



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 03rd September, 2024

Time of Issue: 1315 hours IST

Subject: Extremely heavy rainfall likely over Gujarat region and heavy to very heavy over Saurashtra & Kutch and West Madhya Pradesh and southeast Rajasthan today and decrease thereafter.

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 Gujarat Region; **Heavy to very heavy rainfall** at isolated places over West Madhya Pradesh, Konkan & Goa, Madhya Maharashtra, Coastal Karnataka; **Heavy rainfall** at isolated places over Punjab, Vidarbha, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Telangana, East Rajasthan, South Interior Karnataka, Himachal Pradesh, Jammu-Kashmir.

Weather Systems:

- ✓ The Well marked low pressure area over central parts of Vidarbha & neighbourhood now seen as a low pressure area over west Vidarbha & neighbourhood.
- ✓ The western end of monsoon trough at mean sea level is near its normal position and its eastern end is south of its normal position. It is likely to continue so for next 2-3 days.
- ✓ A cyclonic circulation lies over Saurashtra & neighbourhood in middle tropospheric levels.
- ✓ A shear zone runs roughly along 20°N over north Peninsular India in lower tropospheric levels.
- ✓ A fresh **low pressure area** is likely to form over westcentral and adjoining northwest Bay of Bengal around 5th September, 2024.

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

❖ **West & Central India:**

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over West & Central India during the week.
- ✓ **Extremely heavy to exceptional heavy rainfall** at isolated places very likely in the South Gujarat region today.
- ✓ Isolated **very heavy rainfall** also very likely over Saurashtra & Kutch, West Madhya Pradesh on 03rd; Gujarat Region 04th September.
- ✓ Isolated **heavy rainfall** very likely over Konkan & Goa, Gujarat Region during next 7 days; West Madhya Pradesh, Saurashtra & Kutch during 03rd – 07th; East Madhya Pradesh on 04th & 05th; Vidarbha on 03rd & 04th; Chhattisgarh during 04th -09th; ghat areas of Madhya Maharashtra on 03rd and during 06th -09th 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 Tamil Nadu, Puducherry & Karaikal, North Interior Karnataka, Rayalaseema and Interior Karnataka during the week.

- ✓ Isolated **heavy rainfall** very likely over Kerala & Mahe, Interior Karnataka on 03rd; Coastal Andhra Pradesh & Yanam, Coastal Karnataka during 03rd – 07th; Telangana on 03rd & 04th September.

❖ **East & Northeast India**

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Northeast India, Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim; Scattered to Fairly widespread light/moderate rainfall very likely over Gangetic West Bengal, Bihar, Jharkhand & Odisha during the week.
- ✓ Isolated **heavy rainfall** very likely over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during next 7 days; Arunachal Pradesh during 03rd – 06th; Andaman & Nicobar Islands on 03rd & 04th; Sub-Himalayan West Bengal & Sikkim on 04th & 0th; Bihar on 04th; Odisha during 05th – 07th September.

❖ **Northwest India**

- ✓ Scattered to Fairly widespread light/moderate rainfall very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Rajasthan; isolated to scattered rainfall over Punjab & Haryana-Chandigarh-Delhi during the week.
- ✓ Isolated **heavy rainfall** very likely over East Rajasthan during next 7 days; Uttarakhand during 03rd – 06th; Punjab, Haryana on 03rd; West Uttar Pradesh on 05th; East Uttar Pradesh on 05th & 06th; West Rajasthan during 03rd – 07th September.

For more details, kindly refer to National bulletin on: <https://rsmcnewdelhi.imd.gov.in/>

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

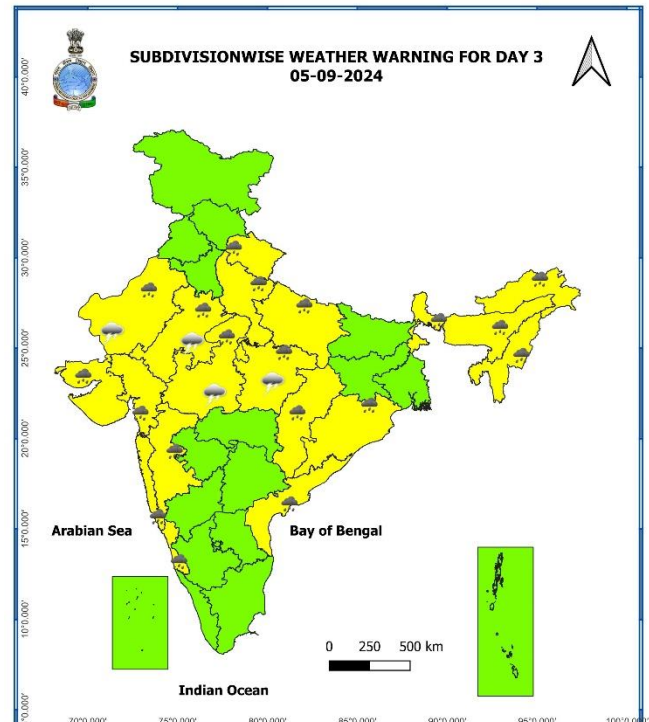
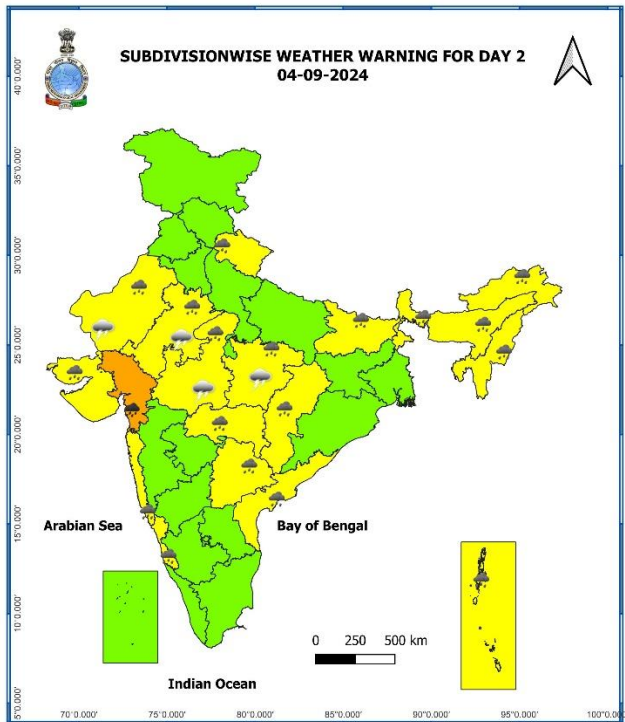
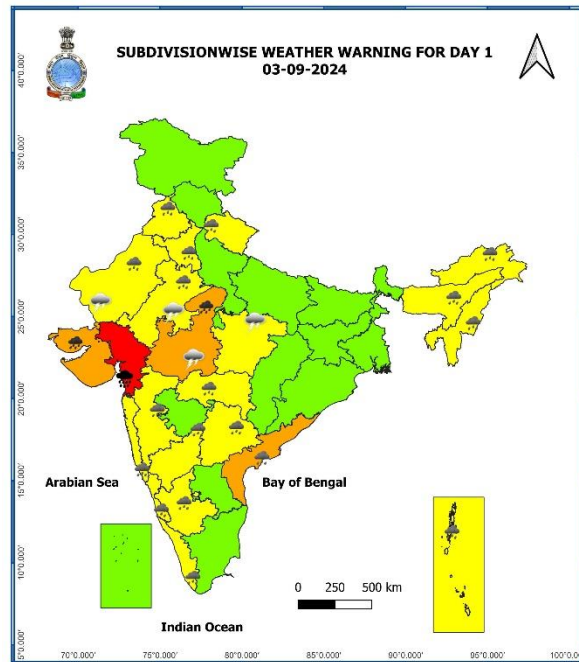
For District wise warnings refer: <https://mausam.imd.gov.in/responsive/districtWiseWarningGIS.ph>

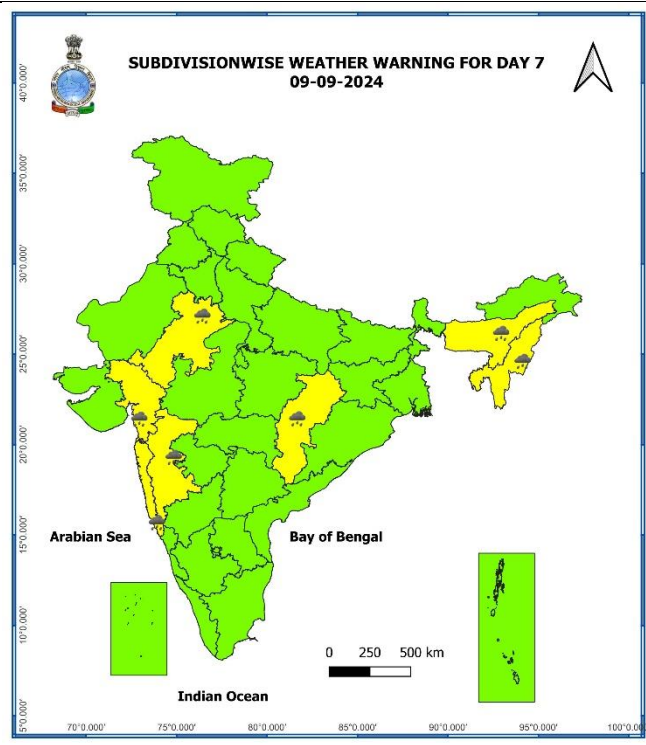
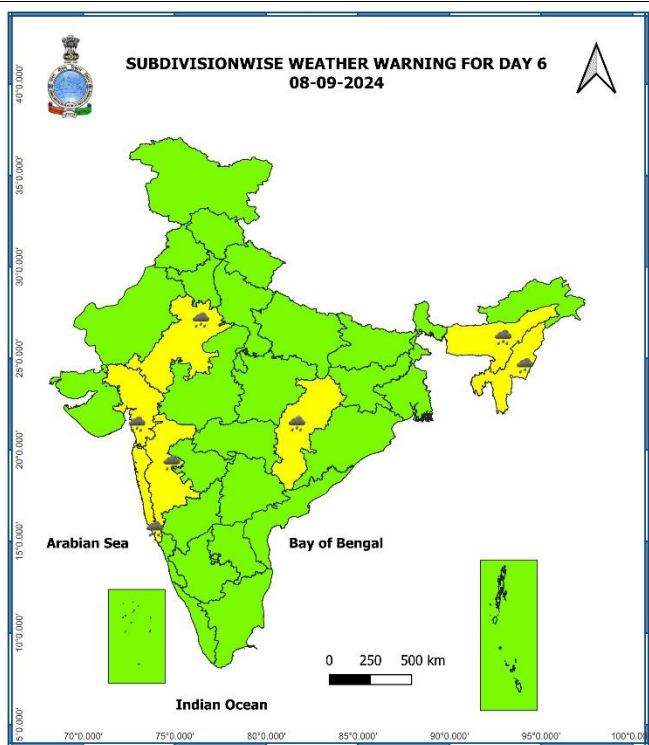
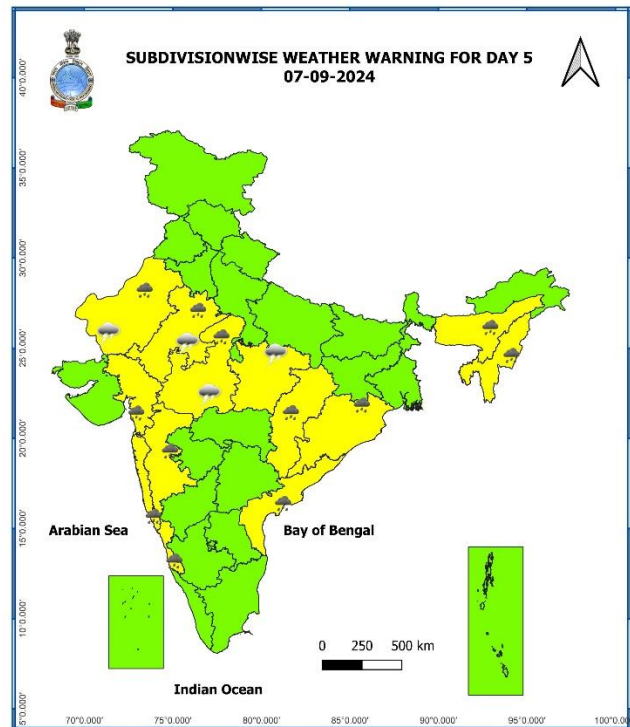
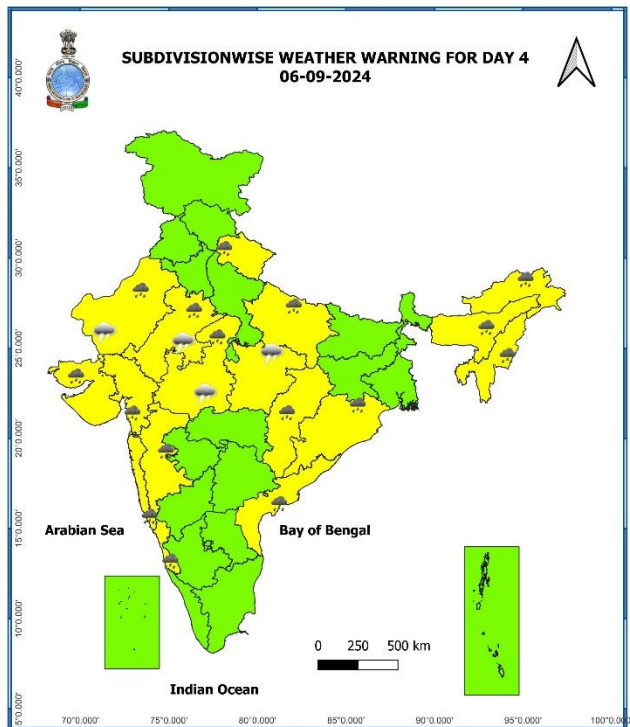
Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 03.09.2024 (in cm):

- ❖ **Gujarat Region:** Valia (dist Bharuch) 37, Songadh (dist Tapi) 25, Mangrol (dist Surat) 25, Vyara (dist Tapi) 22, Maktampur_aws (dist Bharuch) 20, Bharuch (dist Bharuch) 19, Nadiad (dist Kheda) 17, Netrang (dist Bharuch) 17, Tilakwada (dist Narmada) 17, Dolvan (dist Tapi) 16, Vansda (dist Navsari) 15, Uchchhal (dist Tapi) 15, Subir (dist Dangs) 15, Daman (dist Daman) 14, Bayad_arg (dist Aravalli) 13, Kapadvanj (dist Kheda) 13, Karjan (dist Vadodara) 12, Lunawada (dist Mahisagar) 12, Valod (dist Tapi) 12, Nandod (dist Narmada) 12, Valsad_Kvk Aws (dist Valsad) 12, Mandvi (dist Surat) 12, Prantij (dist Sabarkantha) 12, Kathalal (dist Kheda) 11, Himatanagar (dist Sabarkantha) 11, Bayad (dist Aravalli) 11, Mahesana (dist Mehsana) 11, Waghai (dist Dangs) 10, Garudeshwar (dist Narmada) 10, Umerpada (dist Surat) 10, Virpur (dist Mahisagar) 10, Vagra (dist Bharuch) 10, Balasinor (dist Mahisagar) 10, Kamrej (dist Surat) 10,
- ❖ **Coastal Karnataka:** Castle Rock (dist Uttara Kannada) 18, Kadra (dist Uttara Kannada) 8,
- ❖ **Konkan & Goa:** Valpoi (dist North Goa) 18, Dodamarg (dist Sindhudurg) 14, Ponda (dist North Goa) 11, Talasari (dist Palghar) 9, Lanja (dist Ratnagiri) 8, Vaibhavwadi (dist Sindhudurg) 8, Sanguem (dist South Goa) 7, Rajapur (dist Ratnagiri) 7, Kankavli (dist Sindhudurg) 7, Pernem (dist North Goa) 7,
- ❖ **Madhya Maharashtra:** Navapur (dist Nandurbar) 16, Nandgaon (dist Nashik) 9, Gaganbawada (dist Kolhapur) 7, Gidhade - Fmo (dist Dhule) 7,
- ❖ **West Madhya Pradesh:** Gandhwani (dist Dhar) 16, Kukshi (dist Dhar) 14, Sardarpur (dist Dhar) 13, Bagh (dist Dhar) 13, Jabot (dist Alirajpur) 12, Jhabua-aws (dist Jhabua) 11, Dahi (dist Dhar) 11, Rama (dist Jhabua) 11, Alirajpur (dist Alirajpur) 10, Udaigarh (dist Alirajpur) 8, Meghnagar (dist Jhabua) 8, Ranapur (dist Jhabua) 7, Manawar (dist Dhar) 7, Khalwa (dist Khandwa) 7,
- ❖ **Telangana:** Tekmal (dist Medak) 11, Papannapet (dist Medak) 8, Kowdipalle (dist Medak) 8, Naga Reddipet (dist Kamareddy) 7, Yellareddy (dist Kamareddy) 7,
- ❖ **East Rajasthan:** Bhungra Sr (dist Banswara) 11, Devel Sr (dist Dungarpur) 10, Sajjangarh Sr (dist Banswara) 10, Kherwara (dist Udaipur) 10, Ganeshpur Sr (dist Dungarpur) 7, Kesarpura Sr (dist Banswara) 7, Sallopat Sr (dist Banswara) 7,
- ❖ **South Interior Karnataka:** Kammardi (dist Chikkamagaluru) 10, Agumbe Emo (dist Shivamogga) 10, Linganamakki Hms (dist Shivamogga) 9,
- ❖ **Punjab:** Madhopur (dist Pathankot) 9,
- ❖ **Himachal Pradesh:** Baldwara (dist Mandi) 9, Bharari (dist Hamirpur) 7, Jogindarnagar (dist Mandi) 7,
- ❖ **Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad:** Kathua_kv (dist Kathua) 9, Jammu Aero (dist Jammu) 7, Kathua (dist Kathua) 7, Udhampur(iaf) (dist Udhampur) 7,
- ❖ **Arunachal Pradesh:** Deomali (dist Tirap) 9, Tuting (dist Upper Siang) 8,
- ❖ **Marathwada:** Soegaon (dist Chh. Sambhajinagar) 8, Jafrabad (dist Jalna) 7,
- ❖ **Nagaland, Manipur, Mizoram & Tripura:** Sonamura (dist Sipahijala) 8, Lamphet_agri (dist Imphal West) 7, Mokokchang (dist Mokokchung) 7,
- ❖ **Vidarbha:** Mangrulpir (dist Washim) 8,
- ❖ **Assam & Meghalaya:** Nongstein (dist West Khasi Hills) 7, Kampur (dist Nagaon) 7,
- ❖ **Odisha:** Hatadihi (Keonjhar) 7,
- ❖ **Uttarakhand:** Ukimath 7,

7 Days Rainfall Forecast								
S. No.	Subdivision	03-Sep	04-Sep	05-Sep	06-Sep	07-Sep	08-Sep	09-Sep
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	WS	WS	WS	WS	SCT	SCT	SCT
2	ARUNACHAL PRADESH	FWS	FWS	FWS	SCT	SCT	SCT	SCT
3	ASSAM & MEGHALAYA	WS	WS	FWS	FWS	SCT	SCT	SCT
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	WS	WS	FWS	FWS	FWS	WS	WS
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	FWS	WS	WS	FWS	SCT	SCT	SCT
6	GANGETIC WEST BENGAL	FWS	SCT	SCT	SCT	FWS	FWS	FWS
7	ODISHA	SCT	SCT	FWS	FWS	FWS	FWS	FWS
8	JHARKHAND	SCT	FWS	SCT	SCT	SCT	FWS	FWS
9	BIHAR	SCT	FWS	SCT	SCT	SCT	SCT	SCT
10	EAST UTTAR PRADESH	ISOL	SCT	FWS	FWS	SCT	ISOL	ISOL
11	WEST UTTAR PRADESH	ISOL	SCT	FWS	FWS	SCT	SCT	ISOL
12	UTTARAKHAND	FWS	FWS	FWS	FWS	SCT	SCT	SCT
13	HARYANA CHANDIGARH & DELHI	SCT	SCT	SCT	ISOL	ISOL	ISOL	ISOL
14	PUNJAB	SCT	SCT	SCT	ISOL	ISOL	ISOL	ISOL
15	HIMACHAL PRADESH	FWS	FWS	SCT	SCT	SCT	ISOL	ISOL
16	JAMMU & KASHMIR AND LADAKH	FWS	ISOL	ISOL	ISOL	ISOL	DRY	DRY
17	WEST RAJASTHAN	FWS	FWS	FWS	SCT	SCT	ISOL	ISOL
18	EAST RAJASTHAN	WS	WS	FWS	FWS	FWS	FWS	FWS
19	WEST MADHYA PRADESH	FWS	FWS	FWS	FWS	FWS	SCT	SCT
20	EAST MADHYA PRADESH	SCT	FWS	FWS	FWS	FWS	SCT	SCT
21	GUJARAT REGION	WS	WS	WS	WS	WS	WS	WS
22	SAURASHTRA & KUTCH	WS	WS	WS	WS	FWS	FWS	FWS
23	KONKAN & GOA	WS	WS	WS	WS	WS	WS	WS
24	MADHYA MAHARASHTRA	WS	FWS	FWS	FWS	FWS	FWS	FWS
25	MARATHAWADA	FWS	SCT	SCT	SCT	SCT	SCT	SCT
26	VIDARBHA	WS	WS	FWS	FWS	FWS	FWS	FWS
27	CHHATTISGARH	SCT	FWS	FWS	FWS	FWS	FWS	FWS
28	COASTAL ANDHRA PRADESH & YANAM	FWS	FWS	SCT	SCT	SCT	FWS	FWS
29	TELANGANA	FWS	FWS	SCT	SCT	SCT	SCT	SCT
30	RAYALASEEMA	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
32	COASTAL KARNATAKA	WS	WS	WS	WS	WS	WS	WS
33	NORTH INTERIOR KARNATAKA	SCT	ISOL	SCT	SCT	SCT	SCT	SCT
34	SOUTH INTERIOR KARNATAKA	SCT	ISOL	ISOL	SCT	SCT	SCT	SCT
35	KERALA & MAHE	WS	WS	FWS	FWS	FWS	FWS	FWS
36	LAKSHADWEEP	WS	FWS	SCT	SCT	SCT	FWS	FWS

- 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

- **Heavy to very heavy with isolated extremely heavy rainfall** very likely over Gujarat Region on 03rd September.
- **Very heavy rainfall** at isolated over Saurashtra & Kutch, West Madhya Pradesh on 03rd; Gujarat Region 04th September.
- **Low to Moderate flash flood risk** likely over few watersheds & neighbourhoods of East Rajasthan, West Madhya Pradesh, Gujarat Region on 03rd & 04th 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.
- ✓ Reduction of visibility over sea area due to sea spray induced by strong wind and 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

- ✓ Judicious regulation of offshore/onshore Operations
- ✓ 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 field crops and horticultural crops in **Gujarat, Maharashtra, Himachal Pradesh, Uttarakhand, East Rajasthan, West Madhya Pradesh, Karnataka and Telangana.**
- Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Andaman & Nicobar Islands, Chhattisgarh, Kerala and North Eastern States.
- Drain out excess water from rice, castor, cotton, pearl millet, groundnut, sesame and maize fields in Gujarat; from rice, soybean, red gram, maize, cotton and Turmeric in Telangana to prevent water logging.
- Store the harvested produce of black gram and green gram at safer places in **Vidarbha, Marathwada and Ghat areas of 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 04-09-2024 :**

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

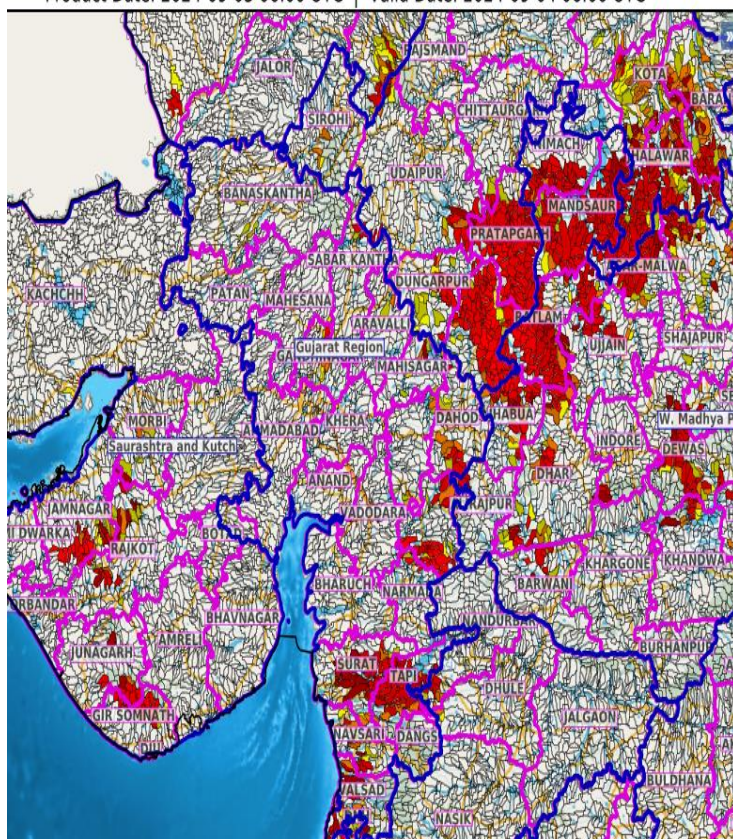
East Rajasthan - Banswara, Baran, Bundi, Dungarpur, Jhalawar, Kota, Pratapgarh, Sirohi and Udaipur districts.

West Madhya Pradesh - Agar-Malwa, Alirajpur, Barwani, Dewas, Harda, Indore, Jhabua, Khandwa, Ratlam and Ujjain districts.

Gujarat Region - Dadar & Nagar Haveli, Daman, Anand, Aravalli, Chhota Udepur, Dahod, Gandhinagar, Mahisagar, Narmada, Navsari, Panchmahal, Surat, Tapi and Valsad districts. Saurashtra & Kutch - Gir Somnath, Jamnagar, Junagarh, Rajkot and Morbi 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.

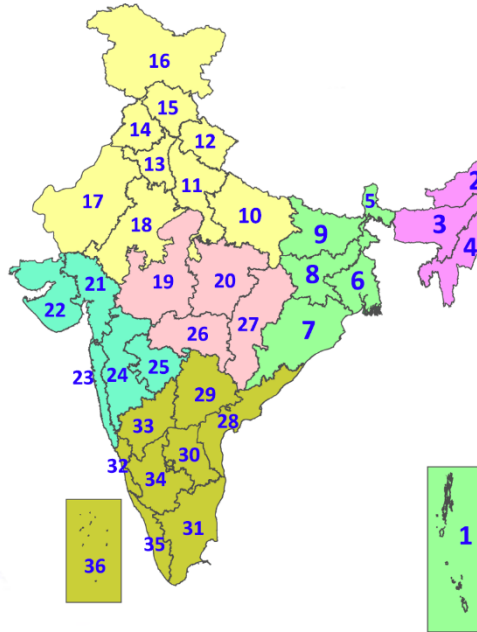
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Product Date: 2024-09-03 06:00 UTC | Valid Date: 2024-09-04 06:00 UTC

**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°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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