



Tuesday, June 13, 2023
Time of Issue: 0845 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features

Advance of Southwest Monsoon:

- ❖ The Northern Limit of Monsoon (NLM) passes through lat. 16.5°N/ Long. 55°E, lat. 17.0°N/ Long. 60°E, lat. 17°N/ Long. 65°E, lat. 17°N/ Long. 70°E, Ratnagiri, Koppal, Puttaparthi, Shriharikota, lat. 15.0°N/ Long. 83.0°E, 18.0°N/87.0°E, 22°N/89.5°E, Malda and Forbesganj, 28°N/86°E.

Very Severe Cyclonic Storm "Biparjoy" (pronounced as "Biporjoy") over Northeast and adjoining Eastcentral Arabian Sea:

The **Extremely severe cyclonic storm "Biparjoy" (pronounced as "Biporjoy")** over eastcentral and adjoining northeast Arabian Sea weakened into a **Very Severe Cyclonic Storm "Biparjoy" (pronounced as "Biporjoy")** at 2330 hours IST of 12th June over Northeast and adjoining Eastcentral Arabian Sea. It moved north-northwestwards with a speed of 10 kmph during past 6-hours and lay centered at 0530 hours IST of today, the 13th June, 2023 over the same region near latitude 20.6°N and longitude 67.0°E, about 300 km west-southwest of Porbandar, 290 km southwest of Devbhumi Dwarka, 340 km south-southwest of Jakhau Port, 350 km south-southwest of Naliya and 480 km south of Karachi (Pakistan). It is very likely to move nearly northwards till 14th morning, then move north-northeastwards and cross Saurashtra & Kutch and adjoining Pakistan coasts between Mandvi (Gujarat) and Karachi (Pakistan) near Jakhau Port (Gujarat) by evening of 15th June as a very severe cyclonic storm with maximum sustained wind speed of 125-135 kmph gusting to 150 kmph.

Heavy Rainfall warning for Gujarat (Kutch, Devbhumi Dwarka, Porbandar, Jamnagar, Rajkot, Junagarh and Morbi districts):

- ❖ Light to moderate rainfall at many places in coastal districts of Saurashtra & Kutch with isolated heavy rainfall on 13th June.
- ❖ Light to moderate rainfall at most places with heavy to very heavy rainfall at isolated places very likely over Kutch, Devbhumi Dwarka, Porbandar, Jamnagar, Rajkot, Junagarh and Morbi districts of Saurashtra & Kutch on 14th June.
- ❖ The intensity of rainfall would increase with heavy to very heavy rainfall at a few places and extremely heavy falls at isolated places very likely over Kutch, Devbhumi Dwarka & Jamnagar and heavy to very heavy rainfall at a few places over Porbandar, Rajkot, Morbi & Junagarh districts of Gujarat on 15th June.
- ❖ Isolated heavy rainfall is very likely over remaining districts of Saurashtra and north Gujarat region on 15th June.
- ❖ Light to moderate rainfall at most places with heavy to very heavy rainfall at isolated places very likely over north Gujarat and adjoining south Rajasthan on 16th June.

Fishermen Warning & Action Suggested (Kutch, Devbhumi Dwarka, Porbandar, Jamnagar, Rajkot, Junagarh and Morbi districts) and for Offshore & Onshore Industries:

Total suspension of fishing operations over Eastcentral & adjoining Westcentral Arabian Sea and Northeast Arabian Sea till 15th June.

Weather forecast and warning over the country during next 5 days:

Northeast India:

- ❖ Widespread light/moderate rainfall at most places with isolated **Heavy to Very Heavy falls** very likely over the region during next 5 days. Isolated **extremely heavy rainfall** also likely over Meghalaya during 14th-17th June.

East India:

- ❖ Light/moderate fairly widespread to widespread rainfall with thunderstorm/lightning/gusty winds very likely over the region during next 5 days.
- ❖ **Heavy to very heavy rainfall** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim during next 5 days. **Heavy rainfall** also very likely at isolated places over Andaman & Nicobar Islands on 16th & 17th June.

Northwest India:

- ❖ Light/moderate scattered to fairly widespread rainfall with **hailstorm**, thunderstorm & lightning very likely in isolated places over Himachal Pradesh on 13th & 14th June and over Uttarakhand on 14th & 15th June. **Heavy rainfall with thunderstorm & squall** very likely at isolated places over West Rajasthan on 16th & 17th June.

South India:

- ❖ Light/moderate scattered to fairly widespread rainfall with thunderstorm/lightning/gusty winds very likely over the region during next 5 days. **Heavy rainfall** very likely at isolated places over Kerala during next 24 hours.

No significant weather likely over rest parts of the country during next 5 days.

Heat Wave warning:

- ❖ **Severe Heat Wave conditions** very likely to continue in isolated pockets over Chhattisgarh, Odisha and Coastal Andhra Pradesh & Yanam during next 24 hours and **Heat wave conditions** thereafter during subsequent 4 days. **Heat wave conditions** very likely to continue in isolated pockets over south Uttar Pradesh, Gangetic West Bengal, Bihar, Jharkhand during next 5 days; over Madhya Pradesh and Vidarbha during next 24 hours.
- ❖ **Hot and humid conditions** very likely over Tamil Nadu and Rayalaseema during next 24 hours.

*** Red color warning does not mean "Red Alert" Red color warning means "Take Action".**

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Main Weather Observations

- ❖ **Rainfall/thundershowers observed** (from 0830 hours IST to 1730 hours IST of yesterday): **at most places** Kerala & Mahe; **at many places** over Jharkhand and Saurashtra & Kutch; **at a few places** over Andaman & Nicobar Islands and Arunachal Pradesh and at isolated places over Assam & Meghalaya, Gangetic West Bengal, Odisha, Nagaland, Manipur, Mizoram & Tripura, Coastal Karnataka, Tamil Nadu, Puducherry & Karaikal and Vidarbha
- ❖ **Heavy rainfall observed** (from 0830 hours IST to 1730 hours IST of yesterday): **Heavy to very heavy rainfall observed** at isolated places over Saurashtra.
- ❖ **Significant rainfall recorded (in cm)** (from 0830 hours IST to 1730 hours IST of yesterday): Verval-12; Keshod -5; Hut Bay-3; Porbandar, Thrissur and Kodaikanal -2 each; Agartala, Diu, Karipur, Coonoor and Long Island -1 each.
- ❖ **Thunderstorm observed** (from 0830 hours IST of yesterday to 0530 hours IST of today): at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, West Bengal & Sikkim, Jharkhand, Odisha, Chhattisgarh, Nagaland, Manipur, Mizoram & Tripura, Saurashtra & Kutch, Kerala & Mahe, Rayalaseema, Tamil Nadu, Puducherry & Karaikal and Coastal & South Interior Karnataka.
- ❖ Yesterday, **Heat Wave to Severe Heat Wave conditions** prevailed over some parts of Chhattisgarh, Odisha and in isolated pockets of Gangetic West Bengal. **Heat Wave conditions** also observed over some parts of Coastal Andhra Pradesh & Yanam and in isolated pockets over Telangana, Madhya Pradesh and south Uttar Pradesh.
- ❖ **Minimum Temperature Departures (as on 12-06-2023):** Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over Vidarbha, Coastal Andhra Pradesh & Yanam; at isolated places over East Uttar Pradesh East Madhya Pradesh, Odisha, Telangana; **above normal (1.6°C to 3.0°C)** at most places over Chhattisgarh, Jharkhand; many places over Madhya Maharashtra; at a few places over Rayalaseema, Marathwada, West Madhya Pradesh; at isolated places over Gujarat Region, Bihar, Tamil Nadu, Puducherry & Karaikal, West Rajasthan. They were **appreciably above normal (-3.1°C to -5.0°C)** at isolated places over Gangetic West Bengal; **below normal (-1.6°C to -3.0°C)** at a few places over Konkan & Goa, Assam & Meghalaya; at isolated places over North Interior Karnataka and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature** of 17.4°C was reported at Chaparmukh (Assam & Meghalaya) over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 12-06-2023):** Maximum temperatures were **markedly above normal (5.1°C or more)** at many places over Odisha; at a few places over Chhattisgarh and at isolated places over Coastal Andhra Pradesh & Yanam; **appreciably above normal (3.1°C to 5.0°C)** at most places over Telangana; at many places over Gangetic West Bengal, Vidarbha, Konkan & Goa and Rayalaseema; at a few places over Bihar, Madhya Pradesh, Marathwada, North Interior Karnataka, Tamil Nadu, Puducherry & Karaikal, Arunachal Pradesh and at isolated places over East Uttar Pradesh, Madhya Maharashtra; **above normal (1.6°C to 3.0°C)** at a few places over Punjab and West Uttar Pradesh and at isolated places over Gujarat State. They were **appreciably below normal (-3.1°C to -5.0°C)** at a few places over Andaman & Nicobar Islands; **below normal (-1.6°C to -3.0°C)** at a few places over Kerala & Mahe and **near normal** over rest parts of the country. Yesterday, **the highest maximum temperature** of 46.1°C was reported at Sambalpur (Odisha).

Meteorological Analysis (Based on 0530 hours IST)

- ❖ The Northern Limit of Monsoon (NLM) continues to pass through lat. 16.5°N/ Long. 55°E, lat. 17.0°N/ Long. 60°E, lat. 17°N/ Long. 65°E, lat. 17°N/ Long. 70°E, Ratnagiri, Koppal, [Puttaparthi](#), Shriharikota, lat. 15.0°N/ Long. 83.0°E, 18.0°N/87.0°E, 22°N/89.5°E, Malda and Forbesganj, 28°N/86°E.
- ❖ The **Extremely severe cyclonic storm “Biparjoy” (pronounced as “Biporjoy”)** over eastcentral and adjoining northeast Arabian Sea weakened into a **Very Severe Cyclonic Storm “Biparjoy” (pronounced as “Biporjoy”)** at 2330 hours IST of 12th June over Northeast and adjoining Eastcentral Arabian Sea. It moved north-northwestwards with a speed of 10 kmph during past 6-hours and lay centered at 0530 hours IST of today, the 13th June, 2023 over the same region near latitude 20.6°N and longitude 67.0°E, about 300 km west-southwest of Porbandar, 290 km southwest of Devbhumi Dwarka, 340 km south-southwest of Jakhau Port, 350 km south-southwest of Naliya and 480 km south of Karachi (Pakistan). It is very likely to move nearly northwards till 14th morning, then move north-northeastwards and cross Saurashtra & Kutch and adjoining Pakistan coasts between Mandvi (Gujarat) and Karachi (Pakistan) near Jakhau Port (Gujarat) by evening of 15th June as a very severe cyclonic storm with maximum sustained wind speed of 125-135 kmph gusting to 150 kmph.
- ❖ The trough roughly along Lat. 88°E to the north of 24°N at 5.8 km above mean sea level persists.
- ❖ The Western Disturbance as a trough in middle tropospheric levels with its axis at 5.8 km above mean sea level now runs roughly along Lat. 66°E to the north of 27°N.
- ❖ The cyclonic circulation over East Uttar Pradesh & adjoining Bihar at 0.9 km above mean sea level persists.
- ❖ The north-south trough from above cyclonic circulation over East Uttar Pradesh & adjoining Bihar to Northwest Bay of Bengal across Jharkhand and Gangetic West Bengal at 0.9 km above mean sea level persists.

Weather Forecast for next 5 days (Upto 0830 hours IST of 18th June, 2023)

- ❖ Meteorological sub-division wise detailed 5 days rainfall forecast is given in Table-1.
- ❖ **Maximum Temperatures Forecast:** No significant change in maximum temperatures over the country except over Gujarat where these are likely to fall by 4-6°C during next 4-5 days.

Weather Outlook for subsequent 2 days (During 18th –20th June, 2023)

- ❖ Fairly widespread to widespread light/moderate rainfall with thunderstorm likely to continue over northeast India, Kerala & Mahe and Coastal Karnataka. Isolated to scattered rainfall over Tamil Nadu, Puducherry & Karaikal, Interior Karnataka and Islands.
- ❖ Isolated rainfall over Western Himalayan Region and adjoining plains of Northwest India.
- ❖ Dry weather over rest parts of the country.



Weather Warning during next 5 days

13 June (Day 1): ♦ **Heavy to very heavy rainfall** very likely at isolated places over Saurashtra & Kutch, Arunachal Pradesh, Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim and **heavy rainfall** at isolated places over Nagaland, Manipur, Mizoram & Tripura and Kerala & Mahe.

♦ **Thunderstorm with lightning & gusty winds (speed 40-50 kmph)** very likely at isolated places over Karnataka; **with lightning & gusty winds (speed 30-40 kmph)** at isolated places over West Rajasthan, Vidarbha, Chhattisgarh, Odisha, Jharkhand, Andaman & Nicobar Islands, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Kerala & Mahe, Lakshadweep; **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Uttarakhand, Madhya Pradesh, West Bengal & Sikkim, Bihar, Gujarat State and Tamil Nadu, Puducherry & Karaikal.

♦ **Hailstorm with thunderstorm, lightning and gusty winds (wind speed 30-40 kmph)** very likely at isolated places over Himachal Pradesh.

♦ **Heat Wave to severe heat wave conditions** very likely in isolated pockets of Coastal Andhra Pradesh & Yanam, Odisha, Chhattisgarh and **heat wave conditions** in isolated pockets of Gangetic West Bengal, Bihar, Jharkhand, Uttar Pradesh, Madhya Pradesh and Vidarbha.

♦ **Gale wind speed reaching 145-155 kmph gusting to 175 kmph** is likely to prevail over northeast Arabian Sea. Gale wind speed reaching 80-90 kmph gusting to 100 kmph is likely to prevail over adjoining areas of eastcentral Arabian Sea. Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely over adjoining areas of northwest Arabian Sea. **Squally wind speed reaching 50-60 kmph gusting to 70 kmph** over Saurashtra & Kutch- north Maharashtra coasts. Fishermen are advised not to venture into these areas.

14 June (Day 2): ♦ **Heavy to very heavy rainfall with extremely heavy falls** very likely at isolated places over Assam & Meghalaya and **Heavy to very heavy rainfall** likely at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim and Saurashtra & Kutch.

♦ **Hailstorm with thunderstorm, lightning and gusty winds(wind speed 30-40 kmph)** very likely at isolated places over Uttarakhand and Himachal Pradesh.

♦ **Thunderstorm with lightning & gusty winds (speed 40-50 kmph)** very likely at isolated places over Odisha; **with lightning & gusty winds (speed 30-40 kmph)** at isolated places over West Rajasthan, Jharkhand, Coastal Andhra Pradesh & Yanam, Rayalaseema, Karnataka, Kerala & Mahe; **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Madhya Pradesh, Vidarbha, Chhattisgarh, Gangetic West Bengal, Bihar, Gujarat State and Telangana.

♦ **Heat Wave conditions** very likely in isolated pockets of Coastal Andhra Pradesh & Yanam, Odisha, Chhattisgarh, Gangetic West Bengal, Bihar, Jharkhand and Uttar Pradesh.

♦ **Gale wind speed reaching 135-145 kmph gusting to 160 kmph** is likely to prevail over northeast Arabian Sea. Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely over adjoining areas of eastcentral Arabian Sea. **Gale wind speed reaching 65-75 kmph gusting to 85 kmph** over Saurashtra & Kutch coasts. Fishermen are advised not to venture into these areas.



15 June (Day 3): ♦ **Heavy to very heavy rainfall at a few places with extremely heavy falls** at isolated places likely over Saurashtra & Kutch; **Heavy to very heavy rainfall with extremely heavy falls** at isolated places over Assam & Meghalaya and **Heavy to very heavy rainfall** likely at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim and Gujarat region.

♦ **Hailstorm with thunderstorm, lightning and gusty winds (wind speed 30-40 kmph)** very likely at isolated places over Uttarakhand.

♦ **Thunderstorm with lightning & gusty winds (speed 30-40 kmph)** very likely at isolated places over Odisha, West Rajasthan, Jharkhand, Coastal Andhra Pradesh & Yanam, Rayalaseema, Karnataka, Kerala & Mahe; **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Rajasthan, Gangetic West Bengal, Bihar, Gujarat State and Telangana.

♦ **Heat Wave conditions** likely in isolated pockets of Coastal Andhra Pradesh & Yanam, Odisha, Chhattisgarh, Gangetic West Bengal, Bihar, Jharkhand and Uttar Pradesh.

♦ **Gale wind speed reaching 125-135 kmph gusting to 150 kmph** is likely to prevail over northeast Arabian Sea and likely to decrease becoming 90-100 kmph gusting to 110 kmph from evening. Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely over adjoining areas of eastcentral Arabian Sea. **Gale wind 125-135 kmph gusting to 150 kmph** over Saurashtra & Kutch coasts. Fishermen are advised not to venture into these areas.

16 June (Day 4): ♦ **Heavy to very heavy rainfall with extremely heavy falls** likely at isolated places over Assam & Meghalaya; **Heavy to very heavy rainfall** likely at isolated places over Gujarat Region, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim and **heavy rainfall** likely at isolated places over Arunachal Pradesh, Andaman & Nicobar Islands, West Rajasthan and Saurashtra & Kutch.

♦ **Thunderstorm with lightning & squall (speed 50-60 kmph)** very likely at isolated places over West Rajasthan; **with lightning & gusty winds (speed 30-40 kmph)** very likely at isolated places over Odisha, Jharkhand, Coastal Andhra Pradesh & Yanam, Rayalaseema, Karnataka, Kerala & Mahe; **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, East Rajasthan, Gangetic West Bengal, Bihar, Gujarat State and Telangana.

♦ **Heat Wave conditions** likely in isolated pockets of Coastal Andhra Pradesh & Yanam, Odisha, Chhattisgarh, Gangetic West Bengal, Bihar, Jharkhand and Uttar Pradesh.

♦ **Squally wind speed reaching 40-50 kmph gusting to 60 kmph** is likely over Gujarat coast adjoining Northeast Arabian Sea. Fishermen are advised not to venture into these areas.

17 June (Day 5): ♦ **Heavy to very heavy rainfall with extremely heavy falls** likely at isolated places over Assam & Meghalaya; **Heavy to very heavy rainfall** likely at isolated places over Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim and **heavy rainfall** likely at isolated places over Arunachal Pradesh, Andaman & Nicobar Islands, West Rajasthan.

♦ **Thunderstorm with lightning & squall (speed 50-60 kmph)** very likely at isolated places over West Rajasthan; **with lightning & gusty winds (speed 30-40 kmph)** very likely at isolated places over East Rajasthan, Coastal Andhra Pradesh & Yanam, Rayalaseema, Karnataka, Kerala & Mahe; **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh, Gangetic West Bengal, Jharkhand, Odisha, Bihar and Telangana.

♦ **Heat Wave conditions** likely in isolated pockets of Coastal Andhra Pradesh & Yanam, Odisha, Chhattisgarh, Gangetic West Bengal, Bihar, Jharkhand and Uttar Pradesh.



Table-1

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

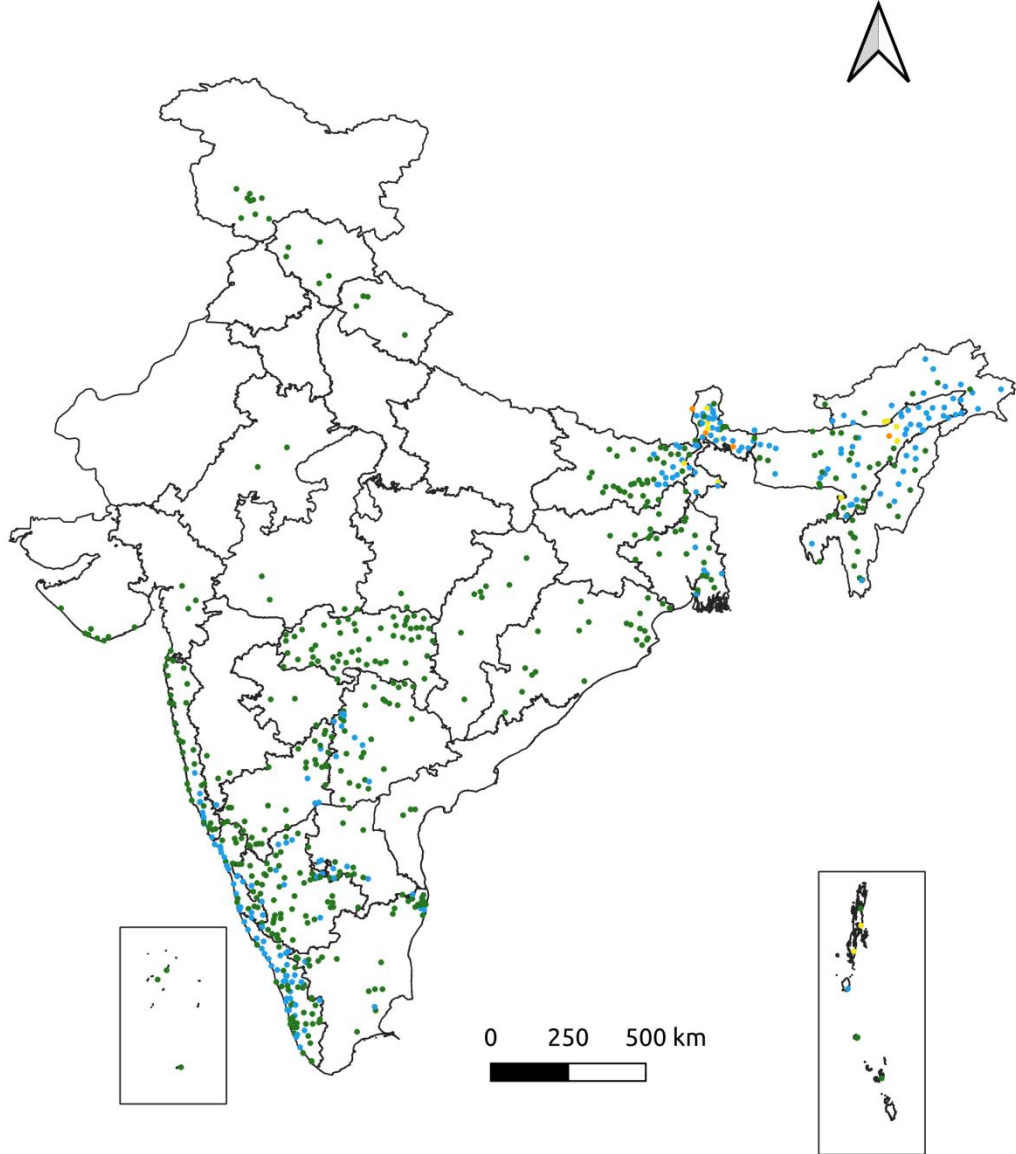
Legend	Category	% Stations
WS	Widespread/Most Places	76-100
FWS	Fairly Widespread/Many Places	51-75
SCT	Scattered/ A Few Places	26-50
ISOL	Isolated Places	1-25
DRY	No Rain	0

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Fig. 1: Accumulated Rainfall (mm) during past 24 hours



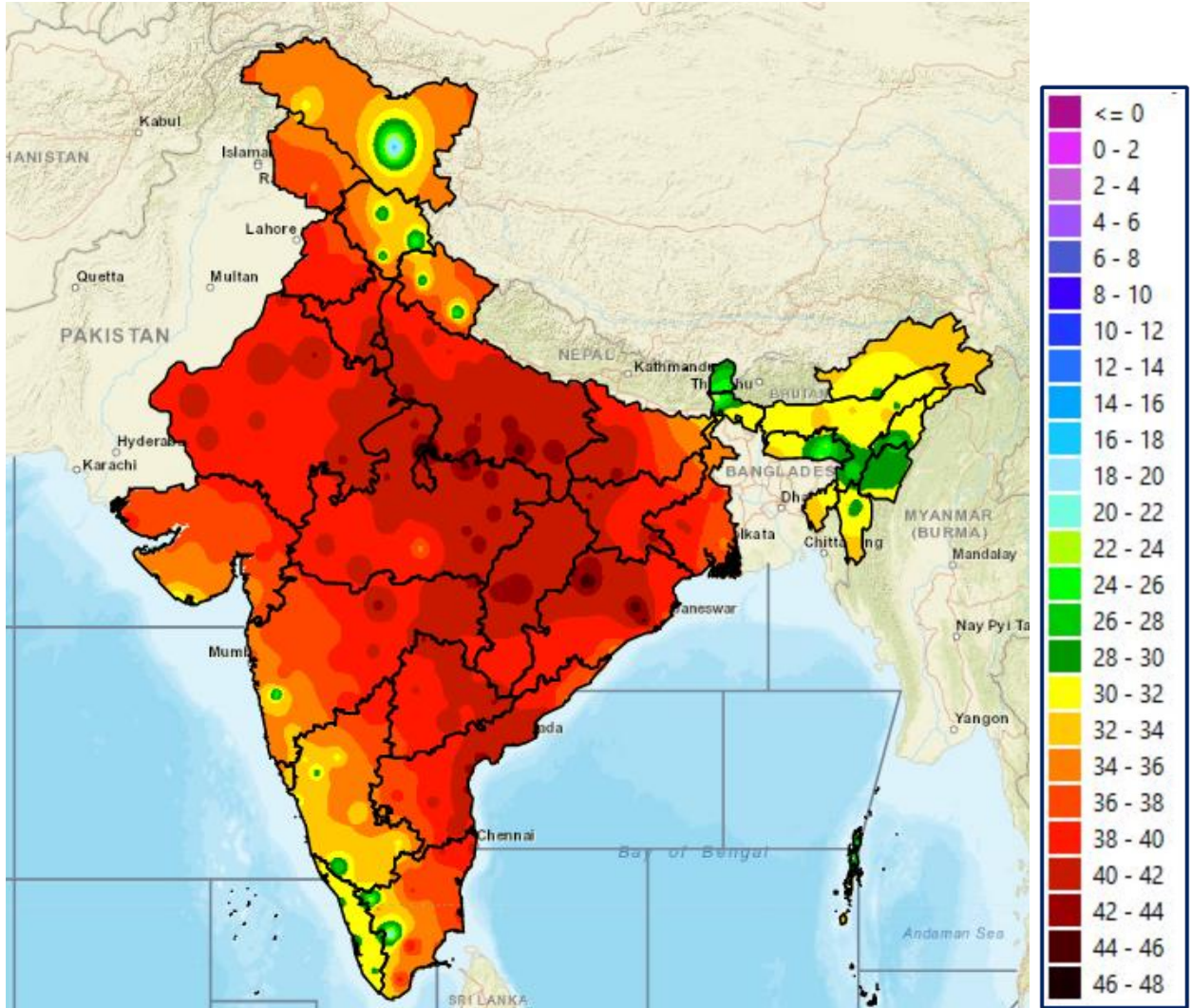
24 Hr cumulative rainfall recorded over different stations during 0830 IST of 11-6-2023 to 0830 IST of 12-6-2023



Legends

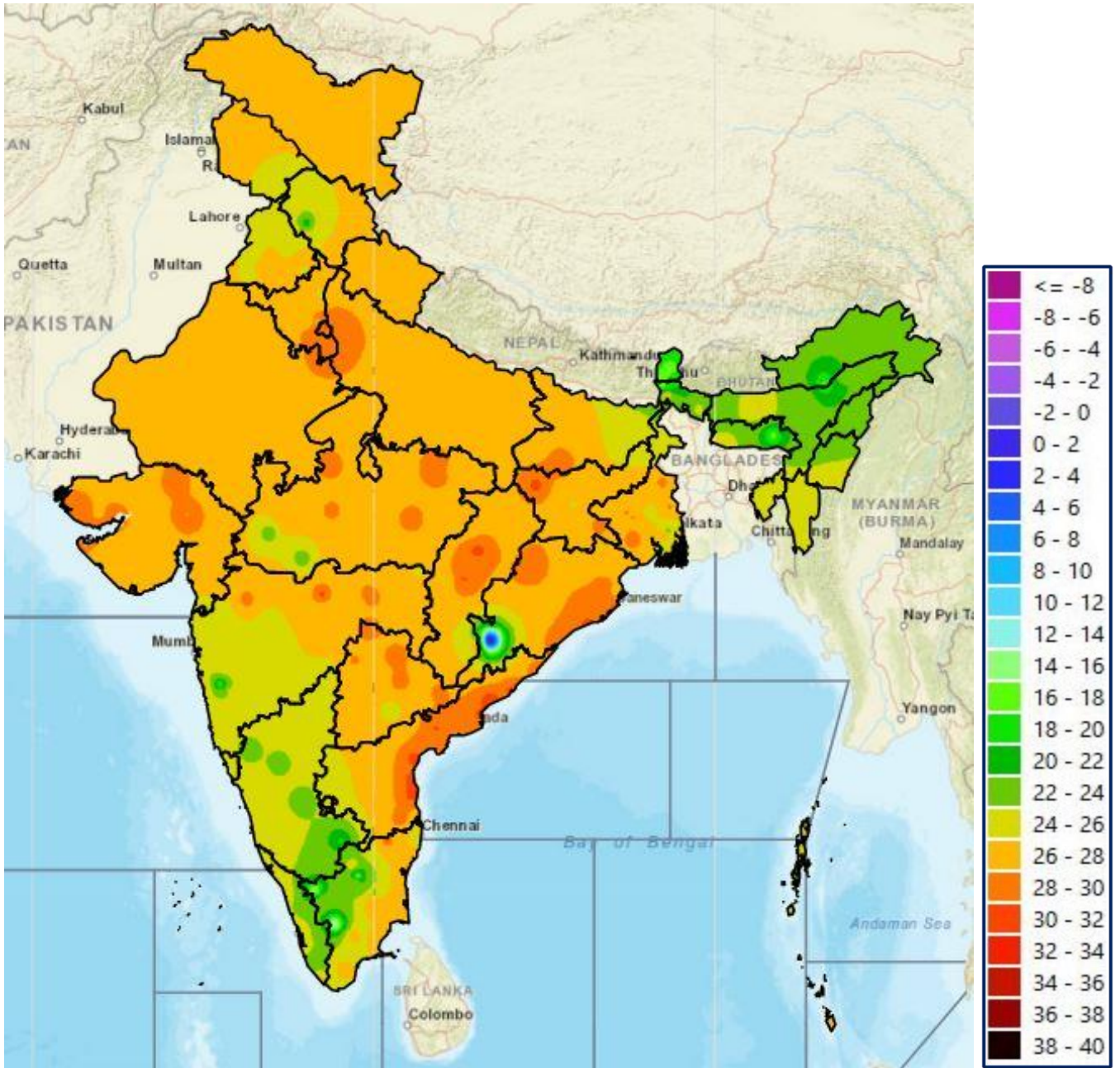
- Very Light to Light Rainfall (0.1 - 15.5 mm)
- Moderate Rainfall (15.6 - 64.4 mm)
- Heavy Rainfall (64.5 - 115.5 mm)
- Very Heavy Rainfall (115.6 - 204.4 mm)
- Extremely Heavy Rainfall (≥ 204.5 mm)

Fig. 2: Maximum Temperatures Dated 12.06.2023



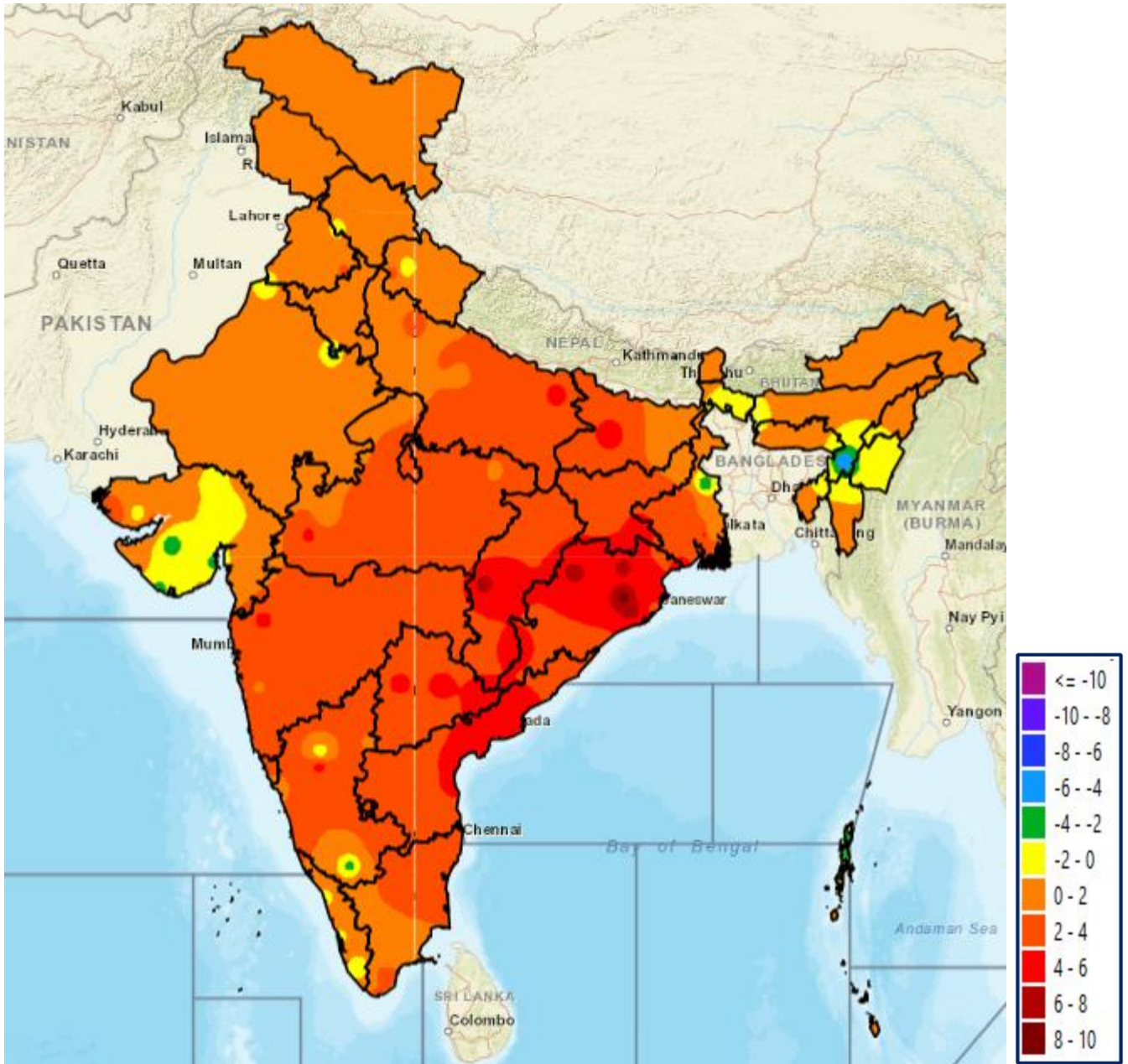
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Fig. 3: Minimum Temperatures Dated 12.06.2023



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Fig. 4: Departure from Normal of Maximum Temperatures Dated 12.06.2023



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Fig. 5: Departure from Normal of Minimum Temperatures Dated 12.06.2023

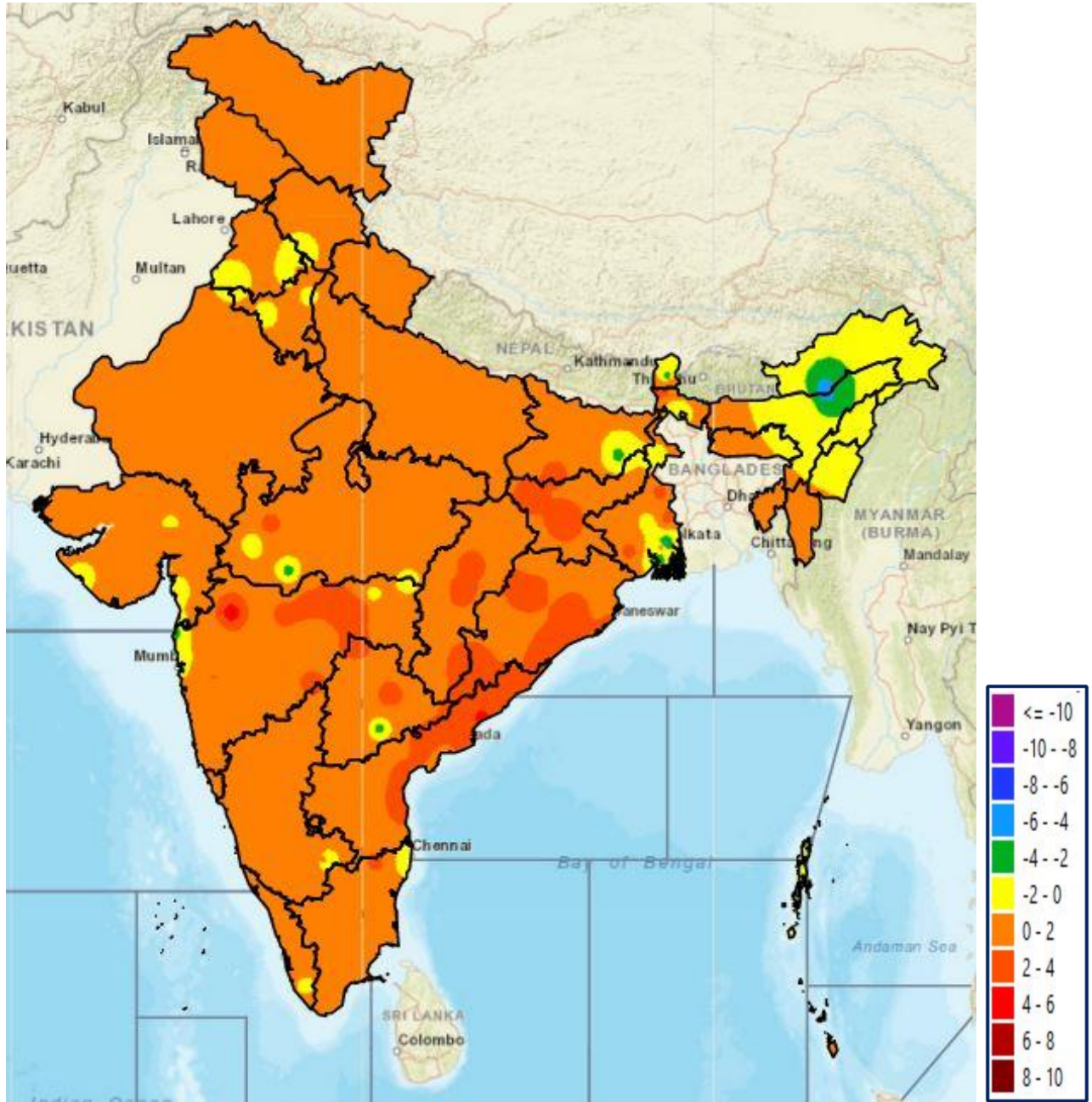
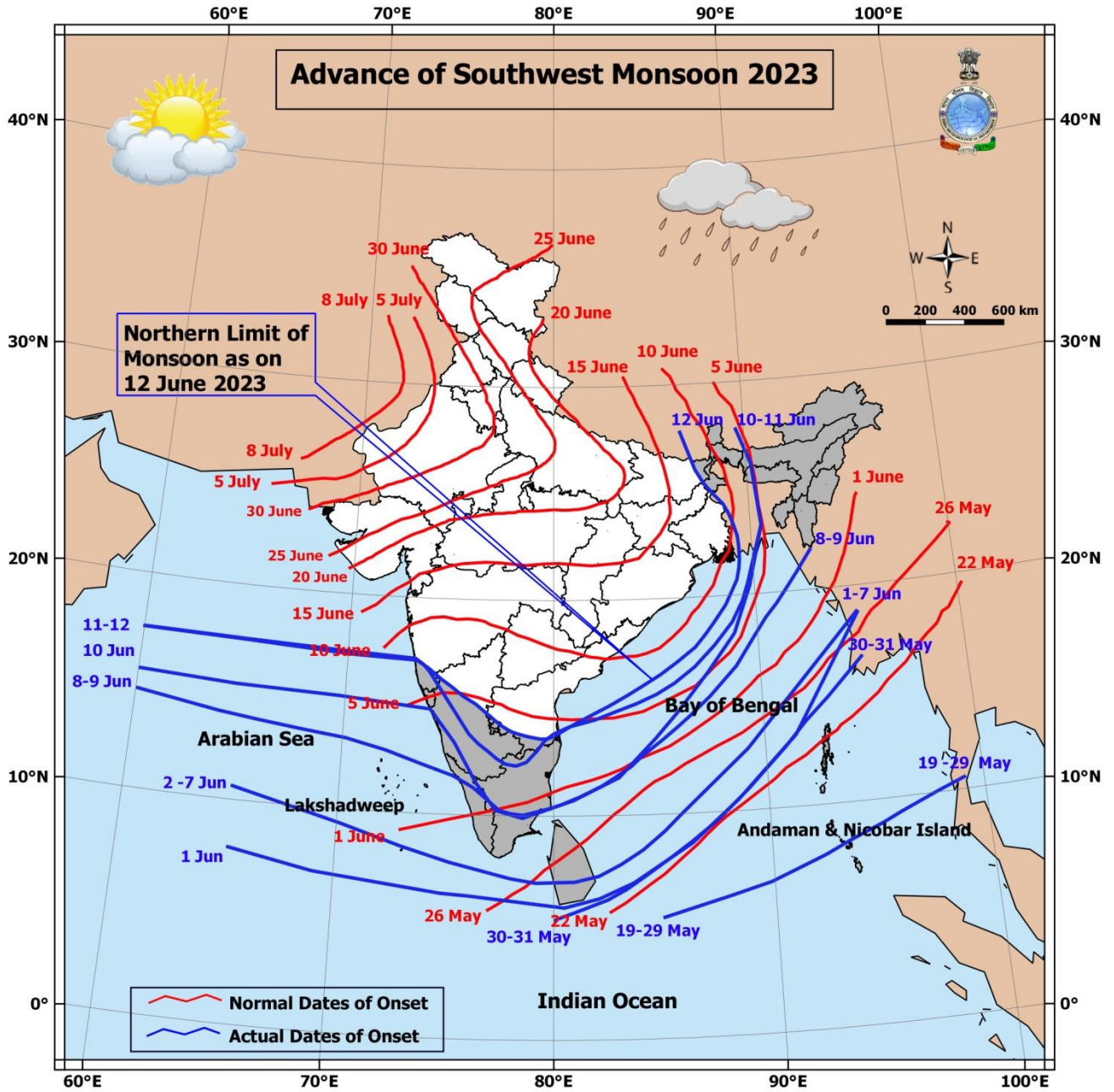
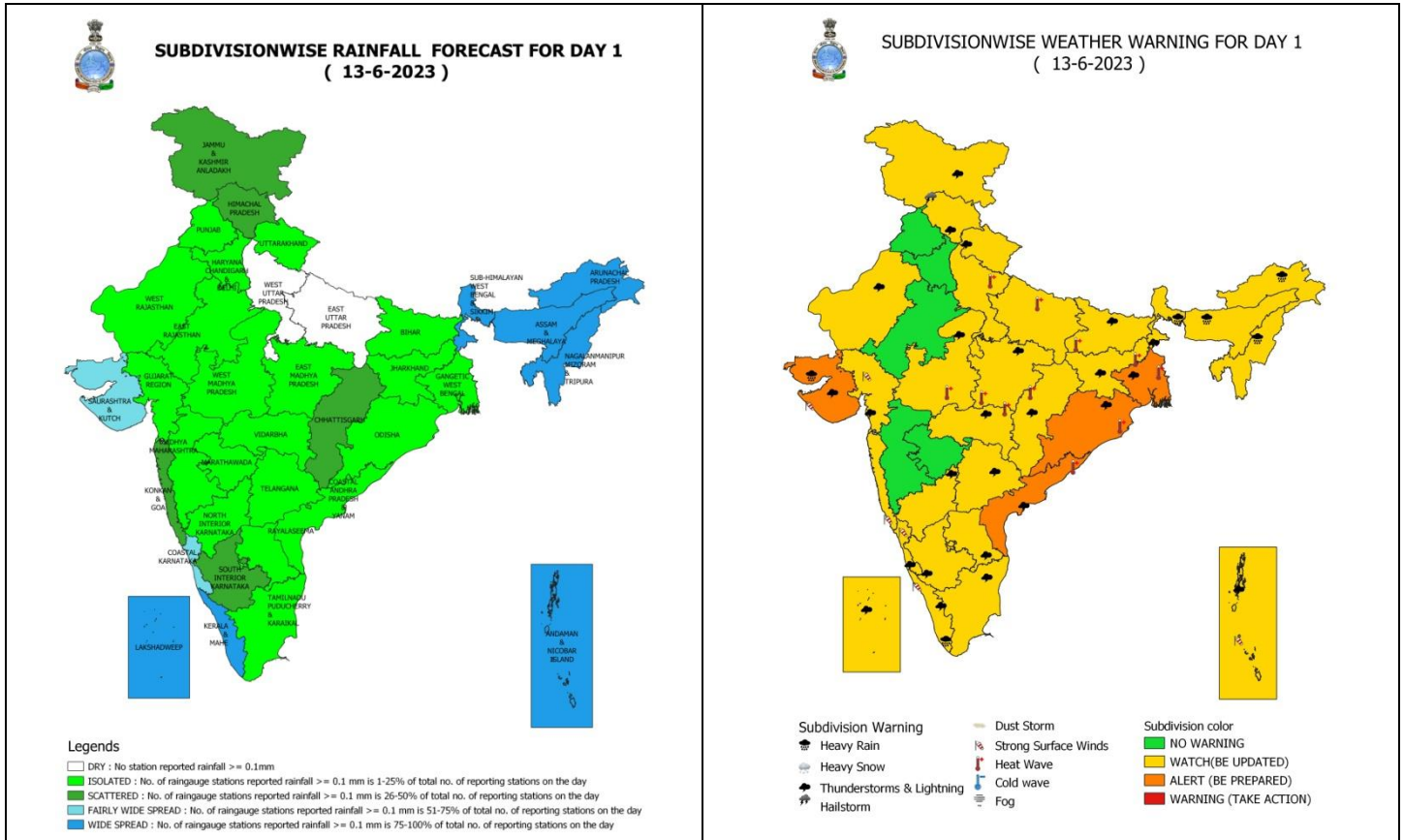




Fig. 6: Advance of Southwest Monsoon



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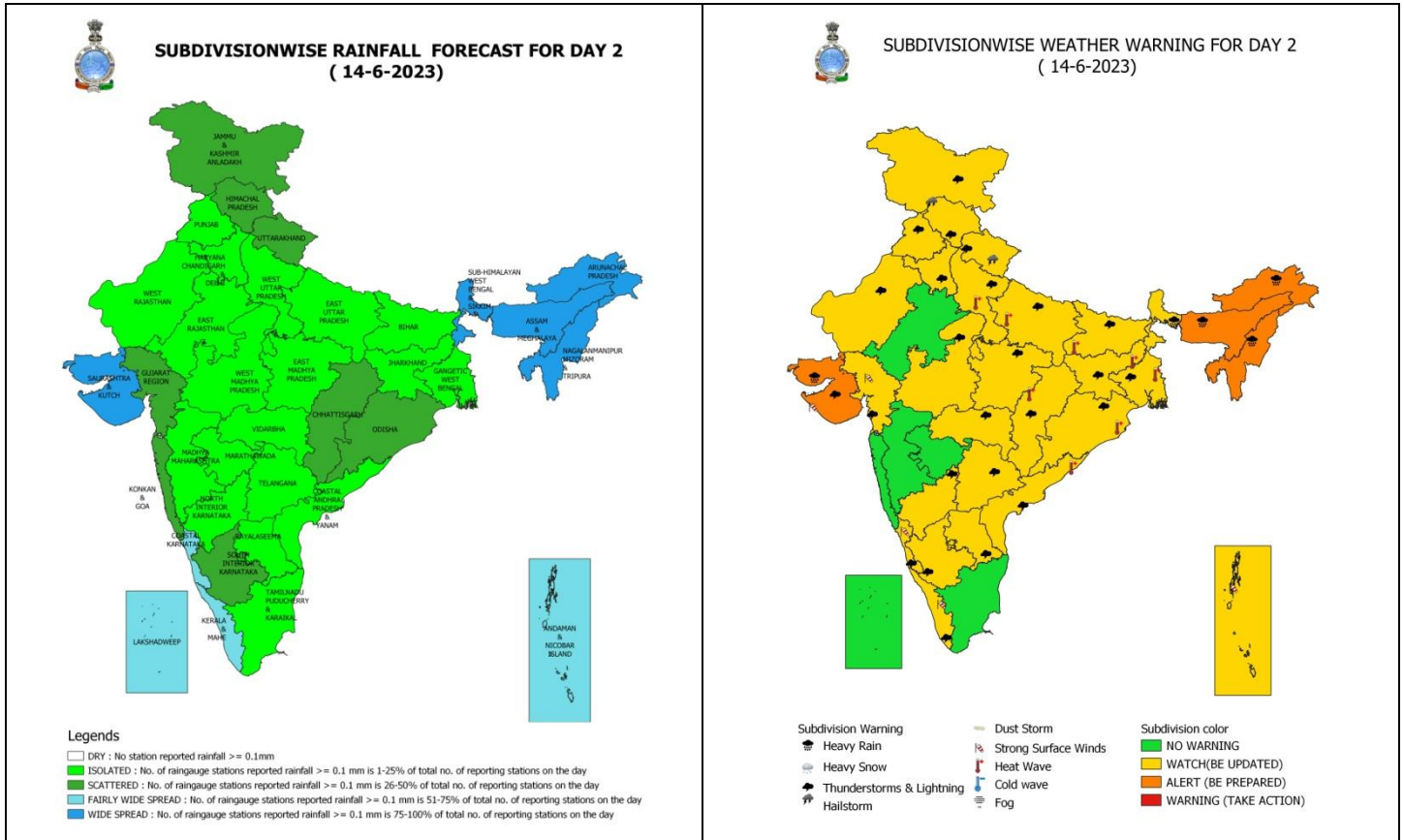
13 June (Day 1): ♦ **Heavy to very heavy rainfall** very likely at isolated places over Saurashtra & Kutch, Arunachal Pradesh, Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim and **heavy rainfall** at isolated places over Nagaland, Manipur, Mizoram & Tripura and Kerala & Mahe.

♦ **Thunderstorm with lightning & gusty winds (speed 40-50 kmph)** very likely at isolated places over Karnataka; **with lightning & gusty winds (speed 30-40 kmph)** at isolated places over West Rajasthan, Vidarbha, Chhattisgarh, Odisha, Jharkhand, Andaman & Nicobar Islands, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Kerala & Mahe, Lakshadweep; **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Uttarakhand, Madhya Pradesh, West Bengal & Sikkim, Bihar, Gujarat State and Tamil Nadu, Puducherry & Karaikal.

♦ **Hailstorm with thunderstorm, lightning and gusty winds (wind speed 30-40 kmph)** very likely at isolated places over Himachal Pradesh.

♦ **Heat Wave to severe heat wave conditions** very likely in isolated pockets of Coastal Andhra Pradesh & Yanam, Odisha, Chhattisgarh and **heat wave conditions** in isolated pockets of Gangetic West Bengal, Bihar, Jharkhand, Uttar Pradesh, Madhya Pradesh and Vidarbha.

♦ **Gale wind speed reaching 145-155 kmph gusting to 175 kmph** is likely to prevail over northeast Arabian Sea. Gale wind speed reaching 80-90 kmph gusting to 100 kmph is likely to prevail over adjoining areas of eastcentral Arabian Sea. Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely over adjoining areas of northwest Arabian Sea. **Squally wind speed reaching 50-60 kmph gusting to 70 kmph** over Saurashtra & Kutch- north Maharashtra coasts. Fishermen are advised not to venture into these areas.



14 June (Day 2): ♦ **Heavy to very heavy rainfall with extremely heavy falls** very likely at isolated places over Assam & Meghalaya and **Heavy to very heavy rainfall** likely at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim and Saurashtra & Kutch.

♦ **Hailstorm with thunderstorm, lightning and gusty winds(wind speed 30-40 kmph)** very likely at isolated places over Uttarakhand and Himachal Pradesh.

♦ **Thunderstorm with lightning & gusty winds (speed 40-50 kmph)** very likely at isolated places over Odisha; **with lightning & gusty winds (speed 30-40 kmph)** at isolated places over West Rajasthan, Jharkhand, Coastal Andhra Pradesh & Yanam, Rayalaseema, Karnataka, Kerala & Mahe; **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Madhya Pradesh, Vidarbha, Chhattisgarh, Gangetic West Bengal, Bihar, Gujarat State and Telangana.

♦ **Heat Wave conditions** very likely in isolated pockets of Coastal Andhra Pradesh & Yanam, Odisha, Chhattisgarh, Gangetic West Bengal, Bihar, Jharkhand and Uttar Pradesh.

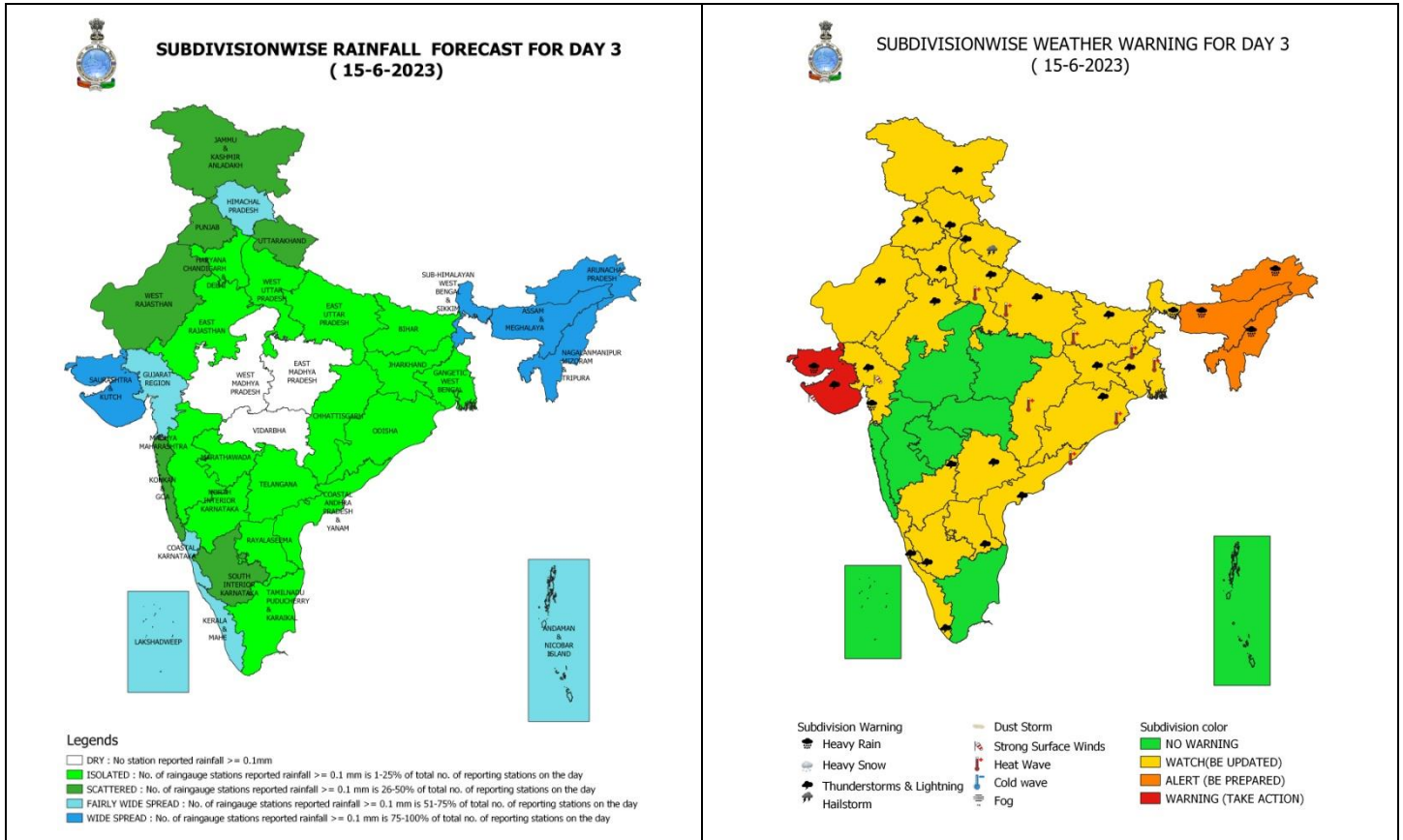
♦ **Gale wind speed reaching 135-145 kmph gusting to 160 kmph** is likely to prevail over northeast Arabian Sea. Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely over adjoining areas of eastcentral Arabian Sea. **Gale wind speed reaching 65-75 kmph gusting to 85 kmph** over Saurashtra & Kutch coasts. Fishermen are advised not to venture into these areas.

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15 June (Day 3): ♦ **Heavy to very heavy rainfall at a few places with extremely heavy falls** at isolated places likely over Saurashtra & Kutch; **Heavy to very heavy rainfall with extremely heavy falls** at isolated places over Assam & Meghalaya and **Heavy to very heavy rainfall** likely at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim and Gujarat region.

♦ **Hailstorm with thunderstorm, lightning and gusty winds (wind speed 30-40 kmph)** very likely at isolated places over Uttarakhand.

♦ **Thunderstorm with lightning & gusty winds (speed 30-40 kmph)** very likely at isolated places over Odisha, West Rajasthan, Jharkhand, Coastal Andhra Pradesh & Yanam, Rayalaseema, Karnataka, Kerala & Mahe; **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Rajasthan, Gangetic West Bengal, Bihar, Gujarat State and Telangana.

♦ **Heat Wave conditions** likely in isolated pockets of Coastal Andhra Pradesh & Yanam, Odisha, Chhattisgarh, Gangetic West Bengal, Bihar, Jharkhand and Uttar Pradesh.

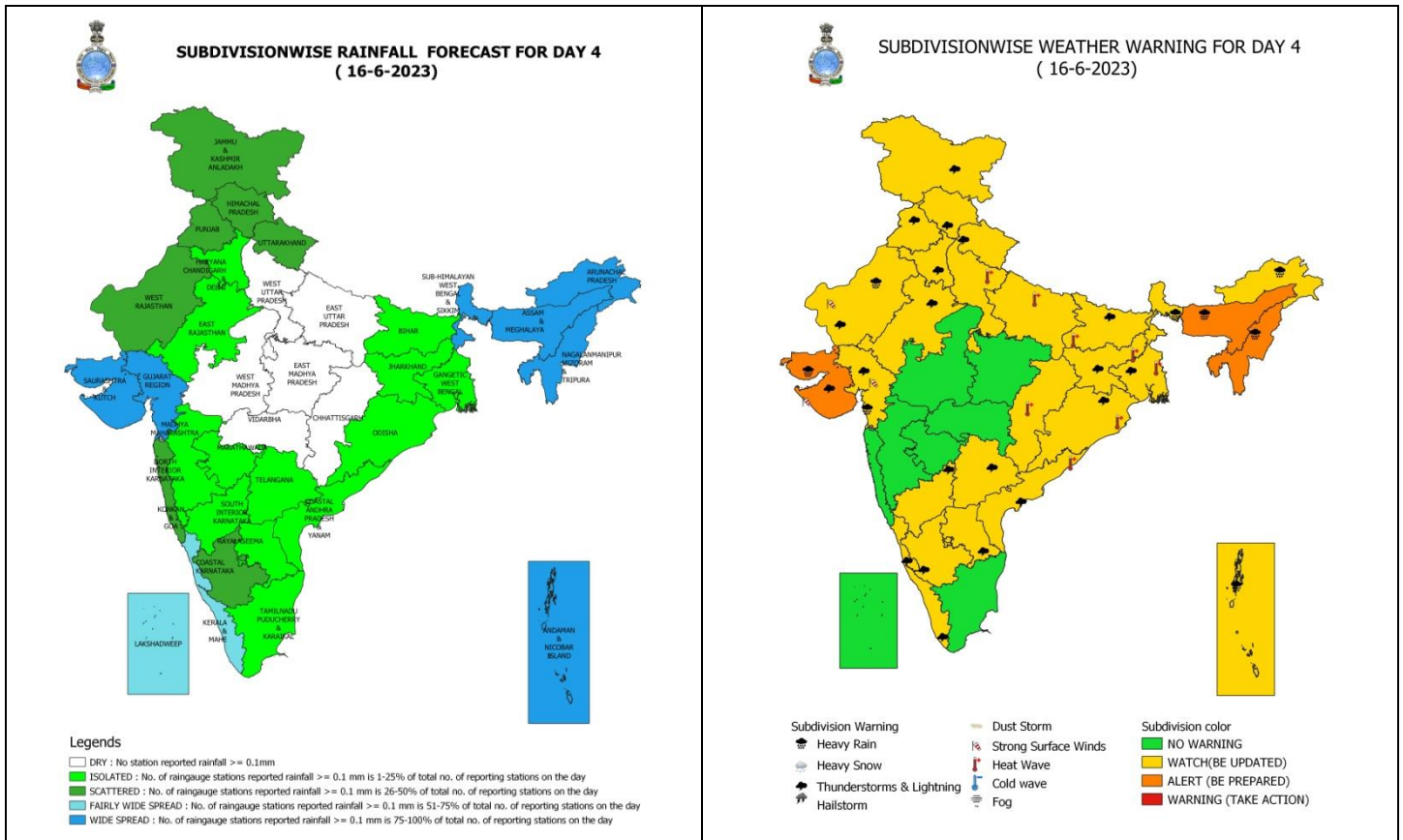
♦ **Gale wind speed reaching 125-135 kmph gusting to 150 kmph** is likely to prevail over northeast Arabian Sea and likely to decrease becoming 90-100 kmph gusting to 110 kmph from evening. Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely over adjoining areas of eastcentral Arabian Sea. **Gale wind 125-135 kmph gusting to 150 kmph** over Saurashtra & Kutch coasts. Fishermen are advised not to venture into these areas.

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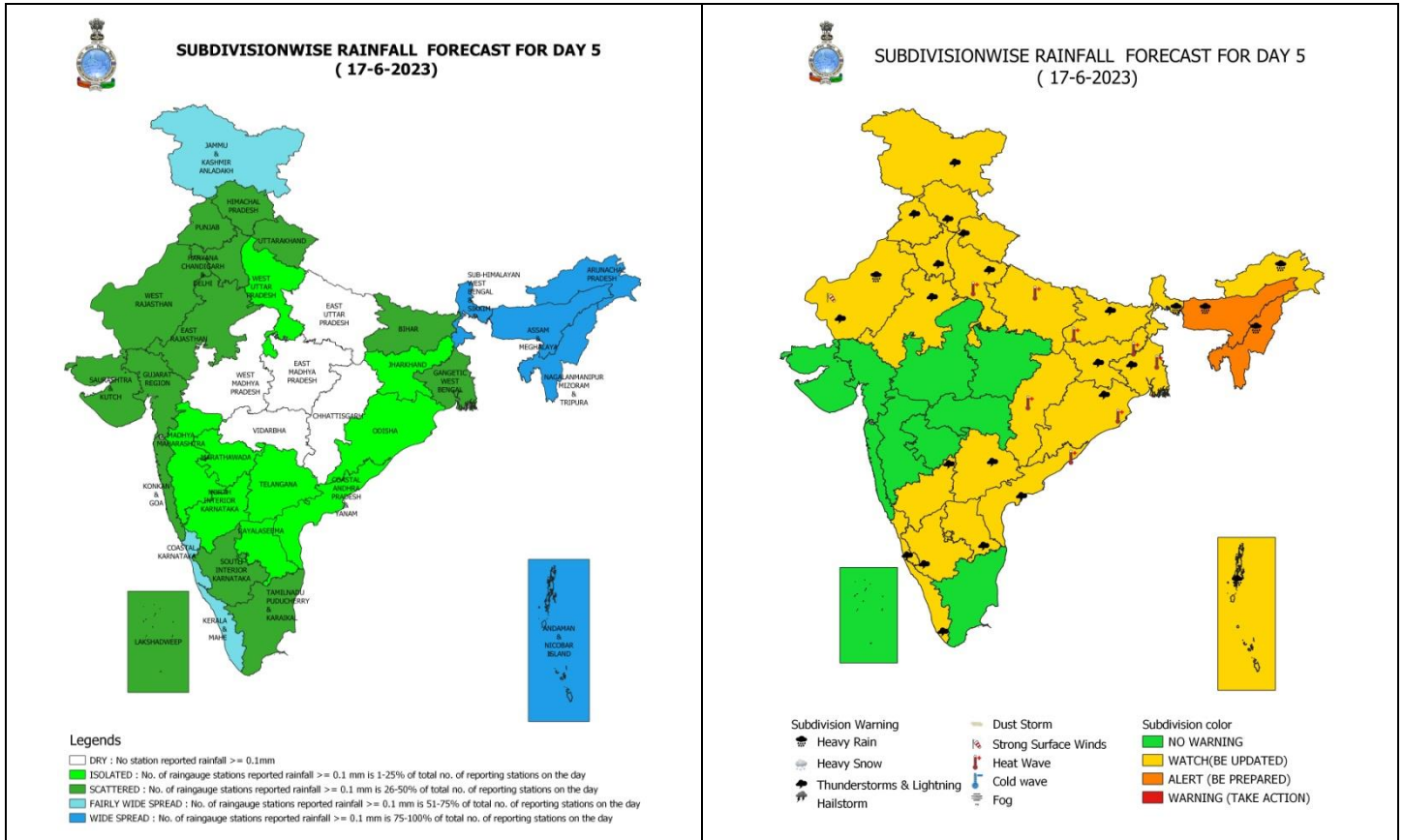


16 June (Day 4): ♦ **Heavy to very heavy rainfall with extremely heavy falls** likely at isolated places over Assam & Meghalaya; **Heavy to very heavy rainfall** likely at isolated places over Gujarat Region, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim and **heavy rainfall** likely at isolated places over Arunachal Pradesh, Andaman & Nicobar Islands, West Rajasthan and Saurashtra & Kutch.

♦ **Thunderstorm with lightning & squall (speed 50-60 kmph)** very likely at isolated places over West Rajasthan; **with lightning & gusty winds (speed 30-40 kmph)** very likely at isolated places over Odisha, Jharkhand, Coastal Andhra Pradesh & Yanam, Rayalaseema, Karnataka, Kerala & Mahe; **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, East Rajasthan, Gangetic West Bengal, Bihar, Gujarat State and Telangana.

♦ **Heat Wave conditions** likely in isolated pockets of Coastal Andhra Pradesh & Yanam, Odisha, Chhattisgarh, Gangetic West Bengal, Bihar, Jharkhand and Uttar Pradesh.

♦ **Squally wind speed reaching 40-50 kmph gusting to 60 kmph** is likely over Gujarat coast adjoining Northeast Arabian Sea. Fishermen are advised not to venture into these areas.



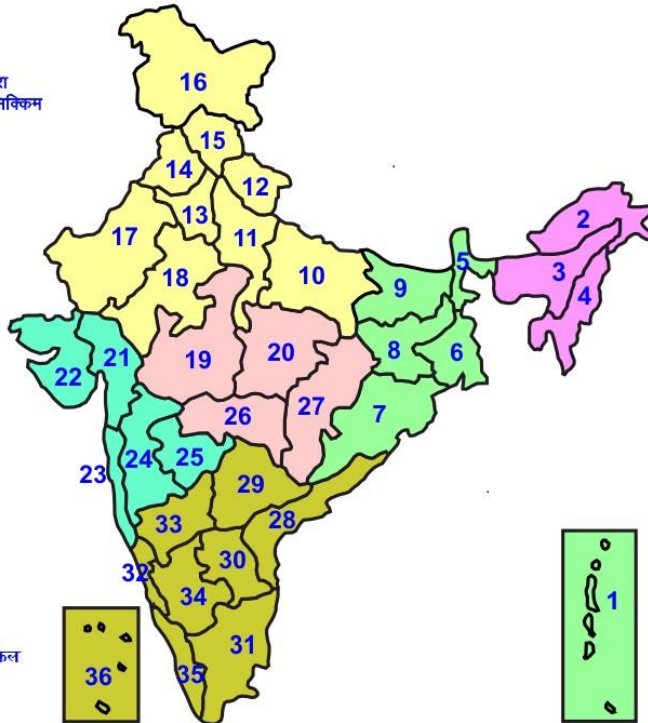
17 June (Day 5): ♦ **Heavy to very heavy rainfall with extremely heavy falls** likely at isolated places over Assam & Meghalaya; **Heavy to very heavy rainfall** likely at isolated places over Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim and **heavy rainfall** likely at isolated places over Arunachal Pradesh, Andaman & Nicobar Islands, West Rajasthan.

♦ **Thunderstorm with lightning & squall (speed 50-60 kmph)** very likely at isolated places over West Rajasthan; **with lightning & gusty winds (speed 30-40 kmph)** very likely at isolated places over East Rajasthan, Coastal Andhra Pradesh & Yanam, Rayalaseema, Karnataka, Kerala & Mahe; **with lightning** at isolated places over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh, Gangetic West Bengal, Jharkhand, Odisha, Bihar and Telangana.

♦ **Heat Wave conditions** likely in isolated pockets of Coastal Andhra Pradesh & Yanam, Odisha, Chhattisgarh, Gangetic West Bengal, Bihar, Jharkhand and Uttar Pradesh.

LEGENDS

- 1 अंडमान और निकोबार द्वीप समुह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड मनीपुर मीजोरम और त्रिपुरा
- 5 उप हिमालय पश्चिम बंगाल एवं सिक्किम
- 6 पश्चिम गंगोय बंगाल
- 7 ओडिसा
- 8 झारखंड
- 9 बिहार
- 10 पूर्वी उत्तर प्रदेश
- 11 पश्चिम उत्तर प्रदेश
- 12 उत्तराखंड
- 13 हरियाणा चंडिगढ़ 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 क्षेत्र
- 22 सौराष्ट्र एवं कच्छ
- 23 कोंकण एवं गोवा
- 24 मध्य महाराष्ट्र
- 25 मराठावाडा
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 तटीय आंध्र प्रदेश एवं यनम
- 29 तेलंगाना
- 30 रायलसीमा
- 31 तमिलनाडु, पुदुचेरी एवं कराईकल
- 32 तटिय कर्नाटक
- 33 आंतरिक उत्तरी कर्नाटक
- 34 आंतरिक 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. Orissa
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



Heavy Rain



Heavy Snow



Thunderstorm



Dust Storm



Strong Winds



Visibility



Cyclone



Squall/ Hail



Frost



Cold Wave



Heat Wave



Sea State

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LEGENDS

WARNING

WARNING (TAKE ACTION)
ALERT (BE PREPARED)
WATCH (BE UPDATED)
NO WARNING (NO ACTION)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75



Rain/ Snow *

Heavy: 64.5 to 115.5 mm/cm *
Very Heavy: 115.6 to 204.4 mm/cm*
Extremely Heavy: > 204.4 mm/cm *



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)