



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 13th September, 2024

Time of Issue: 1320 hours IST

Subject: (i) A Well Marked Low Pressure Area formed over northeast Bay of Bengal and is likely to cause isolated very heavy to extremely heavy rainfall over Gangetic West Bengal & Odisha on 13th & 14th and over Jharkhand on 14th & 15th September.

(ii) The Well Marked Low Pressure Area over northwest Uttar Pradesh is likely to cause isolated very heavy to extremely heavy rainfall over Uttarakhand & West Uttar Pradesh today.

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 Uttarakhand; **Heavy to very heavy rainfall** at isolated places over Uttar Pradesh; **Heavy rainfall** at isolated places over East Rajasthan, Haryana, West Madhya Pradesh, Delhi & Bihar.

Weather Systems:

- ✓ Yesterday's **depression** over central Uttar Pradesh has weakened into a well marked low pressure area over northwest Uttar Pradesh & neighbourhood at 0830 hours IST of 13th September. It is likely to weaken further gradually into a low pressure area during next 12 hours.
- ✓ The **low pressure** area over southeast Bangladesh & neighbourhood moved west-northwestwards and lay as a well marked low pressure area over northeast Bay of Bengal & adjoining southeast Bangladesh coast at 0830 hours IST of today, the 13th September, 2024. It is likely to move west-northwestwards and intensify into a depression over coastal West Bengal & adjoining northwest Bay of Bengal by tomorrow, the 14th September.

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

Northwest India

- ✓ Scattered to Fairly widespread light/moderate rainfall very likely over Uttar Pradesh, Himachal Pradesh, Uttarakhand, East Rajasthan; Isolated to scattered rainfall over the remaining region during the week.
- ✓ **Isolated extremely heavy rainfall** very likely over Uttarakhand on 13th September.
- ✓ Isolated **very heavy rainfall** very likely over Uttarakhand & West Uttar Pradesh on 13th September.
- ✓ Isolated **heavy rainfall** very likely over Haryana on 13th; Uttarakhand on 13th & 14th; Himachal Pradesh on 13th; East Uttar Pradesh during 13th & 16th-18th; West Uttar Pradesh on 13th, 17th & 18th September.

West & Central India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Konkan & Goa; Scattered to Fairly widespread light/moderate rainfall very likely over Madhya Pradesh, Chhattisgarh; Isolated to Scattered light/moderate rainfall very likely over Vidarbha, Madhya Maharashtra, Marathwada & Gujarat State during the week.
- ✓ **Isolated very heavy rainfall** very likely over East Madhya Pradesh on 17th; Chhattisgarh on 16th September.
- ✓ Isolated **heavy rainfall** very likely over West Madhya Pradesh on 18th & 19th; East Madhya Pradesh during 16th -19th; Chhattisgarh during 14th -17th September.

East & Northeast India

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

South Peninsular India:

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

Wind warning

- ✓ Squally weather with strong wind speed reaching 30-40 kmph gusting to 50 kmph is likely to prevail over coastal areas of Bangladesh, West Bengal and adjoining north Bay of Bengal on 13th September. It is likely to increase gradually becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 14th evening till 15th September. Squally wind speed reaching 40-50 kmph gusting to 60 kmph over northwest Bay of Bengal and along & off West Bengal and Odisha coasts from 14th evening till 16th morning.

For more details, kindly refer:

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

For District wise warnings refer:

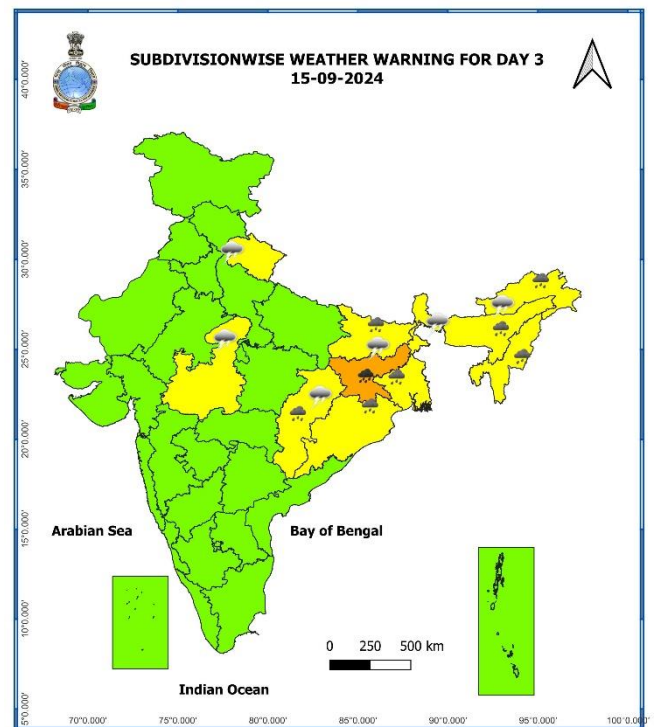
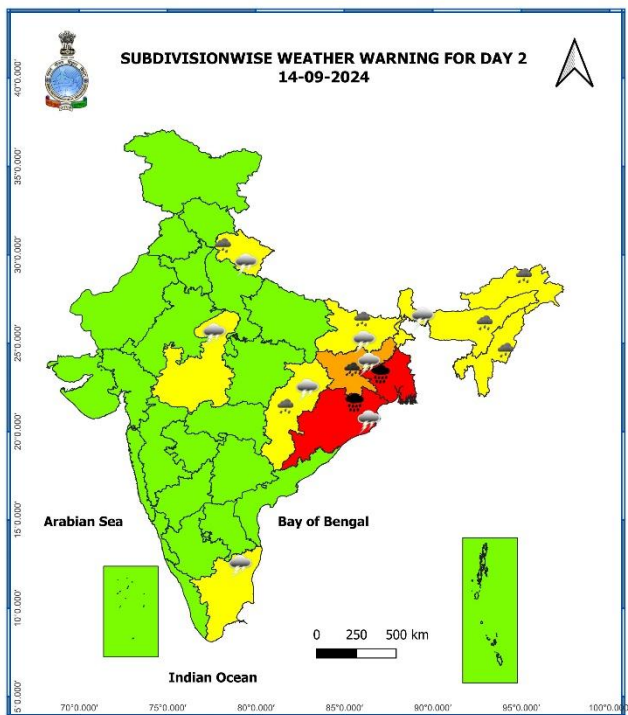
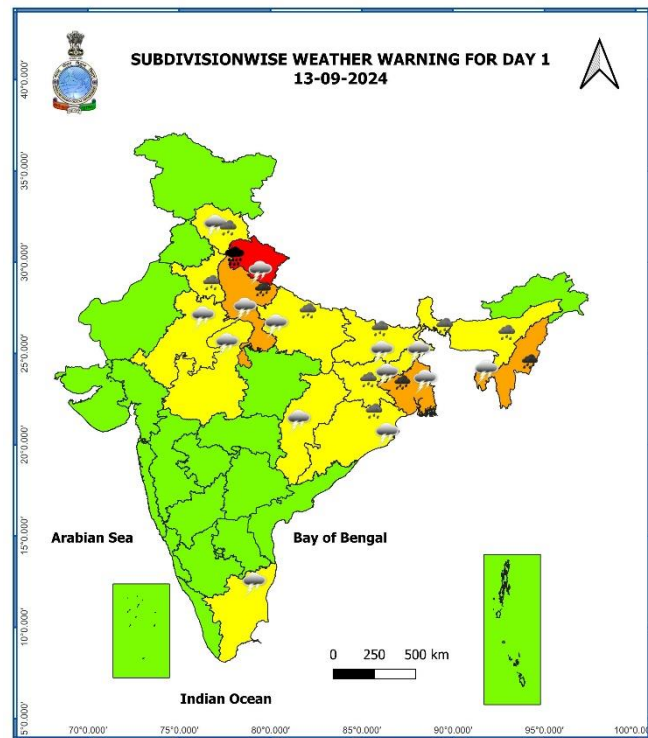
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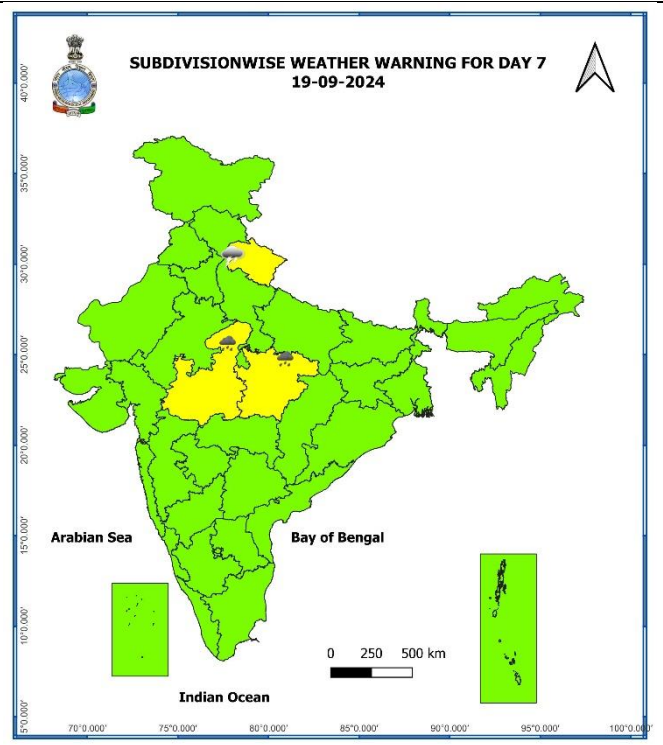
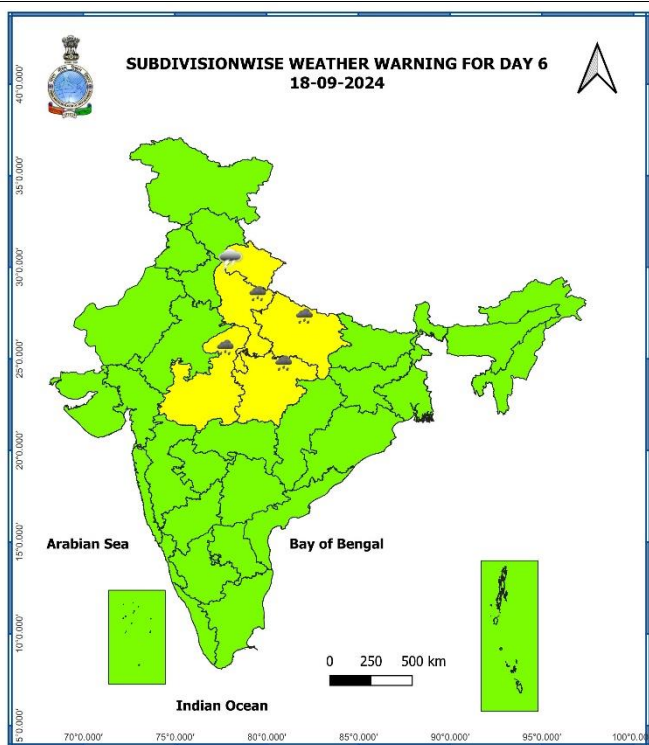
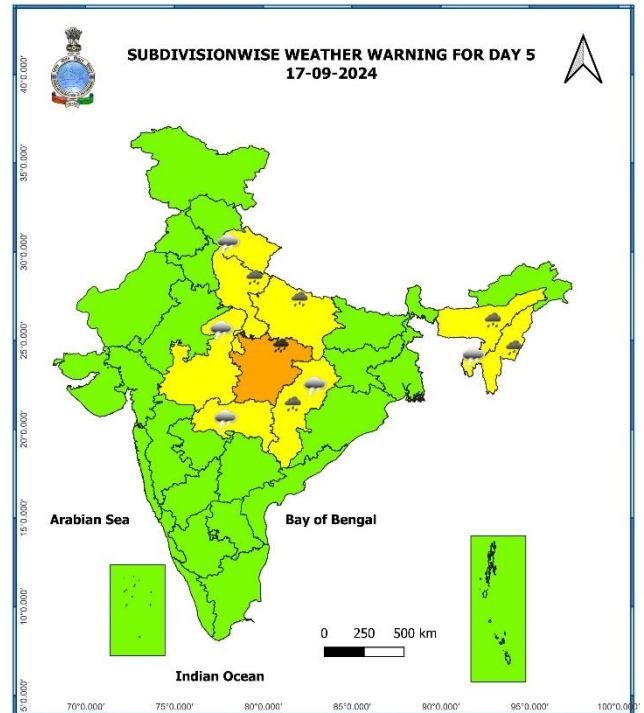
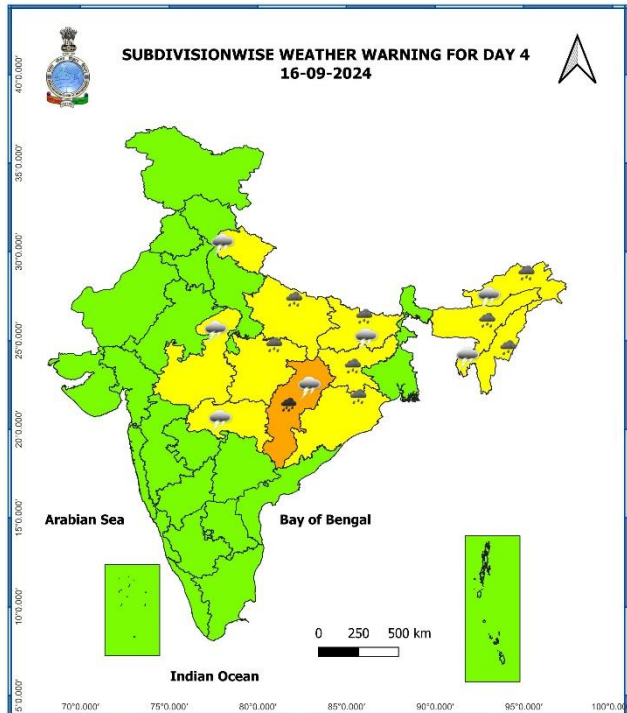
Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 13.09.2024 (in cm):

- ❖ **Uttarakhand:** Lohaghat (Champawat): 26, Champawat (Champawat) : 20, Banbasa (Champawat) : 13, Khatima (Udham singh nagar) : 13, Kashipur (Udham singh nagar) : 11, Pithoragarh (Pithoragarh) : 11, Jaspur (Udham singh nagar) : 9, Mukteshwar (Nainital) : 9, Pantnagar (Udham singh nagar) : 9, Pati (Champawat) : 9, Haldwani (Nainital) : 9, Almora (Almora) : 8, Betalghat (Nainital) : 7, Ranikhet (Almora) : 7, Nainital (Nainital) : 7, Haridwar (Haridwar) : 7, Gairsain (Chamoli) : 7,
- ❖ **West Uttar Pradesh:** Bijnor (dist Bijnor) 18, Kasganj (dist Kasganj) 15, Sahawar (dist Kasganj) 15, Budaun (dist Badaun) 14, Mirganj (dist Bareilly) 13, Sahaswan (dist Badaun) 13, Pawayan (dist Shahjahanpur) 13, Baheri (dist Bareilly) 12, Nauganva Sadat (dist Amroha) 12, Sikandra Rao (dist Hathras) 11, Amroha (dist Amroha) 11, Moradabad Cwc (dist Moradabad) 11, Hasanpur (dist Amroha) 10, Dhampur (dist Bijnor) 10, Dataganj (dist Badaun) 10, Aligarh (dist Aligarh) 10, Bilari (dist Moradabad) 10, Moradabad (dist Moradabad) 9, Thakurdwara (dist Moradabad) 9, Kasba Tanda (dist Rampur) 9, Jansath (dist Muzaffarnagar) 9, Jasrana (dist Firozabad) 9, Nagina (dist Bijnor) 9, Moradabad Obsy (dist Moradabad) 9, Shahjahapur Obsy (dist Shahjahanpur) 9, Bisauli (dist Badaun) 9, Narora (dist Bulandshahar) 8, Aonla (dist Bareilly) 8, Mawana (dist Meerut) 8, Nawabganj (dist Bareilly) 8, Aliganj (dist Etah) 8, Etawah (cwc) (dist Etawah) 8, Chandpur (dist Bijnor) 8, Bareilly Cwc (dist Bareilly) 8, Suar (dist Rampur) 8, Agra (cwc) (dist Agra) 7, Gunnaur (dist Sambhal) 7, Chandausi (dist Sambhal) 7, Pilibhit Tehsil (dist Pilibhit) 7, Shahjahanpur (t) (dist Shahjahanpur) 7, Tundla (dist Firozabad) 7, Bisalpur (dist Pilibhit) 7, Bareilly Pbo (dist Bareilly) 7,
- ❖ **East Uttar Pradesh:** Muhammadi (dist Kheri) 14, Ankinghat (dist Kanpur Dehat) 12, Nighasan (dist Kheri) 11, Neemsar (dist Sitapur) 11, Dhaurahara (dist Kheri) 11, Kaimganj (dist Farrukhabad) 11, Mahsi (dist Bahraich) 10, Katarniaghat (dist Bahraich) 10, Nanpara (dist Bahraich) 9, Hardoi Obsy (dist Hardoi) 9, Dabri Fmo (dist Farrukhabad) 8, Kheri Lakhimpur (dist Kheri) 7, Chhibramau (dist Kannauj) 7, Bahraich (dist Bahraich) 7, Shardanagar (dist Kheri) 7,
- ❖ **East Rajasthan:** Viratnagar Sr (dist Jaipur) 8, Asnawar Sr (dist Jhalawar) 8, Bharatpur Tehsil Sr (dist Bharatpur) 7, Shahabad (dist Baran) 7,
- ❖ **Haryana-Chandigarh-Delhi:** Hassanpur (dist Palwal) 7, Delhi Ridge (dist North Delhi) 7,
- ❖ **West Madhya Pradesh:** Ambah (dist Morena) 7, Karhal (dist Sheopur) 7, Porsa (dist Morena) 7,
- ❖ **Bihar:** Barauni (dist Begusarai) 7,

7 Days Rainfall Forecast								
S. No.	Subdivision	13-Sep	14-Sep	15-Sep	16-Sep	17-Sep	18-Sep	19-Sep
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	FWS	FWS	FWS	FWS	FWS	WS	WS
2	ARUNACHAL PRADESH	SCT	SCT	SCT	FWS	SCT	SCT	SCT
3	ASSAM & MEGHALAYA	FWS	FWS	FWS	FWS	FWS	SCT	SCT
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	WS	WS	WS	FWS	FWS	FWS	FWS
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	SCT	FWS	FWS	FWS	SCT	SCT	SCT
6	GANGETIC WEST BENGAL	WS	WS	WS	FWS	SCT	SCT	SCT
7	ODISHA	FWS	FWS	FWS	FWS	SCT	SCT	SCT
8	JHARKHAND	FWS	WS	WS	WS	SCT	SCT	SCT
9	BIHAR	SCT	FWS	FWS	FWS	SCT	SCT	SCT
10	EAST UTTAR PRADESH	SCT	SCT	SCT	FWS	FWS	FWS	SCT
11	WEST UTTAR PRADESH	FWS	SCT	ISOL	ISOL	SCT	SCT	SCT
12	UTTARAKHAND	WS	SCT	SCT	SCT	SCT	SCT	SCT
13	HARYANA CHANDIGARH & DELHI	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
14	PUNJAB	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
15	HIMACHAL PRADESH	FWS	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
16	JAMMU & KASHMIR AND LADAKH	ISOL	ISOL	ISOL	DRY	ISOL	ISOL	ISOL
17	WEST RAJASTHAN	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
18	EAST RAJASTHAN	FWS	SCT	ISOL	ISOL	ISOL	ISOL	SCT
19	WEST MADHYA PRADESH	SCT	SCT	SCT	SCT	SCT	FWS	FWS
20	EAST MADHYA PRADESH	SCT	SCT	SCT	SCT	FWS	FWS	FWS
21	GUJARAT REGION	ISOL	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	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
25	MARATHAWADA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
26	VIDARBHA	SCT	SCT	ISOL	ISOL	SCT	SCT	SCT
27	CHHATTISGARH	SCT	SCT	FWS	FWS	FWS	SCT	SCT
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	FWS	FWS	FWS	FWS	FWS	WS	WS
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	SCT	SCT	SCT	SCT	SCT	SCT
36	LAKSHADWEEP	FWS	FWS	SCT	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 13th; Gangetic West Bengal & north Odisha on 14th September.
- ✓ **Very heavy rainfall** at isolated places over Uttarakhand, West Uttar Pradesh & Gangetic West Bengal, Mizoram & Tripura on 13th; East Madhya Pradesh on 17th; Chhattisgarh on 16th; Jharkhand on 14th & 15th September.
- ✓ **Moderate to High flash flood risk** likely over Uttarakhand & Himachal Pradesh on 13th -14th; **Low to Moderate flash flood risk** likely over few watersheds & neighbourhoods of Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura on 13th -14th 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 rice, maize, soybean, finger millet, pigeon pea and vegetables in **Uttarakhand**; from rice, maize, groundnut, sesame, arhar, black gram and vegetables in **Uttar Pradesh** 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 and Jharkhand
- ✓ Provide mechanical support to horticultural crops & staking to vegetables.
- ✓ Keep the harvested produce at safer place.

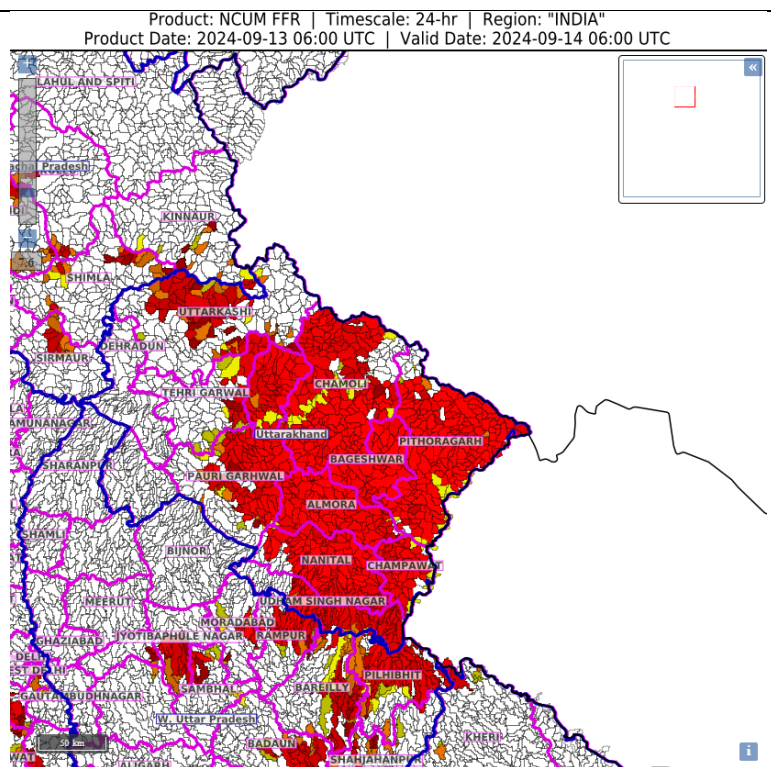
Flash Flood Guidance:**24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 14-09-2024:**

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

Uttarakhand - Almora, Bageshwar, Chamoli, Champawat, Nanital, Pauri Garhwal, Pithoragarh, Rudraprayag, Tehri Garwal, Udham Singh Nagar and Uttarkashi districts.

Himachal Pradesh- Shiomla, Sirmour 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.

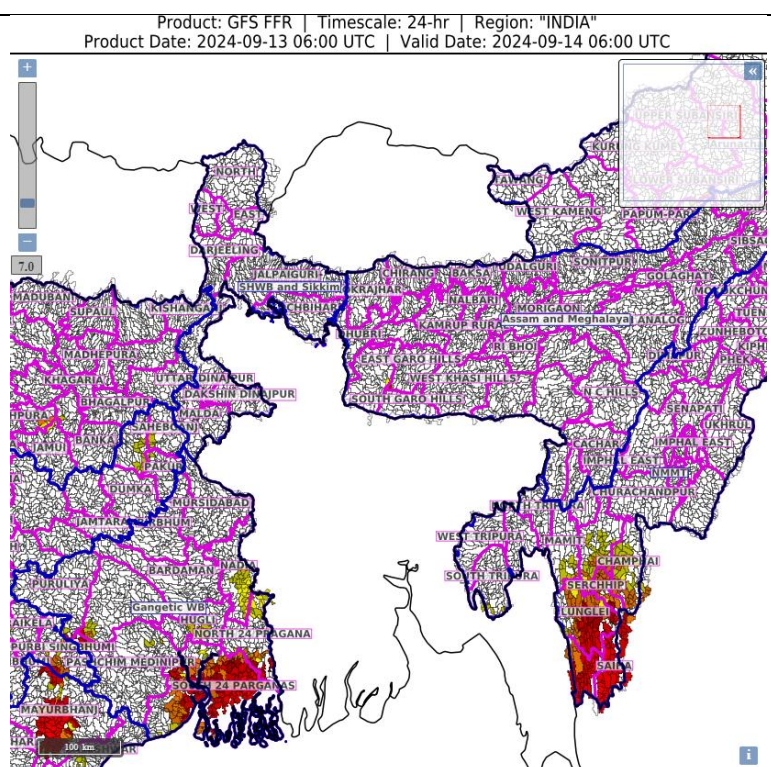
**24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 14-09-2024:**

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

Gangetic West Bengal – South and North 24 Paraganas, East Mednipur, Pashim Medipur, Haora, Hugli, Nadia and Bankura.

NMMT – Saiha, Lunglai, Serchip, Champai, Aizwal, Mamit and Lawngtai 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.

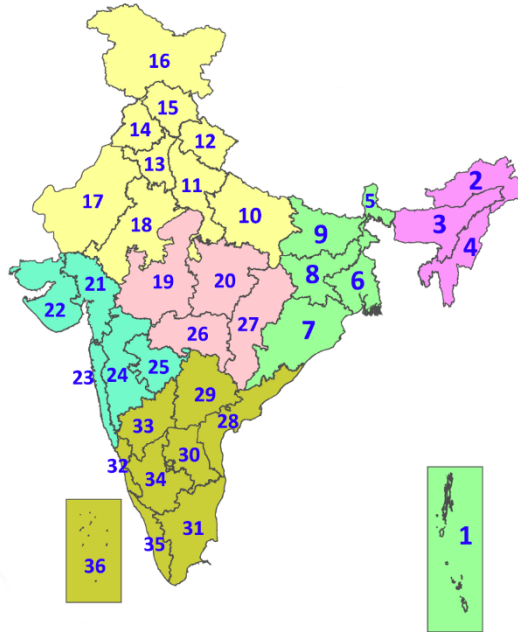


Legends & abbreviations:

- ❖ **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
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