



All India Impact Based Weather Warning Bulletin

Monday 20 September 2021
Time of Issue: 0745 hours IST

(MORNING)

20 September (Day 1): ♦ **Heavy to very heavy rainfall** very likely at isolated places over East Rajasthan and Gujarat Region; **heavy rainfall** very likely at isolated places over Uttarakhand, Southwest Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, Gangetic West Bengal, Odisha, Andaman & Nicobar Islands, Saurashtra & Kutch and Tamilnadu, Puducherry & Karaikal.

♦ **Thunderstorm accompanied with lightning** very likely at isolated places over East Rajasthan, Madhya Pradesh, Vidarbha, Bihar, Jharkhand, Gangetic West Bengal, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gujarat State, Madhya Maharashtra, Marathwada, Konkan & Goa, Coastal Andhra Pradesh & Yanam, Telangana and Tamilnadu, Puducherry & Karaikal.

♦ **Squally weather** (wind speed 40-50 kmph to gusting 60 kmph) very likely over the Southwest & Westcentral Arabian Sea. Fishermen are advised not to venture into these areas.

21 September (Day 2): ♦ **Heavy to very heavy rainfall** very likely at isolated places over Gujarat Region; **heavy rainfall** very likely at isolated places over Himachal Pradesh, Uttarakhand, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Andaman & Nicobar Islands, Assam & Meghalaya, Saurashtra & Kutch, Madhya Maharashtra, Marathwada, Konkan & Goa, Telangana and Tamilnadu, Puducherry & Karaikal.

♦ **Thunderstorm accompanied with lightning** very likely at isolated places over Uttarakhand, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Kerala & Mahe and Tamilnadu, Puducherry & Karaikal.

22 September (Day 3): ♦ **Heavy to very heavy rainfall** likely at isolated places over Saurashtra & Kutch; **heavy rainfall** very likely at isolated places over Uttarakhand, Rajasthan, Madhya Pradesh, Vidarbha, Andaman & Nicobar Islands, Assam & Meghalaya, Gujarat Region, Madhya Maharashtra, Marathwada, Konkan & Goa and Tamilnadu, Puducherry & Karaikal.

♦ **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand, Uttar Pradesh, Rajasthan, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh & Yanam, Rayalaseema, Kerala & Mahe and Tamilnadu, Puducherry & Karaikal.

23 September (Day 4): ♦ **Heavy to very heavy rainfall** likely at isolated places over Saurashtra & Kutch; **heavy rainfall** very likely at isolated places over Uttarakhand, East Rajasthan, West Madhya Pradesh, Andaman & Nicobar Islands, Gujarat Region, Konkan & Goa and Tamilnadu, Puducherry & Karaikal.

♦ **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand, Uttar Pradesh, Rajasthan, Kerala & Mahe and Tamilnadu, Puducherry & Karaikal.

24 September (Day 5): ♦ **Heavy rainfall** likely at isolated places over Uttarakhand, East Rajasthan, East Uttar Pradesh, Gujarat state, Andaman & Nicobar Islands and Tamilnadu, Puducherry & Karaikal.

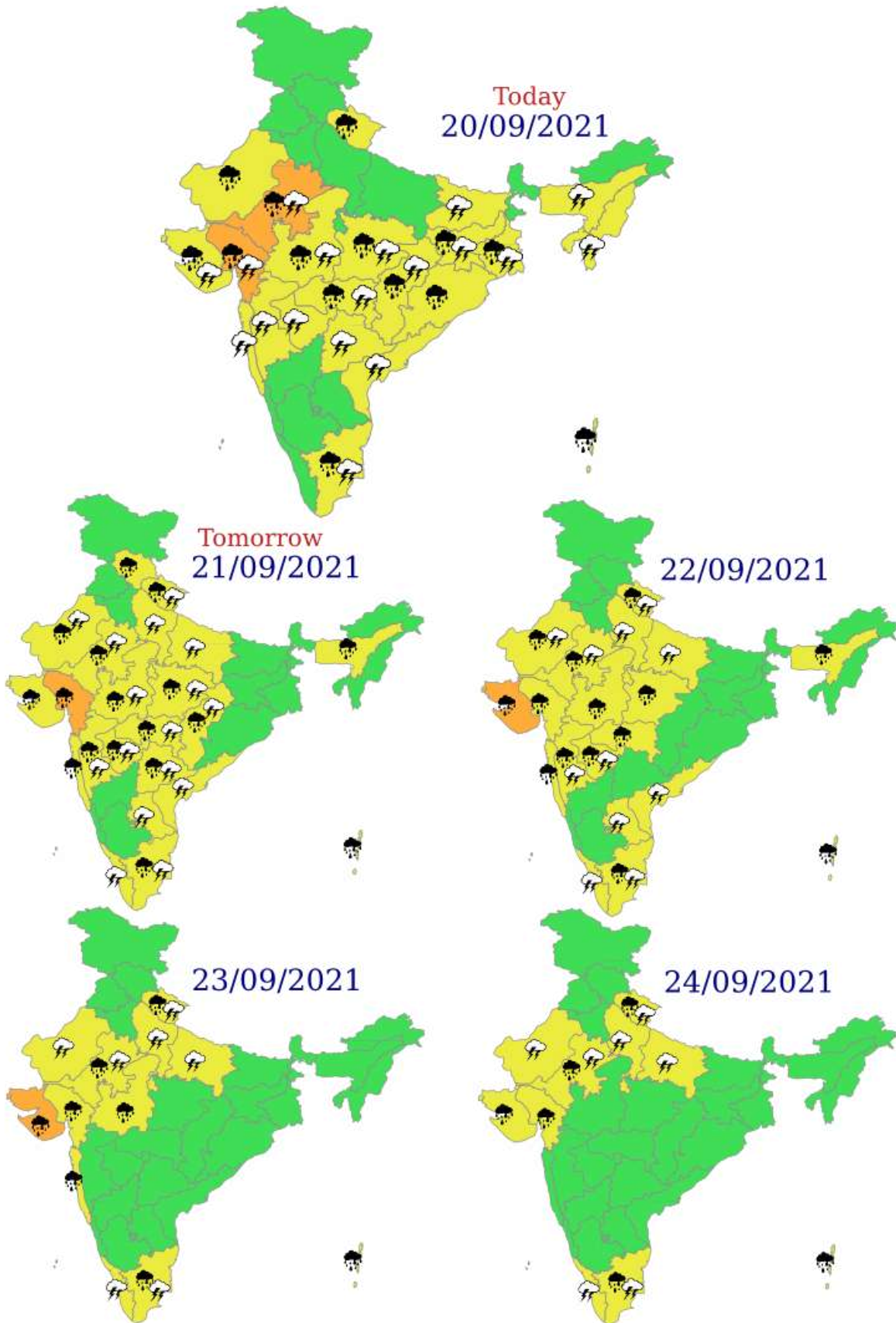
♦ **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand, Uttar Pradesh, Rajasthan, Kerala & Mahe and Tamilnadu, Puducherry & Karaikal.

* Red color warning does not mean "Red Alert" Red color 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 www.imd.gov.in or contact : +91 11 24631913, 24643965, 24629798

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EXPECTED IMPACT & ACTION SUGGESTED due to **Very Heavy Rainfall** over East Rajasthan on 20th; over Gujarat region on 20th & 21th and over Saurashtra & Kutch on 22nd & 23rd September, 2021.

A. Impact Expected

- Localized Flooding of roads, inundation and 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
- 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)

B. 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.

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LEGENDS

WARNING

WARNING (TAKE ACTION)
ALERT (BE PREPARED)
WATCH (BE UPDATED)
NO WARNING (NO ACTION)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75



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 $\geq -6.5^{\circ}\text{C}$

(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 $\leq -4.5^{\circ}\text{C}$ or 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 Storm: Wind speed > 220 kmph (> 119 knots)

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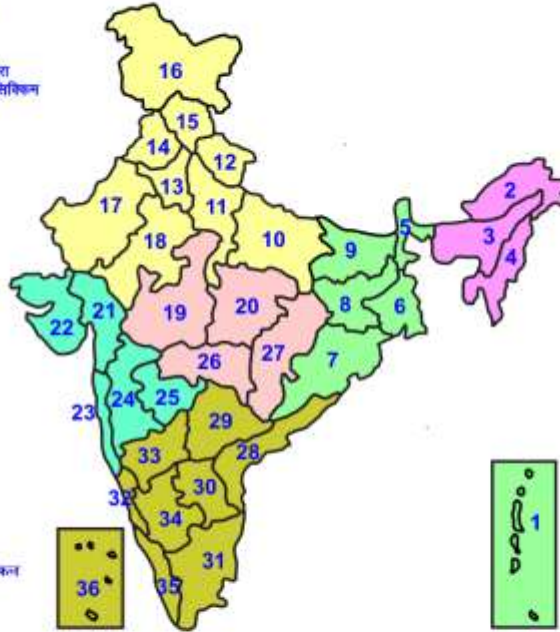
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LEGENDS

- 1 अंडमान और निकोबार द्वीप समूह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड, मनीपुर, मिजोरम और त्रिपुरा
- 5 उप हिमालय पश्चिम बंगाल एंवम सिक्किम
- 6 पश्चिम बंगाल
- 7 ओडिशा
- 8 झारखंड
- 9 बिहार
- 10 पूर्वी उत्तर प्रदेश
- 11 पश्चिम उत्तर प्रदेश
- 12 उत्तराखण्ड
- 13 हरियाणा चंडीगढ़ एंवम दिल्ली
- 14 पंजाब
- 15 हिमाचल प्रदेश
- 16 जम्मू एंवम कश्मीर एंवम लद्दाख
- 17 पश्चिम राजस्थान
- 18 पूर्वी राजस्थान
- 19 पश्चिम मध्य प्रदेश
- 20 पूर्वी मध्य प्रदेश
- 21 गुजरात क्षेत्र
- 22 सीलचुट्ट एंवम कच्छ
- 23 कर्नाटक एंवम गोवा
- 24 मध्य महाराष्ट्र
- 25 महाराष्ट्र
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 उत्तरी आंध्र प्रदेश एंवम चन्नम
- 29 तेलंगाना
- 30 तमिलनाडु
- 31 तमिलनाडु, पुदुचेरी एंवम केरल
- 32 तट्टिक कर्नाटक
- 33 आंतरिक उत्तरी कर्नाटक
- 34 आंतरिक दक्षिणी कर्नाटक
- 35 केरल एंवम माहें
- 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. Orissa
8. Jharkhand
9. Bihar
10. East Uttar Pradesh
11. West Uttar Pradesh
12. Uttarakhand
13. Haryana, Chd & 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. Marathawada
26. Vidharbha
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)

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Kindly download **MAUSAM APP** for location specific forecast & warning, **MEGHDOOT APP** for Agromet advisory and **DAMINI APP** for Lightning Warning & visit state MC/RMC websites for district wise warning.

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