

Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 19<sup>th</sup> August, 2024

Time of Issue: 1320 hours IST

**Subject: (i) Low Pressure Area over south Bangladesh likely to cause heavy to very heavy rainfall over East & Eastcentral India during next 3 days.**  
**(ii) Isolated heavy to very heavy rainfall very likely over Kerala, Tamil Nadu and Lakshadweep during next 2-3 days.**

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

**Heavy to very heavy rainfall** at isolated places over Himachal Pradesh, Uttarakhand, Punjab; **Heavy rainfall** at isolated places over West Uttar Pradesh, East Madhya Pradesh, Madhya Maharashtra, Gangetic West Bengal, Bihar, Chhattisgarh, Jharkhand, Odisha, Assam & Meghalaya, Nagaland, Manipur, Tripura, Telangana, Tamil Nadu.

**Weather Systems:**

- ✓ The **low pressure area** over south Bangladesh & neighbourhood persists over the same region at 0830 hrs IST of today. Initially, it is likely to move north-northwestwards during next 24 hours and west-northwestwards during subsequent 3-4 days across Gangetic West Bengal, Jharkhand & adjoining Bihar and Uttar Pradesh & adjoining Madhya Pradesh.
- ✓ The **monsoon trough** lies near its normal position at mean sea level.
- ✓ A **cyclonic circulation** over Southwest Pakistan & neighbourhood in lower tropospheric levels.
- ✓ A **cyclonic circulation** lies over Rayalaseema & neighbourhood and a trough runs from this cyclonic circulation to Comorin area at lower tropospheric levels.
- ✓ Another **trough** runs from eastcentral Arabian sea off Karnataka coast to Maldives area in lower & middle tropospheric levels.

**Forecast & Warnings (upto 7 days):**

❖ **Northwest India**

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Uttarakhand, East Uttar Pradesh; scattered to fairly widespread rainfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, West Uttar Pradesh; isolated to scattered rainfall over Punjab, Haryana-Chandigarh-Delhi, Rajasthan during the week.
- ✓ Isolated **heavy rainfall** very likely over Jammu division on 19<sup>th</sup> & 20<sup>th</sup>; Himachal Pradesh during 19<sup>th</sup>-21<sup>st</sup>; Uttarakhand, Uttar Pradesh during 19<sup>th</sup> -23<sup>rd</sup>; Punjab, Haryana-Chandigarh on 20<sup>th</sup>, 21<sup>st</sup>; East Rajasthan during 22<sup>nd</sup> - 25<sup>th</sup> August.
- ✓ Isolated **very heavy rainfall** also very likely over Uttarakhand on 19<sup>th</sup> & 20<sup>th</sup> August.

#### ❖ West & Central India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over central India, Konkan & Goa, Madhya Maharashtra; scattered to fairly widespread rainfall over Marathwada, Gujarat State during the week.
- ✓ Isolated **Heavy rainfall** very likely over Marathwada on 19<sup>th</sup>, Madhya Pradesh on 19<sup>th</sup>, 20<sup>th</sup>, 21<sup>st</sup> and during 23<sup>rd</sup> – 25<sup>th</sup>; Vidarbha during 23<sup>rd</sup> – 25<sup>th</sup>; Chhattisgarh on 19<sup>th</sup>, 20<sup>th</sup> and during 23<sup>rd</sup> – 25<sup>th</sup>; Konkan & Goa during 19<sup>th</sup>-25<sup>th</sup>; Madhya Maharashtra on 19<sup>th</sup>, 20<sup>th</sup>, 24<sup>th</sup> & 25<sup>th</sup>; Gujarat Region on 20<sup>th</sup> & 21<sup>st</sup> August.

#### ❖ East & Northeast India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over east India, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and scattered to fairly widespread rainfall over Arunachal Pradesh during the week.
- ✓ Isolated **heavy rainfall** very likely over West Bengal & Sikkim, Bihar, Jharkhand during 19<sup>th</sup>- 23<sup>rd</sup>; Odisha on 19<sup>th</sup>, 20<sup>th</sup> & 23<sup>rd</sup>; Arunachal Pradesh on 20<sup>th</sup>, 22<sup>nd</sup> & 23<sup>rd</sup>; Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 19<sup>th</sup> – 24<sup>th</sup> August.
- ✓ Isolated **very heavy rainfall** also very likely over Nagaland, Manipur, Mizoram & Tripura on 19<sup>th</sup>; Gangetic West Bengal on 19<sup>th</sup> & 20<sup>th</sup>; Bihar on 21<sup>st</sup>; Jharkhand on 21<sup>st</sup> & 22<sup>nd</sup>; Assam & Meghalaya on 20<sup>th</sup> August.

#### ❖ South Peninsular India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Kerala & Mahe, Lakshadweep, Coastal Karnataka; isolated to scattered rainfall over Tamil Nadu, Puducherry & Karaikal, Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka during the week.
- ✓ Isolated **heavy rainfall** very likely over Telangana on 19<sup>th</sup>; Kerala & Mahe, Lakshadweep during 19<sup>th</sup> – 21<sup>st</sup>, Coastal Andhra Pradesh & Yanam, Rayalaseema, South Interior Karnataka on 19<sup>th</sup> & 20<sup>th</sup>; Coastal Karnataka on 19<sup>th</sup>, 20<sup>th</sup> & 24<sup>th</sup> & 25<sup>th</sup>; North Interior Karnataka on 19<sup>th</sup> & 24<sup>th</sup> August.
- ✓ Isolated **very heavy rainfall** also very likely over Tamil Nadu, Puducherry & Karaikal, Lakshadweep on 19<sup>th</sup> & 20<sup>th</sup>; Kerala & Mahe on 20<sup>th</sup> August.

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)

**Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 19.08.2024 (in cm):**

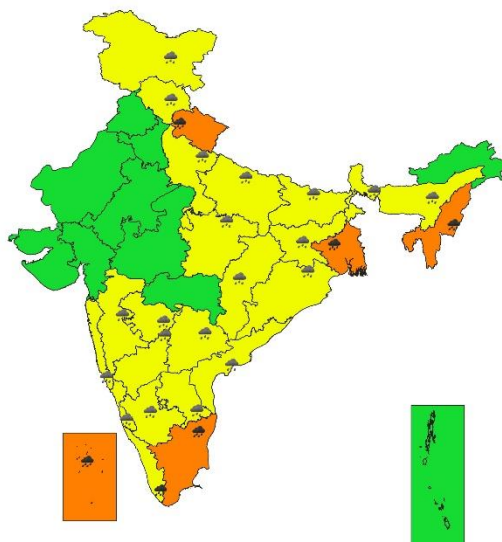
- ❖ **Uttarakhand:** Haripur (Dehradun) 18, Loharkhet (Bageshwar) 17, Sahastradhara (Dehradun) 15, Didihat (Pithoragarh) 10, Ukhimath (Rudrapur) 8, Bhainsiyachhana (Almora) 7, Mussoorie (Dehradun) 7, Kanalicchhina (Pithoragarh) 7;
- ❖ **Himachal Pradesh:** Naina Davi (dist Bilaspur) 14, Baijnath (dist Kangra) 12, Guler (dist Kangra) 8;
- ❖ **Punjab:** Pathankot Iaf (dist Pathankot) 13, Ranjit Sagar Dam Site (dist Pathankot) 9;
- ❖ **Tamil Nadu:** Thaluthalai (dist Perambalur) 10, Manjalar (dist Theni), Andipatti (dist Theni) 8 each, Musiri (dist Thiruchirappalli), Thalaivasal (dist Salem) 7 each;
- ❖ **East Madhya Pradesh:** Rampur (dist Sidhi) 10, Pandhurna (dist Chindwara) 9, Sidhi (gopadbanas) (dist Sidhi) 8, Nagode (dist Satna) 7, Umari-aws (dist Umari) 7;
- ❖ **West Uttar Pradesh:** Agra (dist Agra) 10,
- ❖ **Telangana:** Gudurwrgl (dist Mahabubabad) 8, Gajwel (dist Siddipet) 7, Medak (dist Medak) 7;
- ❖ **Odisha:** Bamra (Sambalpur) 8, Dabugan (Nawarangpur) 7, Balimundali (Mayurbhanj) 7, Kosagumda (Nawarangpur) 7, Nh5 Gobindpur (Balasore) 7, Samakhunta (Mayurbhanj) 7, Betanati (Mayurbhanj) 7,
- ❖ **Chhattisgarh:** Kusmi (dist Balrampur) 7;
- ❖ **Bihar:** Bihar Shrif (dist Nalanda) 7;
- ❖ **Assam & Meghalaya:** Diphu (dist Karbi Anglong) 7, Lumding (dist Nagaon) 7,
- ❖ **Nagaland, Manipur, Mizoram & Tripura:** Dimapur (dist Dimapur) 8, Senapati (dist Senapati) 7,
- ❖ **Jharkhand:** Palganj (dist Giridih) 7,
- ❖ **Madhya Maharashtra:** Ambegaon Ghodegaon (dist Pune) 7,
- ❖ **Gangetic West Bengal:** Mo Saltlake (dist North 24 Parganas) 7, Mohanpur (dist West Midnapore) 7, Dum Dum (dist North 24 Parganas) 7.

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

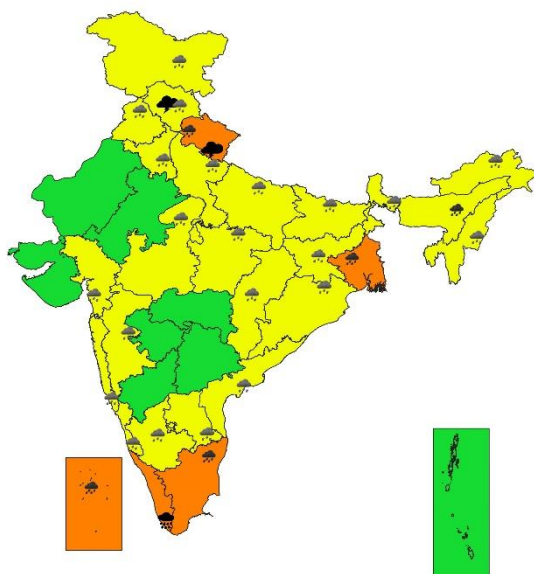
- As the lead period increases forecast accuracy decreases.



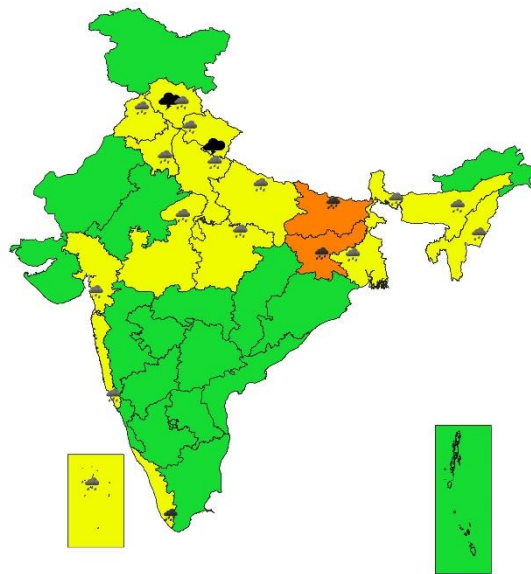
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1  
19-08-2024



SUBDIVISIONWISE WEATHER WARNING FOR DAY 2  
20-08-2024

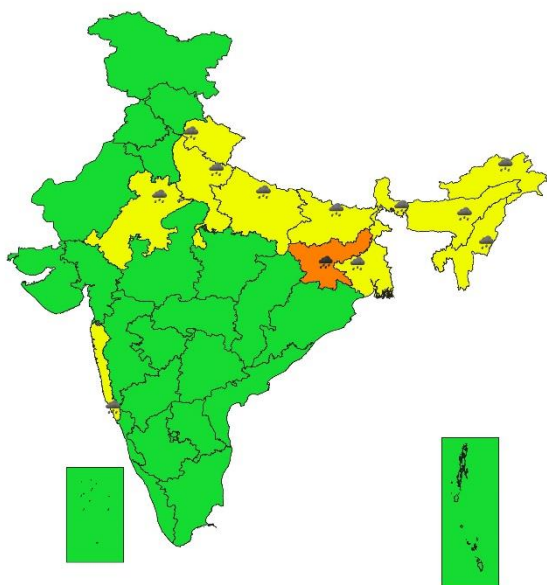


SUBDIVISIONWISE WEATHER WARNING FOR DAY 3  
21-08-2024

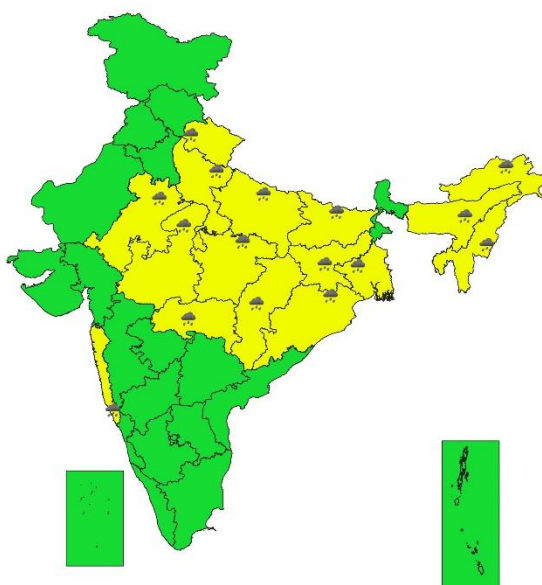




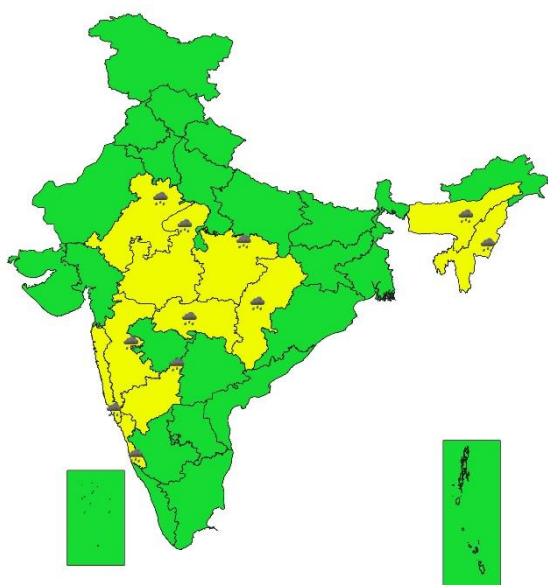
SUBDIVISIONWISE WEATHER WARNING FOR DAY 4  
22-08-2024



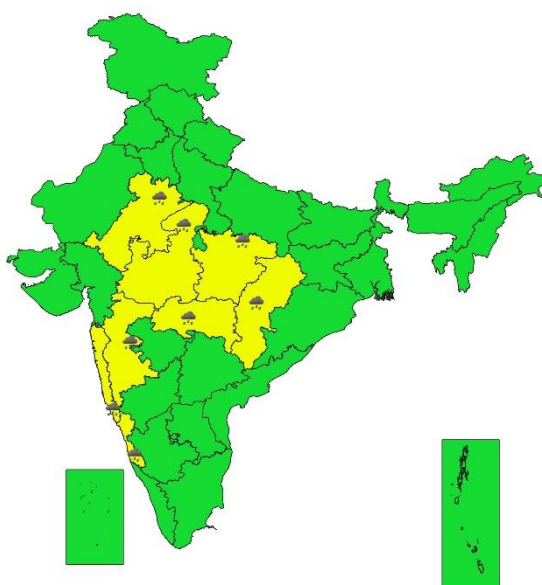
SUBDIVISIONWISE WEATHER WARNING FOR DAY 5  
23-08-2024



SUBDIVISIONWISE WEATHER WARNING FOR DAY 6  
24-08-2024



SUBDIVISIONWISE WEATHER WARNING FOR DAY 7  
25-08-2024



- 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 over Nagaland, Manipur, Mizoram & Tripura on 19<sup>th</sup>; Uttarakhand, Tamil Nadu, Puducherry & Karaikal, Lakshadweep, Gangetic West Bengal on 19<sup>th</sup> & 20<sup>th</sup>; Kerala & Mahe, Assam & Meghalaya on 20<sup>th</sup>; Bihar on 21<sup>st</sup>; Jharkhand on 21<sup>st</sup> & 22<sup>nd</sup> August.
- ✓ **Low to Moderate flash flood risk** likely over few watersheds & neighbourhoods of Uttarakhand, Nagaland, Manipur, Mizoram & Tripura, Assam & Meghalaya on 19<sup>th</sup> & 20<sup>th</sup> August. **(ANNEXURE IV)**
  - ✓ 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 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)

## Action Suggested

- ✓ 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 field crops and horticultural crops in Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Jammu division, Himachal Pradesh, Uttarakhand, Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, Gangetic West Bengal, Odisha, Jharkhand, Tamil Nadu, Kerala and Lakshadweep,
- Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in West Madhya Pradesh, Vidarbha, Sub Himalayan West Bengal, Coastal Andhra Pradesh, Rayalaseema and Madhya Maharashtra.
- Provide mechanical support to horticultural crops & staking to vegetables.

**Flash Flood Guidance:**

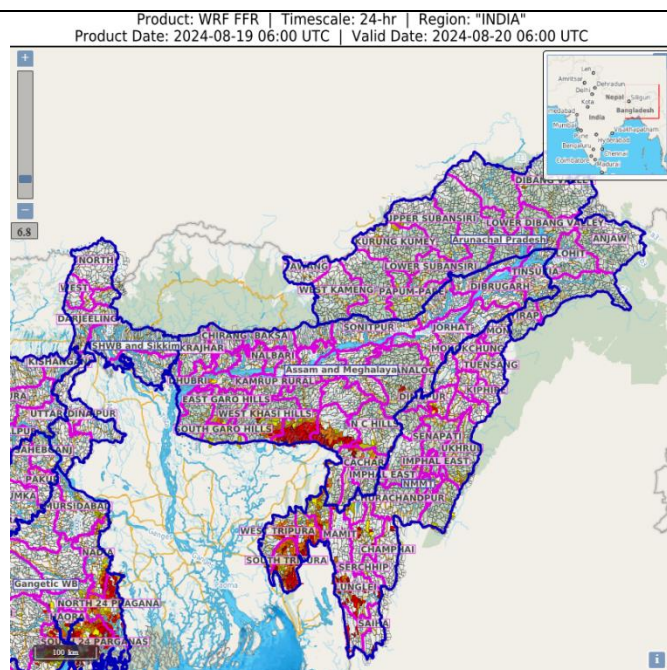
24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 20-08-2024 :

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

NMMT - Dhalai, Mamit, North Tripura, South Tripura, Kolasib, Lunglei West Tripura, Chandel, Distrcits

ASSAM & MEGHALAYA – East Khasi, West Khasi Hills, Jantia Hills, NC Hills, Cachar, Karimganj 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.

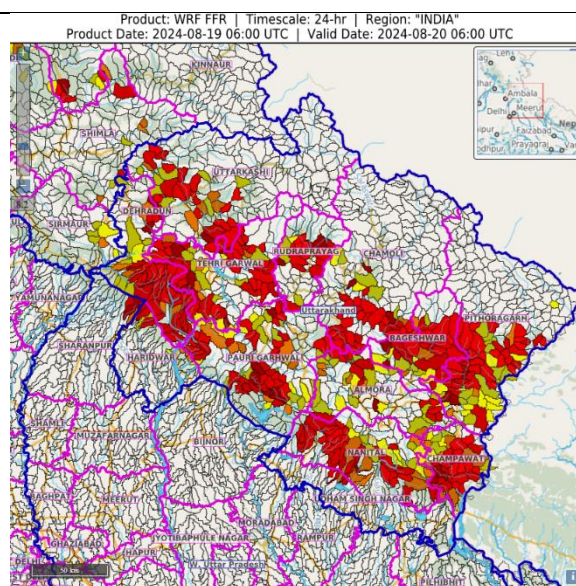


24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 20-08-2024 :

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

Uttarakhand - Almora, Bageshwar, Chamoli, Champawat, Dehradun, Nanital, Pauri Garhwal, Pithoragarh, Rudraprayag, Tehri Garwal and Uttarkashi 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.



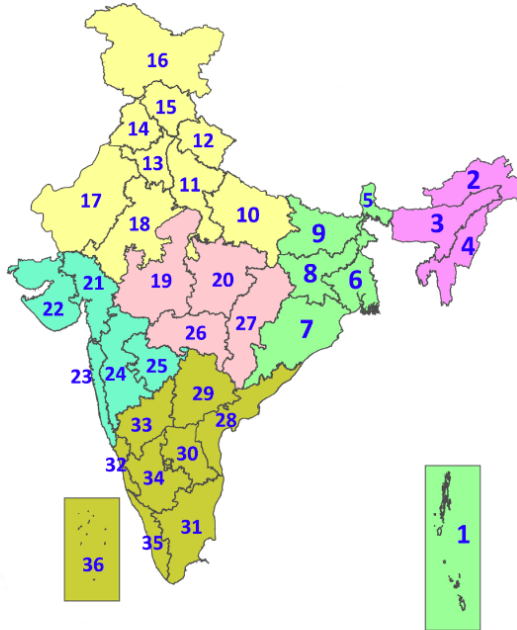


### **Legends & abbreviations:**

- ❖ **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)

\* 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)