

Monday, June 17, 2024
Time of Issue: 0800 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Advance of Southwest Monsoon:

- ❖ The Northern Limit of Monsoon continues to pass through 20.5°N/60°E, 20.5°N/63°E, 20.5°N/70°E, Navsari, Jalgaon, Amravati, Chandrapur, Bijapur, Sukma, Malkangiri, Vizianagaram, 19.5°N/88°E, 21.5°N/89.5°E, 23°N/89.5°E and Islampur.
- ❖ Conditions are favourable for further advance of Southwest Monsoon into some more parts of Maharashtra, Chhattisgarh, Odisha, Coastal Andhra Pradesh & Northwest Bay of Bengal, some parts of Gangetic West Bengal, remaining parts of Sub Himalayan West Bengal and some parts of Bihar during next 4 days.

Weather Systems and Forecast & Warnings:

- ❖ A cyclonic circulation lies over northeast Assam and an east-west trough also runs from northwest Sub-Himalayan West Bengal & Sikkim to northeast Assam in lower tropospheric levels. Strong southwesterly/southerly winds are prevailing from Bay of Bengal to northeastern States in lower tropospheric levels. Under their influence:
 - Widespread light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** likely over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Sub-Himalayan West Bengal & Sikkim during next 5 days.
 - Isolated **heavy to very heavy rainfall** very likely over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura during next 5 days with **isolated extremely heavy rainfall also likely over Assam & Meghalaya during 17th-21th; Arunachal Pradesh on 18th; Sub-Himalayan West Bengal & Sikkim on 17th & 18th and isolated exceptionally heavy rainfall also likely over Assam & Meghalaya on 18th June, 2024.**
 - Isolated to scattered light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Gangetic West Bengal, Bihar, Jharkhand, Odisha during next 3 days and likely to increase thereafter.
 - Isolated **heavy rainfall** very likely over Odisha on 20th & 21st; Jharkhand & Gangetic West Bengal on 21st June, 2024.
- ❖ A trough runs from Kutch to east Arabian Sea in lower & middle tropospheric levels. Under their influence:
 - Scattered to fairly widespread light to moderate rainfall accompanied with **thunderstorm, lightning** likely over Gujarat state, Konkan & Goa, Madhya Maharashtra & Marathwada during next 4-5 days.
 - Isolated **heavy rainfall** very likely over Konkan & Goa during 18th-21st; Madhya Maharashtra on 19th & 20th June, 2024.
 - Fairly widespread to widespread light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** likely over Karnataka, Kerala & Mahe, Lakshadweep; isolated to scattered light to moderate rainfall over Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, Tamil Nadu, Puducherry & Karaikal during next 5 days.
 - Isolated **heavy rainfall** very likely over Kerala & Mahe on 17th, 18th, 21st; Coastal Andhra Pradesh & Yanam on 18th & 21st and Coastal Karnataka on 20th & 21st June, 2024.
- ❖ Isolated to scattered light to moderate rainfall with **thunderstorm, lightning & gusty winds (40-60 kmph)** very likely over Madhya Pradesh, Vidarbha, Chhattisgarh during next 5 days.

Heat Wave and Warm Night warning for next 5 days:

- ❖ **Heat wave to severe heat wave conditions** very likely in many/most parts of Uttar Pradesh during 16th-18th and Punjab, Haryana-Chandigarh-Delhi on 17th; in isolated/some parts of Bihar & Jharkhand on 17th and **decrease in intensity thereafter over above regions.**
- ❖ **Heat wave conditions** very likely in isolated to some pockets of Jammu Division, Himachal Pradesh, north Rajasthan during 16th-18th; Uttarakhand, Madhya Pradesh, Chhattisgarh & Gangetic West Bengal on 17th June, 2024 and abate thereafter.
- ❖ **Warm night conditions** very likely in isolated pockets of Punjab, Haryana-Chandigarh, Uttar Pradesh & Madhya Pradesh on 17th; Delhi on 17th & 18th June, 2024.
- ❖ **Hot & Humid weather** very likely over Odisha during 17th-21st June, 2024.

Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at many places** over Kerala & Mahe, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya; **at a few places** over Chhattisgarh, Arunachal Pradesh, Konkan & Goa, Madhya Maharashtra; **at isolated places** over Saurashtra & Kutch, Madhya Maharashtra, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Telangana, Madhya Pradesh.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST to 1730 hours IST of yesterday): **Heavy to very heavy rainfall with extremely heavy falls** observed at isolated places over Saurashtra & Kutch; **Heavy to very heavy rainfall** at isolated places over Arunachal Pradesh; **heavy rainfall** at isolated places over Sub-Himalayan West Bengal & Sikkim, Madhya Maharashtra, Konkan & Goa.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday): (in cm): **Saurashtra & Kutch:** Devbhumi Dwarka- 23, Porbandar-7; **Madhya Maharashtra:** Singhdurg- 9, Kolhapur, Awalegaon- 4 each; **Konkan & Goa:** North Goa- 7; **Arunachal Pradesh:** Longding-11, Kurung Kumey-3; **Sub-Himalayan West Bengal & Sikkim:** Darjeeling-8, gwalshing-3; **Nagaland, Manipur, Mizoram & Tripura:** west Tripura- 4; **Assam & Meghalaya:** Cachar-7, Bongaigaon-6, Baksa-4, Nalbari, East Khasi hills, West Khasi hills, Jaintia hills- 3 each;
- ❖ Yesterday, **Heatwave to severe heat wave conditions** observed in many parts of Uttar Pradesh, Punjab & Haryana-Chandigarh-Delhi; at isolated pockets over south Bihar, south Uttarakhand, Himachal Pradesh. **Heatwave conditions** at a few places over north Madhya Pradesh; at isolated pockets over Odisha, Gangetic West Bengal, Jharkhand & Jammu division.
- ❖ **Minimum Temperature Departures (as on 16-06-2024):** Minimum temperatures were **markedly above normal (5.1°C or more)** at a few places over Punjab and Haryana-Chandigarh-Delhi; at isolated places over West Uttar Pradesh and East Madhya Pradesh; **appreciably above normal (3.1°C to 5.0°C)** at a few places over East Rajasthan; at isolated places over Uttarakhand, West Rajasthan, West Madhya Pradesh, East Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh and Vidarbha; **above normal (1.6°C to 3.0°C)** at many places over Gujarat Region, Kerala & Mahe and Andaman & Nicobar Islands; at a few places over Himachal Pradesh, Gangetic West Bengal, Saurashtra & Kutch and Telangana; at isolated places over Assam & Meghalaya and Coastal Andhra Pradesh & Yanam. These were **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over Odisha; **below normal (-1.6°C to -3.0°C)** at isolated places over Tamil Nadu, Puducherry & Karaikal and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature of 21.9°C** was reported at **Bankura (Gangetic West Bengal)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 15-06-2024):** Maximum temperatures were **markedly above normal (5.1°C or more)** at most places over Uttar Pradesh, Haryana-Chandigarh-Delhi and Uttarakhand; at many places over Himachal Pradesh, East Madhya Pradesh, Odisha and Jharkhand; at a few places over Chhattisgarh and Bihar and at isolated places over Gangetic West Bengal, Rajasthan and West Madhya Pradesh; **appreciably above normal (3.1°C to 5.0°C)** at many places over Vidarbha and Kerala & Mahe; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Coastal Andhra Pradesh & Yanam Saurashtra & Kutch and South Interior Karnataka; **above normal (1.6°C to 3.0°C)** at most place over Gujarat Region; at many places over Coastal & North Interior Karnataka; at a few places over Konkan & Goa, Marathwada, Telangana and Tamil Nadu, Puducherry & Karaikal and at isolated places over Madhya Maharashtra. These were **below normal (-1.6°C to -3.0°C)** at a few places over Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim and isolated places over Nagaland, Manipur, Mizoram & Tripura and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature of 47.6°C** was reported at **Prayagraj (East Uttar Pradesh)** over the plains of the country.

Meteorological Analysis (Based on 0530 hours IST)

- ❖ The Northern Limit of Monsoon continues to pass through 20.5°N/60°E, 20.5°N/63°E, 20.5°N/70°E, Navsari, Jalgaon, Amravati, Chandrapur, Bijapur, Sukma, Malkangiri, Vizianagaram, 19.5°N/88°E, 21.5°N/89.5°E, 23°N/89.5°E and Islampur.
- ❖ Conditions are favourable for further advance of Southwest Monsoon into some more parts of Maharashtra, Chhattisgarh, Odisha, Coastal Andhra Pradesh & Northwest Bay of Bengal, some parts of Gangetic West Bengal, remaining parts of Sub Himalayan West Bengal and some parts of Bihar during next 4 days.
- ❖ The Western Disturbance as a trough in mid-tropospheric westerlies with its axis at 5.8 km above mean sea level now runs roughly along long. 62°E to the north of Lat. 30°N.
- ❖ A cyclonic circulation lies over central Pakistan at 1.5 km above mean sea level.
- ❖ The north-south trough now runs from Kutch to east central Arabian Sea at 3.1 km above mean sea level.
- ❖ The east-west trough from northwest Bihar to Meghalaya now runs from Sub-Himalayan West Bengal & Sikkim to northeast Assam across west Assam at 0.9 km above mean sea level.
- ❖ The cyclonic circulation over northeast Assam & neighbourhood persists and now extends upto 4.5 km above mean sea level.
- ❖ The cyclonic circulation over Southwest & adjoining Westcentral Bay of Bengal between 3.1 km & 7.6 km above mean sea level persists.
- ❖ The cyclonic circulation over Sub-Himalayan West Bengal & neighbourhood extending upto 1.5 km above mean sea level has become less marked.
- ❖ The cyclonic circulation over northeast Arabian Sea adjoining Saurashtra between 3.1 km & 5.8 km above mean sea level has become less marked.

Weather Forecast for next 7 days (Upto 0830 hours IST of 24th June, 2024)

- ❖ Meteorological sub-division wise detailed 7 days rainfall forecast is given in Table-1.
- ❖ No significant change in maximum temperatures very likely over Northwest, Central & East India during next 3 days and fall by 2-3°C thereafter.
- ❖ No significant change in maximum temperatures very likely over rest parts of the country.

Weather Outlook for subsequent 3 days (During 24th -26th June, 2024)

- ❖ Scattered to fairly widespread rainfall likely over Islands, Northeast India, East India, west coast and Peninsular India. Isolated to Scattered rainfall likely over Northwest, Central India.
- ❖ Mainly dry weather likely to prevail over rest parts of the country.

Table-1

7 Days Rainfall Forecast								
S. No.	Subdivision	17-Jun	18-Jun	19-Jun	20-Jun	21-Jun	22-Jun	23-Jun
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	SCT	FWS	WS	WS	WS	WS	WS
2	ARUNACHAL PRADESH	WS	WS	WS	WS	WS	WS	WS
3	ASSAM & MEGHALAYA	WS	WS	WS	WS	WS	WS	WS
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	WS	WS	WS	WS	WS	WS	WS
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	WS	WS	WS	WS	WS	WS	WS
6	GANGETIC WEST BENGAL	SCT	FWS	FWS	FWS	FWS	FWS	FWS
7	ODISHA	SCT	SCT	SCT	FWS	FWS	FWS	FWS
8	JHARKHAND	ISOL	SCT	FWS	FWS	FWS	FWS	FWS
9	BIHAR	ISOL	SCT	SCT	FWS	FWS	FWS	FWS
10	EAST UTTAR PRADESH	DRY	ISOL	ISOL	ISOL	SCT	SCT	SCT
11	WEST UTTAR PRADESH	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
12	UTTARAKHAND	ISOL	ISOL	SCT	SCT	SCT	ISOL	ISOL
13	HARYANA CHANDIGARH & DELHI	DRY	ISOL	SCT	SCT	SCT	ISOL	DRY
14	PUNJAB	ISOL	SCT	SCT	SCT	SCT	ISOL	ISOL
15	HIMACHAL PRADESH	DRY	ISOL	SCT	SCT	ISOL	ISOL	ISOL
16	JAMMU & KASHMIR AND LADAKH	ISOL	SCT	SCT	SCT	SCT	DRY	ISOL
17	WEST RAJASTHAN	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
18	EAST RAJASTHAN	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	DRY
19	WEST MADHYA PRADESH	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
20	EAST MADHYA PRADESH	SCT	SCT	SCT	ISOL	ISOL	ISOL	ISOL
21	GUJARAT REGION	ISOL	ISOL	SCT	SCT	SCT	SCT	ISOL
22	SAURASHTRA & KUTCH	ISOL	ISOL	SCT	SCT	SCT	SCT	ISOL
23	KONKAN & GOA	FWS	WS	WS	WS	WS	WS	WS
24	MADHYA MAHARASHTRA	SCT	SCT	SCT	SCT	SCT	SCT	FWS
25	MARATHAWADA	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	FWS
26	VIDARBHA	SCT	SCT	SCT	ISOL	ISOL	ISOL	FWS
27	CHHATTISGARH	SCT	FWS	FWS	FWS	FWS	FWS	FWS
28	COASTAL ANDHRA PRADESH & YANAM	SCT	SCT	SCT	SCT	ISOL	SCT	FWS
29	TELANGANA	SCT	SCT	SCT	SCT	SCT	SCT	FWS
30	RAYALASEEMA	SCT	SCT	ISOL	ISOL	SCT	SCT	FWS
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	SCT
32	COASTAL KARNATAKA	WS	WS	WS	WS	WS	WS	WS
33	NORTH INTERIOR KARNATAKA	FWS	FWS	FWS	SCT	SCT	SCT	FWS
34	SOUTH INTERIOR KARNATAKA	FWS	FWS	FWS	SCT	SCT	SCT	FWS
35	KERALA & MAHE	WS	WS	WS	WS	WS	WS	WS
36	LAKSHADWEEP	WS	WS	WS	WS	WS	WS	WS

Legend	Category	% Stations
WS	Widespread/Most Places	76-100
FWS	Fairly Widespread/Many Places	51-75
SCT	Scattered/ A Few Places	26-50
ISOL	Isolated Places	1-25
DRY	No Rain	0

* Red colour warning does not mean "Red Alert", Red colour 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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Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

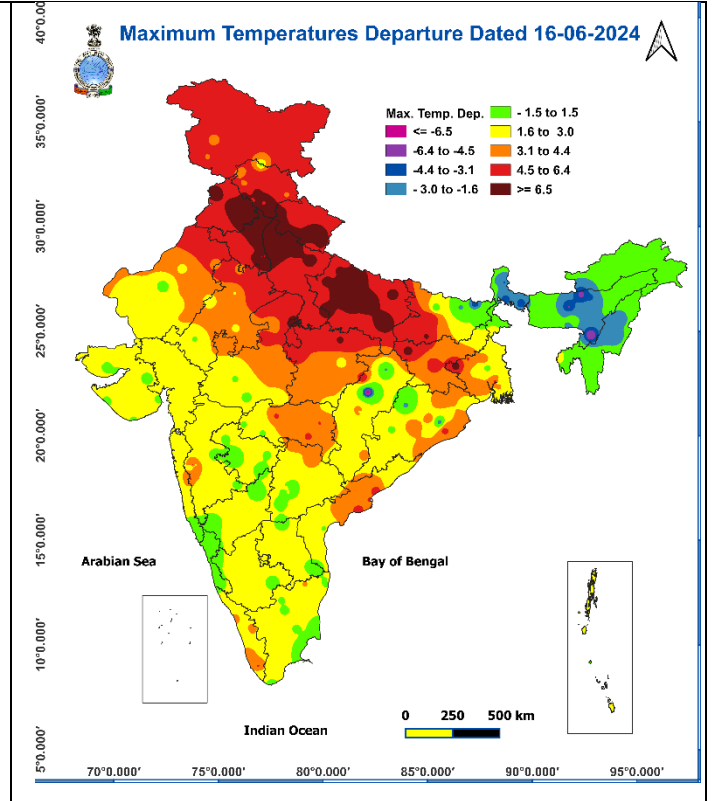
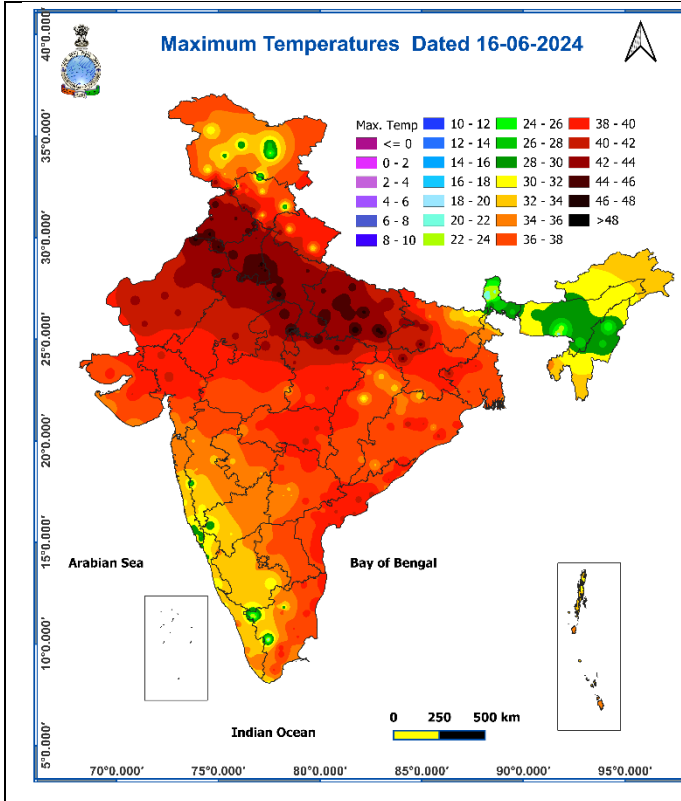


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

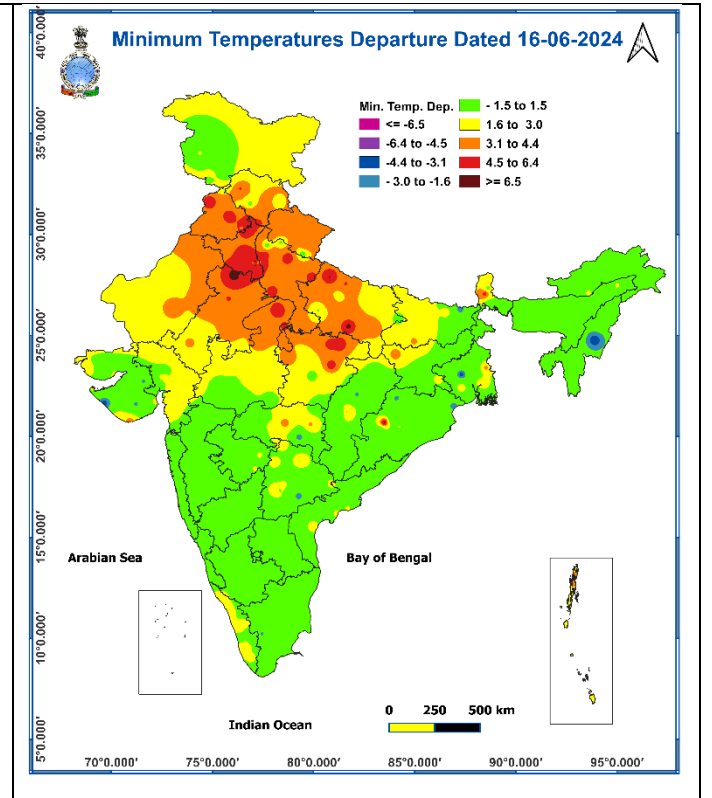
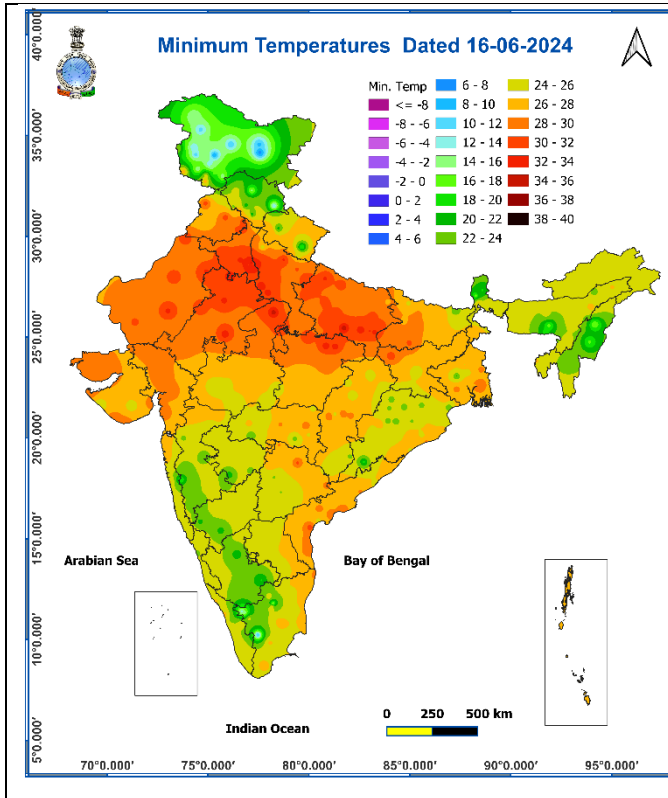
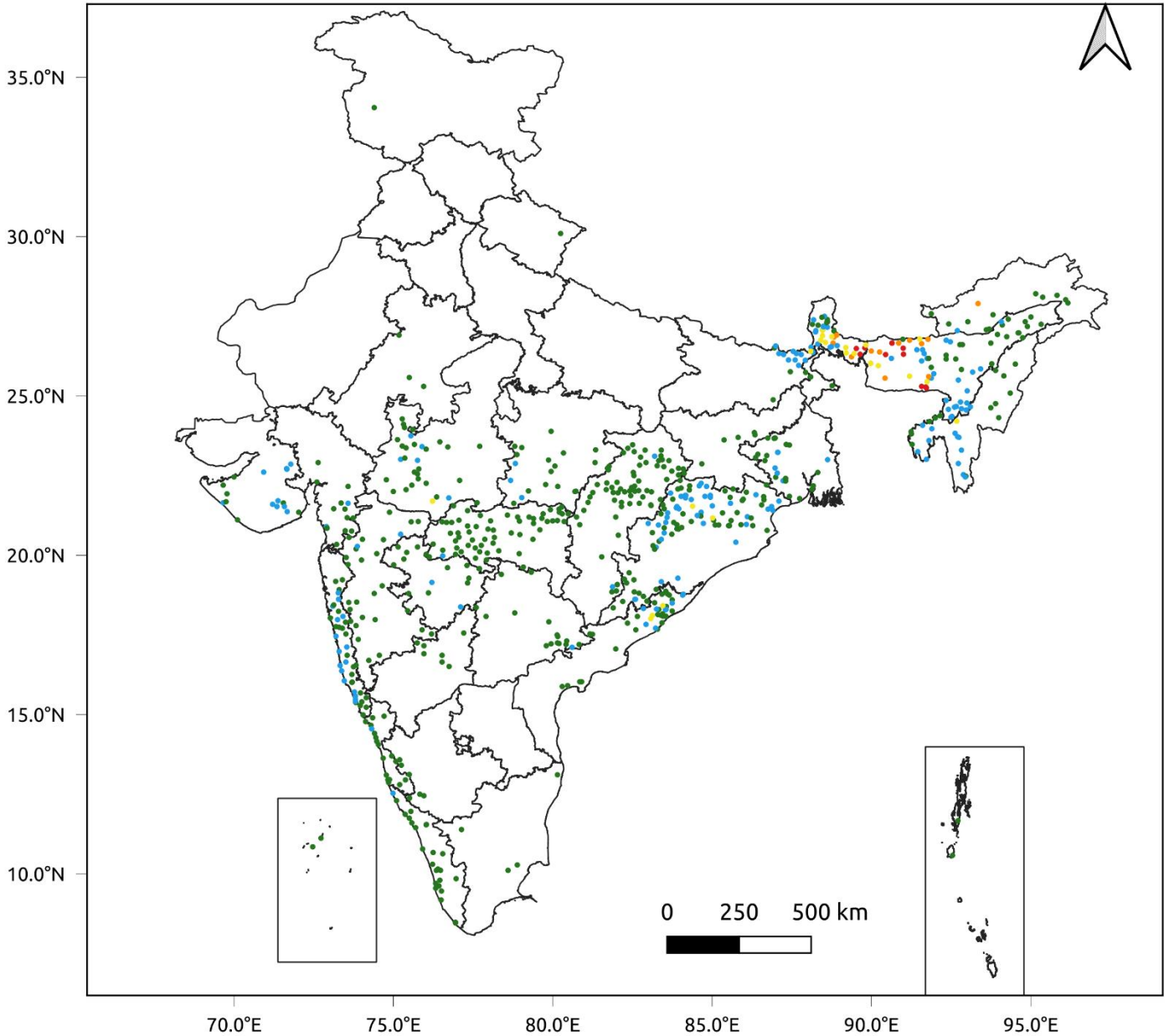


Fig. 5: Accumulated Rainfall (mm) during past 24 hours



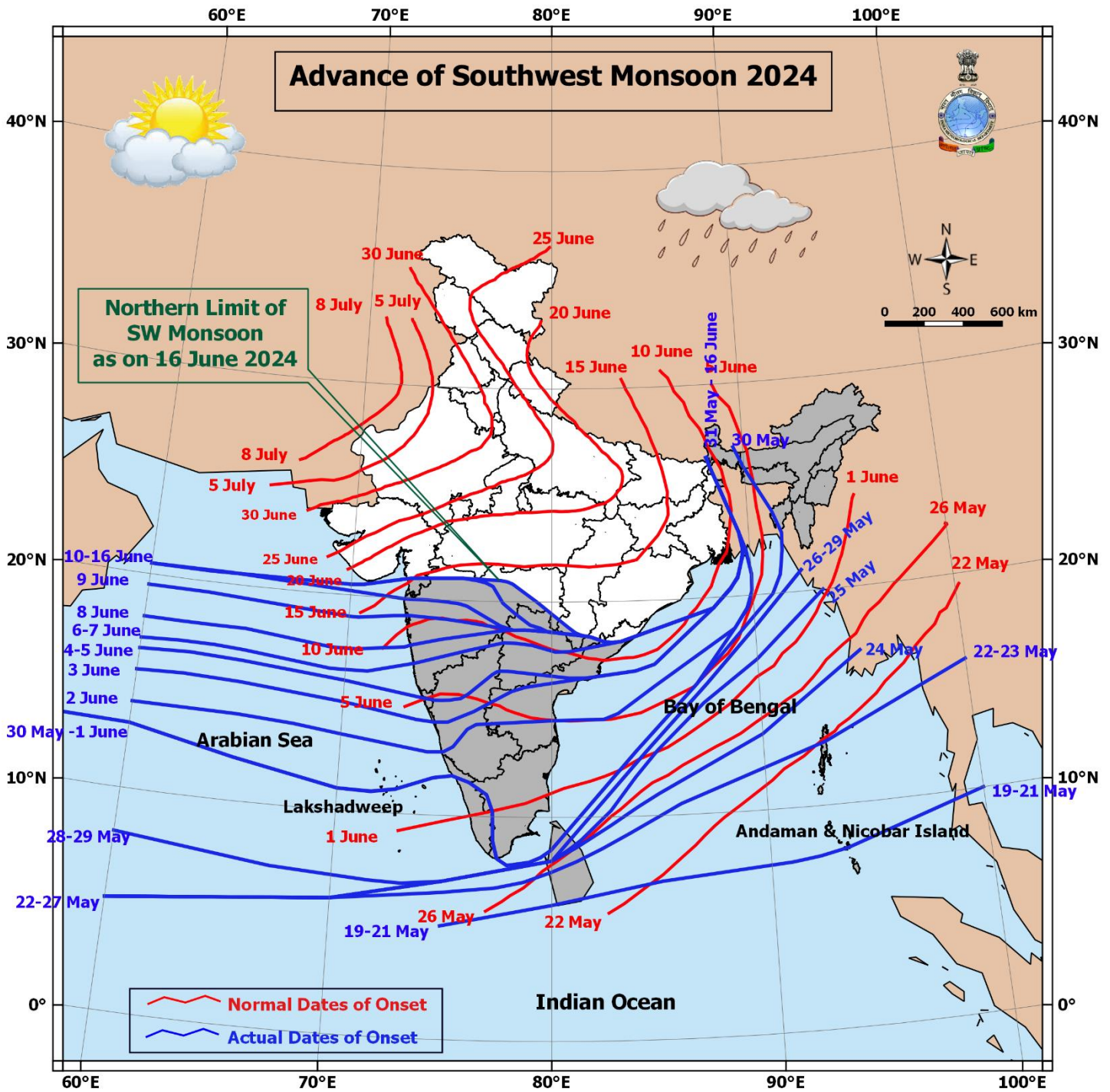
24 Hr cumulative rainfall recorded over different stations during 0830 IST of 15-6-2024 to 0830 IST of 16-6-2024



Legends

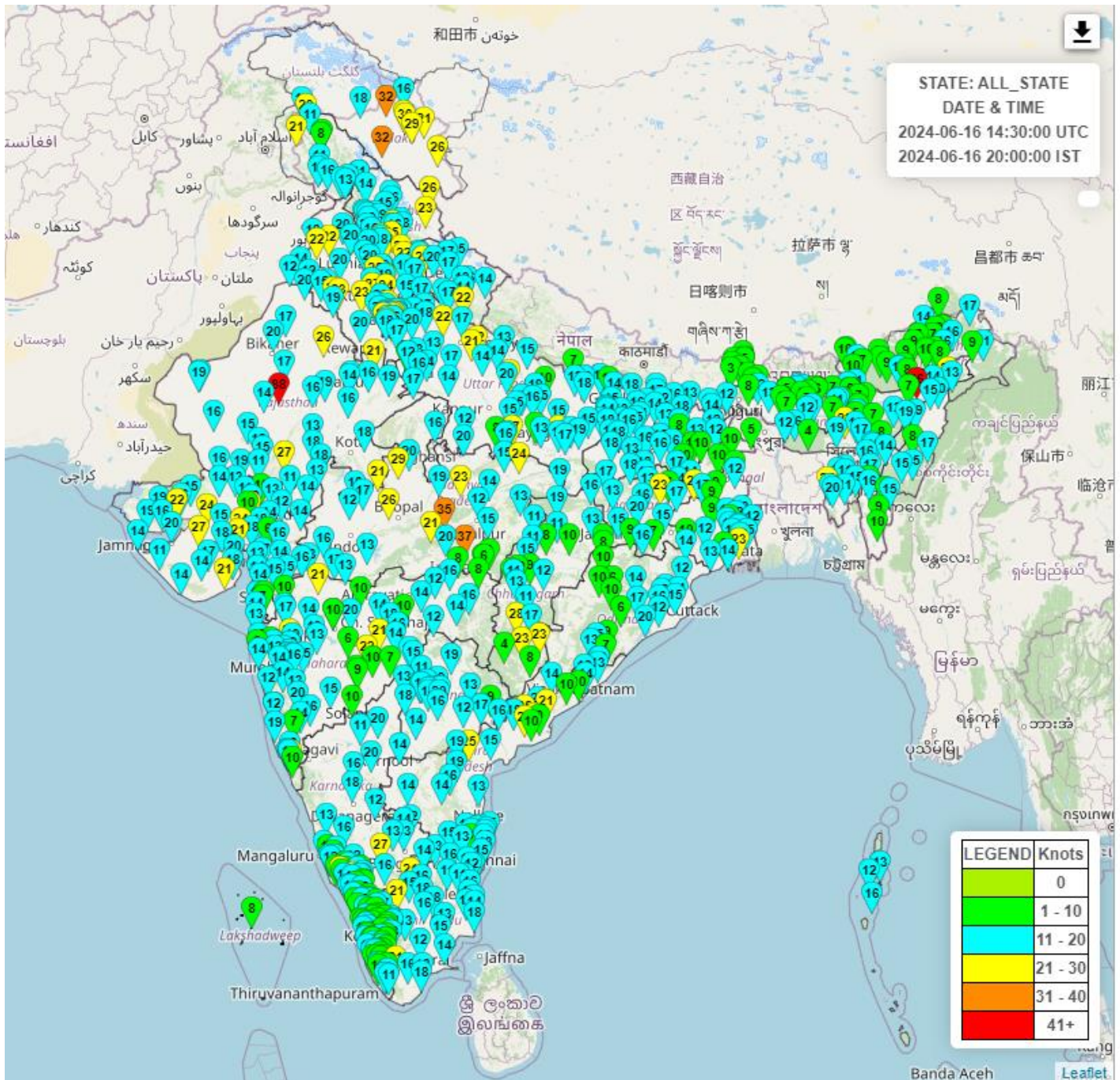
- Very Light to Light Rainfall (0.1 - 15.5 mm)
- Moderate Rainfall (15.6 - 64.4 mm)
- Heavy Rainfall (64.5 - 115.5 mm)
- Very Heavy Rainfall (115.6 - 204.4 mm)
- Extremely Heavy Rainfall (≥ 204.5 mm)

Fig. 6: Advance of Southwest Monsoon 2024



* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".
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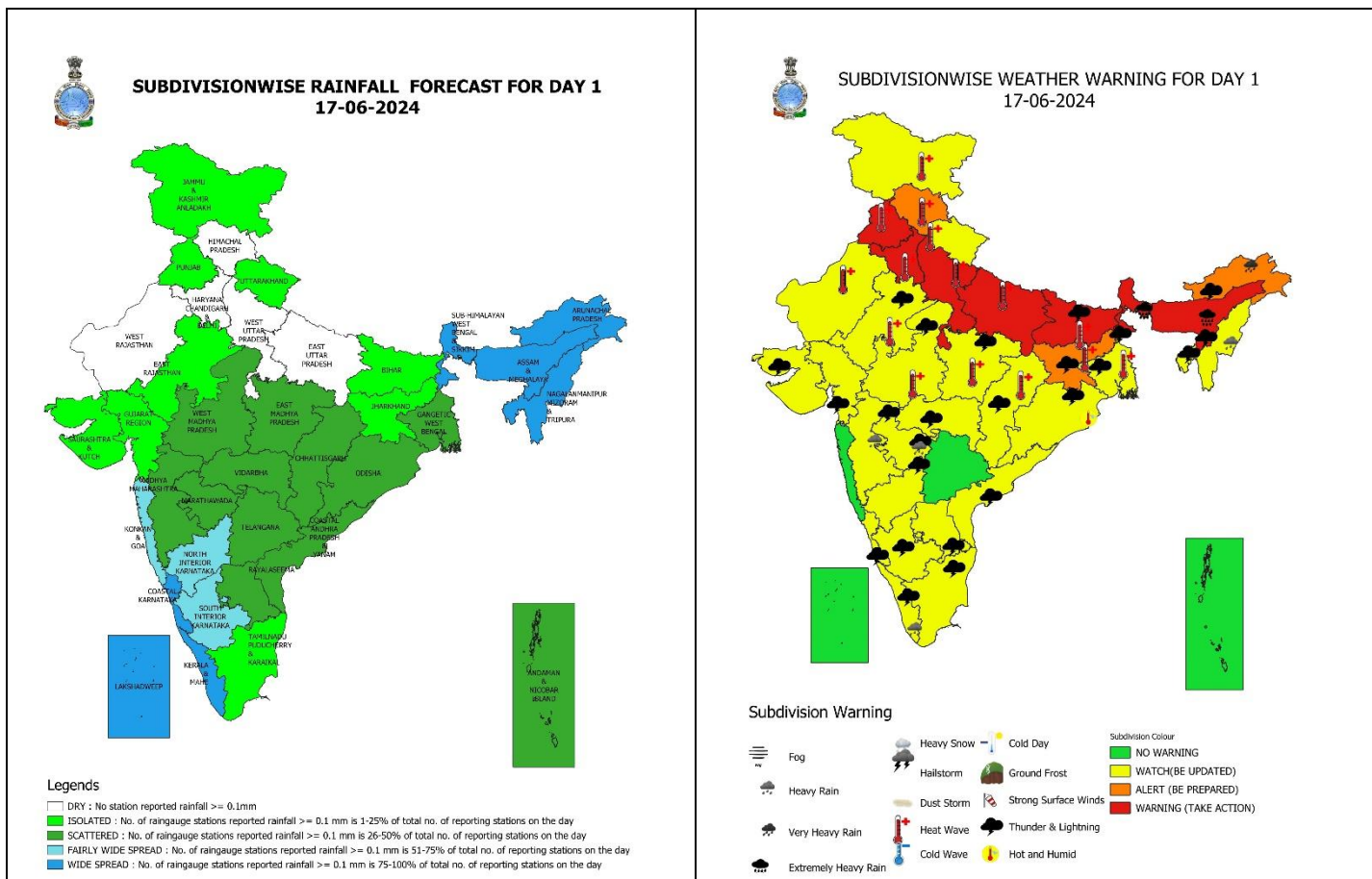
Fig. 7: Gusty winds reported over the country (in knots) from 0830 hours IST to 2000 hours IST of 16.06.2024



1 Knot = 1.852 kmph

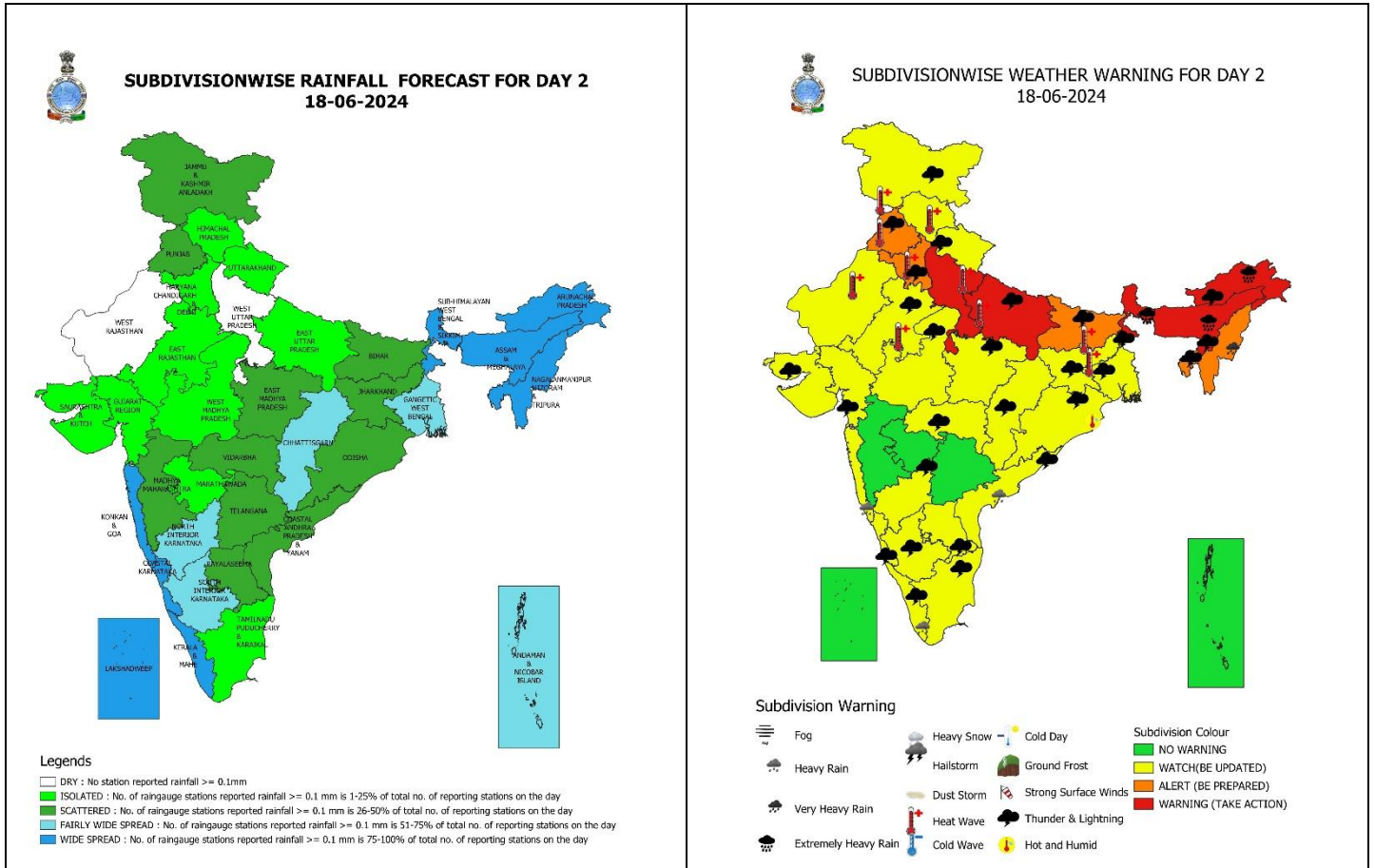
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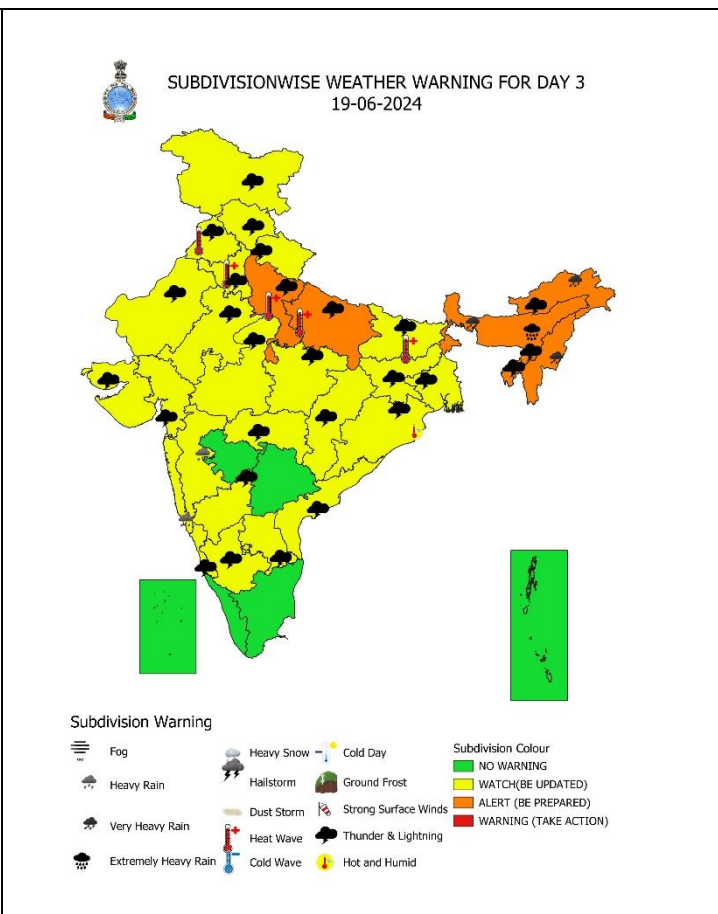
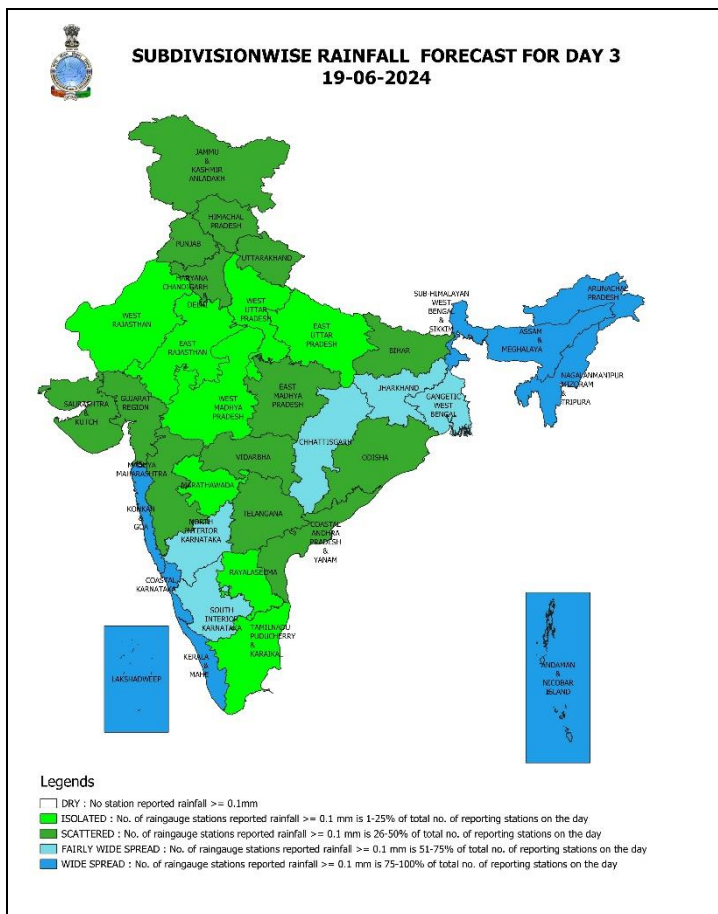
17 June (Day 1):

- ❖ **Heavy to very heavy rainfall with extremely heavy falls** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya; **Heavy to very heavy rainfall** at isolated places over Arunachal Pradesh **heavy rainfall** at isolated places over Madhya Maharashtra, Marathwada, Nagaland, Manipur, Mizoram & Tripura and Kerala & Mahe.
- ❖ **Thunderstorm accompanied with lightning & squally winds (speed reaching 50-60 kmph gusting to 70 kmph)** very likely at isolated places over West Madhya Pradesh; **lightning & gusty winds (speed reaching 40-50 kmph)** very likely at isolated places over East Madhya Pradesh, Bihar, Gangetic West Bengal; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places over East Rajasthan, Sub-Himalayan West Bengal & Sikkim, Jharkhand, Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka; **with lightning** at isolated places over Madhya Maharashtra, Marathwada, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Coastal Karnataka.
- ❖ **Heat wave conditions to severe heat wave conditions** very likely in most parts of Uttar Pradesh; in many parts of Haryana-Chandigarh-Delhi and Punjab; in isolated pockets over Bihar and Jharkhand. **Heat wave conditions** in some parts over Himachal Pradesh; in isolated pockets over Jammu division, Uttarakhand, Rajasthan, Madhya Pradesh and Gangetic West Bengal.
- ❖ **Warm night conditions** very likely to prevail in isolated pockets over Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Madhya Pradesh.
- ❖ **Hot & Humid weather** very likely to prevail over Odisha.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over central parts of Arabian sea, off Sri Lanka coast, gulf of Mannar, south, central bob & adjoining northwest bob, off Andhra Pradesh coast. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** very likely to prevail along and off Somalia coast, southwest & west central Arabian sea and adjoining northwest Arabian sea. Fishermen are advised not to venture into these areas.



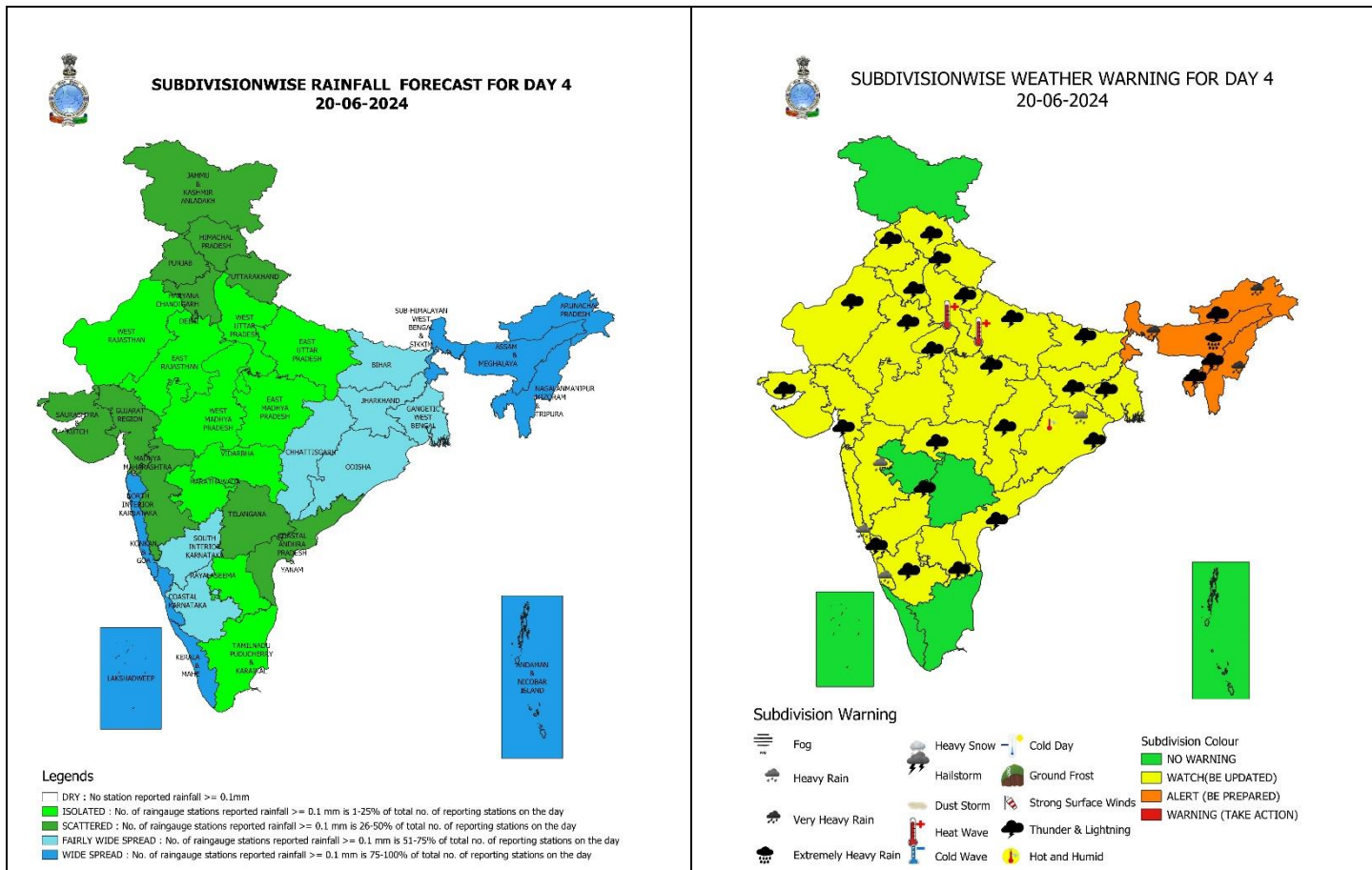
18 June (Day 2):

- ❖ **Isolated exceptionally heavy rainfall** very likely over Assam & Meghalaya; **Heavy to very heavy rainfall with extremely heavy falls** at isolated places over Arunachal Pradesh, Sub-Himalayan West Bengal & Sikkim; **Heavy to very heavy rainfall** at isolated places over Nagaland, Manipur, Mizoram & Tripura; **heavy rainfall** at isolated places over Konkan & Goa, Coastal Andhra Pradesh & Yanam and Kerala & Mahe.
- ❖ **Thunderstorm accompanied with lightning & squally winds (speed reaching 50-60 kmph gusting to 70 kmph)** very likely at isolated places over East Madhya Pradesh; **lightning & gusty winds (speed reaching 40-50 kmph)** at isolated places over West Madhya Pradesh, Jharkhand, Bihar and Gangetic West Bengal; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, East Uttar Pradesh, East Rajasthan, Vidarbha, Sub-Himalayan West Bengal & Sikkim, Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka; with **lightning** at isolated places over Chhattisgarh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gujarat state, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Coastal Karnataka.
- ❖ **Heat wave conditions to severe heat wave conditions** very likely in most parts of West Madhya Pradesh; in some parts of East Uttar Pradesh. **Heat wave conditions** in some parts of Haryana-Chandigarh-Delhi; in isolated pockets over Jammu division, Himachal Pradesh, Punjab, Bihar, Jharkhand and Rajasthan.
- ❖ **Hot & Humid weather** very likely to prevail over Odisha.
- ❖ **Warm night conditions** very likely to prevail in isolated pockets over Delhi.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over central parts of Arabian sea, along off Sri Lanka coast, gulf of Mannar, south & central and adjoining north Bay of Bengal, off Andhra Pradesh coast. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** very likely to prevail along and off Somalia coast, southwest, west central Arabian sea and adjoining northwest Arabian sea. Fishermen are advised not to venture into these areas.



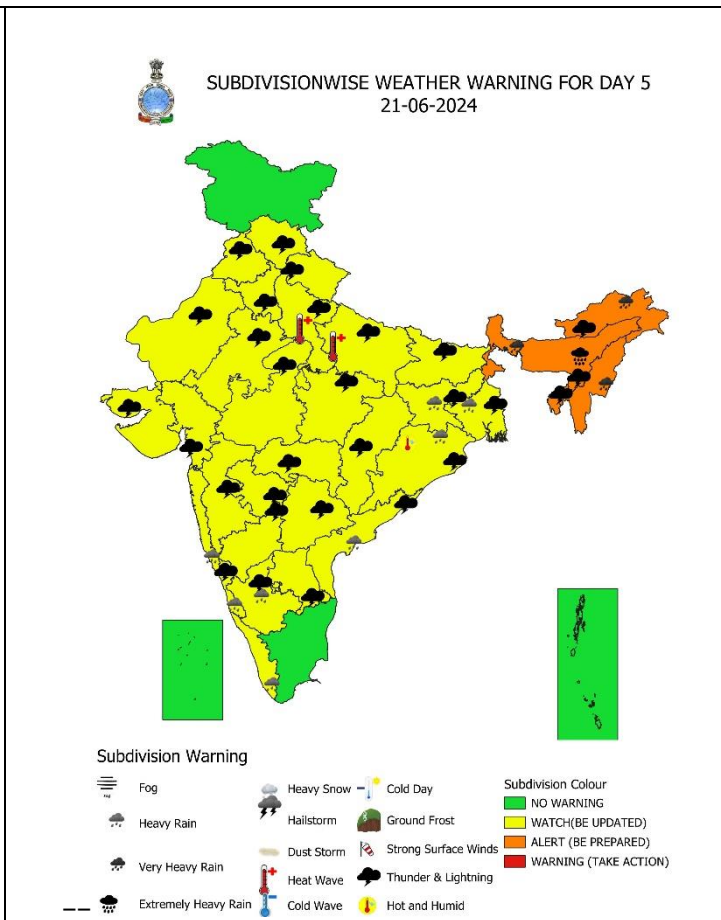
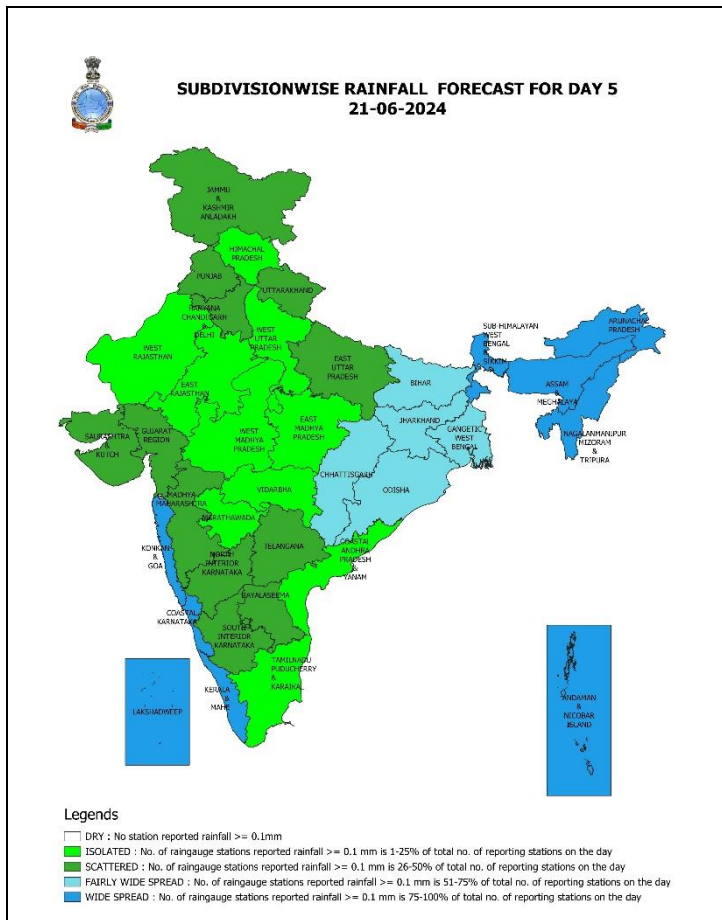
19 June (Day 3):

- ❖ **Heavy to very heavy rainfall with extremely heavy falls** likely at isolated places over Assam & Meghalaya; **Heavy to very heavy rainfall** at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh and Nagaland, Manipur, Mizoram & Tripura; **heavy rainfall** at isolated places over Madhya Maharashtra.
- ❖ **Thunderstorm accompanied with lightning & squally winds (speed reaching 50-60 kmph gusting to 70 kmph)** likely at isolated places over Uttarakhand and East Madhya Pradesh; **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph)** at isolated places over West Madhya Pradesh, Jharkhand, Gangetic West Bengal and Bihar; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka; with **lightning** at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Himachal Pradesh, Vidarbha, Chhattisgarh, Coastal Karnataka and Gujarat state.
- ❖ **Heat wave conditions to severe heat wave conditions** likely in some parts of Uttar Pradesh. **Heat wave conditions** in isolated pockets over Punjab, Haryana-Chandigarh-Delhi and Bihar.
- ❖ **Hot & Humid weather** likely to prevail over Odisha.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over central parts of Arabian sea, southern parts of northeast and adjoining northwest Arabian sea, over southeast Arabian sea, along and off Maharashtra, Konkan, Goa coasts, along off Sri Lanka coast, gulf of Mannar, south & central and adjoining north Bay of Bengal, off Andhra Pradesh coast. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** very likely to prevail along and off Somalia coast, southwest, west central and adjoining northwest Arabian sea. Fishermen are advised not to venture into these areas.



20 June (Day 4):

- ❖ **Heavy to very heavy rainfall with extremely heavy falls** likely at isolated places over Assam & Meghalaya; **Heavy to very heavy rainfall** at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh and Nagaland, Manipur, Mizoram & Tripura; **heavy rainfall** at isolated places over Odisha, Konkan & Goa, Madhya Maharashtra and Coastal Karnataka.
- ❖ **Thunderstorm accompanied with lightning & squally winds (speed reaching 50-60 kmph gusting to 70 kmph)** likely at isolated places over Uttarakhand and East Madhya Pradesh; **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph)** at isolated places over West Madhya Pradesh, Jharkhand, Gangetic West Bengal and Bihar; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Odisha, Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka; with **lightning** at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Himachal Pradesh, Vidarbha, Chhattisgarh, Coastal Karnataka and Gujarat state.
- ❖ **Heat wave conditions** in isolated pockets over Uttar Pradesh.
- ❖ **Hot & Humid weather** likely to prevail over Odisha.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over along and off Maharashtra, Konkan, Goa coasts, along off Sri Lanka coast, gulf of Mannar, south & central and adjoining north Bay of Bengal, off Andhra Pradesh coast. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** very likely to prevail along and off Somalia & Oman coast, southwest, west central and adjoining east & north Arabian sea. Fishermen are advised not to venture into these areas.

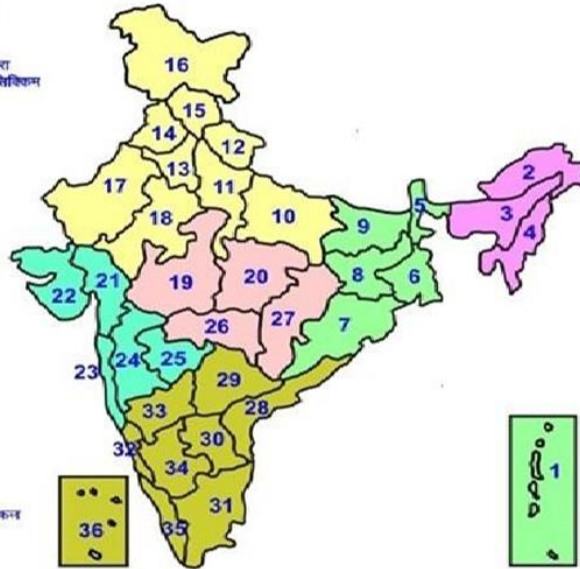


21 June (Day 5):

- ❖ **Heavy to very heavy rainfall with extremely heavy falls** likely at isolated places over Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim; **Heavy to very heavy rainfall** at isolated places over Arunachal Pradesh; **heavy rainfall** at isolated places over Odisha, Konkan & Goa, Nagaland, Manipur, Mizoram & Tripura, Kerala & Mahe, Jharkhand, Gangetic West Bengal, South Interior Karnataka, Coastal Andhra Pradesh & Yanam and Coastal Karnataka.
- ❖ **Thunderstorm accompanied with lightning & squally winds (speed reaching 50-60 kmph gusting to 70 kmph)** likely at isolated places over Uttarakhand and East Madhya Pradesh; **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph)** at isolated places over West Madhya Pradesh, Jharkhand, Gangetic West Bengal and Bihar; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Odisha, Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka; with **lightning** at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Telangana, Himachal Pradesh, Vidarbha, Chhattisgarh, Coastal Karnataka and Gujarat state.
- ❖ **Heat wave conditions** in isolated pockets over Uttar Pradesh.
- ❖ **Hot & Humid weather** likely to prevail over Odisha.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over along and off Maharashtra, Konkan, Goa coasts, along off Sri Lanka coast, gulf of Mannar, south & central and adjoining north Bay of Bengal, off Andhra Pradesh coast. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** very likely to prevail along and off Somalia & Oman coast, southwest, west central and adjoining east & north Arabian sea. Fishermen are advised not to venture into these areas.

LEGENDS

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

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

LEGENDS

WARNING

WARNING (TAKE ACTION)
ALERT (BE PREPARED)
WATCH (BE UPDATED)
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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 $\leq -6.5^\circ\text{C}$

(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 $\leq -4.5^\circ\text{C}$ & 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)

* Red colour warning does not mean "Red Alert", Red colour 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.

For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599

(Service to the Nation since 1875)