



All India Impact Based Weather Warning Bulletin

Thursday 14 October 2021
Time of Issue: 2050 hours IST

(NIGHT)

14 October (Day 1): ♦ **Heavy rainfall** very likely at isolated places over Andaman & Nicobar Islands, Coastal Andhra Pradesh & Yanam, Coastal & South Interior Karnataka, Kerala & Mahe and Tamilnadu, Puducherry & Karaikal.

♦ **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 Jharkhand, Gangetic West Bengal, Odisha, Coastal Andhra Pradesh & Yanam, Rayalaseema, Coastal & South Karnataka, Kerala & Mahe and Tamilnadu, Puducherry & Karaikal.

♦ **Squally weather** (wind speed reaching 40-50 kmph) very likely over Central and North Bay of Bengal, Andaman Sea, along & off Odisha coast and adjoining coastal areas of Andhra Pradesh & West Bengal; Eastcentral & adjoining Southeast Arabian Sea & Lakshadweep area. Fishermen are advised not to venture into these areas and those out at Eastcentral & adjoining Southeast Arabian Sea are advised to return to the coast by today evening.

15 October (Day 2): ♦ **Heavy to very heavy rainfall** very likely at isolated places over Kerala & Mahe and Tamilnadu, Puducherry & Karaikal; **heavy rainfall** at isolated places over Andaman & Nicobar Islands, Coastal Andhra Pradesh & Yanam and Coastal & South Interior Karnataka.

♦ **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 Chhattisgarh, Jharkhand, Gangetic West Bengal, Odisha, Coastal Andhra Pradesh & Yanam, Rayalaseema, Coastal Andhra Pradesh & Yanam, Kerala & Mahe and Tamilnadu, Puducherry & Karaikal.

♦ **Squally weather** (wind speed reaching 40-50 kmph) very likely over Central and North Bay of Bengal & Andaman Sea and along & off Odisha coast and adjoining coastal areas of Andhra Pradesh & West Bengal; Southeast & adjoining Eastcentral Arabian Sea, along & off Kerala-Karnataka coasts, Lakshadweep area, Comorin area and Gulf of Mannar. Fishermen are advised not to venture into these areas.

16 October (Day 3): ♦ **Heavy to very heavy rainfall** very likely at isolated places over South Interior Karnataka, Kerala & Mahe and Tamilnadu, Puducherry & Karaikal and **heavy rainfall** at isolated places over Odisha, Andaman & Nicobar Islands, Coastal Karnataka and Coastal Andhra Pradesh & Yanam.

♦ **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 Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Gangetic West Bengal, Odisha, Bihar, Jharkhand, Marathwada, Rayalaseema, Kerala & Mahe, Tamilnadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam and Telangana.

♦ **Squally weather** (wind speed reaching 40-50 kmph) very likely over Central & North Bay of Bengal, Andaman Sea, along & off Odisha coast and adjoining coastal areas of Andhra Pradesh & West Bengal; Southeast & adjoining Eastcentral Arabian Sea, along & off Kerala-Karnataka coasts, Lakshadweep area, Comorin area and Gulf of Mannar. Fishermen are advised not to venture into these areas.

* Red color warning does not mean "Red Alert" Red color warning means "Take Action".

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17 October (Day 4): ♦ **Heavy to very heavy rainfall** likely at isolated places over Himachal Pradesh, Uttarakhand and Uttar Pradesh and **heavy rainfall** at isolated places over Gangetic West Bengal and Odisha.

♦ **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** at isolated places over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, Gangetic West Bengal, Marathwada, Kerala & Mahe, Tamilnadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema and Telangana.

♦ **Squally weather** (wind speed reaching 40-50 kmph) likely over Central & North Bay of Bengal and along & off West Bengal coast. Fishermen are advised not to venture into these areas.

18 October (Day 5): ♦ **Heavy to very heavy rainfall** likely at isolated places over Uttarakhand and Uttar Pradesh and **heavy rainfall** at isolated places over Himachal Pradesh, Gangetic West Bengal and Bihar.

♦ **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; **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, Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Kerala & Mahe and Coastal Andhra Pradesh & Yanam.

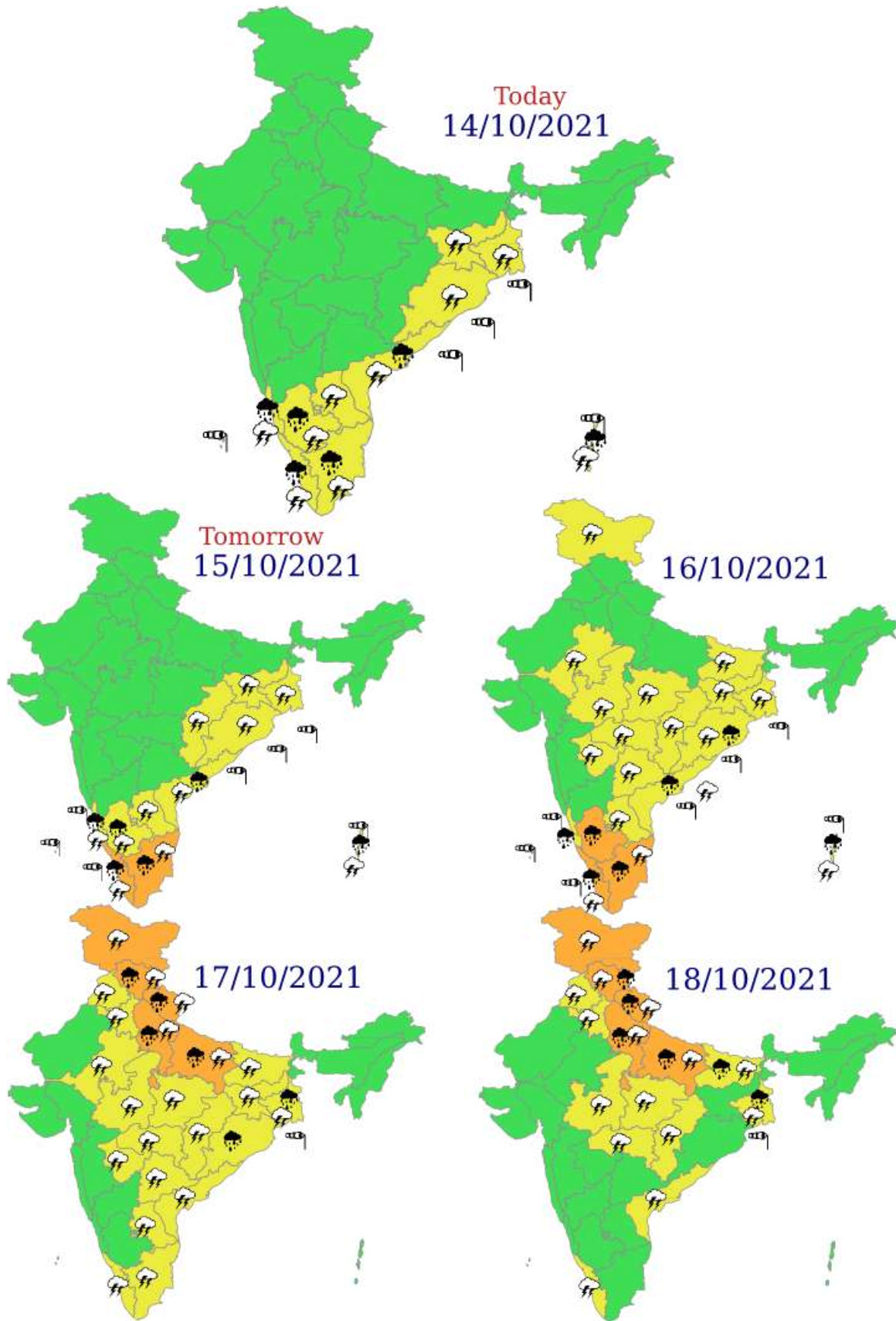
♦ **Squally weather** (wind speed reaching 40-50 kmph) likely over Central & North Bay of Bengal and along & off West Bengal coast. Fishermen are advised not to venture into these areas.

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EXPECTED IMPACT & ACTION SUGGESTED due to Very Heavy Rainfall over Kerala and Tamilnadu on 15th & 16th; over South Interior Karnataka on 16th; over Himachal Pradesh on 17th and over Uttarakhand and Uttar Pradesh on 17th -18th 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, gusty winds** over Andaman & Nicobar Islands during 14th-16th; over Jammu, Kashmir, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh and Uttarakhand on 17th & 18th 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 |



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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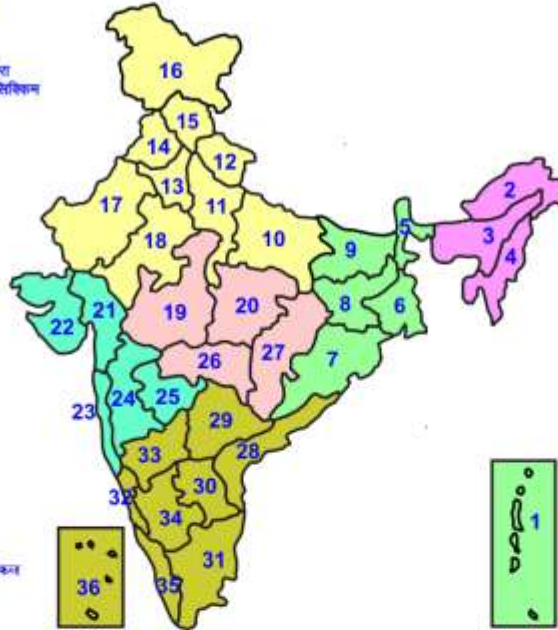
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LEGENDS

- 1 अंडमान और निकोबार द्वीप समूह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड, मणिपुर, मिजोरम और त्रिपुरा
- 5 उप-हिमालय पश्चिम बंगाल, एंगम, सिक्किम
- 6 पश्चिम बंगाल
- 7 ओडिशा
- 8 झारखंड
- 9 बिहार
- 10 पूर्वी उत्तर प्रदेश
- 11 पश्चिम उत्तर प्रदेश
- 12 उत्तराखण्ड
- 13 हरियाणा, चंडीगढ़, दिल्ली
- 14 पंजाब
- 15 हिमाचल प्रदेश
- 16 जम्मू एवं कश्मीर एवं लद्दाख
- 17 पश्चिम राजस्थान
- 18 जम्मू एवं कश्मीर एवं लद्दाख
- 19 पश्चिम मध्य प्रदेश
- 20 पूर्वी मध्य प्रदेश
- 21 गुजरात
- 22 सौराष्ट्र
- 23 कर्नाटक
- 24 मध्य प्रदेश
- 25 मराठवाड़ा
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 तटीय आंध्र प्रदेश एवं यानम
- 29 तेलंगाना
- 30 राजस्थान
- 31 तमिलनाडु, पुदुचेरी एवं कर्नाटक
- 32 तटीय कर्नाटक
- 33 आन्ध्र प्रदेश एवं कर्नाटक
- 34 आन्ध्र प्रदेश एवं कर्नाटक
- 35 केरल एवं 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 & 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) |

WARNING

| |
|--------------------------------|
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| | | | | | | | |
|--|--------------|--|------------|--|--------------|--|--------------|
| | 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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