



All India Impact Based Weather Warning Bulletin

Wednesday 16 June 2021
Time of Issue: 1345 hours IST

(MID-DAY)

16 June (Day 1): ♦ **Heavy to Very Heavy Rainfall** very likely at isolated places over East Uttar Pradesh, Bihar, Jharkhand, West Bengal & Sikkim, ghat areas of Madhya Maharashtra, Konkan & Goa and Coastal & South Interior Karnataka and **Heavy Rainfall** at isolated places over Himachal Pradesh, Uttarakhand, East Madhya Pradesh, Vidarbha, Chhattisgarh, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Telangana, North Interior Karnataka, Kerala & Mahe and ghat areas of Tamil Nadu.

♦ **Thunderstorm with lightning & gusty winds** (speed reaching 30-40 kmph) very likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Rajasthan, Andaman & Nicobar Islands, Telangana and **with lightning** at isolated places over East Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, West Bengal and Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Gujarat state. **Thunderstorm/Duststorm** with gusty winds (speed reaching 30-40 kmph) at isolated places very likely over West Rajasthan.

♦ **Squally weather** (wind speed reaching **40-50 gusting to 60 kmph**) very likely over North and adjoining Eastcentral Bay of Bengal along and off Odisha-West Bengal coasts, Westcentral Bay of Bengal along & off north Andhra Pradesh Coast; speed reaching **40-50 kmph** gulf of mannar, along & off Kerala-Karnataka-Goa-Maharashtra-Gujarat coasts. **Strong Winds (speed 45-55 kmph)** over southwest, westcentral and adjoining east central Arabian Sea . Fishermen are advised not to venture into these areas.

17 June (Day 2): ♦ **Heavy to Very Heavy Rainfall** very likely at isolated places over Bihar, Sub-Himalayan West Bengal & Sikkim, Konkan & Goa and Coastal Karnataka and **Heavy Rainfall** at isolated places over East Uttar Pradesh, East Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, Gangetic West Bengal, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, ghat areas of Madhya Maharashtra, Telangana, South Interior Karnataka, Kerala & Mahe and ghat areas of Tamil Nadu.

♦ **Thunderstorm with lightning & gusty winds** (speed reaching 30-40 kmph) very likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Rajasthan, Chhattisgarh, Andaman & Nicobar Islands, Telangana and **with lightning** at isolated places over Madhya Pradesh, Vidarbha, Bihar, Jharkhand, West Bengal and Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Gujarat state. **Thunderstorm/Duststorm** with gusty winds (speed reaching 30-40 kmph) at isolated places very likely over West Rajasthan.

♦ **Squally weather** (wind speed reaching **40-50 gusting to 60 kmph**) very likely over North and adjoining Eastcentral Bay of Bengal along and off Odisha-West Bengal coasts, Westcentral Bay of Bengal along & off north Andhra Pradesh Coast; speed reaching **40-50 kmph** along & off Kerala-Karnataka-Goa-Maharashtra-Gujarat coasts. **Strong Winds (speed 45-55 kmph)** over southwest, westcentral and adjoining east central Arabian Sea . Fishermen are advised not to venture into these areas.

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18 June (Day 3): ♦ **Heavy to Very Heavy Rainfall** very likely at isolated places over West Bengal & Sikkim and Konkan & Goa and **Heavy Rainfall** at isolated places over East Uttar Pradesh, East Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, Bihar, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal & South Interior Karnataka and Kerala & Mahe.

♦ **Thunderstorm with lightning & gusty winds** (speed reaching 30-40 kmph) very likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Rajasthan, East Madhya Pradesh, Chhattisgarh, Andaman & Nicobar Islands and **with lightning** at isolated places over West Madhya Pradesh, Vidarbha, Bihar, Jharkhand, West Bengal and Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh, Telangana and Gujarat state.

♦ **Squally weather** (wind speed reaching **40-50 kmph**) very likely along & off Kerala-Karnataka-Goa-Maharashtra coasts. **Strong Winds (speed 45-55 kmph)** over southwest, westcentral and adjoining Eastcentral Arabian Sea . Fishermen are advised not to venture into these areas.

19 June (Day 4): ♦ **Heavy to Very Heavy Rainfall** likely at isolated places over Sub-Himalayan West Bengal & Sikkim and East Uttar Pradesh and **Heavy Rainfall** at isolated places over Uttarakhand, East Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, Bihar, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa and Coastal Karnataka.

♦ **Thunderstorm with lightning & gusty winds** (speed reaching 30-40 kmph) likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Rajasthan, East Madhya Pradesh, Chhattisgarh and **with lightning** at isolated places over West Madhya Pradesh, Vidarbha, Bihar, Jharkhand, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh and Gujarat state.

♦ **Squally weather** (wind speed reaching **40-50 kmph**) likely along & off Goa-Maharashtra coasts. **Strong Winds (speed 45-55 kmph)** over southwest, westcentral and adjoining Eastcentral Arabian Sea . Fishermen are advised not to venture into these areas.

20 June (Day 5): ♦ **Heavy to Very Heavy Rainfall** likely at isolated places over East Uttar Pradesh and **Heavy Rainfall** at isolated places over Uttarakhand, East Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa and Coastal Karnataka.

♦ **Thunderstorm with lightning & gusty winds** (speed reaching 30-40 kmph) likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Rajasthan, East Madhya Pradesh, Chhattisgarh and **with lightning** at isolated places over West Madhya Pradesh, Vidarbha, Bihar, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Gujarat state.

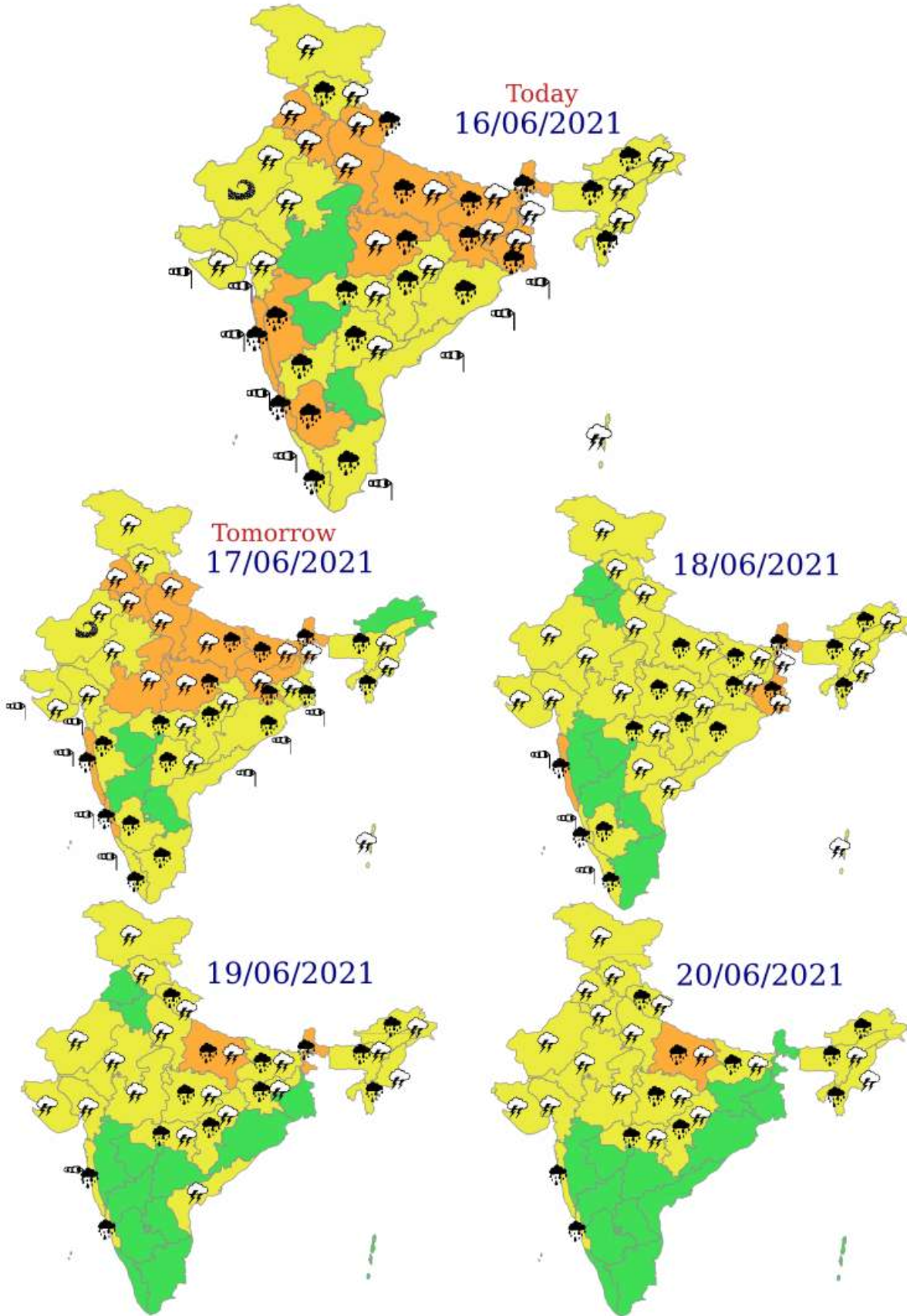
♦ **Strong Winds (speed 45-55 kmph)** over southwest, westcentral and adjoining Eastcentral Arabian Sea . Fishermen are advised not to venture into these areas.

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EXPECTED IMPACT & ACTION SUGGESTED due to Heavy/very heavy rainfall over Bihar on 16th & 17th; over Jharkhand on 16th; over West Bengal & Sikkim during 16th-18th; over Konkan & Goa during 16th-18th and over Coastal Karnataka o 16th & 17th and over South Interior Karnataka on 16th June.

A. 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.
- 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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EXPECTED IMPACT & ACTION SUGGESTED due to **thunderstorms/squall & lightning** very likely over Punjab & Haryana, Bihar, Jharkhand, East Madhya Pradesh, Uttar Pradesh, Uttarakhand during 16th -18th June.

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 *

Rain/ Snow *



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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LEGENDS

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

1. Andaman & Nicobar Islands
2. Arunachal Pradesh
3. Assam & Meghalaya
4. Nagaland, Manipur, Mizoram & Tripura
5. Sub-Himalayan West Bengal & Sikkim
6. West Bengal
7. Orissa
8. Jharkhand
9. Bihar
10. East Uttar Pradesh
11. West Uttar Pradesh
12. Uttarakhand
13. Haryana, Chand & 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. Chhattisgarh
27. Coastal Andhra Pradesh & Yanam
28. Telangana
29. Andhra Pradesh
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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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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