



All India Impact Based Weather Warning Bulletin

Saturday 16 October 2021

Time of Issue: 0815 hours IST

(MORNING)

16 October (Day 1): ♦ **Heavy to very heavy rainfall** very likely at isolated places over Kerala & Mahe and interior Tamilnadu and **heavy rainfall** at isolated places over Lakshadweep, Vidarbha, Chhattisgarh, Odisha, Andaman & Nicobar Islands, Coastal & South Interior Karnataka and north Coastal Andhra Pradesh and Telangana.

♦ **Thunderstorm accompanied with lightning & gusting wind** (speed reaching 40-50 kmph) very likely at isolated places over Andaman & Nicobar Islands and **with lightning** at isolated places over Bihar, Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Gangetic West Bengal, Odisha, Jharkhand, Madhya Maharashtra, Marathwada, Coastal & South Interior Karnataka, Kerala & Mahe, Tamilnadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam and Telangana.

♦ **Squally weather** (wind speed reaching 40-50 kmph) very likely over Westcentral & adjoining Northwest Bay of Bengal off north Andhra Pradesh-south Odisha coasts and Southeast Arabian Sea adjoining Lakshadweep area off Kerala coast and Andaman Sea. **Strong Winds** (wind speed reaching 40-50 kmph gusting to 60 kmph) over Southwest Bay of Bengal, Comorin area and Gulf of Mannar. Fishermen are advised not to venture into these areas.

17 October (Day 2): ♦ **Heavy to very heavy rainfall** very likely at isolated places over Himachal Pradesh, Uttarakhand and north Uttar Pradesh and **heavy rainfall** at isolated places over Madhya Pradesh, Vidarbha, Gangetic West Bengal, Odisha, interior Tamilnadu and Kerala & Mahe.

♦ **Thunderstorm accompanied with lightning, hail & squall** (speed reaching 50-60 kmph) likely at isolated places over Uttarakhand; **with lightning & hail** over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad and Himachal Pradesh and **with lightning & gusty winds** (speed 30-40 kmph) at isolated places over Gangetic West Bengal and **with lightning** at isolated places over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, Odisha, Gujarat Region, Madhya Maharashtra, Marathwada, Kerala & Mahe and Tamilnadu, Puducherry & Karaikal.

♦ **Squally weather** (wind speed reaching 40-50 kmph) very likely over North Bay of Bengal & adjoining West Bengal-Bangladesh coasts. Fishermen are advised not to venture into these areas.

18 October (Day 3): ♦ **Heavy to very heavy rainfall with extremely heavy falls** likely at isolated places over Uttarakhand; **Heavy to very heavy rainfall** at isolated places over north Uttar Pradesh and **heavy rainfall** at isolated places over Himachal Pradesh, Jharkhand, Gangetic West Bengal, Arunachal Pradesh and Assam & Meghalaya.

♦ **Thunderstorm accompanied with lightning & squall** (speed reaching 50-60 kmph) likely at isolated places over Uttarakhand; **with lightning & gusty winds** (speed 30-40 kmph) at isolated places over Gangetic West Bengal and **with lightning** at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand and Odisha.

♦ **Squally weather** (wind speed reaching 40-50 kmph) likely over North Bay of Bengal & adjoining West Bengal-Bangladesh coasts. Fishermen are advised not to venture into these areas.

* 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

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19 October (Day 4): ♦ **Heavy to very heavy rainfall** likely at isolated places over Assam & Meghalaya and **heavy rainfall** at isolated places over West Bengal & Sikkim, Bihar, Jharkhand, Arunachal Pradesh and Nagaland, Manipur, Mizoram & Tripura.

♦ **Thunderstorm accompanied with lightning** likely at isolated places over East Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, Jharkhand, Gangetic West Bengal and Odisha.

♦ **Squally weather** (wind speed reaching 40-50 kmph) likely over North Bay of Bengal & adjoining West Bengal-Bangladesh coasts. Fishermen are advised not to venture into these areas.

20 October (Day 5): ♦ **Heavy to very heavy rainfall** likely at isolated places over Assam & Meghalaya and **heavy rainfall** at isolated places over West Bengal & Sikkim, Bihar, Jharkhand, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe.

♦ **Thunderstorm accompanied with lightning** likely at isolated places over East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Odisha, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe.

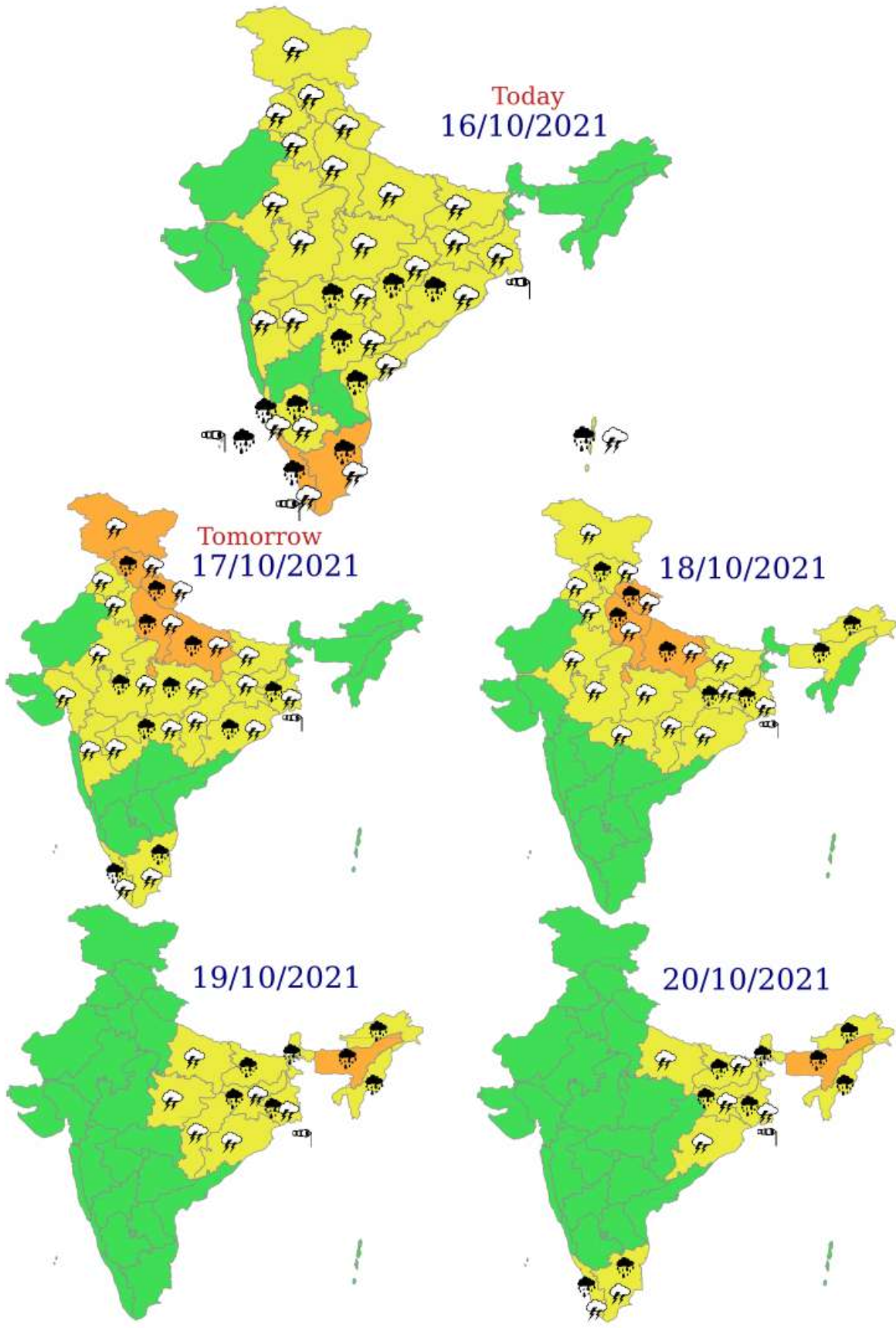
♦ **Squally weather** (wind speed reaching 40-50 kmph) likely over North Bay of Bengal & adjoining West Bengal-Bangladesh coasts. Fishermen are advised not to venture into these areas.

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EXPECTED IMPACT & ACTION SUGGESTED due to **Extremely Heavy/Very Heavy Rainfall** over north Coastal Andhra Pradesh on 15th; Kerala and Tamilnadu on 16th; over Himachal Pradesh on 17th and over Uttarakhand and north Uttar Pradesh during 17th -18th and Assam & Meghalaya on 19th & 20th October, 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 Mudslides/Landslides.
- 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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EXPECTED IMPACT & ACTION SUGGESTED due to **thunderstorms, lightning, hail, squall, gusty winds** over Jammu, Kashmir, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh and Uttarakhand on 17th October, 2021.

A. Impact Expected:

- Damage to thatched huts and asbestos roofed houses and cars. Roof tops may blow off.
- Unattached metal sheets– may fly.
- Damage to power and communication lines due to breaking of tree branches.
- Damage to standing crops.
- Lightning strikes to ground.
- Flash flood due to associated rain

B. Action Suggested

- Farmers should not go in open fields.
- Cattle grazers and animals should not be in open.
- No fishing or boat movement.
- Mango and litchi orchards should be out of bound for any activity specially by children.
- Do not take shelter under isolated trees.
- Immediately get out of and away from ponds, lakes, and outdoor watery area (e.g. paddy transplantation).
- Go indoors or seek safe pukka shelters after hearing thunder. Stay indoors for 30 minutes after hearing the last clap of thunder.
- If no shelter is available, immediately get into the lightning crouch.
- During travel, stay inside car or bus or train when thunderstorm occurs.
- Do not use electric/ electronic appliance.
- Stay away from downed power lines.

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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 *



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

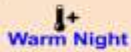
Heat Wave: Maximum Temperature Departure from normal 4.5°C to 6.4°C .
Severe Heat Wave: Maximum Temperature Departure from normal $\geq 6.5^{\circ}\text{C}$

(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 $\geq 37^{\circ}\text{C}$.



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 $> 6.4^{\circ}\text{C}$.



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 $\leq 15^{\circ}\text{C}$



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



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



Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)



An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.



Ice deposits on ground

Air temperature $\leq 4^{\circ}\text{C}$ (over Plains)



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



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



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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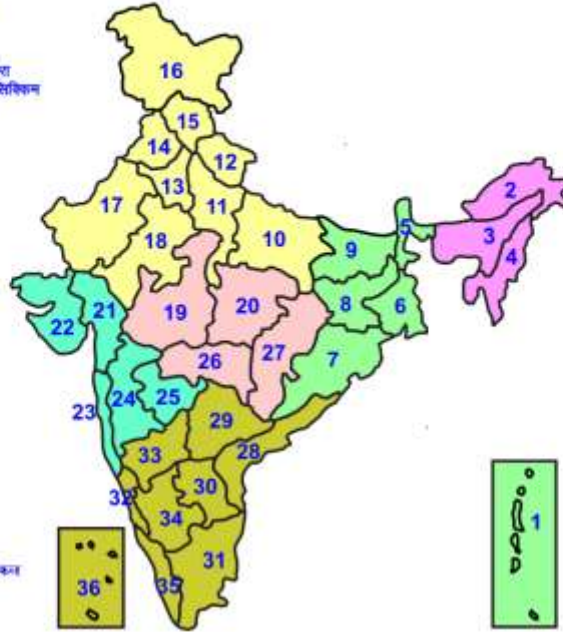
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LEGENDS

- 1 अंडमान और निकोबार द्वीप समूह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड, मणिपुर, मिजोरम और त्रिपुरा
- 5 उप हिमालय पश्चिम बंगाल, ऐंम सिक्किम
- 6 पश्चिम बंगाल
- 7 ओडिशा
- 8 झारखंड
- 9 बिहार
- 10 पूर्वी उत्तर प्रदेश
- 11 पश्चिम उत्तर प्रदेश
- 12 उत्तराखंड
- 13 हरियाणा, चंडीगढ़, ऐंम दिल्ली
- 14 पंजाब
- 15 हिमाचल प्रदेश
- 16 जम्मू एवं कश्मीर ऐंम लद्दाख
- 17 पश्चिम राजस्थान
- 18 पूर्वी राजस्थान
- 19 पश्चिम मध्य प्रदेश
- 20 पूर्वी मध्य प्रदेश
- 21 गुजरात
- 22 सौराष्ट्र
- 23 कर्नाटक ऐंम केरल
- 24 मध्य महाराष्ट्र
- 25 मराठवाड़ा
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 तटीय आंध्र प्रदेश ऐंम यंम
- 29 तेलंगना
- 30 राज्यासेम
- 31 तमिलनाडु, पुदुचेरी ऐंम काराईकम
- 32 तटीय कर्नाटक
- 33 आंतरिक उत्तरी कर्नाटक
- 34 आंतरिक दक्षिणी कर्नाटक
- 35 केरल ऐंम 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. 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. Marathwada
26. Vidharbha
27. Chhattisgarh
28. Coastal Andhra Pradesh & Yarnam
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)

WARNING

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ALERT (BE PREPARED)
WATCH (BE UPDATED)
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Probabilistic Forecast

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

Heavy Rain	Heavy Snow	Thunderstorm	Dust Storm
Strong Winds	Visibility	Cyclone	Squall/ Hail
Frost	Cold Wave	Heat Wave	Sea State

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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