



All India Impact Based Weather Warning Bulletin

Thursday 20 May 2021
Time of Issue: 0800 hours IST

(MORNING)

20 May (Day 1): ♦ **Thunderstorm with lightning & gusty wind** (speed reaching 30-40 kmph) very likely at isolated places over Himachal Pradesh, Uttarakhand, Jharkhand, Assam & Meghalaya, Gangetic West Bengal, Kerala & Mahe and Lakshadweep and **with lightning** at isolated places over Uttar Pradesh, Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Sub-Himalayan West Bengal & Sikkim, Odisha, Andaman & Nicobar Islands, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Coastal Andhra Pradesh & Yanam, Coastal & South Interior Karnataka and Tamil Nadu, Puducherry & Karaikal.

♦ **Heavy to Very Heavy Rainfall** at isolated places very likely over Uttarakhand and Sub-Himalayan West Bengal & Sikkim and **Heavy Rainfall** at isolated places over Arunachal Pradesh, Assam & Meghalaya, West Uttar Pradesh and Tamil Nadu, Puducherry & Karaikal.

♦ Squally wind (speed reaching 40-50 kmph gusting to 60 kmph) likely to prevail over Southeast Bay of Bengal & adjoining South Andaman Sea. Fishermen are advised not to venture into these areas. Fishermen are advised not to venture into these areas.

21 May (Day 2): ♦ **Thunderstorm with lightning & gusty wind** (speed reaching 40-50 kmph) very likely at isolated places over Andaman & Nicobar Islands; **with lightning & gusty wind** (speed reaching 30-40 kmph) at isolated places over Jharkhand, Gangetic West Bengal, Odisha, Kerala & Mahe and Lakshadweep and **with lightning** at isolated places over Bihar, Sub-Himalayan West Bengal & Sikkim, Vidarbha, Assam & Meghalaya, Coastal Andhra Pradesh & Yanam, Coastal & South Interior Karnataka and Tamil Nadu, Puducherry & Karaikal.

♦ **Heavy Rainfall** at isolated places very likely over Sub-Himalayan West Bengal & Sikkim, Andaman & Nicobar Islands and Assam & Meghalaya.

♦ Squally wind (speed reaching 40-50 kmph gusting to 60 kmph) likely to prevail over Southwest Arabian Sea, Southwest & adjoining West central Bay of Bengal, and along & off Tamil Nadu-Andhra Pradesh coasts; East central Bay of Bengal and adjoining South Andaman Sea. Fishermen are advised not to venture into these areas.

22 May (Day 3): ♦ **Thunderstorm with lightning & gusty wind** (speed reaching 40-50 kmph) likely at isolated places over Andaman & Nicobar Islands; **with lightning & gusty wind** (speed reaching 30-40 kmph) at isolated places over West Rajasthan, Bihar and Kerala & Mahe and **with lightning** at isolated places over Coastal & South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.

♦ **Heavy to Very Heavy Rainfall** at isolated places likely over Andaman & Nicobar Islands.

♦ Squally wind (speed reaching 40-50 kmph gusting to 60 kmph) likely to prevail over Southwest Arabian Sea. Squally wind (speed reaching 45-55 kmph gusting to 65 kmph) likely over Southwest & adjoining Westcentral Bay of Bengal, and along & off Tamil Nadu-Andhra Pradesh coasts, East central Bay of Bengal and adjoining Andaman Sea. 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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23 May (Day 4): ♦Thunderstorm with lightning & gusty wind (speed reaching 40-50 kmph) likely at isolated places over Andaman & Nicobar Islands; **with lightning & gusty wind** (speed reaching 30-40 kmph) at isolated places over West Rajasthan and Kerala & Mahe and **with lightning** at isolated places over Coastal & South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.

♦ **Heavy Rainfall** likely at isolated places over Andaman & Nicobar Islands.

♦ Squally wind speed reaching 40-50 kmph gusting to 60 kmph likely to prevail over Southwest Arabian Sea, 45-55 kmph gusting to 65 kmph likely over Southwest & adjoining Westcentral Bay of Bengal, and along & off Tamil Nadu-Andhra Pradesh-south Odisha coast, 55-65 kmph gusting to 75 kmph likely over East central Bay of Bengal and adjoining Andaman Sea. Fishermen are advised not to venture into these areas.

24 May (Day 5): ♦Thunderstorm with lightning & gusty wind (speed reaching 40-50 kmph) likely at isolated places over Andaman & Nicobar Islands; **with lightning & gusty wind** (speed reaching 30-40 kmph) at isolated places over West Rajasthan and Kerala & Mahe and **with lightning** at isolated places over Coastal & South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.

♦ **Heavy Rainfall** likely at isolated places over Andaman & Nicobar Islands.

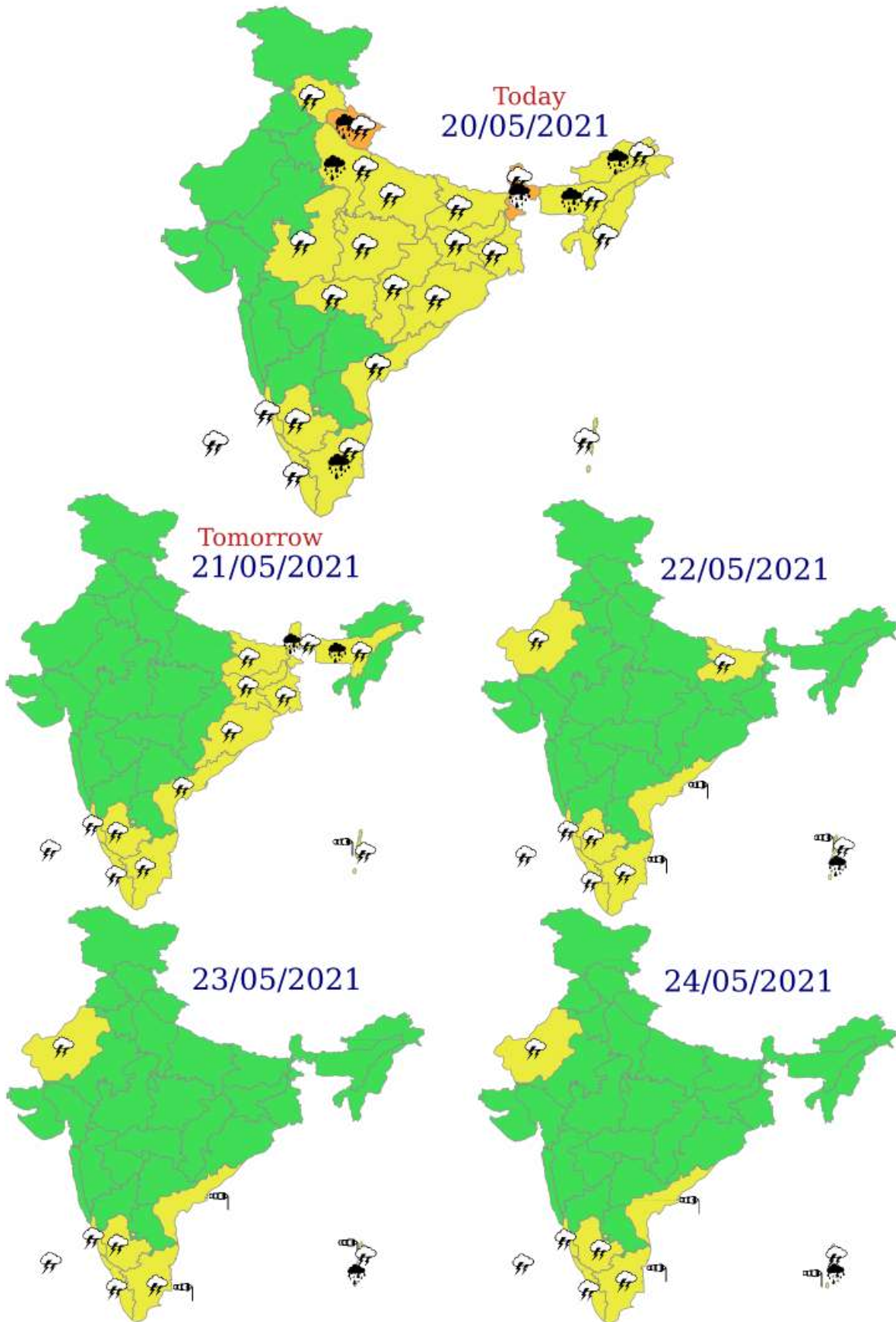
♦ Squally wind speed reaching 40-50 kmph gusting to 60 kmph likely to prevail over Southwest Arabian Sea, 45-55 kmph gusting to 65 kmph likely over Southwest & adjoining Westcentral Bay of Bengal, and along & off Tamil Nadu-Andhra Pradesh-south Odisha coast, 55-65 kmph gusting to 75 kmph likely over East central Bay of Bengal and adjoining Andaman Sea. Fishermen are advised not to venture into these areas.

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Impact based warning & Action suggested for areas likely to be affected

Heavy to very heavy rainfall at isolated places very likely over Uttarakhand and isolated heavy over northwest Uttar Pradesh on 20th May, 2021.

A. Impact Expected over Uttarakhand and northwest Uttar Pradesh:

- Localized Flooding of roads, water logging in low lying areas and closure of underpasses mainly in hilly & urban areas.
- Occasional reduction in visibility due to heavy rainfall.
- Disruption of traffic in 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(for plain areas) and Landslides (for hill and vulnerable areas)
- Damage to horticulture and standing crops in some areas due to inundation.

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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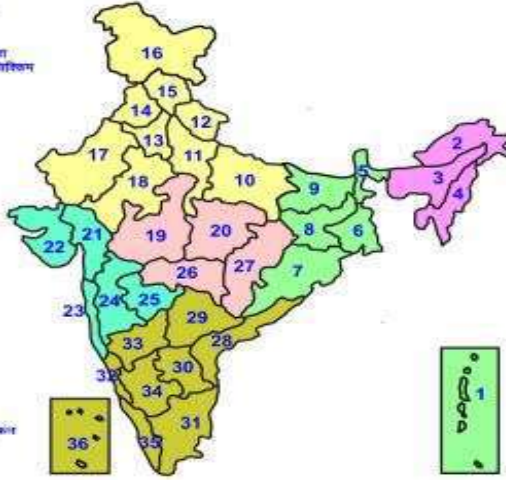
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LEGENDS

- 1 अंडमान और निकोबार द्वीप समूह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नगालैण्ड, मणिपुर, मिजोरम और त्रिपुरा
- 5 उप-हिमालय पश्चिम बंगाल, असम, सिक्किम
- 6 गंगोत्री पश्चिम बंगाल
- 7 ओडिशा
- 8 झारखण्ड
- 9 बिहार
- 10 पूर्वी उत्तर प्रदेश
- 11 पश्चिम उत्तर प्रदेश
- 12 उत्तराखण्ड
- 13 हरियाणा पश्चिम ऐंम् दिल्ली
- 14 राजस्थान
- 15 हिमाचल प्रदेश
- 16 जम्मू एंडम कश्मीर एंडम लद्दाख
- 17 पश्चिम राजस्थान
- 18 पूर्वी राजस्थान
- 19 पश्चिम मध्य प्रदेश
- 20 पूर्वी मध्य प्रदेश
- 21 गुजरात द्वीप
- 22 पौराष्ट्र एंडम् कर्णाट
- 23 कोकण ऐंम् गोवा
- 24 मध्य महाराष्ट्र
- 25 महाराष्ट्र
- 26 तेलंगणा
- 27 आन्ध्रप्रदेश
- 28 उत्तरीय तमिऴ एंडम एंडम यनाम
- 29 तमिऴनाडु
- 30 केरल
- 31 उत्तरीय केरल
- 32 पश्चिमी केरल
- 33 आन्ध्रिय केरल केरल केरल
- 34 आन्ध्रिय केरल केरल केरल
- 35 केरल केरल केरल
- 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, Ctd & 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. Maharashtra
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 S. 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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Heavy Rain	Heavy Snow	Thunderstorm	Dust Storm
Strong Winds	Visibility	Cyclone	Squall/ Hall
Frost	Cold Wave	Heat Wave	Sea State

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