



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 12th September, 2024

Time of Issue: 1400 hours IST

Subject: A Depression lies over southwest Uttar Pradesh, it is very likely to cause isolated extremely heavy rainfall over Uttarakhand on 12th & 13th and over West Uttar Pradesh on 12th September 2024

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

Exceptionally heavy rainfall (in cm) occurred at isolated places over **West Madhya Pradesh**: Biaora (dist Rajgarh) 36,

Heavy to very heavy rainfall with isolated extremely heavy falls at a few places over East Rajasthan, Madhya Pradesh, West Uttar Pradesh; **Heavy to very heavy rainfall** at isolated places over Uttarakhand; **Heavy rainfall** at isolated places over East Uttar Pradesh, Nagaland, Manipur, Mizoram & Tripura.

Weather Systems:

- ✓ The depression over Northwest Madhya Pradesh and neighbourhood moved north-northeastwards with a speed of 10 kmph during past 6 hours and lay centred at 0830 hours IST of today, the 12th September over Southwest Uttar Pradesh and neighbourhood near latitude 27.0°N and longitude 78.5°E, about 50 km east-southeast of Agra (Uttar Pradesh), 90 km north-northeast of Gwalior (Madhya Pradesh), 110 km south-southeast of Aligarh (Uttar Pradesh) and 180 km south-southwest of Bareilly (Uttar Pradesh). It is likely to continue to move north-northeastwards and maintain its intensity today, the 12th September and weaken gradually thereafter from tomorrow, the 13th September. The system is under continuous surveillance of Doppler Weather Radars at Delhi and Lucknow.
- ✓ An upper air cyclonic circulation lies over southeast Bangladesh & neighbourhood in lower & middle tropospheric levels. Under its influence, a low pressure area is likely to form over coastal Bangladesh & adjoining north Bay of Bengal during next 24 hours. Thereafter, it is likely to move slowly west-northwestwards and concentrate into a depression over coastal west Bengal and adjoining northwest Bay of Bengal during subsequent 48 hours.
- ✓ The **monsoon trough** is near normal position at mean sea level.

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

Northwest India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Uttarakhand, West Uttar Pradesh; Scattered to Fairly widespread light/moderate rainfall very likely over Haryana-Chandigarh-Delhi, East Uttar Pradesh, East Rajasthan, Himachal Pradesh; Isolated to scattered rainfall over the remaining region during the week.

- ✓ **Isolated extremely heavy rainfall** very likely over Uttarakhand on 12th & 13th; West Uttar Pradesh on 12th September.
- ✓ **Isolated very heavy rainfall** very likely over Haryana-Chandigarh-Delhi, East Uttar Pradesh & East Rajasthan on 12th; West Uttar Pradesh on 12th & 13th September.
- ✓ **Isolated heavy rainfall** very likely over Himachal Pradesh, Haryana-Chandigarh-Delhi, West Uttar Pradesh & East Rajasthan on 12th & 13th; Uttarakhand during 12th-14th; East Uttar Pradesh during 12th -17th September.

West & Central India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Madhya Pradesh, Konkan & Goa; Scattered to Fairly widespread light/moderate rainfall very likely over Vidarbha, Chhattisgarh; Isolated to Scattered light/moderate rainfall very likely over Madhya Maharashtra, Marathwada, Gujarat State during the week.
- ✓ **Isolated very heavy rainfall very likely over** West Madhya Pradesh on 12th; East Madhya Pradesh & Chhattisgarh on 16th & 17th September.
- ✓ **Isolated heavy rainfall** very likely over West Madhya Pradesh during 12th, 13th, 17th & 18th; East Madhya Pradesh during 12th, 13th & 15th -18th; Chhattisgarh during 15th -17th; Madhya Maharashtra, Konkan & Goa on 12th September.

East & Northeast India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Nagaland, Manipur, Mizoram & Tripura, Jharkhand, Odisha, Gangetic West Bengal, Andaman & Nicobar Islands; Scattered to Fairly widespread light/moderate rainfall very likely over Assam & Meghalaya, Arunachal Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim during the week.
- ✓ **Isolated very heavy rainfall** very likely over Assam & Meghalaya on 14th & 15th; Nagaland, Manipur, Mizoram & Tripura on 12th & 13th; Gangetic West Bengal & Odisha on 13th & 14th; Jharkhand on 14th & 15th September.
- ✓ **Isolated heavy rainfall** very likely over Assam & Meghalaya during the next 7 days; Arunachal Pradesh during 14th -16th; Nagaland, Manipur, Mizoram & Tripura during 12th -17th; Gangetic West Bengal during 12th -15th; Bihar during 12th -16th; Jharkhand 13th -16th; Odisha during 13th -15th September.

South Peninsular India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Coastal Karnataka, Coastal Andhra Pradesh & Yanam; Scattered to Fairly widespread light/moderate rainfall over Lakshadweep, Kerala & Mahe; isolated to scattered rainfall over Tamil Nadu, Puducherry & Karaikal, Rayalaseema, Telangana & Interior Karnataka during the week.

Wind warning

- ✓ Strong wind speed reaching 35-45 kmph gusting to 55 kmph is likely to prevail over southwest Uttar Pradesh adjoining areas of Northwest Madhya Pradesh, northeast Rajasthan and south Haryana during next 24 hours.

For more details, kindly refer: https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

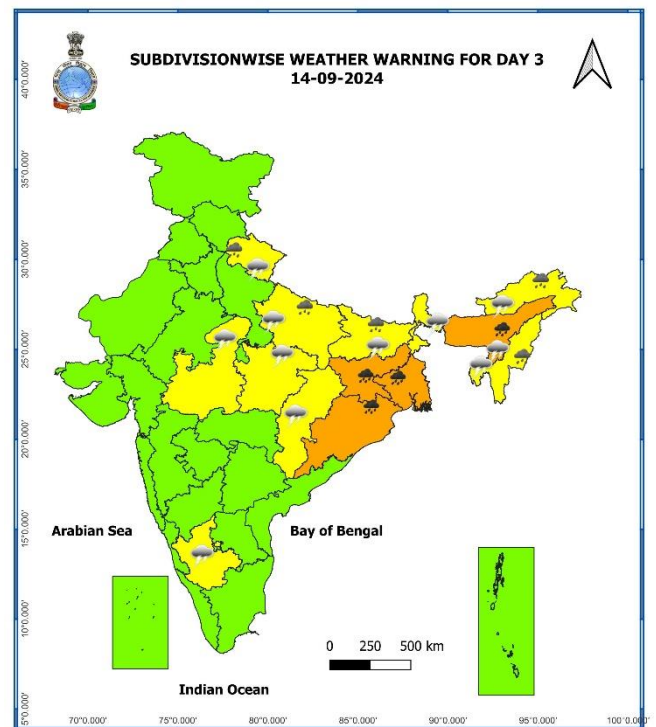
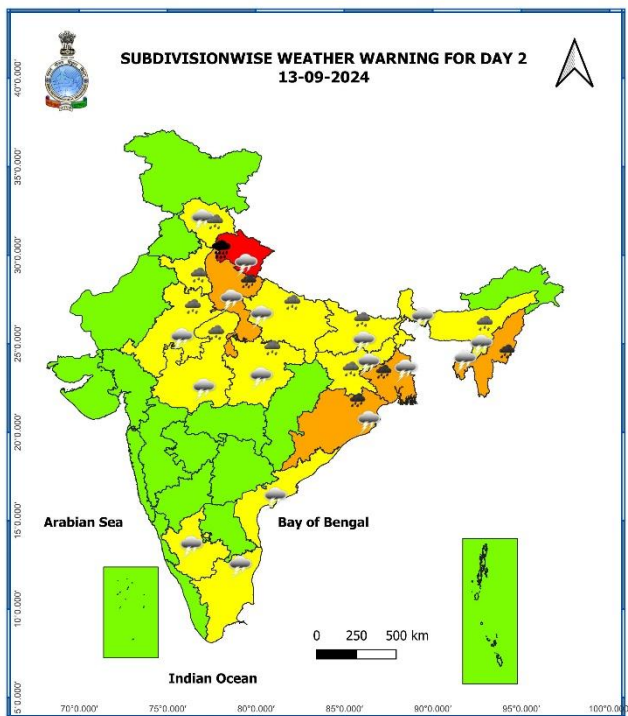
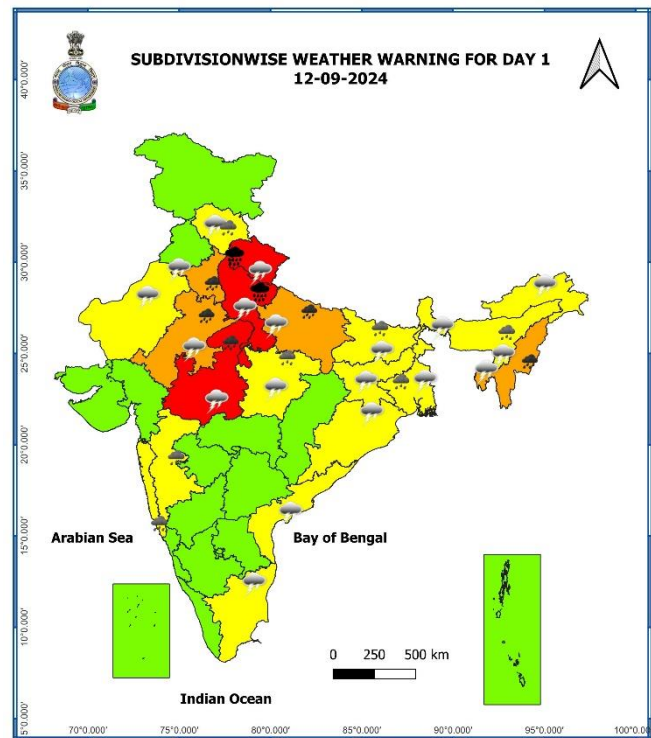
For District wise warnings refer: <https://mausam.imd.gov.in/responsive/districtWiseWarningGIS.php>

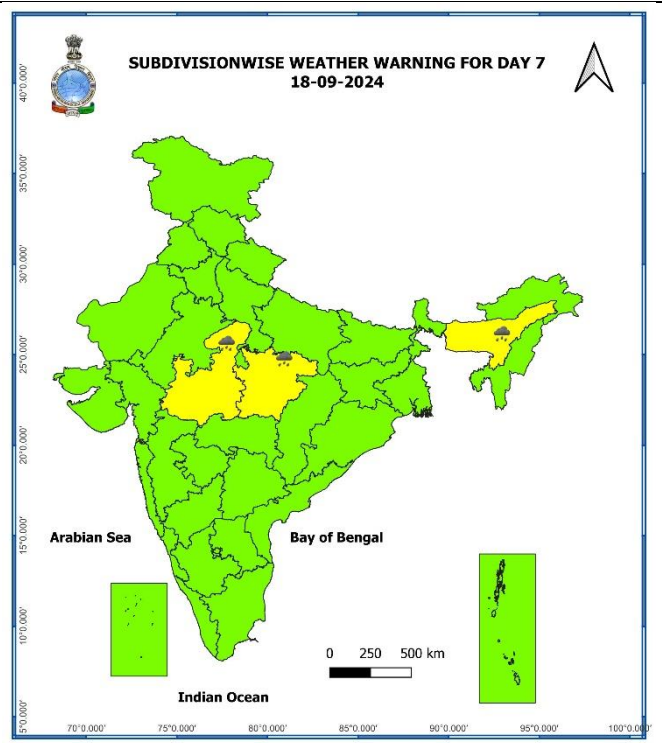
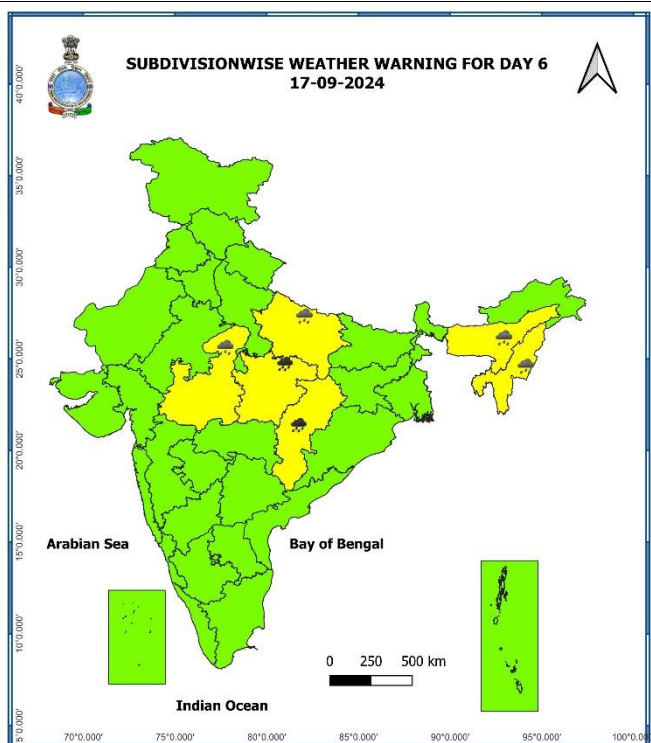
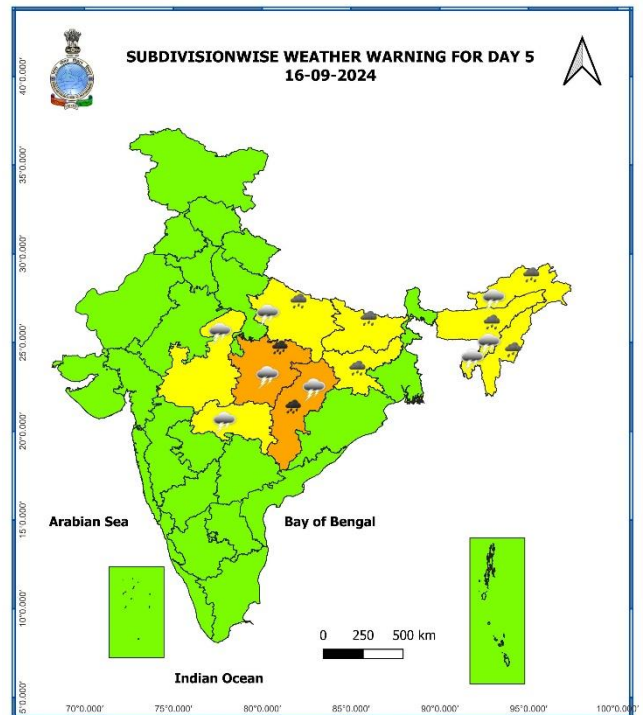
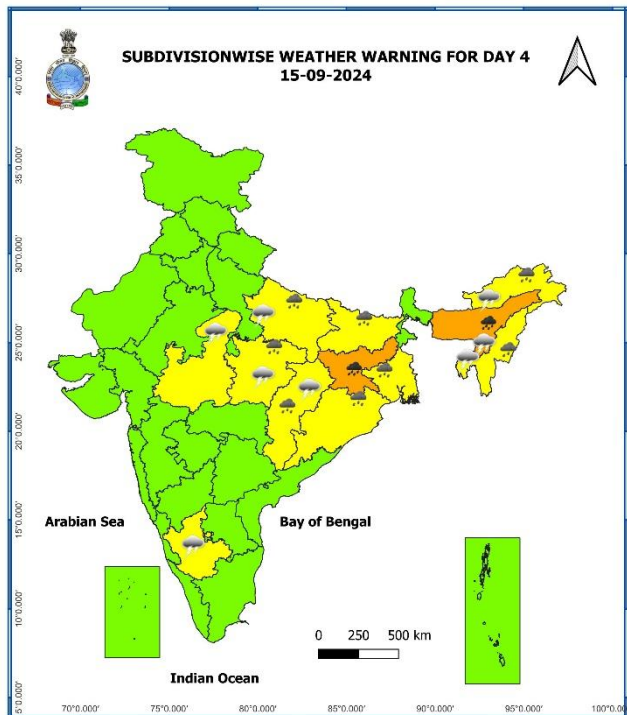
Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 12.09.2024 (in cm):

- ❖ **West Madhya Pradesh:** Biaora (dist Rajgarh) 36, Gohad (dist Bhind) 22, Karera (dist Shivpuri) 22, Narwar (dist Shivpuri) 21, Rajgarh (dist Rajgarh) 21, Gwalior (dist Gwalior) 20, Mau (dist Bhind) 20, Bhandar (dist Datia) 19, Sabalgarh (dist Morena) 19, Datia-aws (dist Datia) 19, Dabra (dist Gwalior) 18, Ater (dist Bhind) 17, Ambah (dist Morena) 17, Porsa (dist Morena) 17, Ghatigaon (dist Gwalior) 17, Bhitwarwar (dist Gwalior) 17, Mihona (dist Bhind) 16, Mehgaon (dist Bhind) 16, Lahar (dist Bhind) 16, Chinor (dist Gwalior) 15, Gormi (dist Bhind) 15, Bhind-aws (dist Bhind) 15, Badoda (dist Sheopur) 15, Alipur(jaura) (dist Morena) 14, Morena-aws (dist Morena) 12, Narsingarh (dist Rajgarh) 12, Pachmarhi (dist Narmadapuram) 12, Roan (dist Bhind) 12, Badarwas (dist Shivpuri) 11, Shivpuri (dist Shivpuri) 11, Vijaypur (adp) (dist Sheopur) 10, Pichhore (dist Shivpuri) 10, Seodha(seondha) (dist Datia) 9, Shamshabad (dist Vidisha) 9, Khaniyadana (dist Shivpuri) 9, Indergarh (dist Datia) 9, Bamori (dist Guna) 9, Kailaras (dist Morena) 9, Navibagh Aet (dist Bhopal) 8, Kolaras (dist Shivpuri) 8, Ashoknagar-aws (dist Ashoknagar) 8, Bairad (dist Shivpuri) 7, Sheopur-aws (dist Sheopur) 7,
- ❖ **West Uttar Pradesh:** Agra (cwc) (dist Agra) 29, Jalesar (dist Etah) 23, Sadabad (dist Hathras) 23, Sikandra Rao (dist Hathras) 20, Hathras (dist Hathras) 19, Tundla (dist Firozabad) 17, Khairagarh (dist Agra) 17, Kasganj (dist Kasganj) 17, Sahawar (dist Kasganj) 17, Tahrauli (dist Jhansi) 15, Jhansi (dist Jhansi) 14, Fatehabad (dist Agra) 13, Etawah (cwc) (dist Etawah) 12, Sasani (dist Hathras) 12, Sahaswan (dist Badaun) 12, Vrindavan (dist Mathura) 12, Talbehat (dist Lalitpur) 11, Moth (dist Jhansi) 11, Narora (dist Bulandshahar) 11, Etah (dist Etah) 11, Jasrana (dist Firozabad) 11, Aligarh (dist Aligarh) 11, Karhal (dist Mainpuri) 10, Etmadpur (dist Agra) 10, Bah (dist Agra) 9, Auraiya (cwc) (dist Auraiya) 9, Gunnaur (dist Sambhal) 9, Madawara (dist Lalitpur) 9, Mainpuri (dist Mainpuri) 9, Shikohabad (dist Firozabad) 8, Kurawali (dist Mainpuri) 8, Mauranipur (dist Jhansi) 8, Kalpi Tehsil (dist Jalaun) 8, Kalpi Cwc (dist Jalaun) 8, Moradabad Cwc (dist Moradabad) 8, Moradabad Obsy (dist Moradabad) 8, Bareilly Pbo (dist Bareilly) 8, Pali (dist Lalitpur) 7, Moradabad (dist Moradabad) 7, Kasba Tanda (dist Rampur) 7, Aliganj (dist Etah) 7, Etawah Obsy (dist Etawah) 7, Ghiror (dist Mainpuri) 7,
- ❖ **East Rajasthan:** Rajakhera (dist Dholpur) 24, Dholpur Tehsil Sr (dist Dholpur) 19, Sawaimadhopur Tesil Sr (dist Sawai Madhopur) 16, Aklera (dist Jhalawar) 13, Sapau Sr (dist Dholpur) 11, Bari (dist Dholpur) 11, Shahabad (dist Baran) 11, Manohar Thana (dist Jhalawar) 10, Baseri Sr (dist Dholpur) 10, Bharatpur Tehsil Sr (dist Bharatpur) 10, Rupbas (dist Bharatpur) 9, Pipalda Sr (dist Kota) 9, Kathumer (dist Alwar) 8, Sarmathura Sr (dist Dholpur) 8, Kumher Sr (dist Bharatpur) 8, Khandar Sr (dist Sawai Madhopur) 8, Beir Sr (dist Bharatpur) 8, Deeg Sr (dist Bharatpur) 8, Lalsot (dist Dausa) 7, Nagar Sr (dist Bharatpur) 7, Nadbai (dist Bharatpur) 7, Bayana (dist Bharatpur) 7, Karauli (dist Karauli) 7, Baran (dist Baran) 7, Atru Sr (dist Baran) 7, Dhariabad (dist Pratapgarh) 7,
- ❖ **East Madhya Pradesh:** Prithvipur (dist Niwari) 23, Orchha (dist Niwari) 15, Niwari (dist Niwari) 12, Chahtarpur-aws (dist Chhatarpur) 12, Nowgong (dist Chhatarpur) 11, Mohangarh (dist Tikamgarh) 10, Lidhora (dist Tikamgarh) 9, Rajnagar (dist Chhatarpur) 8, Patera (dist Damoh) 7, Banda (dist Sagar) 7, Lavkushnagar (dist Chhatarpur) 7,
- ❖ **Uttarakhand:** Banbasa (CHAMPAWAT): 12, Champawat (CHAMPAWAT):9, Pantnagar (UDHAMSINGH NAGAR): 8, Lohaghat (CHAMPAWAT) : 8, Haldwani (NAINITAL) : 7,
- ❖ **East Uttar Pradesh:** Itwa (dist Siddharth Nagar) 11, Bhanpur (dist Basti) 7,
- ❖ **Nagaland, Manipur, Mizoram & Tripura:** Sonamura (dist Sipahijala) 7,

7 Days Rainfall Forecast								
S. No.	Subdivision	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep	17-Sep	18-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	SCT	SCT	SCT	FWS	FWS	SCT	SCT
3	ASSAM & MEGHALAYA	SCT	FWS	FWS	FWS	FWS	FWS	SCT
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	WS	WS	WS	FWS	FWS	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	FWS	SCT	SCT	FWS	FWS	FWS	FWS
11	WEST UTTAR PRADESH	WS	FWS	SCT	SCT	SCT	SCT	SCT
12	UTTARAKHAND	WS	WS	SCT	SCT	SCT	SCT	SCT
13	HARYANA CHANDIGARH & DELHI	FWS	FWS	SCT	ISOL	ISOL	ISOL	ISOL
14	PUNJAB	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
15	HIMACHAL PRADESH	FWS	FWS	ISOL	ISOL	ISOL	ISOL	ISOL
16	JAMMU & KASHMIR AND LADAKH	ISOL	ISOL	ISOL	DRY	DRY	ISOL	ISOL
17	WEST RAJASTHAN	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
18	EAST RAJASTHAN	FWS	SCT	ISOL	ISOL	ISOL	ISOL	SCT
19	WEST MADHYA PRADESH	WS	FWS	SCT	SCT	FWS	SCT	SCT
20	EAST MADHYA PRADESH	WS	FWS	FWS	FWS	WS	WS	WS
21	GUJARAT REGION	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
22	SAURASHTRA & KUTCH	ISOL	ISOL	ISOL	ISOL	ISOL	DRY	DRY
23	KONKAN & GOA	WS	WS	WS	WS	WS	FWS	FWS
24	MADHYA MAHARASHTRA	SCT	SCT	ISOL	ISOL	ISOL	ISOL	SCT
25	MARATHAWADA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	SCT
26	VIDARBHA	SCT	SCT	ISOL	ISOL	SCT	FWS	FWS
27	CHHATTISGARH	SCT	SCT	SCT	FWS	FWS	FWS	SCT
28	COASTAL ANDHRA PRADESH & YANAM	ISOL	SCT	SCT	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	FWS	FWS	FWS	FWS	FWS
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	FWS	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 Uttarakhand on 12th & 13th; West Uttar Pradesh on 12th September.
- ✓ **Very heavy rainfall** at isolated places over Haryana-Chandigarh-Delhi, East Uttar Pradesh, West Madhya Pradesh & East Rajasthan on 12th; West Uttar Pradesh on 13th; East Madhya Pradesh, Chhattisgarh on 16th & 17th; Gangetic West Bengal on 13th & 14th; Jharkhand, Assam & Meghalaya on 14th & 15th; Odisha on 13th & 14th; Nagaland, Manipur, Mizoram & Tripura on 12th & 13th September.
- ✓ **Moderate to High flash flood risk** likely over Uttarakhand, Himachal Pradesh, West Uttar Pradesh, East Uttar Pradesh, Madhya Pradesh, East Rajasthan 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 cotton, maize, soybean, pulses and vegetables in **Madhya Pradesh**; from maize, sorghum, pearl millet, groundnut, pulses and vegetables in **East Rajasthan**; from rice, maize, groundnut, sesame, arhar, black gram and vegetables in **Uttar Pradesh**; from rice, maize, soybean, finger millet, pigeon pea and vegetables in **Uttarakhand** to prevent water logging.
- ✓ Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Assam & Meghalaya, NMMT, Gangetic West Bengal, Odisha, Jharkhand, Himachal Pradesh and Haryana.
- ✓ 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 13-09-2024:**

Moderate to High flash flood risk likely over few watersheds & neighbourhoods of

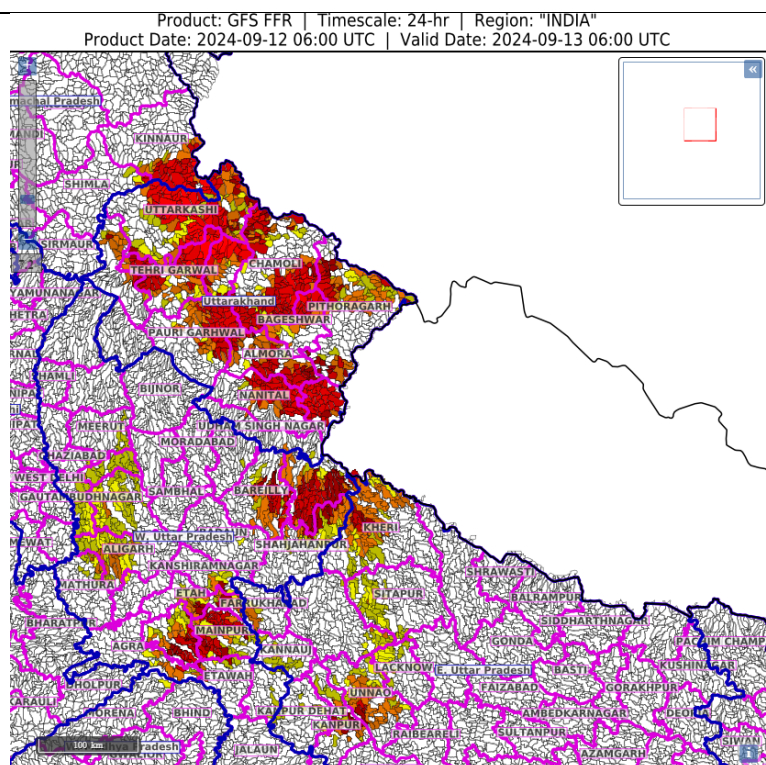
Uttarakhand – Pauri Garwal, Tehri Garwal, Dehradun, Uttarkashi, Rudraprayag, Bageshwar, Almora, Nainital, Champawat, Chamoli and Pithoragarh districts

Himachal Pradesh – Simla, Sirmour, and Kinnaur districts

West Uttar Pradesh – Bareilly, Philiphit, Shahjahanpur, Gautam Budh Nagar, Aligarh, Mathura, Mainpuri, Etawah, Etah, Auraiya, Kanshiram Nagar, Firozabad and Agra districts.

East Uttar Pradesh – Kheri, , Sitapur, Lacknow, Unnao, Kanpur Dehat, Kanpur, Kannauj, Hardoi 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.

**24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 13-09-2024:**

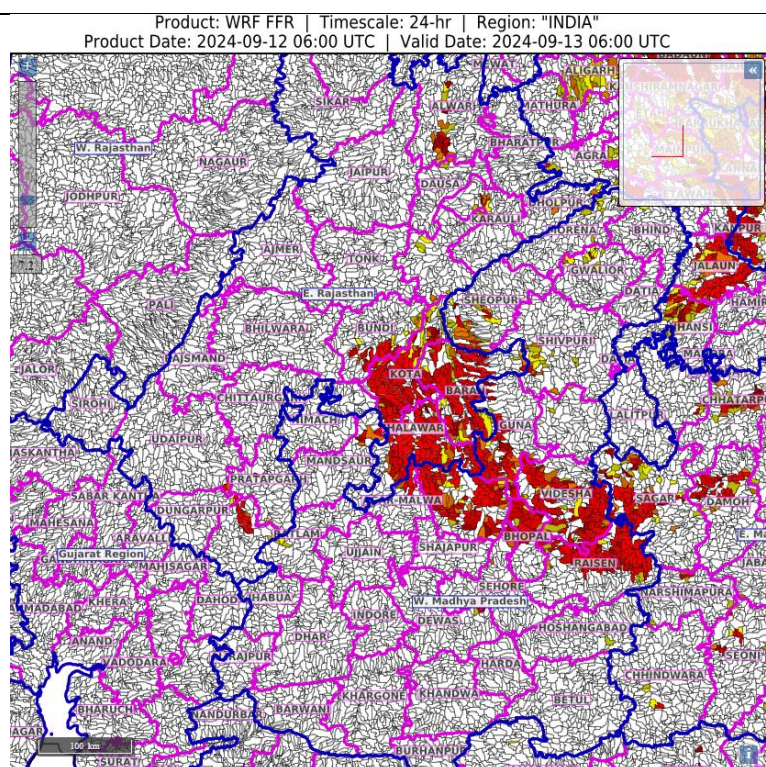
Moderate flash flood risk likely over few watersheds & neighbourhoods of

East Madhya Pradesh - Chhatarpur, Damoh and Sagar districts.

West Madhya Pradesh – Agarmalwa, Ashoknagar, Bhind, Bhopal, Datia, Guna, Morena, Rajgarh, Sheopur, Shivpuri, Raisen, and Videsha districts.

East Rajasthan – Kota, Baraj, Jhalawar, Pratapgarh, Alwar, Dausa, Bundi, Karauli and Bharatpur 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.

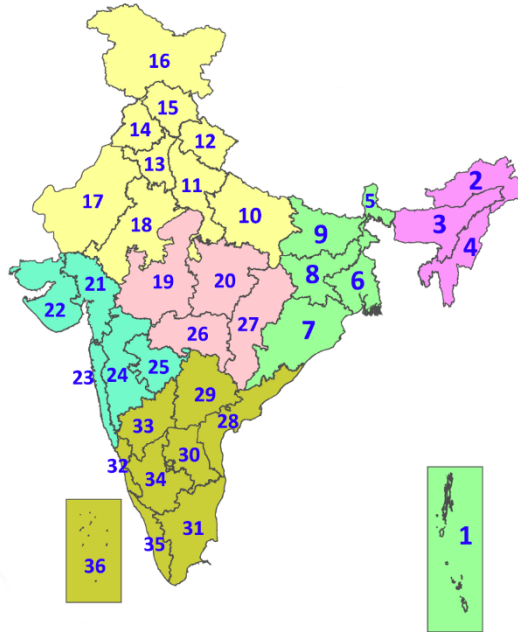


Legends & abbreviations:

- ❖ **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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