

Tuesday, July 23, 2024  
Time of Issue: 0800 hours IST  
(MORNING)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

#### Weather Systems

- ✓ The Low-Pressure Area over East Madhya Pradesh & adjoining Chhattisgarh persists.
- ✓ The Monsoon trough is active and lies south of its normal position. It is likely to move northwards during next 24 hours.
- ✓ The **shear zone** lies in lower & middle tropospheric levels along 21°N tilting southwards with height.
- ✓ The **off-shore trough** at mean sea level along South Gujarat-Kerala coasts.
- ✓ A **Western Disturbance** seen as a trough in middle tropospheric levels roughly along Long. 67°E to the north of Lat. 30°N.

#### Forecast & Warnings:

##### ❖ West, Central, East and South Peninsular India

- ✓ Fairly widespread to widespread light to moderate rainfall accompanied with thunderstorm & lightning very likely over the region during next 5 days.
- ✓ **Isolated extremely heavy rainfall very likely over Gujarat State, Konkan & Goa, Madhya Maharashtra on 23<sup>rd</sup> & 24<sup>th</sup> July.**
- ✓ **Very heavy rainfall very likely at isolated places over East Madhya Pradesh on 23<sup>rd</sup> & 24<sup>th</sup>; Konkan & Goa, Madhya Maharashtra, Gujarat State 25<sup>th</sup> & 26<sup>th</sup>; West Madhya Pradesh and Odisha on 23<sup>rd</sup> & 24<sup>th</sup> July.**
- ✓ **Heavy rainfall** very likely at isolated/some places over Coastal & South Interior Karnataka during 23<sup>rd</sup>-27<sup>th</sup>; Odisha, Kerala & Mahe, North Interior Karnataka during 25<sup>th</sup> - 27<sup>th</sup>; Jharkhand during 23<sup>rd</sup>-25<sup>th</sup>; Gangetic West Bengal on 23<sup>rd</sup> & 24<sup>th</sup>; Madhya Pradesh on 25<sup>th</sup> & 26<sup>th</sup>; Chhattisgarh on 23<sup>rd</sup> & 24<sup>th</sup> July.
- ✓ **Strong surface winds (30-40 kmph)** very likely over south peninsular India during next 2 days.

##### ❖ Northwest India

- ✓ Scattered to fairly widespread light to moderate rainfall **accompanied with thunderstorm & lightning** very likely over Himachal Pradesh, Uttarakhand, East Rajasthan, Haryana-Chandigarh-Delhi, Uttar Pradesh and isolated to scattered rainfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Rajasthan during next 5 days.
- ✓ **Isolated very heavy rainfall also likely over Uttarakhand on 23<sup>rd</sup>; West Uttar Pradesh, Punjab, Haryana on 23<sup>rd</sup> and East Rajasthan on 23<sup>rd</sup> & 24<sup>th</sup> July.**
- ✓ Isolated **heavy rainfall** very likely over Himachal Pradesh, Uttarakhand, West Uttar Pradesh, East Rajasthan during 23<sup>rd</sup>-27<sup>th</sup>; Punjab & Haryana-Chandigarh on 23<sup>rd</sup> & 24<sup>th</sup>; East Uttar Pradesh during 23<sup>rd</sup>- 27<sup>th</sup> July.
- ✓ **Hot & humid weather** is likely over West Rajasthan during next 2 days.
- ✓ **Above normal temperatures with high humidity are likely over Punjab and Haryana-Chandigarh-Delhi during next 2 days.**

##### ❖ Northeast India

- ✓ Fairly widespread to widespread light to moderate rainfall with **accompanied with thunderstorm, lightning** very likely over Northeast India during next 5 days.
- ✓ Isolated **heavy rainfall** very likely over Assam & Meghalaya during next 5 days; Arunachal Pradesh, Nagaland, Manipur on 23<sup>rd</sup> & 24<sup>th</sup> July.

## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at many places** over Gangetic West Bengal, Vidarbha & Konkan & Goa; **at a few places** over East Madhya Pradesh, Gujarat state, Madhya Maharashtra Assam & Meghalaya, Odisha, Kerala & Mahe & Chhattisgarh; **at isolated places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Haryana-Chandigarh-Delhi, Uttarakhand, West Uttar Pradesh, Rajasthan, Jharkhand, Bihar, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, West Madhya Pradesh, Marathwada, Telangana, Coastal Andhra Pradesh & Yanam, Interior Karnataka and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Heavy Rainfall** (from 0830 hours IST to 1730 hours IST of Yesterday): **Heavy to very heavy rainfall** at isolated places over Gujarat state, Chhattisgarh, West Uttar Pradesh; **Heavy rainfall** at isolated places over East Madhya Pradesh & Konkan & Goa.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of Yesterday) (in cm): **Gujarat state:** Junagarh 20, Dwarka 17, Surat & Rajkot 16 each, Valsad 11, Porbandar 10, Navsari 9, Bharuch 8, Bhavnagar & Surendranagar 6 each, Okha 4, Naliya, Kachh, Anand & Amreli 3 each; **Chhattisgarh:** AWS Balod 14, AWS Kanker 4, AWS Kondagaon & Pendra road 3 each; **West Uttar Pradesh:** Muzaffarnagar 12, Meerut 5; **East Madhya Pradesh:** Seoni 11, Khajuraho 3; **Konkan & Goa:** Raigad Matheran 9, Dahanu 7, Mumbai Colaba 4; **Uttarakhand:** Dehradun Mokhampur 5, Tehri 2; **Delhi:** Safdarjung 3, Lodhi Road 3, Ridge 3, Delhi University 4, Pusa 5, Pitampura 5; **West Rajasthan:** Churu 4; **East Rajasthan:** Pilani & Ajmer 4 each, Bhilwara 3; **Odisha:** Puri 5, Gopalpur 3; **Madhya Maharashtra:** Pune Lonavala 5, Mahabaleshwar & Pune Lavasa 4 each, **Coastal Karnataka:** Mangalore 3.
- ❖ **Minimum Temperature Departures (as on 22-07-2024):** Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Himachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, East Uttar Pradesh, West Rajasthan and Andaman & Nicobar Islands; **above normal (1.6°C to 3.0°C)** at most places over West Uttar Pradesh and Haryana-Chandigarh-Delhi; at many places over East Rajasthan, Bihar, Punjab, Uttarakhand, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Sub-Himalayan West Bengal & Sikkim; at a few places over East Madhya Pradesh and Kerala & Mahe; at isolated places over West Madhya Pradesh, Jharkhand, Gujarat state, Madhya Maharashtra, Vidarbha, Chhattisgarh, Assam & Meghalaya and Tamil Nadu, Puducherry & Karaikal. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Coastal Andhra Pradesh & Yanam and Telangana and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature of 18.5°C** was reported at **Yeotmal (Vidarbha)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 22-07-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at isolated places over Haryana-Chandigarh-Delhi, Himachal Pradesh, Rajasthan, East Uttar Pradesh, Bihar, Chhattisgarh, Madhya Pradesh & Gujarat Region; **above normal (1.6°C to 3.0°C)** at many places over West Uttar Pradesh; at isolated places over Punjab, West Uttar Pradesh, West Bengal & Sikkim, Assam & Meghalaya & Tamil Nadu, Puducherry & Karaikal. These were **Markedly below normal (-5.1 or less)** at isolated places over Telangana & Coastal Andhra Pradesh & Yanam; **below normal (-1.6°C to -3.0°C)** at many places over Madhya Maharashtra, Marathwada, North Interior Karnataka; at a few places over Konkan & Goa & Coastal Karnataka; at isolated places over Vidarbha, Chhattisgarh Odisha, Rayalaseema, Vidarbha, Madhya Maharashtra, Marathwada and Konkan & Goa and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature of 42.9°C** was reported at **Sri Ganganagar (West Rajasthan)** over the country.

### Meteorological Analysis (Based on 0530 hours IST)

- ❖ The **low-pressure area** over East Madhya Pradesh & adjoining Chhattisgarh with associated cyclonic circulation persists and now seen extends upto 5.8 km above mean sea level tilting southeast wards with height.
- ❖ The **Monsoon trough** at mean sea level continues to pass through Jaisalmer, Kota, Guna, Damoh, center of **low-pressure area** over East Madhya Pradesh and adjoining Chhattisgarh, Sambalpur, Puri and thence southeastwards to eastcentral Bay of Bengal and extends upto 1.5 km above mean sea level.
- ❖ The **shear zone** roughly along 21°N between 3.1 & 7.6 km above mean sea level tilting southwards with height persists.
- ❖ The **off-shore trough** at mean sea level along South Gujarat- Kerala coasts persists.
- ❖ The **cyclonic circulation** over Northeast Assam at 0.9 km above mean sea level persists.
- ❖ The **Western Disturbance** as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level now runs roughly along Long. 67°E to the north of Lat. 30°N.

### Weather Forecast for next 7 days (Upto 0830 hours IST of 30<sup>th</sup> July, 2024)

- ❖ Meteorological sub-division wise detailed 7 days rainfall forecast is given in Table-1.
- ❖ Thunderstorm accompanied with lightning very likely at isolated places over Northeast and South Peninsular India during next 24 hours.
- ❖ No significant change in maximum temperatures very likely over most parts of the country.

### Weather Outlook for subsequent 3 days (During 30<sup>th</sup> July-01<sup>st</sup> August, 2024)

- ❖ Fairly widespread to widespread rainfall likely over most parts of the country except Tamil Nadu, Puducherry & Karaikal and Rayalaseema where isolated to scattered rainfall likely.

Table-1

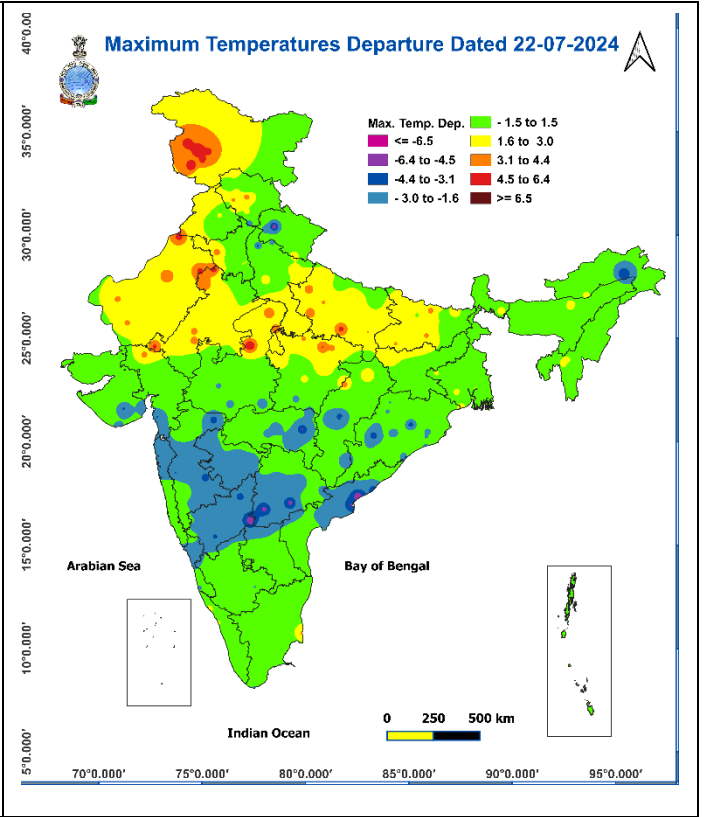
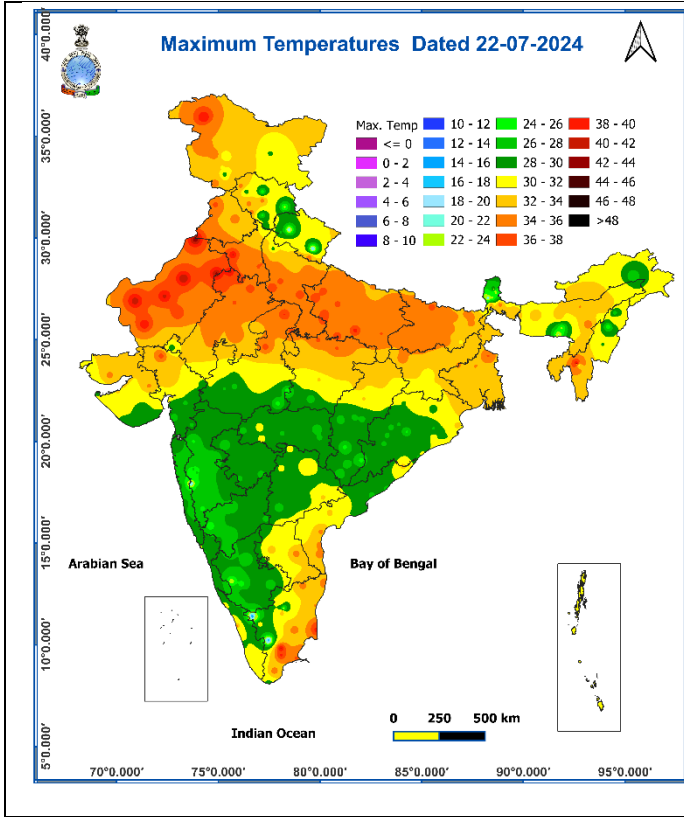
7 Days Rainfall Forecast								
S. No.	Subdivision	23-Jul	24-Jul	25-Jul	26-Jul	27-Jul	28-Jul	29-Jul
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	FWS	WS	WS	WS	WS	WS	WS
2	ARUNACHAL PRADESH	FWS	FWS	SCT	SCT	FWS	FWS	FWS
3	ASSAM & MEGHALAYA	WS	FWS	FWS	FWS	FWS	FWS	FWS
4	NAGALAND,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

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  
(Service to the Nation since 1875)

**Fig. 1: Maximum Temperatures**

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



**Fig. 3: Minimum Temperatures**

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

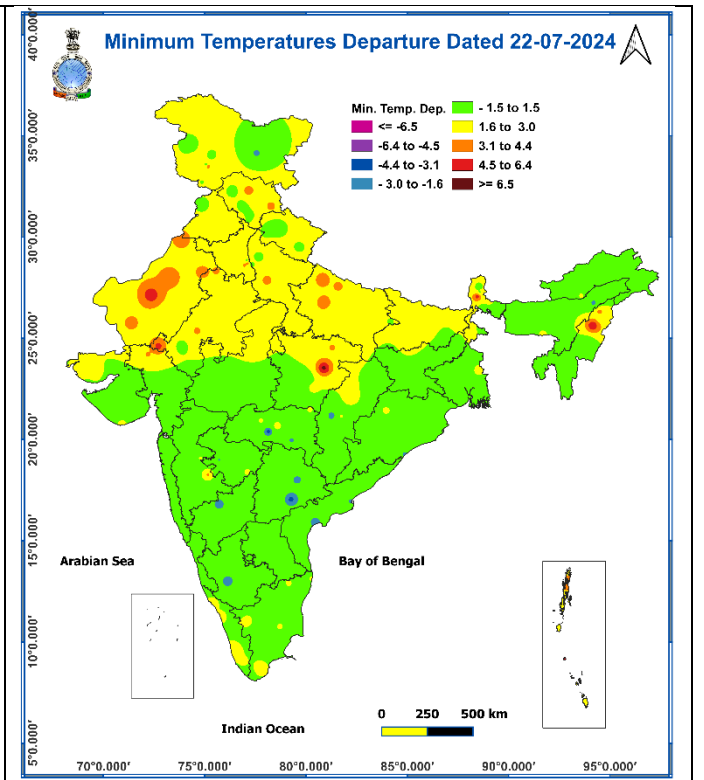
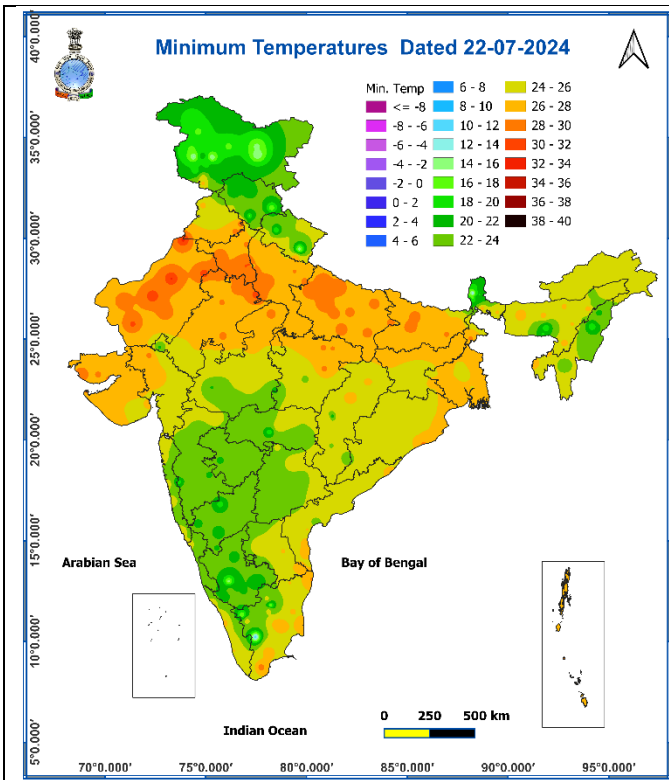
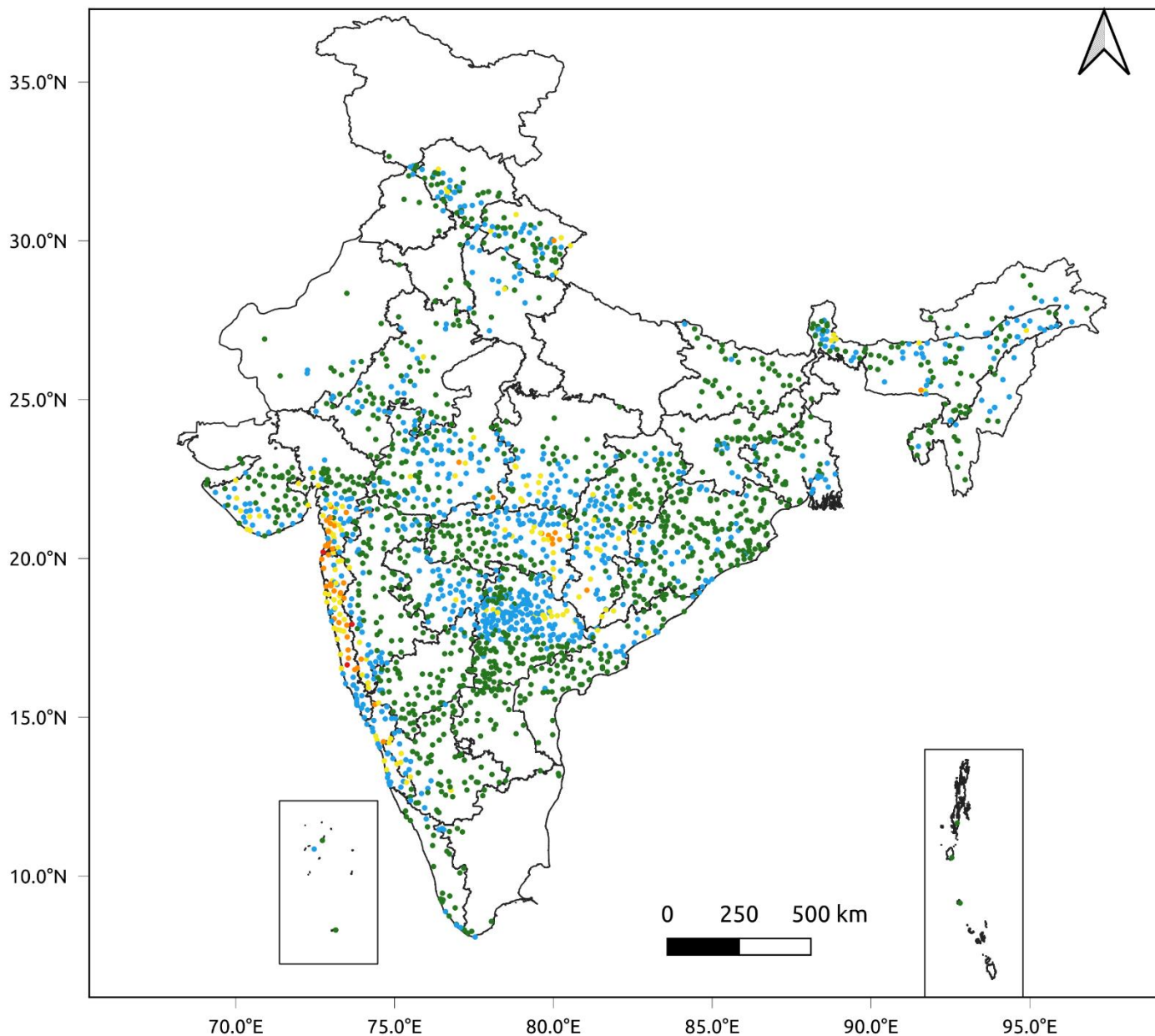


Fig. 5: Accumulated Rainfall (mm) during past 24 hours

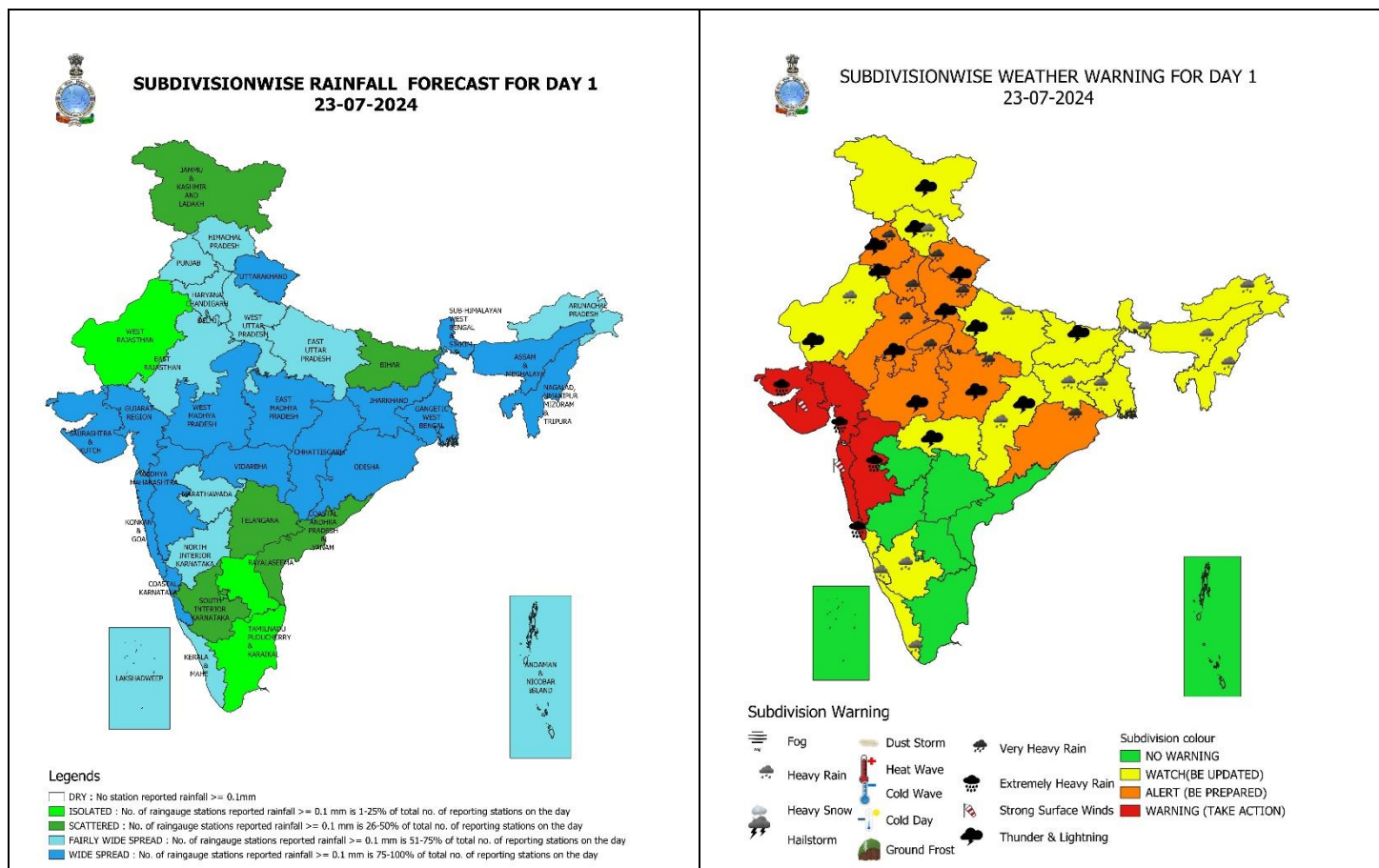


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 21-7-2024 to 0830 IST of 22-7-2024



## Legends

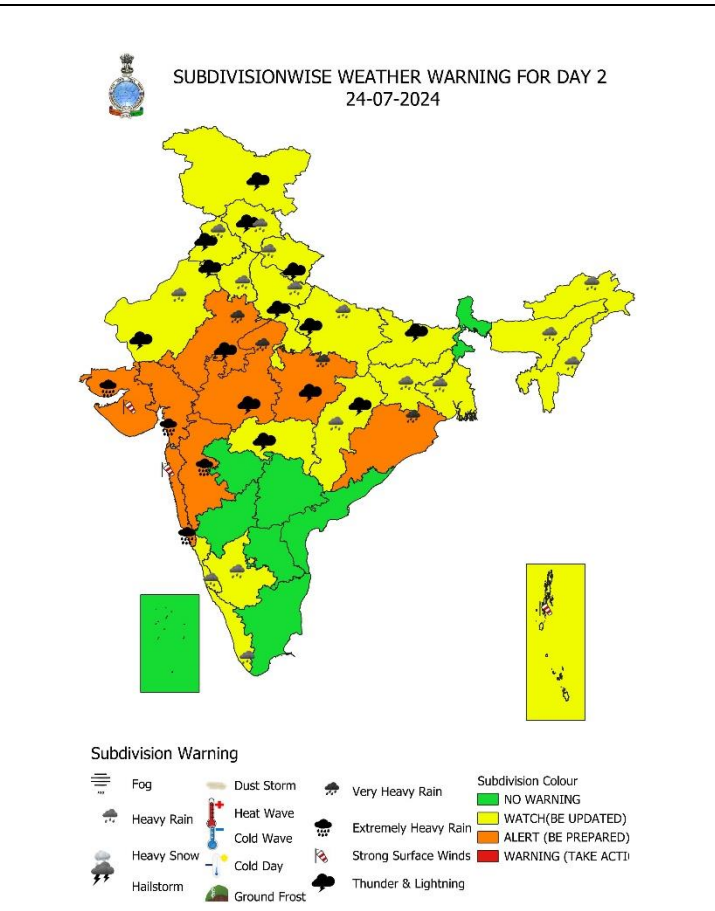
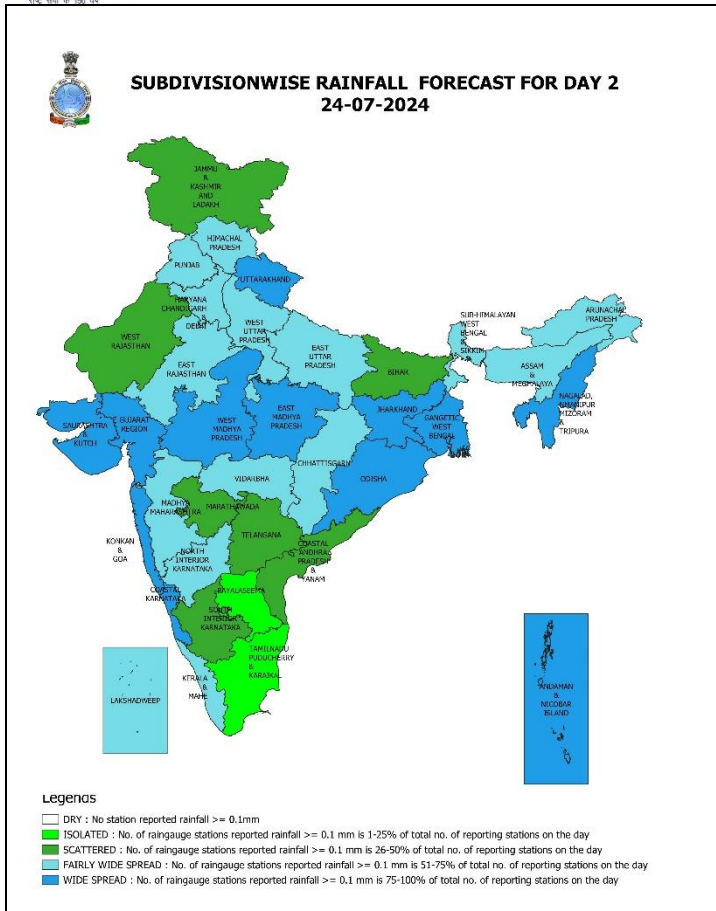
- Very Light to Light Rainfall (0.1 - 15.5 mm)
- Moderate Rainfall (15.6 - 64.4 mm)
- Heavy Rainfall (64.5 - 115.5 mm)
- Very Heavy Rainfall (115.6 - 204.4 mm)
- Extremely Heavy Rainfall ( $\geq 204.5$  mm)



**23 July (Day 1):**

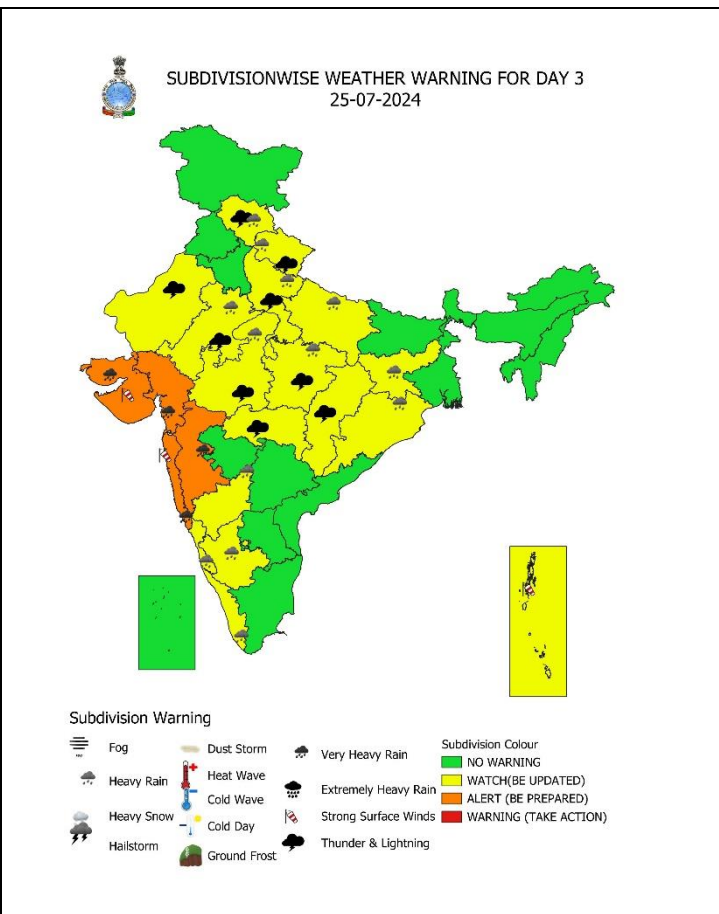
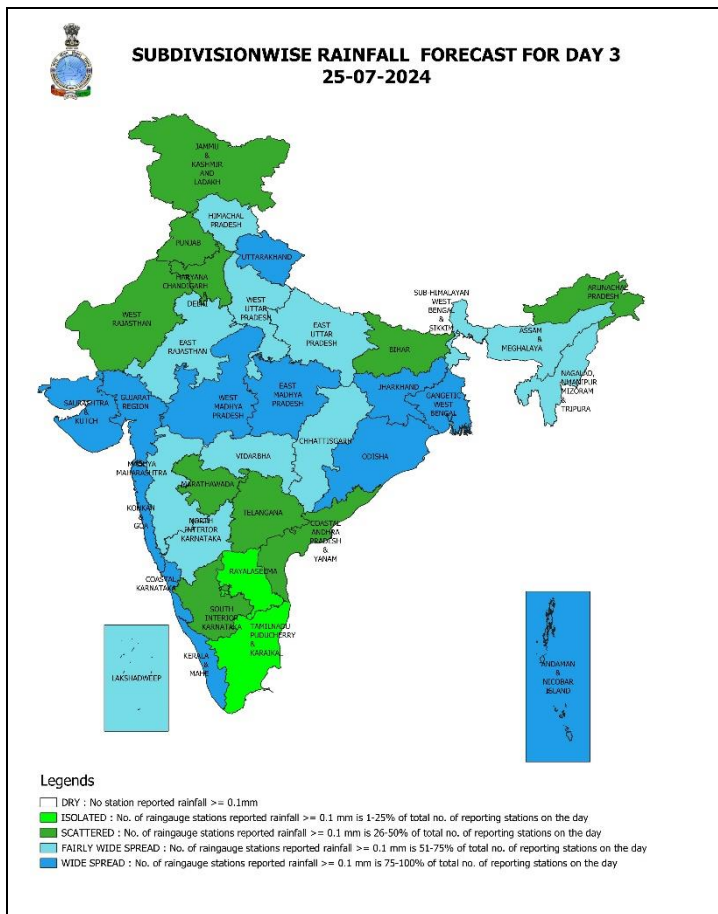
- ❖ **Heavy to very heavy rainfall with extremely heavy falls ( $\geq 20$  cm)** very likely at isolated places over Konkan & Goa, Madhya Maharashtra, Gujarat state; **Heavy to very heavy rainfall ( $\geq 12$  cm)** likely at isolated places over Uttarakhand, West Uttar Pradesh, East Rajasthan, Madhya Pradesh, Odisha; **Heavy rainfall ( $\geq 7$  cm)** at isolated places over Kerala & Mahe, Himachal Pradesh, Punjab, Haryana-Chandigarh, Uttar Pradesh, Chhattisgarh, West Bengal & Sikkim, Jharkhand, Bihar, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Rayalaseema, Coastal Karnataka and South Interior Karnataka.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar.

**Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over northeast and adjoining northwest Arabian sea, most parts of east central & many parts of west central Arabian sea, northern parts of southeast and southwest Arabian sea, Karnataka coast, gulf of Mannar, off Sri Lanka coasts, over many parts of south and most parts of central Bay of Bengal & north Bay of Bengal, North Andaman Sea. **Squally weather with wind speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail along and off Gujarat adjoining northeast Arabian sea, Maharashtra, Konkan, Goa coasts, along and off north Andhra Pradesh, off Odisha coasts, most parts of central & many parts of north Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over central Arabian sea & adjoining areas of southeast and southwest Arabian sea, southern parts of north Arabian Sea, along & off Somalia & Oman coasts. Fishermen are advised not to venture into these areas.



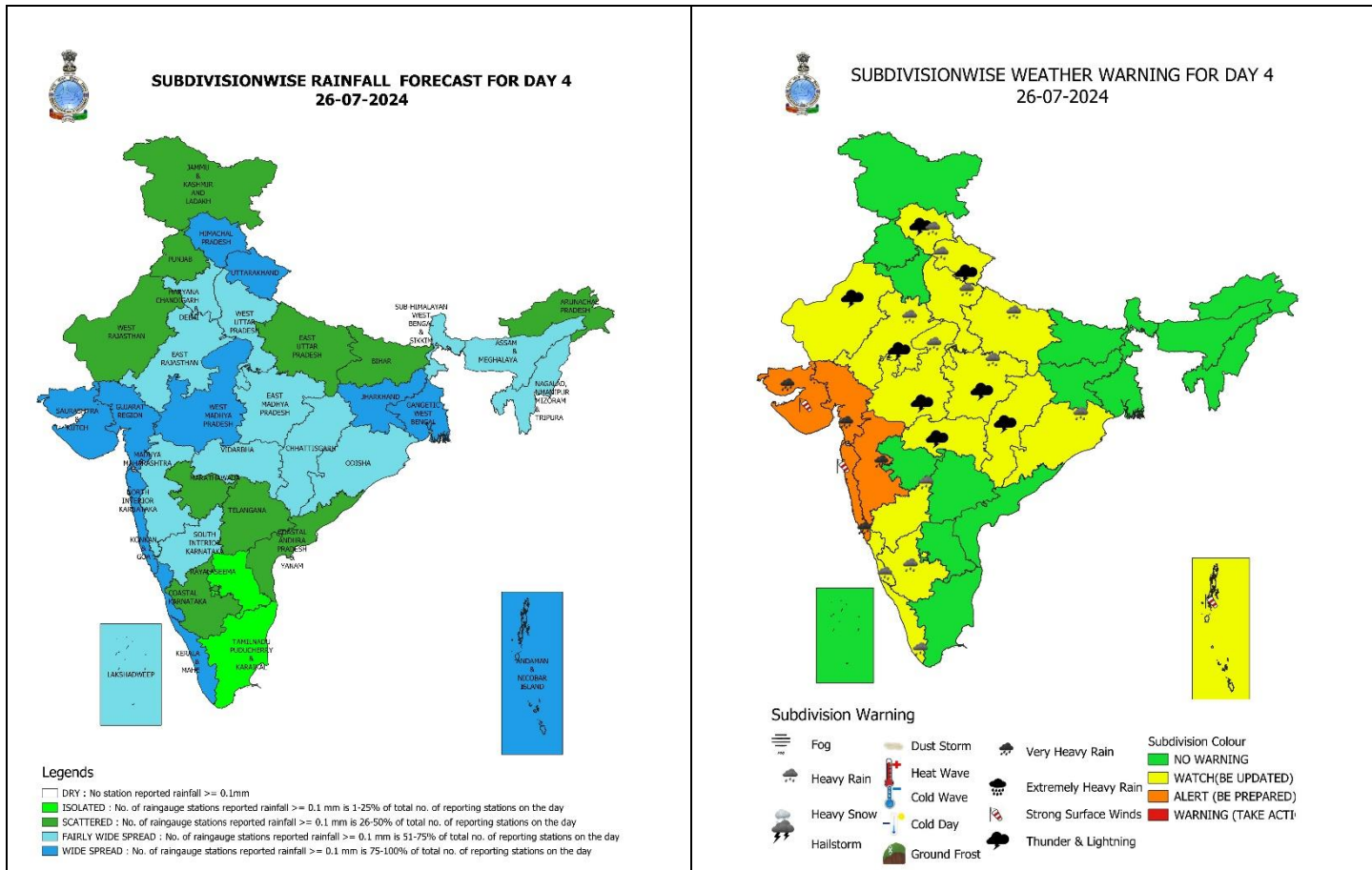
**24 July (Day 2):**

- ❖ **Heavy to very heavy rainfall with extremely heavy falls ( $\geq 20$  cm)** very likely at isolated places over Konkan & Goa, Madhya Maharashtra, Gujarat state; **Heavy to very heavy rainfall ( $\geq 12$  cm)** likely at isolated places over East Rajasthan, West Madhya Pradesh and Odisha; **Heavy rainfall ( $\geq 7$  cm)** at isolated places over Kerala & Mahe, Himachal Pradesh, Uttarakhand, Punjab, Uttar Pradesh, Haryana-Chandigarh, Uttar Pradesh, West Rajasthan, Chhattisgarh, Gangetic West Bengal, Jharkhand, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Rayalaseema, Coastal Karnataka, South Interior Karnataka.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh and Bihar.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over northeast and adjoining northwest Arabian sea, most parts of east central & many parts of west central Arabian sea, northern parts of southeast and southwest Arabian sea, Karnataka coast, gulf of Mannar, off Sri Lanka coasts, over many parts of south and most parts of central Bay of Bengal & southern parts of north Bay of Bengal, North Andaman Sea. **Squally weather with wind speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail along and off Gujarat adjoining northeast Arabian sea, Maharashtra, Konkan, Goa coasts, along and off north Andhra Pradesh, off Odisha coasts, most parts of central & many parts of northwest Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over central Arabian sea & adjoining areas of southeast and southwest Arabian sea, southern parts of north Arabian Sea, along & off Somalia & Oman coasts. Fishermen are advised not to venture into these areas.



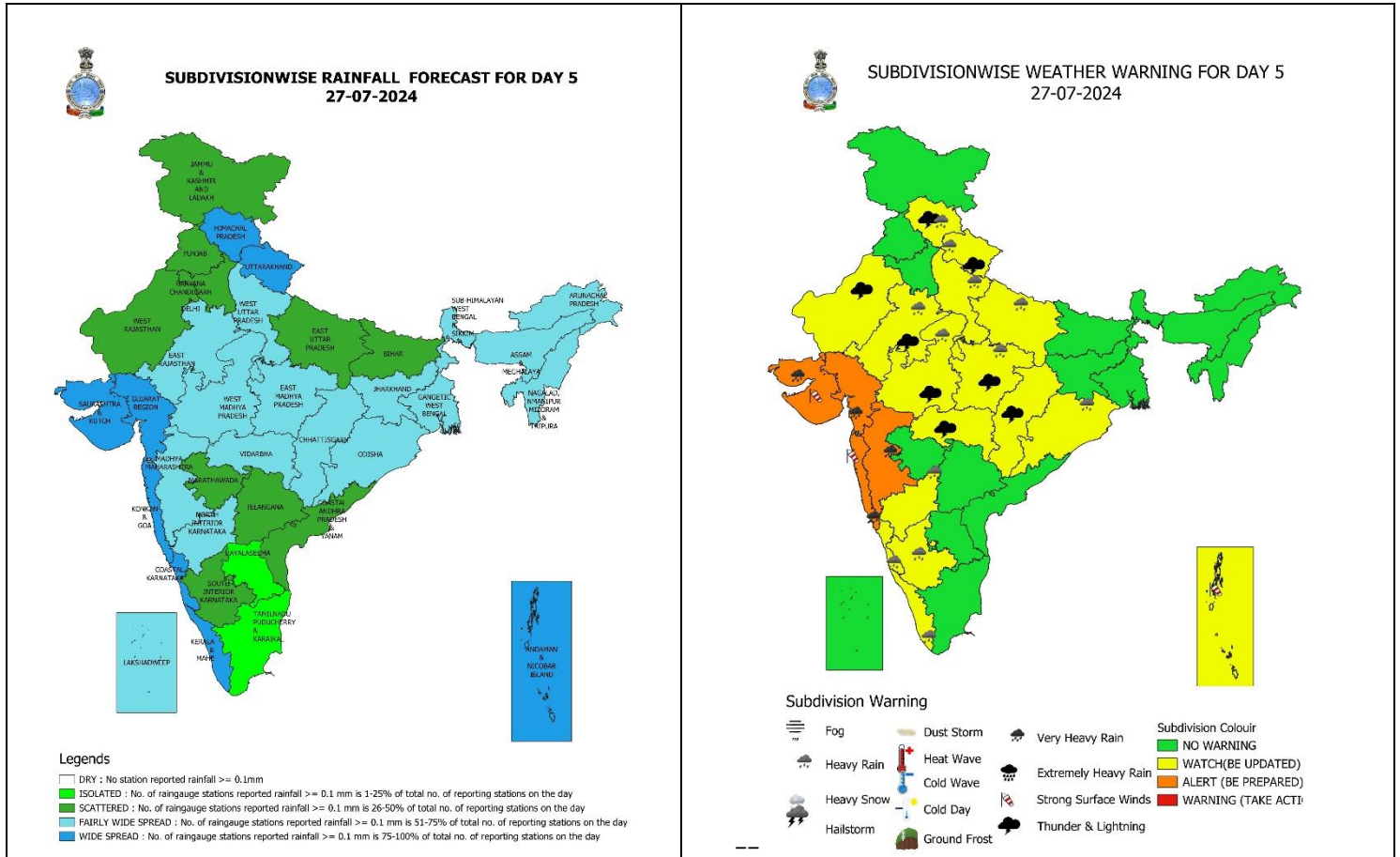
**25 July (Day 3):**

- ❖ **Heavy to very heavy rainfall ( $\geq 12$  cm)** likely at isolated places over Konkan & Goa, Madhya Maharashtra, Gujarat State; **Heavy rainfall ( $\geq 7$  cm)** at isolated places over Himachal Pradesh, Uttarakhand, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Jharkhand, Odisha, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema and Karnataka.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Himachal Pradesh, Uttarakhand, Rajasthan, Madhya Pradesh, Vidarbha and Chhattisgarh.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over northeast and adjoining northwest Arabian sea, most parts of east central & many parts of west central Arabian sea, northern parts of southeast and southwest Arabian sea, Karnataka coast, gulf of Mannar, off Sri Lanka coasts, over many parts of south and most parts of central Bay of Bengal & southern parts of north Bay of Bengal along and off north Andhra Pradesh off Odisha coasts, North Andaman Sea. **Squally weather with wind speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail along and off Gujarat adjoining northeast Arabian sea, Maharashtra, Konkan, Goa coasts, most parts of central & southern parts of north Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over central Arabian sea & adjoining areas of southeast and southwest Arabian sea, southern parts of north Arabian Sea, along & off Somalia & Oman coasts. Fishermen are advised not to venture into these areas.



**26 July (Day 4):**

- ❖ **Heavy to very heavy rainfall ( $\geq 12$  cm)** likely at isolated places over Konkan & Goa, Madhya Maharashtra, Gujarat State; **Heavy rainfall ( $\geq 7$  cm)** at isolated places over Himachal Pradesh, Uttarakhand, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Odisha, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema and Karnataka.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Himachal Pradesh, Uttarakhand, Rajasthan, Madhya Pradesh, Vidarbha and Chhattisgarh.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over northeast and adjoining northwest Arabian sea, most parts of east central & many parts of west central Arabian sea, northern parts of southeast and southwest Arabian sea, Karnataka coast, gulf of Mannar, off Sri Lanka coasts, over many parts of south and most parts of central Bay of Bengal & southern parts of north Bay of Bengal along and off north Andhra Pradesh off Odisha coasts, North Andaman Sea. **Squally weather with wind speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail along and off Gujarat adjoining northeast Arabian sea, Maharashtra, Konkan, Goa coasts, most parts of central & southern parts of north Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over central Arabian sea & adjoining areas of southeast and southwest Arabian sea, southern parts of north Arabian Sea, along & off Somalia & Oman coasts. Fishermen are advised not to venture into these areas.

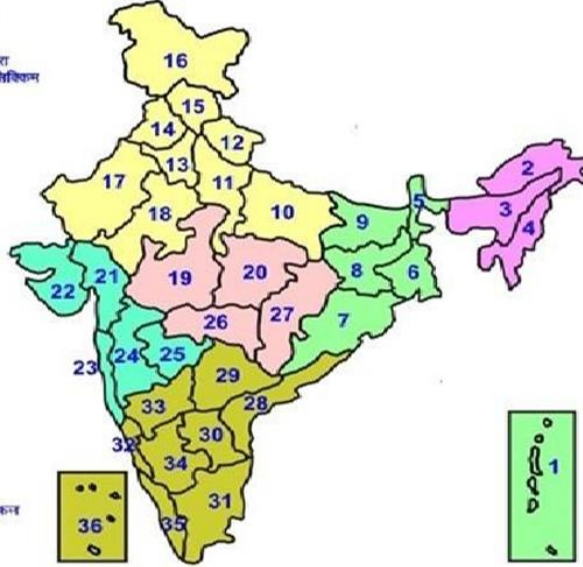


**27 July (Day 5):**

- ❖ **Heavy to very heavy rainfall ( $\geq 12$  cm)** likely at isolated places over Konkan & Goa, Madhya Maharashtra, Gujarat State; **Heavy rainfall ( $\geq 7$  cm)** at isolated places over Himachal Pradesh, Uttarakhand, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Odisha, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema and Karnataka.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Himachal Pradesh, Uttarakhand, Rajasthan, Madhya Pradesh, Vidarbha and Chhattisgarh.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over northeast and adjoining northwest Arabian sea, most parts of east central & many parts of west central Arabian sea, northern parts of southeast and southwest Arabian sea, Karnataka coast, gulf of Mannar, off Sri Lanka coasts, over many parts of south and most parts of central Bay of Bengal & southern parts of north Bay of Bengal along and off north Andhra Pradesh off Odisha coasts, North Andaman Sea. **Squally weather with wind speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail along and off Gujarat adjoining northeast Arabian sea, Maharashtra, Konkan, Goa coasts, most parts of central & southern parts of north Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over central Arabian sea & adjoining areas of southeast and southwest Arabian sea, southern parts of north Arabian Sea, along & off Somalia & Oman coasts. Fishermen are advised not to venture into these areas.

## LEGENDS

- 1 अंडमान 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 कच्छ
- 24 मध्य प्रदेश
- 25 मराठवाड़ा
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 उत्पी आंध्र प्रदेश एवं यानम
- 29 तेलंगाना
- 30 रायलसेमा
- 31 तमिलनाडु, पुदुचेरी एवं कराईकल
- 32 उत्तर कर्नाटक
- 33 उत्तर कर्नाटक
- 34 दक्षिण 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. 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

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)
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)