

Thursday, June 20, 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 & Jharkhand during next 2-3 days.

#### Weather Systems and Forecast & Warnings:

- ❖ A cyclonic circulation lies over northeast Bangladesh and a trough in lower tropospheric westerlies runs roughly along Long. 88°E to the north of Lat. 22°N in lower tropospheric levels. Strong southwesterly/southerly winds are prevailing from Bay of Bengal to northeast India 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 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.
  - Scattered to fairly widespread light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Gangetic West Bengal, Bihar, Jharkhand, Odisha during next 5 days.
  - Isolated **heavy rainfall** very likely over Bihar during 19<sup>th</sup>-23<sup>rd</sup>; Odisha on 19<sup>th</sup> and Jharkhand on 20<sup>th</sup> & 21<sup>st</sup> June.
- ❖ A cyclonic circulation lies over north Gujarat & neighbourhood and another over Coastal Andhra Pradesh & adjoining Telangana in lower 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 5 days.
  - Isolated **heavy rainfall** very likely over Konkan & Goa and ghat areas of Madhya Maharashtra during 20<sup>th</sup>-23<sup>rd</sup> 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, Coastal Karnataka during 20<sup>th</sup>-23<sup>rd</sup>; Tamil Nadu on 22<sup>nd</sup> & 23<sup>rd</sup>, South Interior Karnataka during 21<sup>st</sup>-23<sup>rd</sup>, North Interior Karnataka on 22<sup>nd</sup> & 23<sup>rd</sup> June with possibility of **very heavy rainfall** over Kerala & Mahe, Coastal Karnataka on 21<sup>st</sup> & 22<sup>nd</sup> and South Interior Karnataka on 22<sup>nd</sup> June.
  - Isolated **extremely heavy rainfall** also likely over Kerala & Mahe, Coastal Karnataka & South Interior Karnataka on 23<sup>rd</sup> June, 2024.
- ❖ Isolated to scattered light to moderate rainfall with **thunderstorm, lightning & gusty winds (40-60 kmph)** very likely over West Madhya Pradesh and scattered to fairly widespread rainfall over East Madhya Pradesh, Vidarbha, Chhattisgarh during next 5 days. Isolated **hailstorm and thundersquall (60-70 kmph)** likely over Madhya Pradesh on 20<sup>th</sup> June.
- ❖ A Western Disturbance as a cyclonic circulation over north Pakistan & neighbourhood and induced cyclonic circulation over Punjab & neighbourhood in lower & middle tropospheric levels. Under their influence; isolated to scattered light rainfall with **thunderstorm, lightning & gusty winds (40-50 kmph)** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand during 20<sup>th</sup>-23<sup>rd</sup> and over Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh and Rajasthan on 20<sup>th</sup> & 21<sup>st</sup> June, 2024.
- ❖ **Strong surface winds** (speed reaching 30-40 kmph) very likely over plains of Northwest India during next 24 hours.
- ❖ Yesterday, **Maximum temperatures** were in the range of 43-45°C in many parts of Punjab, Delhi; in some parts of Haryana-Chandigarh, north Rajasthan and in isolated pockets of Uttar Pradesh. These were above normal by 4-7°C over many parts of Northwest & East India and north Madhya Pradesh.

#### Heat Wave, Hot & Humid Weather and Warm Night warning for next 5 days:

- ❖ **Heat wave to severe heat wave conditions** very likely in some/many parts of West Uttar Pradesh during 20<sup>th</sup>-23<sup>rd</sup> and over East Uttar Pradesh on 20<sup>th</sup> and **decrease in intensity thereafter**.
- ❖ **Heat wave conditions** very likely in isolated/some pockets of Haryana-Chandigarh-Delhi on 23<sup>rd</sup> June.
- ❖ **Warm night conditions** very likely in some parts of Punjab, Haryana-Chandigarh-Delhi, West Uttar Pradesh on 20<sup>th</sup> June, 2024.
- ❖ **Hot & Humid weather** very likely over Odisha and Bihar on 20<sup>th</sup> & 21<sup>st</sup> June, 2024.

## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at many places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Konkan & Goa, Coastal Karnataka, Kerala & Mahe, Andaman & Nicobar Islands; **at a few places** over Assam & Meghalaya, Himachal Pradesh, Chhattisgarh, Tamil Nadu, Puducherry & Karaikal; **at isolated places** over Nagaland, Manipur, Mizoram & Tripura, Punjab, West Uttar Pradesh, Uttarakhand, East Madhya Pradesh, Telangana, Vidarbha, Gujarat state, Madhya Maharashtra, Rayalaseema, North Interior Karnataka, Gangetic West Bengal, Lakshadweep.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday): (in cm): **Sikkim:** Gangtok-1; **Assam & Meghalaya:** Goalpara, Silchar & Cherrapunji-4 each, Shillong, Rangia & Lumding-1 each; **Nagaland, Manipur, Mizoram & Tripura:** Kailashahar-5, Agartala-2, Kohima-1; **Tamil Nadu:** Kodaikanal & Chennai-1 each; **Konkan & Goa:** Dahanu-6, Alibag-4, Harnai & Ratnagiri-1 each; **Madhya Maharashtra:** Mahabaleshwar-2, Nasik-1; **Vidarbha:** Chandrapur-3, Brahmapuri-2; **Jammu-Kashmir:** Pahalgam-1; **Uttarakhand:** Dehradun-1; **Saurashtra & Kutch:** Bhavnagar-1; **Gujarat Region:** Valsad-5, Surat- 3, Nasari- 2, Dang & Daman-1 each; **Kerala:** Thiruvananthapuram-4, Kochi & Kottayam-1 each.
- ❖ Yesterday, **Heatwave to severe heat wave conditions** observed in some parts of Himachal Pradesh and Chandigarh and in isolated pockets of Uttarakhand. **Heatwave conditions over** most parts of West Uttar Pradesh and Delhi; in many parts of Punjab, Haryana and East Uttar Pradesh and in isolated pockets of Jammu division, Odisha, Jharkhand and Bihar.
- ❖ **Reported maximum wind speed (in knot)** (from 0830 hours IST of yesterday to 0715 hours IST of today): **Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad:** Kathuva-35; **Himachal Pradesh:** Mashobra-37, Shimla-36, Dharmasala and Kufri-33 each, Hamirpur & Bhakra\_dam-31; **Haryana:** Ujha-42, Kaul-36, Pandu\_pindara-35 and Karnal-31; **Uttarakhand:** Jollygrant-40, Mohakampur-37, Ram\_chawri-35, Matela-31; **Punjab:** Fatehgarh\_shahib-39, Raumi-38, Sangrur-37, Samarala-36, Patiala and Pathankot-35 each, Barnala-31; **Uttar Pradesh:** Jalaun-39, Niyamatpur and Bharai-35 and Jhansi-31; **Chhattisgarh:** Rajnandagaon-35 and Dantewada-34; **Tamil Nadu:** Thiruvarur-35 and Chidambaram-33.
- ❖ **Minimum Temperature Departures (as on 19-06-2024):** Minimum temperatures were **markedly above normal (5.1°C or more)** at many places over Haryana-Chandigarh-Delhi; **appreciably above normal (3.1°C to 5.0°C)** at a few places over Uttar Pradesh and Punjab; at isolated places over Jharkhand, Gangetic West Bengal and West Rajasthan; **above normal (1.6°C to 3.0°C)** at a few places over Odisha, Kerala & Mahe and Saurashtra & Kutch; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, East Rajasthan, Gujarat Region, Konkan & Goa, Madhya Maharashtra, Marathwada, Chhattisgarh, Bihar, Telangana, East Madhya Pradesh. These were **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over Tamil Nadu, Puducherry & Karaikal; **below normal (-1.6°C to -3.0°C)** at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature** of 22.8°C was reported at **Betul (Madhya Pradesh)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 19-06-2024):** Maximum temperatures were **markedly above normal (5.1°C or more)** at many places over Punjab, Haryana-Chandigarh-Delhi; at a few places over Uttarakhand, West Uttar Pradesh and at isolated places over Himachal Pradesh, East Uttar Pradesh, Bihar; **appreciably above normal (3.1°C to 5.0°C)** at many places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at a few places over Jharkhand; at isolated places over Rajasthan, West Madhya Pradesh, Chhattisgarh, Odisha; **above normal (1.6°C to 3.0°C)** at many place over Telangana; at a few places over Vidarbha, Kerala & Mahe and at isolated places over East Madhya Pradesh, Coastal Andhra Pradesh & Yanam, Tamil Nadu, Puducherry & Karaikal. These were **markedly below normal (-5.1°C or less)** at a few places over Assam & Meghalaya; at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim; **below normal (-1.6°C to -3.0°C)** at a few places over Andaman & Nicobar Islands and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature** of 45.1°C was reported at **Kanpur IAF (Uttar Pradesh)** over 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 and Jharkhand during next 2-3 days.
- ❖ The Western Disturbance as a cyclonic circulation over north Pakistan & neighbourhood between 3.1 & 5.8 km above mean sea level persists.
- ❖ The induced cyclonic circulation over central Pakistan now lies over Punjab and neighbourhood and extends upto 1.5 km above mean sea level.
- ❖ The cyclonic circulation over north Gujarat & neighbourhood between 3.1 & 4.5 km above mean sea level persists.
- ❖ The cyclonic circulation over Eastcentral Bay of Bengal between 3.1 & 5.8 km above mean sea level persists.
- ❖ The cyclonic circulation over northeast Bangladesh & neighbourhood at 0.9 km above mean sea level persists.
- ❖ The trough in lower tropospheric westerlies roughly along Long. 88°E to the north of Lat. 22°N between 1.5 & 3.1 km above mean sea level persists.
- ❖ The cyclonic circulation over Coastal Andhra Pradesh & adjoining Telangana at 5.8 km above mean sea level persists.

## Weather Forecast for next 7 days (Upto 0830 hours IST of 27<sup>th</sup> June, 2024)

- ❖ Meteorological sub-division wise detailed 7 days rainfall forecast is given in Table-1.
- ❖ Thunderstorm/lightening very likely at isolated places over northeast India and Gujarat state during next 3 days.
- ❖ Fall by 2-3°C in maximum temperatures very likely over many parts of Northwest India during next 24 hours and no significant change thereafter.
- ❖ Fall by about 3-4°C in maximum temperatures very likely over East Uttar Pradesh during next 4 days.
- ❖ Fall by about 2-4°C in maximum temperatures very likely over East India during next 2 days and no significant change thereafter.
- ❖ No significant change in maximum temperatures very likely over rest parts of the country.

## Weather Outlook for subsequent 3 days (During 27<sup>th</sup>-29<sup>th</sup> 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

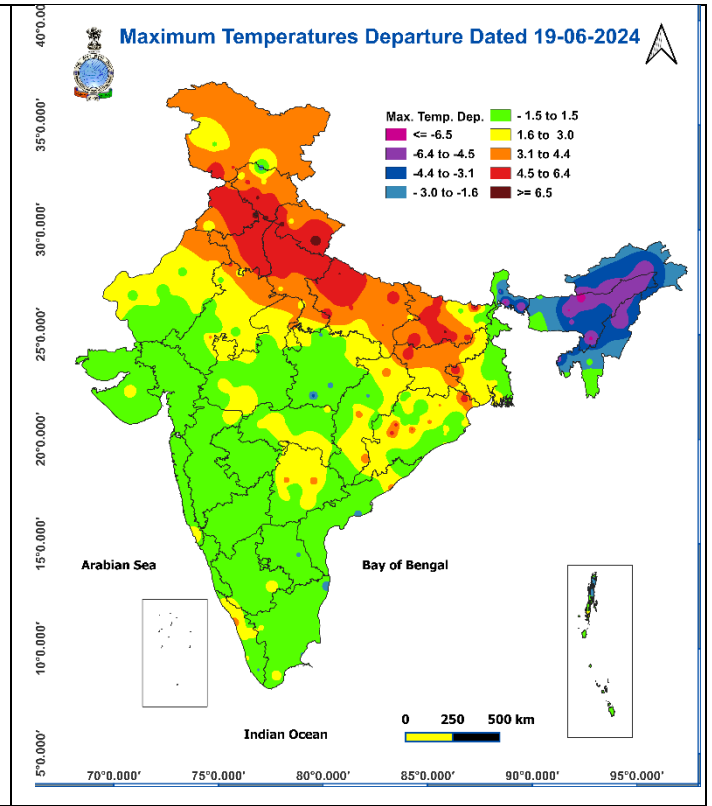
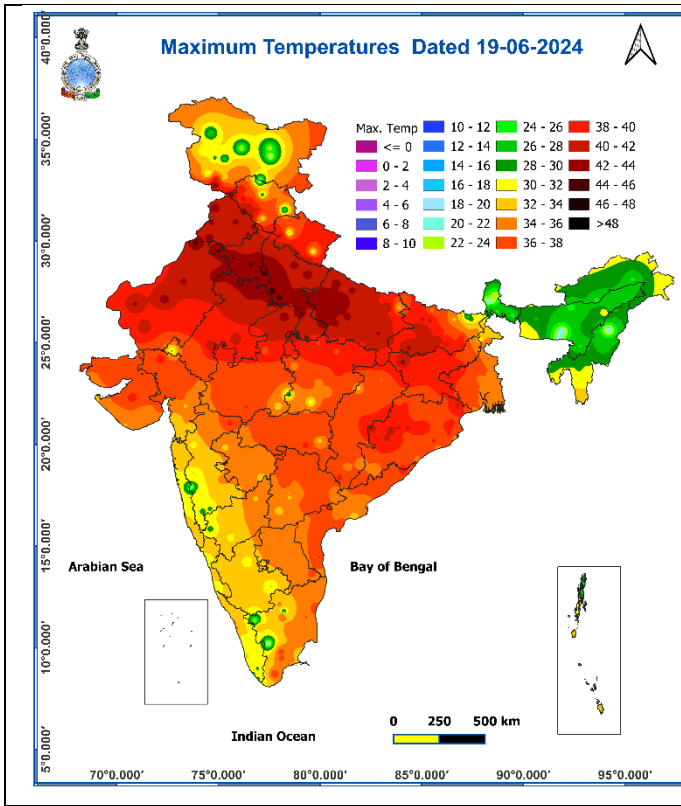
7 Days Rainfall Forecast								
S. No.	Subdivision	20-Jun	21-Jun	22-Jun	23-Jun	24-Jun	25-Jun	26-Jun
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	FWS	WS	WS	WS	WS	WS	WS
2	ARUNACHAL PRADESH	WS	WS	WS	WS	WS	WS	WS
3	ASSAM & MEGHALAYA	WS	WS	WS	WS	WS	WS	WS
4	NAGALAND, MANIPUR, MIZORAM & 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	FWS	FWS	FWS	SCT	SCT	SCT	SCT
7	ODISHA	FWS	FWS	FWS	SCT	SCT	SCT	SCT
8	JHARKHAND	FWS	FWS	FWS	FWS	SCT	SCT	SCT
9	BIHAR	FWS	FWS	FWS	FWS	FWS	FWS	FWS
10	EAST UTTAR PRADESH	ISOL	ISOL	ISOL	SCT	SCT	FWS	FWS
11	WEST UTTAR PRADESH	ISOL	ISOL	ISOL	ISOL	ISOL	SCT	SCT
12	UTTARAKHAND	SCT	ISOL	ISOL	SCT	FWS	FWS	FWS
13	HARYANA CHANDIGARH & DELHI	SCT	ISOL	DRY	DRY	DRY	ISOL	ISOL
14	PUNJAB	SCT	ISOL	DRY	DRY	DRY	ISOL	ISOL
15	HIMACHAL PRADESH	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
16	JAMMU & KASHMIR AND LADAKH	SCT	SCT	ISOL	ISOL	DRY	DRY	DRY
17	WEST RAJASTHAN	ISOL	DRY	DRY	ISOL	ISOL	ISOL	ISOL
18	EAST RAJASTHAN	ISOL	ISOL	ISOL	ISOL	ISOL	SCT	SCT
19	WEST MADHYA PRADESH	SCT	SCT	SCT	SCT	FWS	FWS	FWS
20	EAST MADHYA PRADESH	FWS	FWS	FWS	FWS	FWS	FWS	FWS
21	GUJARAT REGION	SCT	SCT	ISOL	SCT	SCT	SCT	SCT
22	SAURASHTRA & KUTCH	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
23	KONKAN & GOA	WS	WS	WS	WS	WS	WS	WS
24	MADHYA MAHARASHTRA	SCT	SCT	SCT	SCT	SCT	SCT	SCT
25	MARATHAWADA	ISOL	ISOL	ISOL	SCT	SCT	ISOL	ISOL
26	VIDARBHA	FWS	FWS	FWS	FWS	FWS	FWS	FWS
27	CHHATTISGARH	FWS	FWS	FWS	FWS	FWS	FWS	FWS
28	COASTAL ANDHRA PRADESH & YANAM	SCT	SCT	SCT	SCT	ISOL	ISOL	ISOL
29	TELANGANA	SCT	SCT	ISOL	SCT	SCT	SCT	SCT
30	RAYALASEEMA	ISOL	ISOL	ISOL	SCT	ISOL	ISOL	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	ISOL	SCT	SCT	ISOL	ISOL	ISOL
32	COASTAL KARNATAKA	WS	WS	WS	WS	WS	WS	WS
33	NORTH INTERIOR KARNATAKA	ISOL	SCT	FWS	FWS	FWS	FWS	FWS
34	SOUTH INTERIOR KARNATAKA	SCT	FWS	WS	WS	WS	WS	WS
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.  
For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599  
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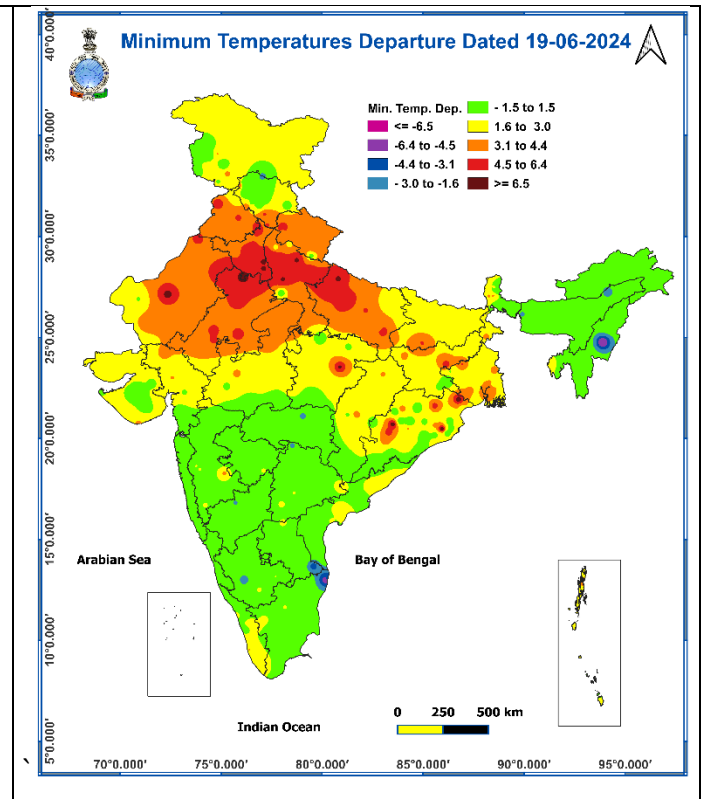
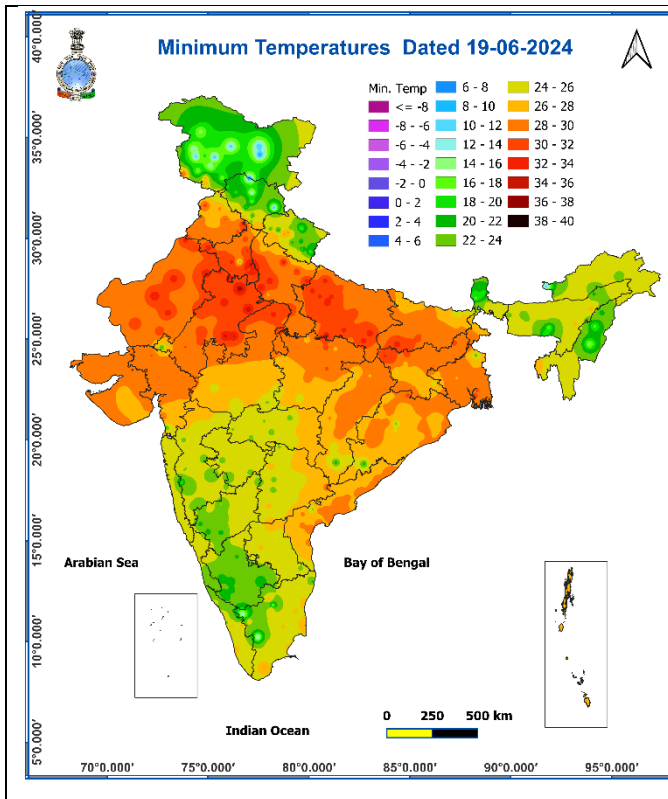
**Fig. 1: Maximum Temperatures**

**Fig. 2: Departure of Maximum Temperatures**



**Fig. 3: Minimum Temperatures**

**Fig. 4: Departure of Minimum Temperatures**

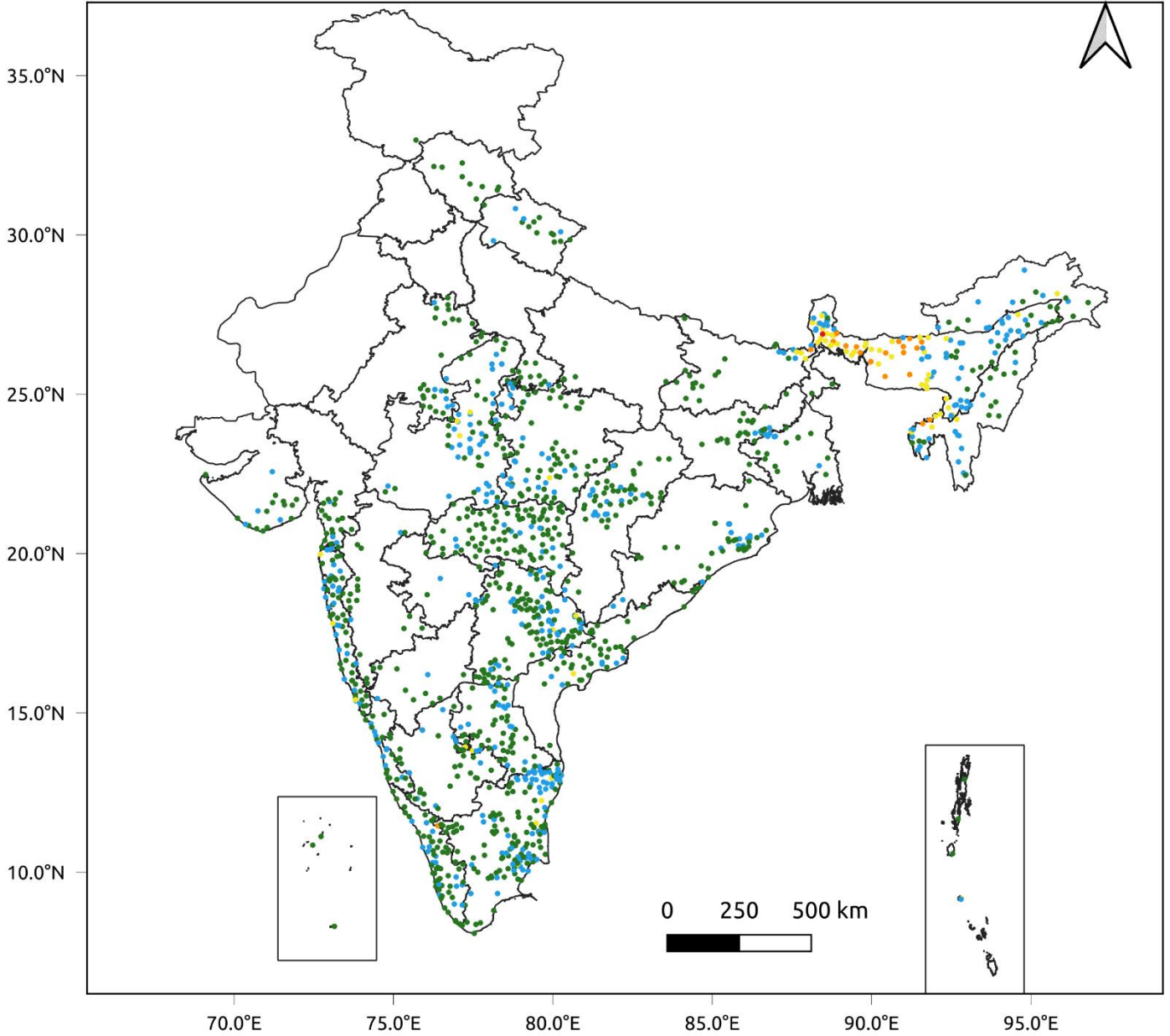


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Fig. 5: Accumulated Rainfall (mm) during past 24 hours



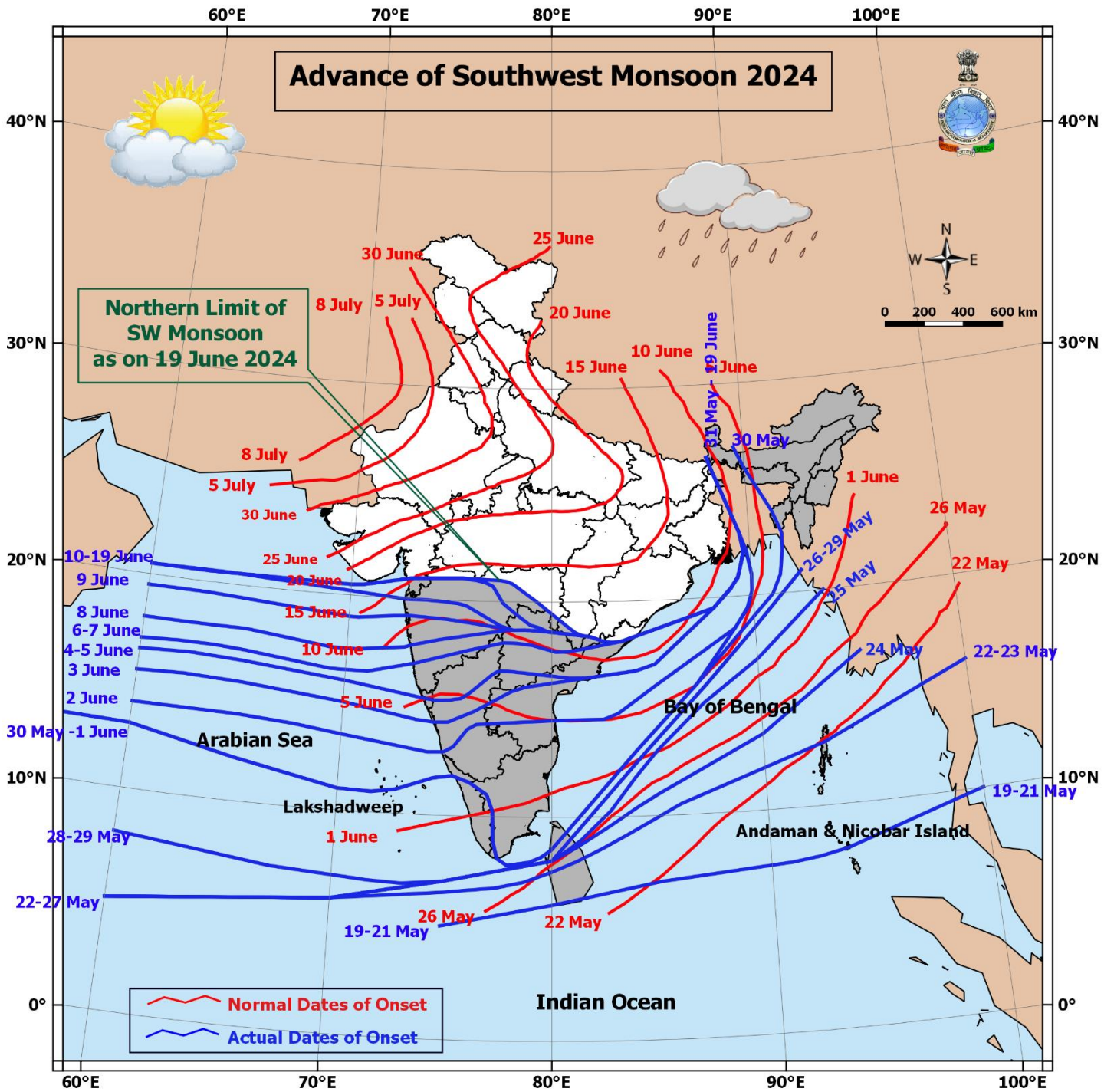
24 Hr cumulative rainfall recorded over different stations during 0830 IST of 18-6-2024 to 0830 IST of 19-6-2024



## Legends

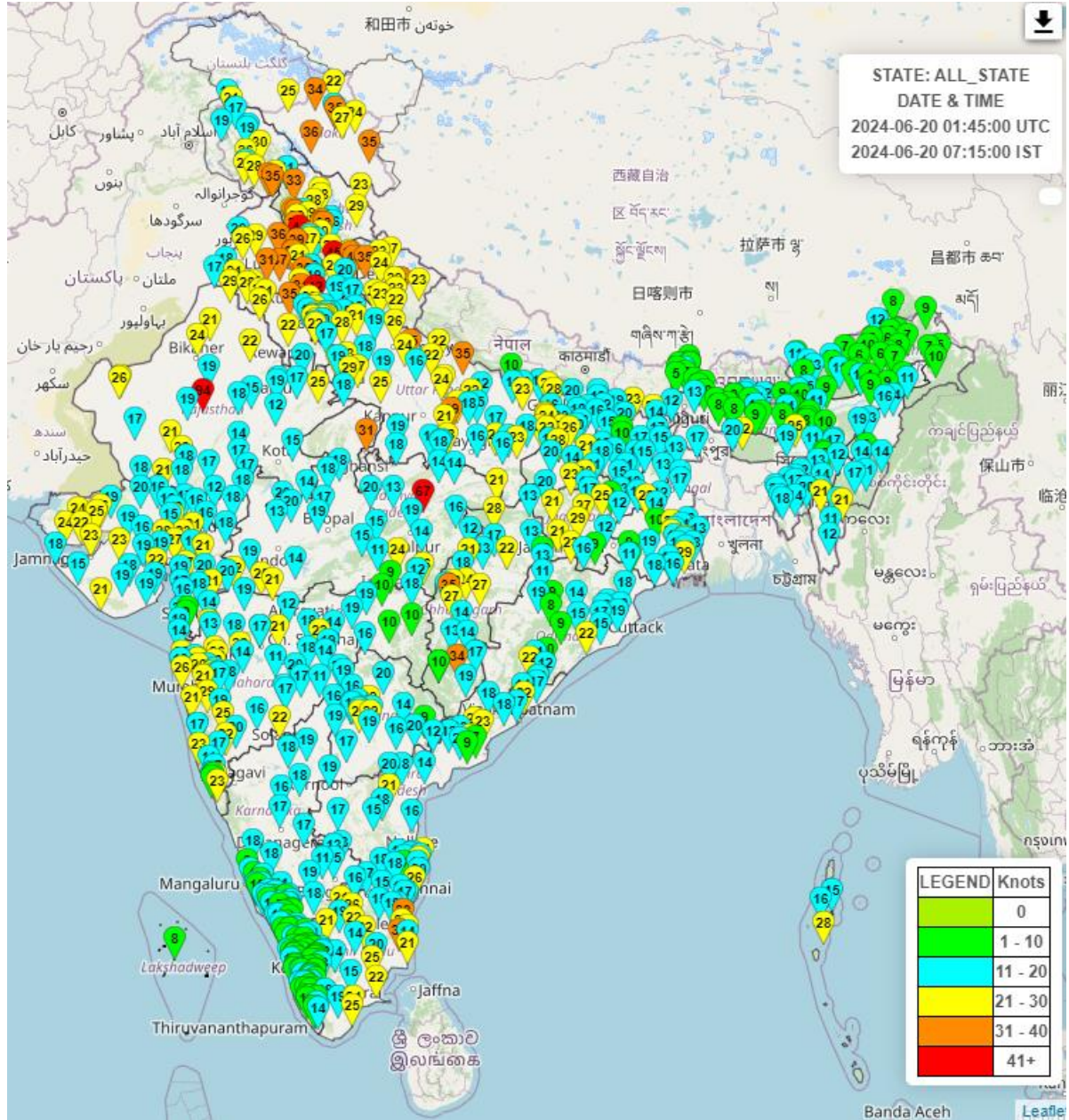
- Very Light to Light Rainfall (0.1 - 15.5 mm)
- Moderate Rainfall (15.6 - 64.4 mm)
- Heavy Rainfall (64.5 - 115.5 mm)
- Very Heavy Rainfall (115.6 - 204.4 mm)
- Extremely Heavy Rainfall ( $\geq 204.5$  mm)

Fig. 6: Advance of Southwest Monsoon 2024



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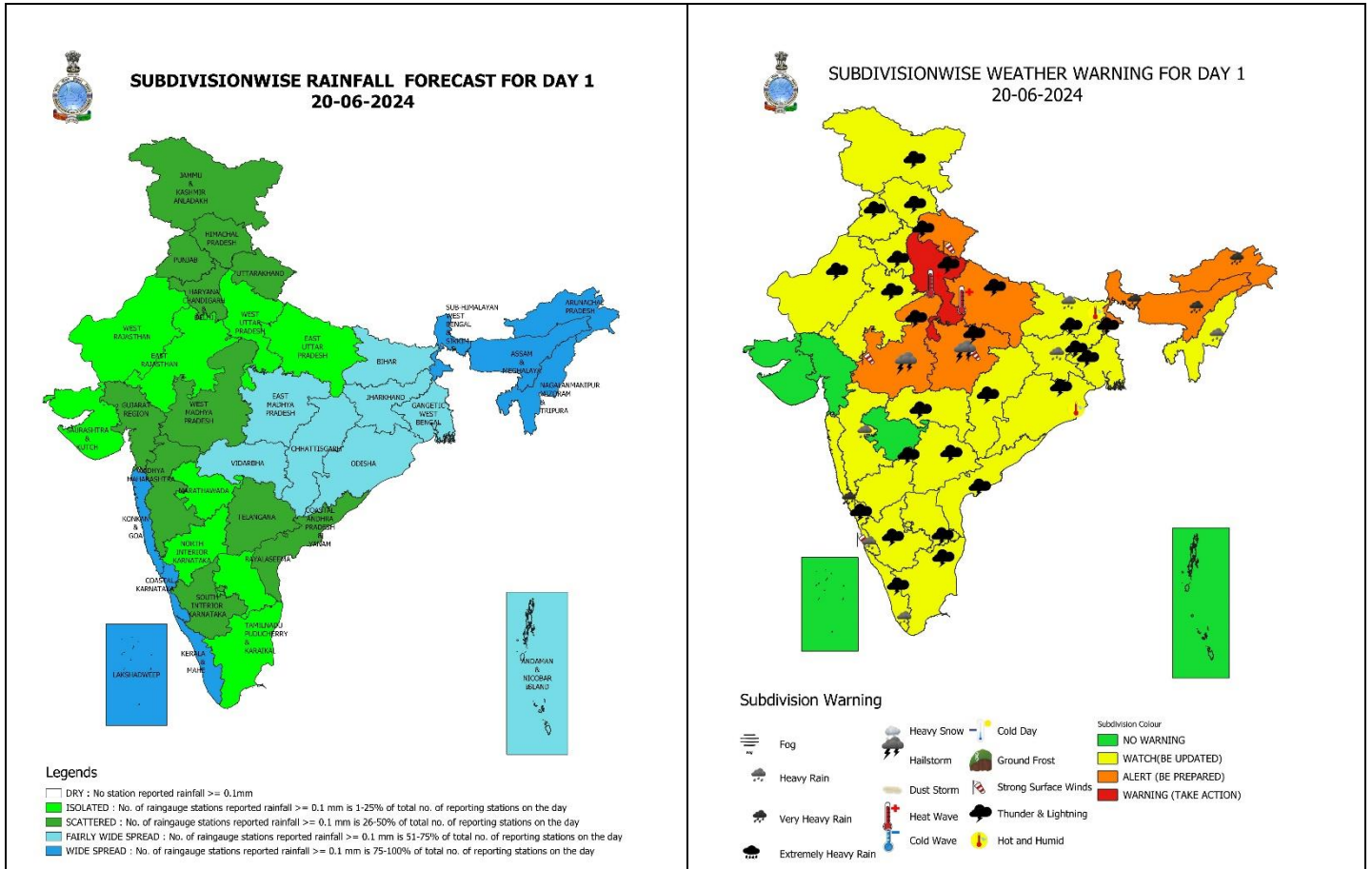
**Fig. 7: Gusty winds reported over the country (in knots) from 0830 hours IST of 19.06.2024 to 0715 hours IST of 20.06.2024**



**1 Knot = 1.852 kmph**

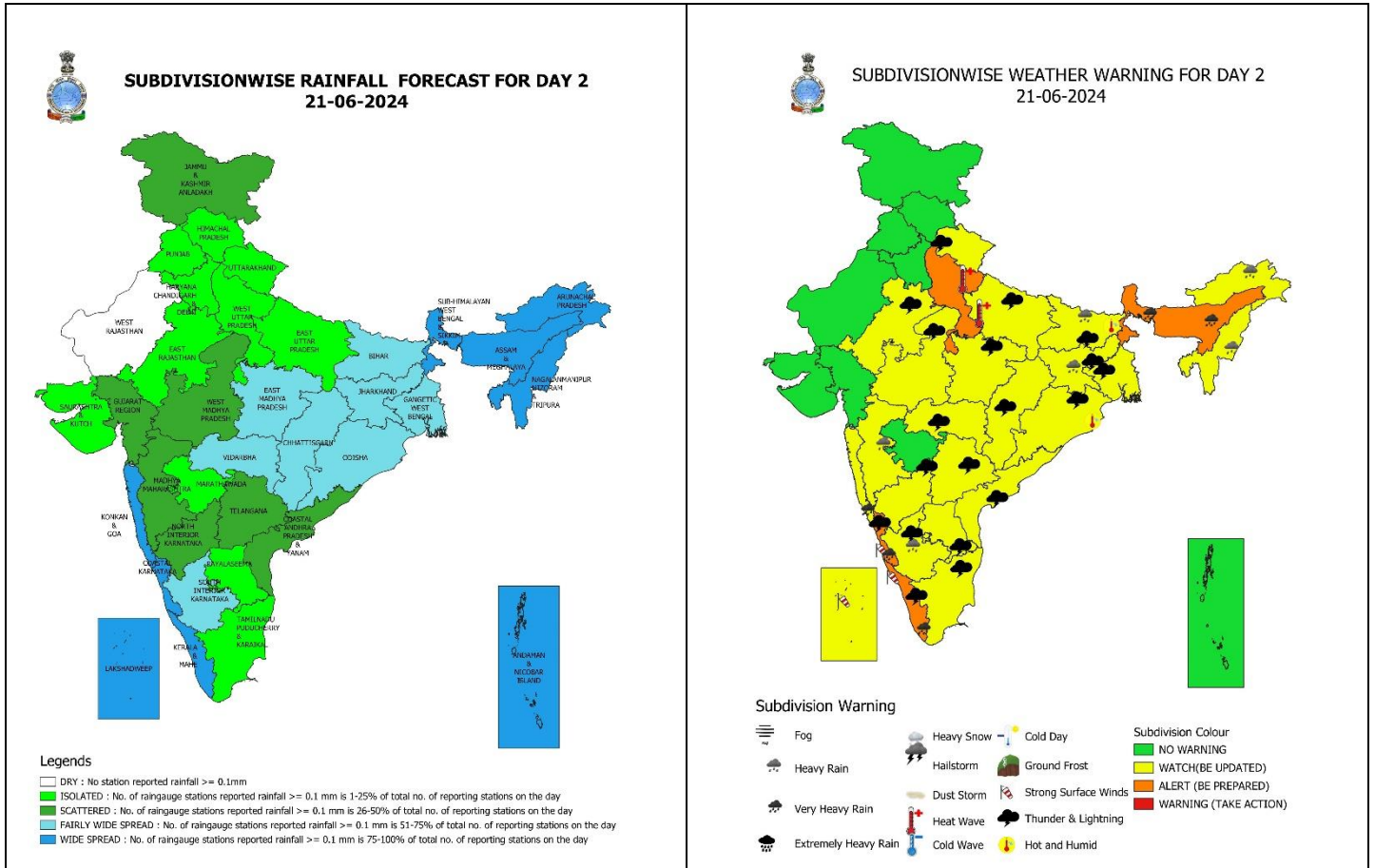
For more details, kindly refer: <http://aws.imd.gov.in:8091/>

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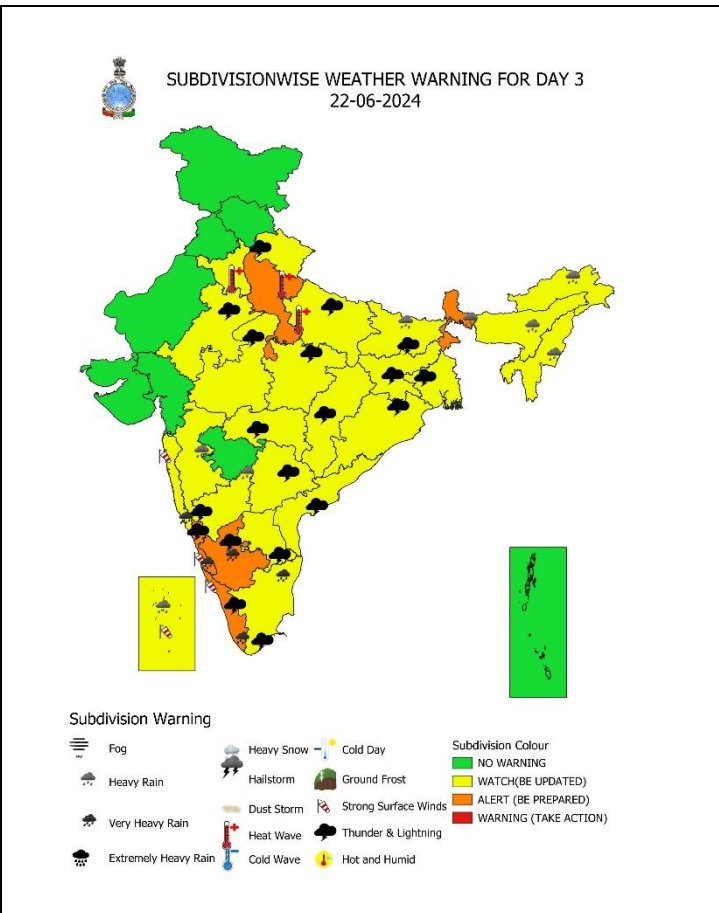
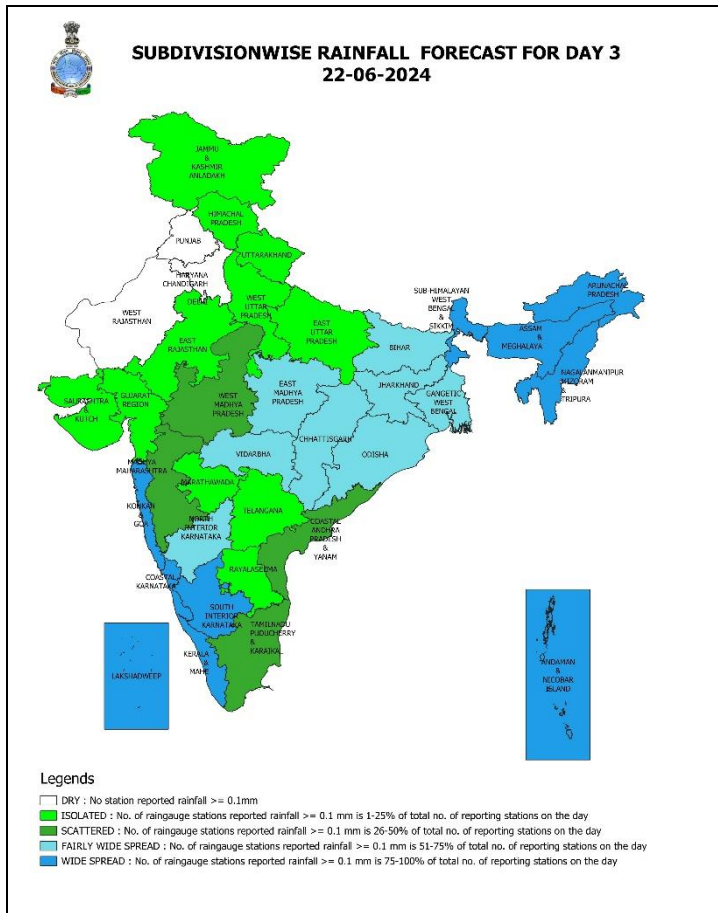
## 20 June (Day 1):

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



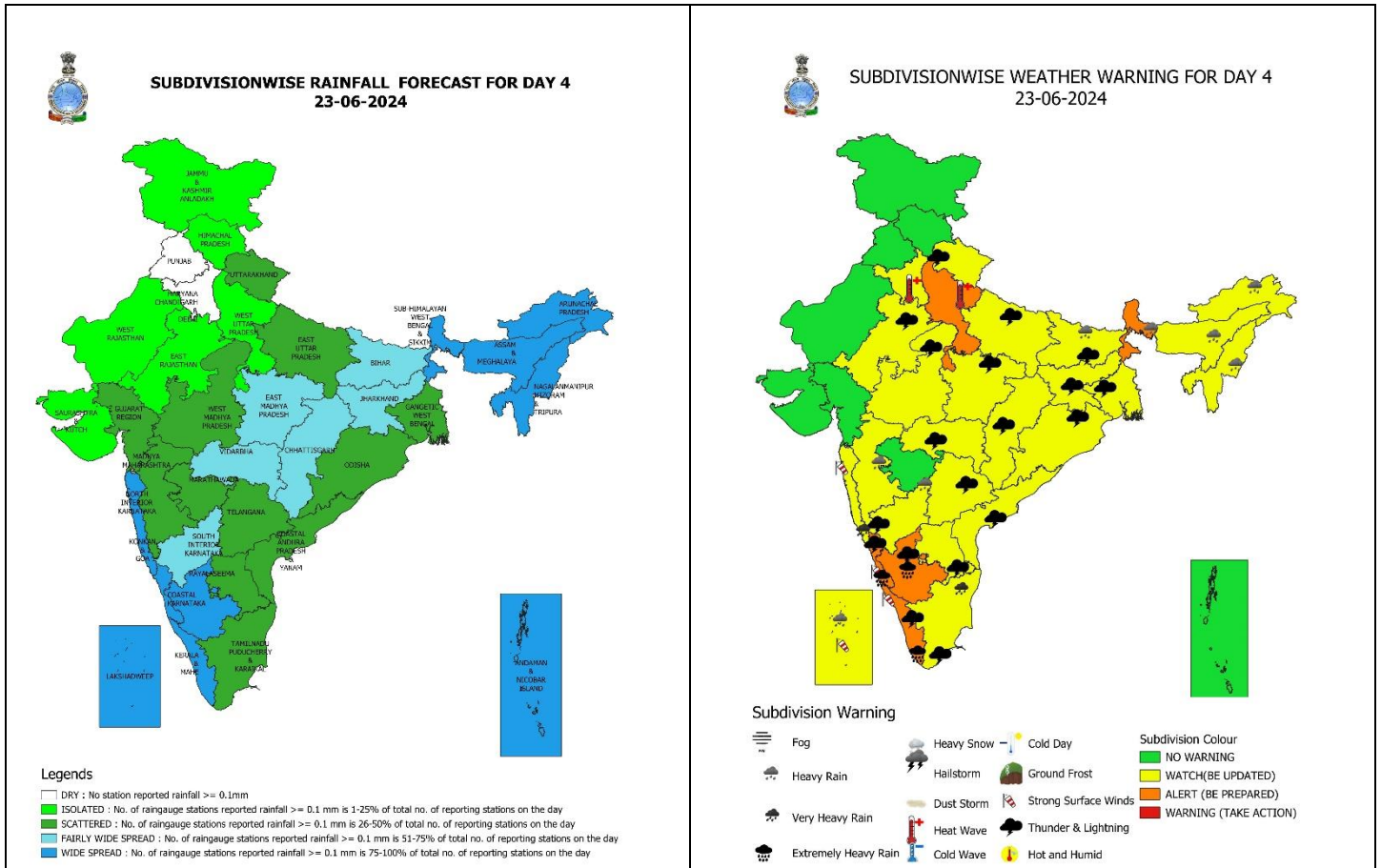
## 21 June (Day 2):

- ❖ **Heavy to very heavy rainfall** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Konkan & Goa, Kerala & Mahe and Coastal Karnataka; **heavy rainfall** at isolated places over Bihar, Jharkhand, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra and South Interior Karnataka.
- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph)** very likely at isolated places over Madhya Pradesh, Gangetic West Bengal, Bihar, Jharkhand, Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places Uttarakhnad, East Uttar Pradesh, East Rajasthan, Vidarbha, Chhattisgarh, Odisha and Telangana; **with lightning** at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Coastal Karnataka.
- ❖ **Heat wave conditions to severe heat wave conditions** very likely in some parts of West Uttar Pradesh. **Heat wave conditions** in isolated pockets over East Uttar Pradesh.
- ❖ **Hot & Humid weather** very likely to prevail over Bihar and Odisha.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over western parts of eastcentral and southeast Arabian sea, northern parts of southwest Arabian sea, along and off south Maharashtra, Karnataka, Kerala coasts, adjoining Lakshadweep area, off Sri Lanka coast, Gulf of Mannar, south and central Bay of Bengal & adjoining northwest Bay of Bengal, off north Andhra Pradesh, south Odisha coasts. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** to prevail along and off Somalia coast & adjoining southwest Arabian sea, west central & adjoining northwest, eastcentral, northeast Arabian sea, off Yemen and Oman coasts. Fishermen are advised not to venture into these areas.



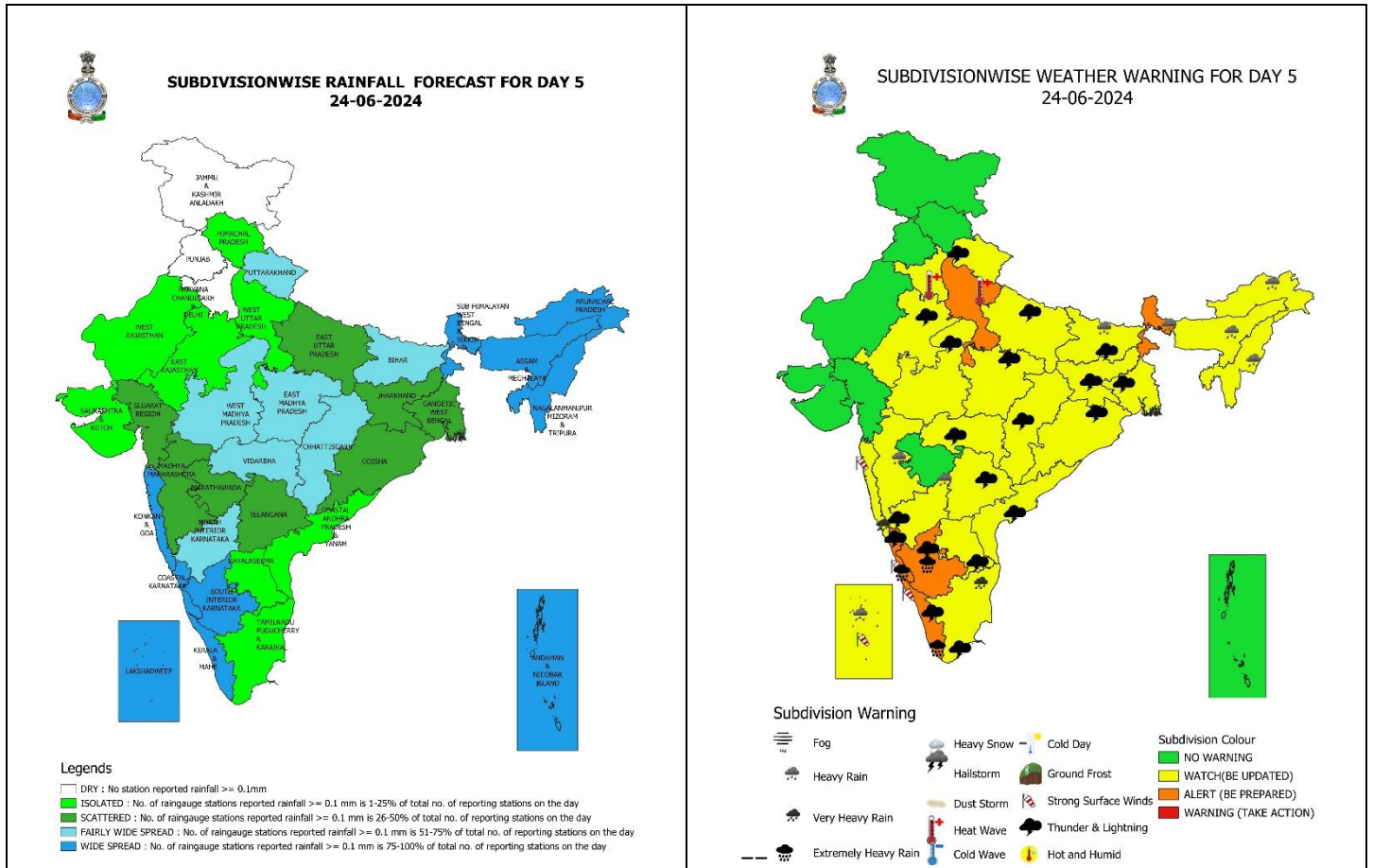
## 22 June (Day 3):

- ❖ **Heavy to very heavy rainfall** likely at isolated places over Konkan & Goa, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal & South Interior Karnataka; **heavy rainfall** at isolated places over Sub-Himalayan West Bengal & Sikkim, Bihar, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Lakshadweep and North Interior Karnataka.
- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph)** likely at isolated places over Madhya Pradesh, Gangetic West Bengal, Bihar, Jharkhand, Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places Uttarakhand, East Uttar Pradesh, East Rajasthan, Vidarbha, Chhattisgarh, Odisha and Telangana; **with lightning** at isolated places over Tamil Nadu, Puducherry & Karaikal and Coastal Karnataka.
- ❖ **Heat wave conditions** likely in some parts of West Uttar Pradesh; in isolated pockets over East Uttar Pradesh and Haryana-Chandigarh-Delhi.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over parts of eastcentral and southeast Arabian sea, northern parts of southwest Arabian sea, Lakshadweep area, along and off south Maharashtra, Karnataka, Kerala coasts, off Sri Lanka coast, Gulf of Mannar, south and central Bay of Bengal, adjoining northwest Bay of Bengal. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** to prevail along and off Somalia coast & adjoining southwest Arabian sea, west central & adjoining northwest, eastcentral, northeast Arabian sea, off Yemen and Oman coasts. Fishermen are advised not to venture into these areas.



**22 June (Day 4):**

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

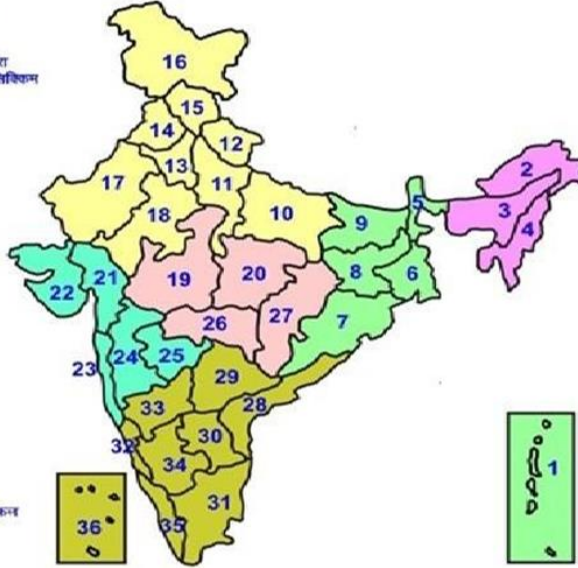


## 24 June (Day 5):

- ❖ **Heavy to very heavy rainfall with extremely heavy falls** likely at isolated places over Kerala & Mahe, Coastal & South Interior Karnataka; **Heavy to very heavy rainfall** at isolated places over Konkan & Goa, Tamil Nadu, Puducherry & Karaikal; **heavy rainfall** at isolated places over Sub-Himalayan West Bengal & Sikkim, Bihar, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Lakshadweep and North Interior Karnataka.
- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph)** likely at isolated places over Uttarakhand, Madhya Pradesh, Gangetic West Bengal, Bihar, Jharkhand, Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places East Uttar Pradesh, East Rajasthan, Vidarbha, Chhattisgarh, Odisha and Telangana; **with lightning** at isolated places over Tamil Nadu, Puducherry & Karaikal and Coastal Karnataka.
- ❖ **Heat wave conditions** likely in some parts of West Uttar Pradesh; in isolated pockets over Haryana-Chandigarh-Delhi.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over eastcentral, southeast Arabian sea, northern parts of southwest Arabian sea, Lakshadweep area, along and off south Maharashtra, Konkan, Goa, Karnataka, Kerala coasts, off Sri Lanka coast, gulf of Mannar, south and central Bay of Bengal, adjoining northwest bob. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** very likely to prevail along and off Somalia coast & adjoining southwest Arabian sea, west central & adjoining northwest, eastcentral, northeast Arabian sea, off Yemen and Oman coasts. 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 उत्तराखंड
- 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

<b>WARNING (TAKE ACTION)</b>
<b>ALERT ( BE PREPARED)</b>
<b>WATCH (BE UPDATED)</b>
<b>NO WARNING ( NO ACTION)</b>

### 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)
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  $4.5^\circ\text{C}$  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  $\geq 37^\circ\text{C}$



Warm Night

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  $> 6.4^\circ\text{C}$ .



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

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

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

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