



## All India Impact Based Weather Warning Bulletin

Friday 18 June 2021

Time of Issue: 1420 hours IST

(MID-DAY)

**18 June (Day 1):** ♦ **Heavy to Very Heavy Rainfall** with isolated **Extremely Heavy Rainfall** very likely at isolated places over Uttarakhand, East Uttar Pradesh, East Madhya Pradesh, Gujarat Region and Coastal Karnataka; **Heavy to Very Heavy Rainfall at a few places over Konkan & Goa**; **Heavy to Very Heavy Rainfall** at isolated places over West Uttar Pradesh, Chhattisgarh, Bihar, Jharkhand, Gangetic West Bengal, ghat areas of Madhya Maharashtra and South Interior Karnataka. **Heavy Rainfall** at isolated places over Sub-Himalayan West Bengal & Sikkim, Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Saurashtra & Kutch, Telangana, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe.

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

♦ **Squally weather** (wind speed reaching **40-50 gusting to 60 kmph**) very likely over Northwest & central Bay of Bengal, north Andaman Sea; along & off West Bengal, Odisha and Andhra coasts. **Strong Winds (speed 45-55 kmph gusting to 65 kmph)** over north, central and southwest Arabian Sea. along & off Kerala-Karnataka-Goa-Maharashtra-Gujarat coasts. Fishermen are advised not to venture into these areas.

**19 June (Day 2):** **Heavy to Very Heavy Rainfall** with isolated **Extremely Heavy Rainfall** very likely at isolated places over East Uttar Pradesh; **Heavy to Very Heavy Rainfall** at isolated places over Uttarakhand, West Uttar Pradesh, East Madhya Pradesh, Bihar, Jharkhand, Sub-Himalayan West Bengal, Konkan & Goa, Rayalseema and South Interior Karnataka. **Heavy Rainfall** at isolated places over Chhattisgarh, Gangetic West Bengal, Assam & Meghalaya, Gujarat Region, ghat areas of Madhya Maharashtra and Kerala & Mahe.

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

♦ **Squally weather** (wind speed reaching **40-50 gusting to 60 kmph**) very likely over Northwest & central Bay of Bengal, north Andaman Sea; along & off West Bengal, Odisha and Andhra coasts. **Strong Winds (speed 45-55 kmph gusting to 65 kmph)** over north, central and southwest Arabian Sea. along & off Kerala-Karnataka-Goa-Maharashtra-Gujarat coasts. Fishermen are advised not to venture into these areas.

**20 June (Day 3):** ♦ **Heavy Rainfall** likely at isolated places over East Uttar Pradesh, East Madhya Pradesh, Bihar, Jharkhand, West Bengal & Sikkim, Assam & Meghalaya, Konkan & Goa, Kerala & Mahe and Coastal & South Interior Karnataka.

♦ **Thunderstorm with lightning & gusty winds** (speed reaching 30-40 kmph) likely at isolated places over Punjab, Haryana, Chandigarh & Delhi and Madhya Pradesh and **with lightning** at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Rajasthan, Vidarbha, Chhattisgarh, Bihar, Jharkhand, Gangetic West Bengal, Andaman & Nicobar Islands, Assam & Meghalaya, Coastal Andhra Pradesh & Yanam, Telangana and Tamilnadu, Puducherry & Karaikal.

**21 June (Day 4):** ♦ **Heavy Rainfall** likely at isolated places over Bihar, Jharkhand, Sub-Himalayan West Bengal, Odisha, Konkan & Goa, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe.

♦ **Thunderstorm with lightning** likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Haryana, Chandigarh & Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Gangetic West Bengal, Odisha, Andaman & Nicobar Islands, Coastal Andhra Pradesh & Yanam, Telangana 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

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**22 June (Day 5):♦ Heavy Rainfall** likely at isolated places over Chhattisgarh, Odisha, Andaman & Nicobar Islands, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe.

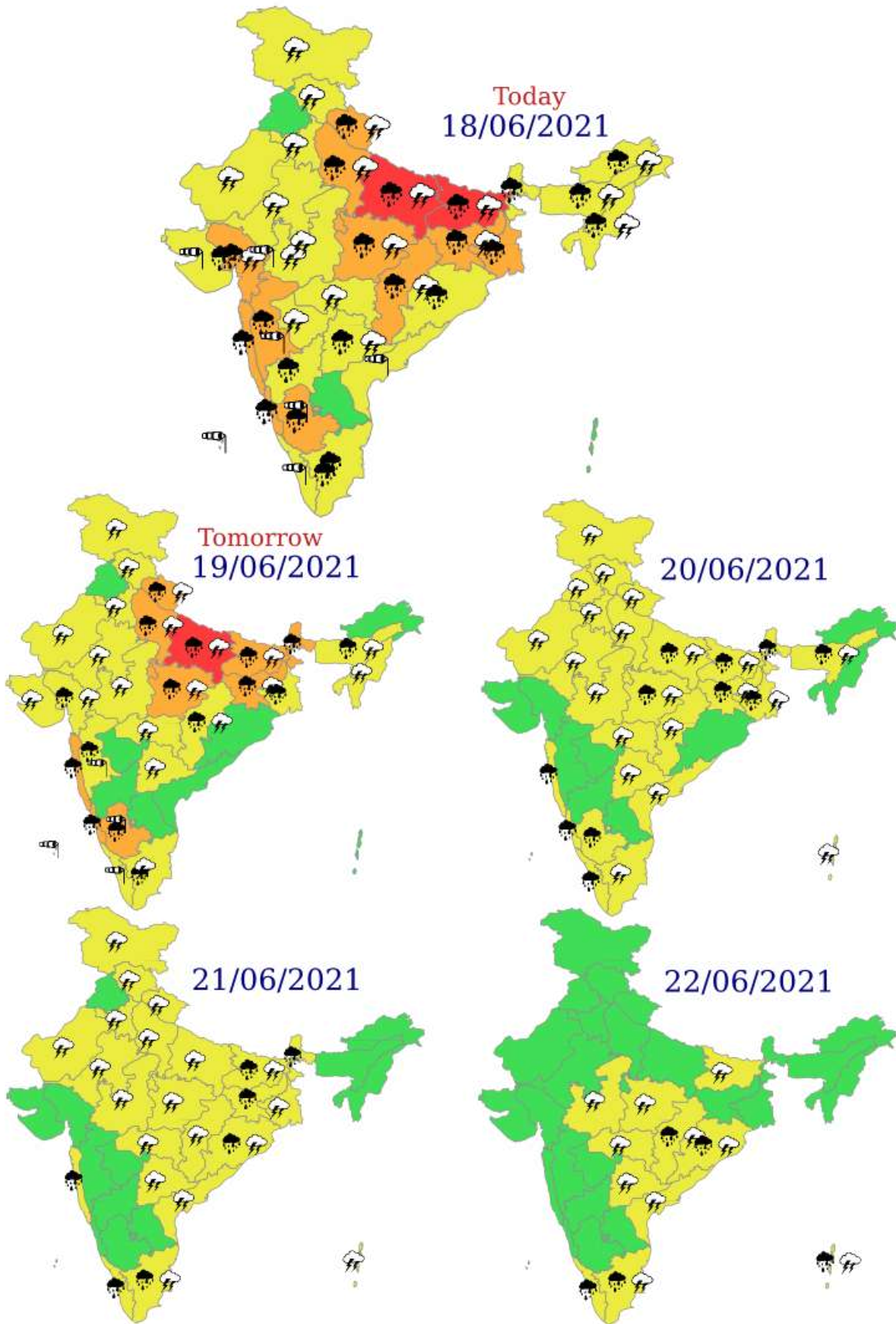
♦ **Thunderstorm with lightning** likely at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Odisha, Andaman & Nicobar Islands, Telangana, Coastal Andhra Pradesh & Yanam and Tamilnadu, Puducherry & Karaikal.

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**EXPECTED IMPACT & ACTION SUGGESTED due to very heavy/extremely heavy rainfall over East Uttar Pradesh, Uttarakhand, East Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Gujarat Region, Konkan & Goa, Madhya Maharashtra, Coastal & South Interior Karnataka during 18<sup>th</sup> & 19<sup>th</sup>, June, 2021.**

**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 & lightning** over **Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh**, during 18<sup>th</sup>-19<sup>th</sup> June, 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  $4.5^\circ\text{C}$  to  $6.4^\circ\text{C}$ .

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  $40^\circ\text{C}$

Warm Night: When minimum temperature departure  $4.5^\circ\text{C}$  to  $6.4^\circ\text{C}$ .

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  $-4.5^\circ\text{C}$  to  $-6.4^\circ\text{C}$ .

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  $-4.5^\circ\text{C}$  to  $-6.4^\circ\text{C}$ .

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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## LEGENDS

1. अंडमान और निकोबार द्वीप समूह
2. अरुणाचल प्रदेश
3. असम और मेघालय
4. नागालैंड, मणिपुर, मिजोरम और त्रिपुरा
5. उप-हिमालयन 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, राजस्थान
14. पंजाब
15. हिमाचल प्रदेश
16. जम्मू & कश्मीर और लद्दाख
17. पश्चिम राजस्थान
18. पूर्वी राजस्थान
19. पश्चिम मध्य प्रदेश
20. पूर्वी मध्य प्रदेश
21. गुजरात
22. सौराष्ट्र
23. कर्नाटक
24. मध्य महाराष्ट्र
25. महाराष्ट्र
26. कोकण, पुणे, मराठा
27. चम्पारण
28. मध्य प्रदेश
29. तमिलनाडु
30. केरल
31. आंध्र प्रदेश
32. तेलंगाना
33. उत्तरांचल प्रदेश
34. उत्तर प्रदेश
35. बिहार
36. जम्मू & कश्मीर



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. Konkan, Pune, Maratha
27. Champaran
28. Central 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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	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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