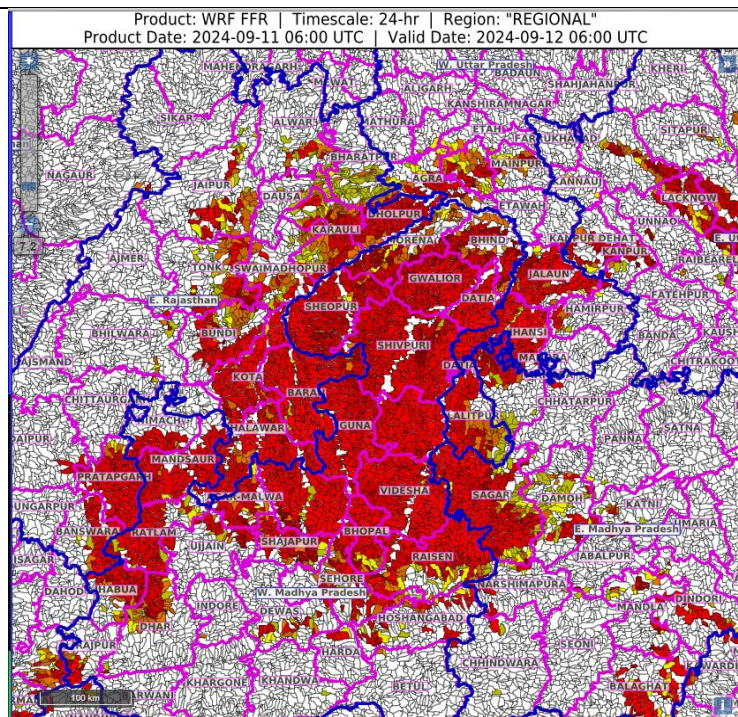
East Madhya Pradesh - Damoh and Sagar districts.

West Madhya Pradesh - Agar-Malwa, Ashoknagar, Bhind, Bhopal, Guna, Gwalior, Jhabua, Mandsaur, Morena, Nimach, Raisen, Rajgarh, Ratlam, Sehore, Shajapur, Sheopur, Shivpuri and Videsha districts.

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

West Uttar Pradesh - Agra, Firozabad and Mainpuri 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.

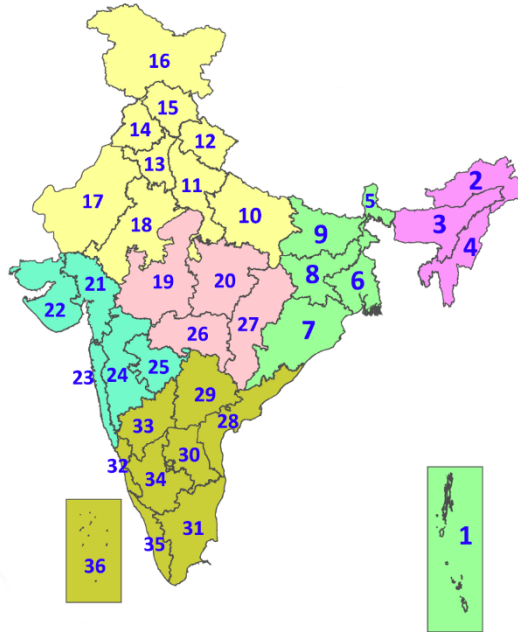


Legends & abbreviations:

- ❖ **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)

* 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)