

Thursday, October 19, 2023
Time of Issue: 1945 hours IST
(NIGHT)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features

Withdrawal of Southwest Monsoon:

- ❖ The Southwest Monsoon has withdrawn from the remaining parts of the country today, the 19th October 2023.
- ❖ With the setting in of Easterlies/Northeasterlies over southern peninsular India, northeast monsoon rainfall activity is likely to commence over southern peninsular region in the next 72 hours. However, the initial phase of the northeast monsoon in general is likely to be weak.

Significant Weather features:

- The Low-Pressure Area lies over Southeast & adjoining Southwest Arabian Sea. It is likely to move nearly west-northwestwards and become Well Marked Low Pressure Area over Southwest Arabian Sea during next 24 hours and intensify into a Depression over Southwest & adjoining Westcentral Arabian Sea around 21st October.
- The cyclonic circulation over southeast Bay of Bengal in lower tropospheric levels persists over the same region. Under its influence a Low-Pressure Area is likely to form over central parts of Bay of Bengal by 21st morning. Thereafter, it is likely to intensify further into a Depression over Westcentral Bay of Bengal around 23rd October.
- A cyclonic circulation lies over Comorin area & neighbourhood in lower & middle tropospheric levels.

Weather warnings for next 5 days:

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

Weather warnings in association with the Low-Pressure Area over Southeast & adjoining Eastcentral Arabian Sea:

Fishermen Warning:

Fishermen are advised not to venture into

- Eastcentral Arabian Sea & Lakshadweep Area on 19th October.
- Southeast Arabian Sea on 19th & 20th October.
- Southwest Arabian Sea from 19th to 23rd October.
- Westcentral Arabian Sea from 20th to 23rd October.

The Fishermen out at sea are advised to return to coast.

Weather warnings in association with the Cyclonic Circulation over southeast Bay of Bengal

Fishermen Warning:

Fishermen are advised not to venture into

- Southwest and adjoining southeast Bay of Bengal from 20th to 23rd October.
- Westcentral Bay of Bengal from 21st October onwards.

Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of today): **at many places** over Kerala & Mahe; **at a few places** over Arunachal Pradesh and Assam & Meghalaya and **at isolated places** over Odisha, Sub-Himalayan West Bengal & Sikkim, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Coastal Andhra Pradesh & Yanam, Coastal Karnataka, South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.
- ❖ **Significant rainfall recorded** (from 0830 hours IST to 1730 hours IST of today) (in cm): **Kerala:** Perumkadavila-4, Thiruvanathapuram-3, Madikkai, Aralam, Chalakkudy, North Paravur, Cheruthoni, Parippally, Pirappancode & Neyyattinkara-1 each; **Tamilnadu:** Thirupathisaram-4; **South Interior Karnataka:** Bangalore-2; **Nagaland:** Sakshi-2; **Assam:** Hazo-1.
- ❖ **Minimum Temperature Departures (as on 19-10-2023):** Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Madhya Pradesh, Madhya Maharashtra; **above normal (1.6°C to 3.0°C)** at isolated places over Gujarat state, East Rajasthan, Marathwada, Coastal Andhra Pradesh & Yanam, Konkan & Goa, Chhattisgarh, Jharkhand. They are **below normal (-1.6°C to -3.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Uttar Pradesh, Tamil Nadu, Puducherry & Karaikal Himachal Pradesh, Haryana-Chandigarh-Delhi, West Rajasthan, Bihar, Nagaland, Manipur, Mizoram & Tripura, Kerala & Mahe. Today, **the lowest minimum temperature** of 15.1°C is reported at **Hisar (Haryana)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 19-10-2023):** Maximum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at a few places over Rayalaseema; at isolated places over North Interior Karnataka and Coastal Andhra Pradesh & Yanam; **above normal (1.6°C to 3.0°C)** at many places over Marathwada, Telangana, South Interior Karnataka, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal; at a few places over Vidarbha, Madhya Maharashtra, Arunachal Pradesh, Assam & Meghalaya and Coastal Karnataka; at isolated places over Konkan & Goa, Chhattisgarh, Odisha, Jharkhand, West Bengal & Sikkim, Nagaland, Manipur, Mizoram & Tripura and East Madhya Pradesh. They are **below normal (-1.6°C to -3.0°C)** at most places over Haryana-Chandigarh-Delhi; at many places over Punjab; at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Rajasthan and West Uttar Pradesh; at isolated places over Himachal Pradesh, Uttarakhand and Bihar and **near normal** over rest parts of the country. Today, **the highest maximum temperature** of 37.5°C is reported at **Kurnool (Rayalaseema)**.

Meteorological Analysis (Based on 1730 hours IST)

- ❖ The Southwest Monsoon has withdrawn from the remaining parts of the country today, the 19th Oct 2023.
- ❖ With the setting in of Easterlies/Northeasterlies over southern peninsular India, Northeast monsoon rainfall activity is likely to commence over southern peninsular region in the next 72 hours. However, the initial phase of the northeast monsoon in general is likely to be weak.
- ❖ The **Low-Pressure Area** over Southeast & adjoining southwest Arabian Sea persists. It is likely to move nearly west-northwestwards and become **Well Marked Low Pressure Area** over southwest Arabian Sea during next 24 hours and intensify into a **Depression** over southwest & adjoining westcentral Arabian Sea around 21st October.
- ❖ The **cyclonic circulation** over southeast Bay of Bengal in lower tropospheric levels persists. It is likely to move northwestwards and under its influence a **Low-Pressure Area** is likely to form over central parts of Bay of Bengal by 21st October morning. Thereafter, it is likely to intensify further into a **Depression** over westcentral Bay of Bengal around 23rd October.
- ❖ The **cyclonic circulation** over Mizoram & neighbourhood extending upto 1.5 km above mean sea level persists.
- ❖ The cyclonic circulation over Comorin area & neighbourhood extending upto 5.8 km above mean sea level persists.
- ❖ A fresh Western Disturbance is likely to affect Northwest India from the night of 21st October, 2023.

Weather Forecast for next 5 days (Upto 0830 hours IST of 24th October, 2023)

- ❖ Meteorological sub-division wise detailed 5 days rainfall forecast is given in Table-1.

Weather Outlook for subsequent 2 days

- ❖ Scattered to fairly widespread light/moderate rainfall likely over parts of Kerala, Tamil Nadu, Coastal Andhra Pradesh & Yanam, Odisha, Islands and Nagaland, Manipur, Mizoram & Tripura.
- ❖ Mainly dry weather likely to prevail over rest parts of the country.

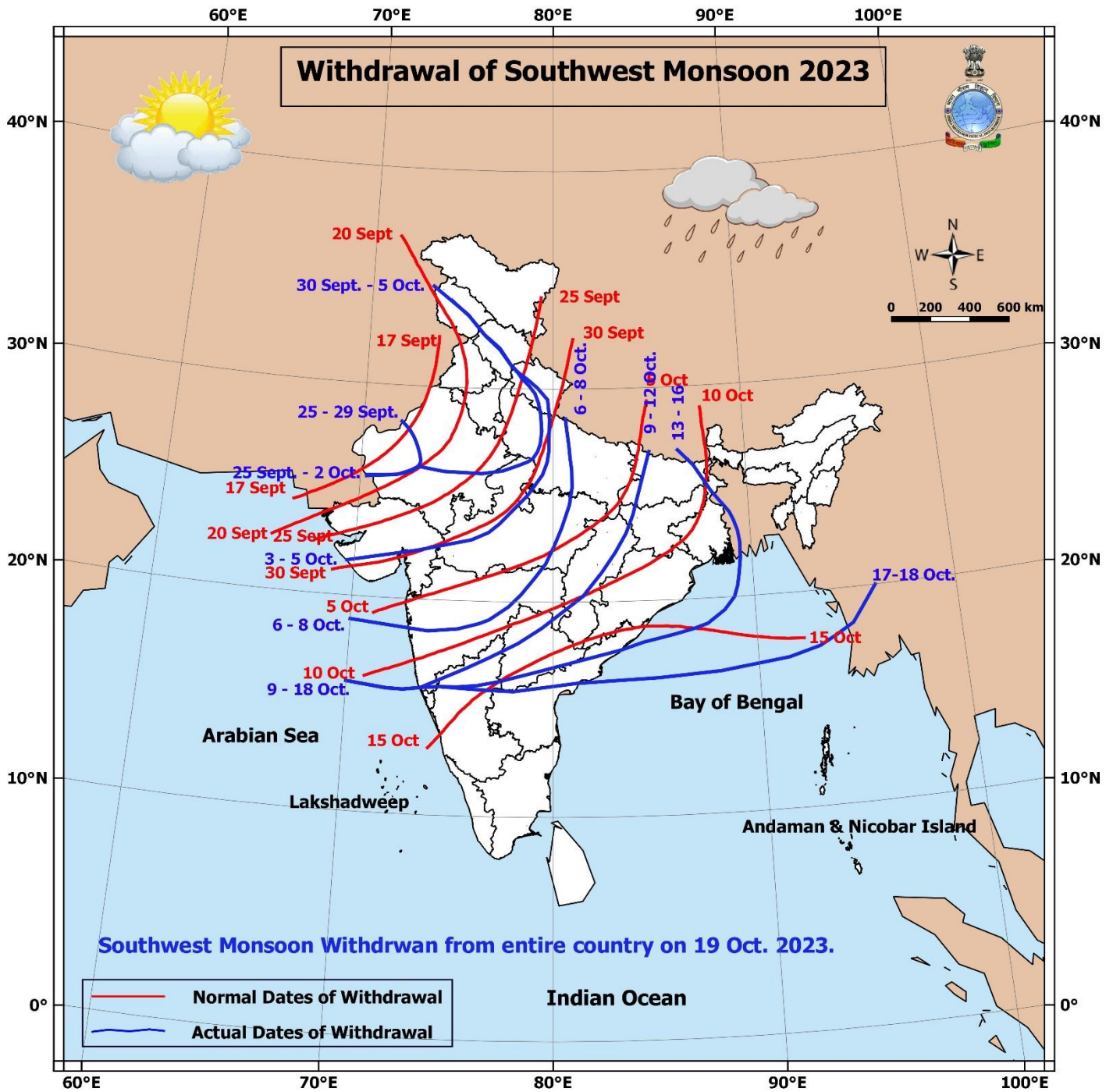




Table-1

7 Days Rainfall Forecast								
S. No.	Subdivision	19-Oct	20-Oct	21-Oct	22-Oct	23-Oct	24-Oct	25-Oct
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	FWS	FWS	FWS	FWS	FWS	FWS	FWS
2	ARUNACHAL PRADESH	ISOL	DRY	DRY	DRY	DRY	ISOL	ISOL
3	ASSAM & MEGHALAYA	ISOL	DRY	DRY	DRY	ISOL	ISOL	ISOL
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	DRY	DRY	DRY	ISOL	SCT	SCT	SCT
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	ISOL	ISOL	DRY	DRY	DRY	DRY	DRY
6	GANGETIC WEST BENGAL	DRY	DRY	DRY	DRY	ISOL	SCT	SCT
7	ODISHA	ISOL	DRY	DRY	DRY	ISOL	SCT	SCT
8	JHARKHAND	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
9	BIHAR	DRY	DRY	DRY	DRY	DRY	DRY	DRY
10	EAST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
11	WEST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
12	UTTARAKHAND	DRY	DRY	DRY	ISOL	ISOL	DRY	DRY
13	HARYANA CHANDIGARH & DELHI	DRY	DRY	ISOL	ISOL	DRY	DRY	DRY
14	PUNJAB	DRY	DRY	ISOL	ISOL	DRY	DRY	DRY
15	HIMACHAL PRADESH	DRY	DRY	DRY	ISOL	ISOL	DRY	DRY
16	JAMMU & KASHMIR AND LADAKH	DRY	DRY	ISOL	ISOL	ISOL	DRY	DRY
17	WEST RAJASTHAN	DRY	DRY	ISOL	ISOL	DRY	DRY	DRY
18	EAST RAJASTHAN	DRY	DRY	ISOL	DRY	DRY	DRY	DRY
19	WEST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
20	EAST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
21	GUJARAT REGION	DRY	DRY	DRY	DRY	DRY	DRY	DRY
22	SAURASHTRA & KUTCH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
23	KONKAN & GOA	ISOL	ISOL	DRY	DRY	DRY	DRY	DRY
24	MADHYA MAHARASHTRA	ISOL	ISOL	DRY	DRY	DRY	DRY	DRY
25	MARATHAWADA	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
26	VIDARBHA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
27	CHHATTISGARH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
28	COASTAL ANDHRA PRADESH & YANAM	ISOL	ISOL	ISOL	ISOL	ISOL	SCT	SCT
29	TELANGANA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
30	RAYALASEEMA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	ISOL	ISOL	ISOL	ISOL	SCT	SCT
32	COASTAL KARNATAKA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
33	NORTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
34	SOUTH INTERIOR KARNATAKA	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
35	KERALA & MAHE	FWS	FWS	FWS	FWS	FWS	FWS	FWS
36	LAKSHADWEEP	WS	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 color warning does not mean "Red Alert" Red color warning means "Take Action".
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Fig. 1: Maximum Temperatures Dated 19.10.2023

Fig. 2: Departure of Maximum Temp. Dated 19.10.2023

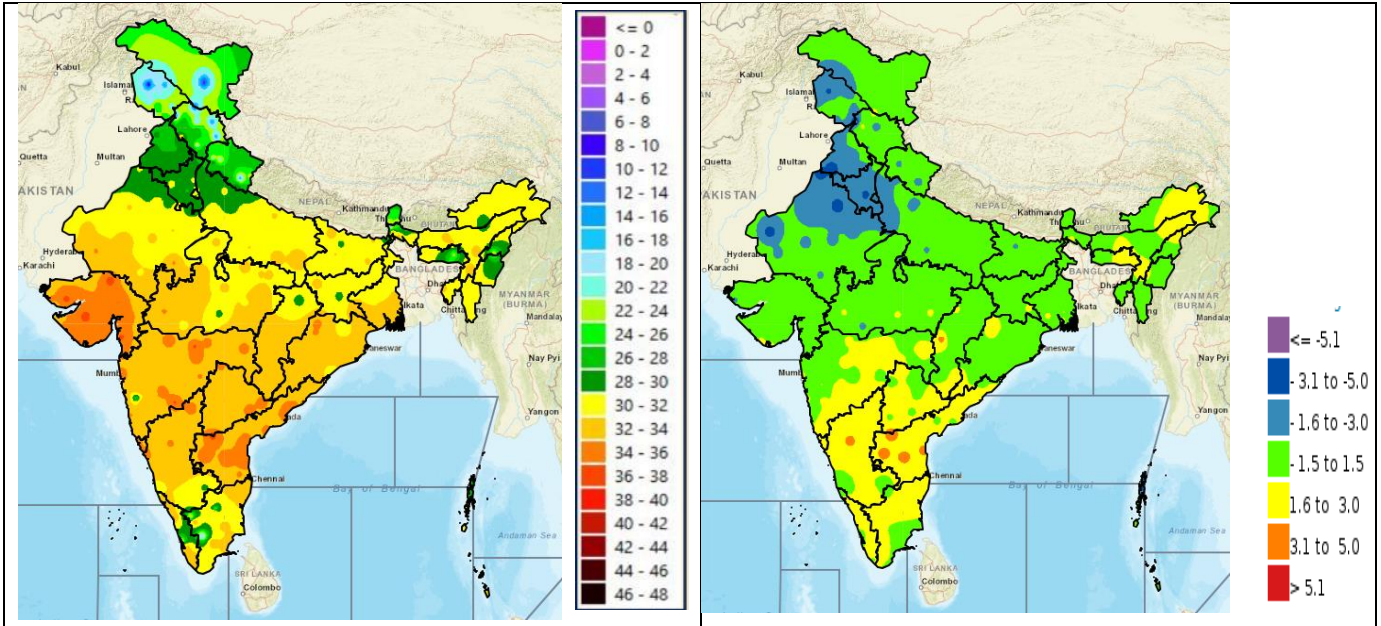


Fig. 3: Minimum Temperatures Dated 19.10.2023

Fig. 4: Departure of Minimum Temp. Dated 19.10.2023

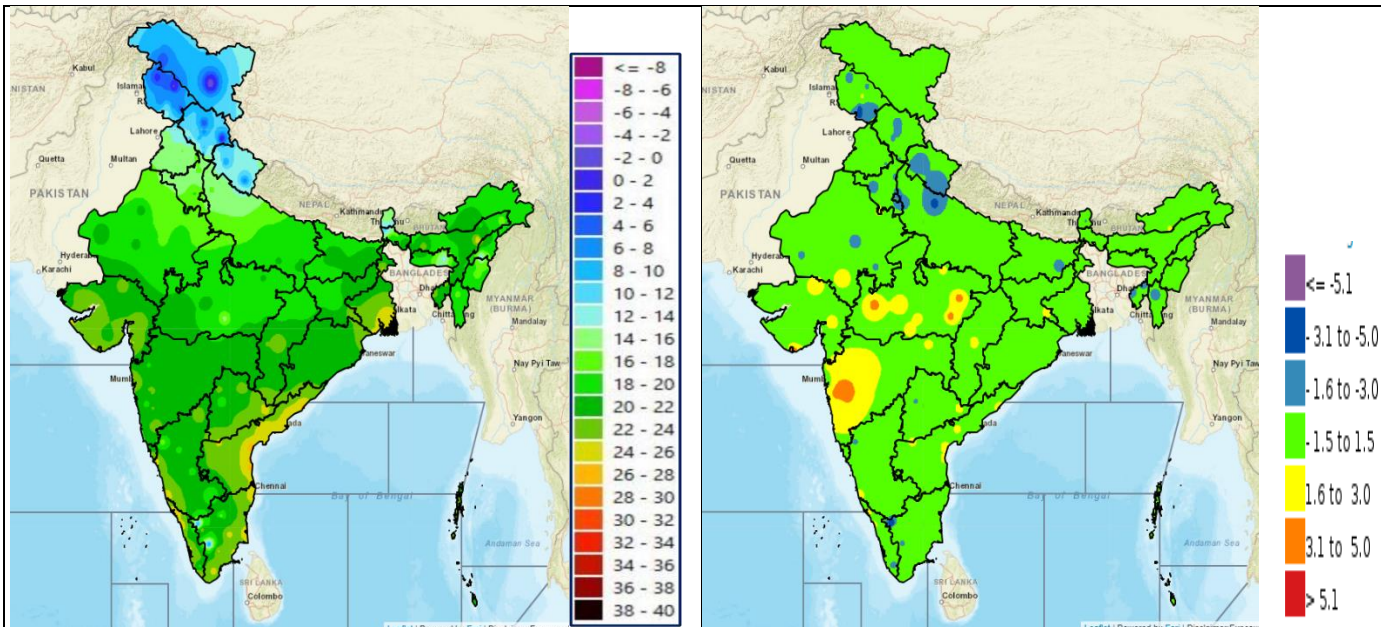
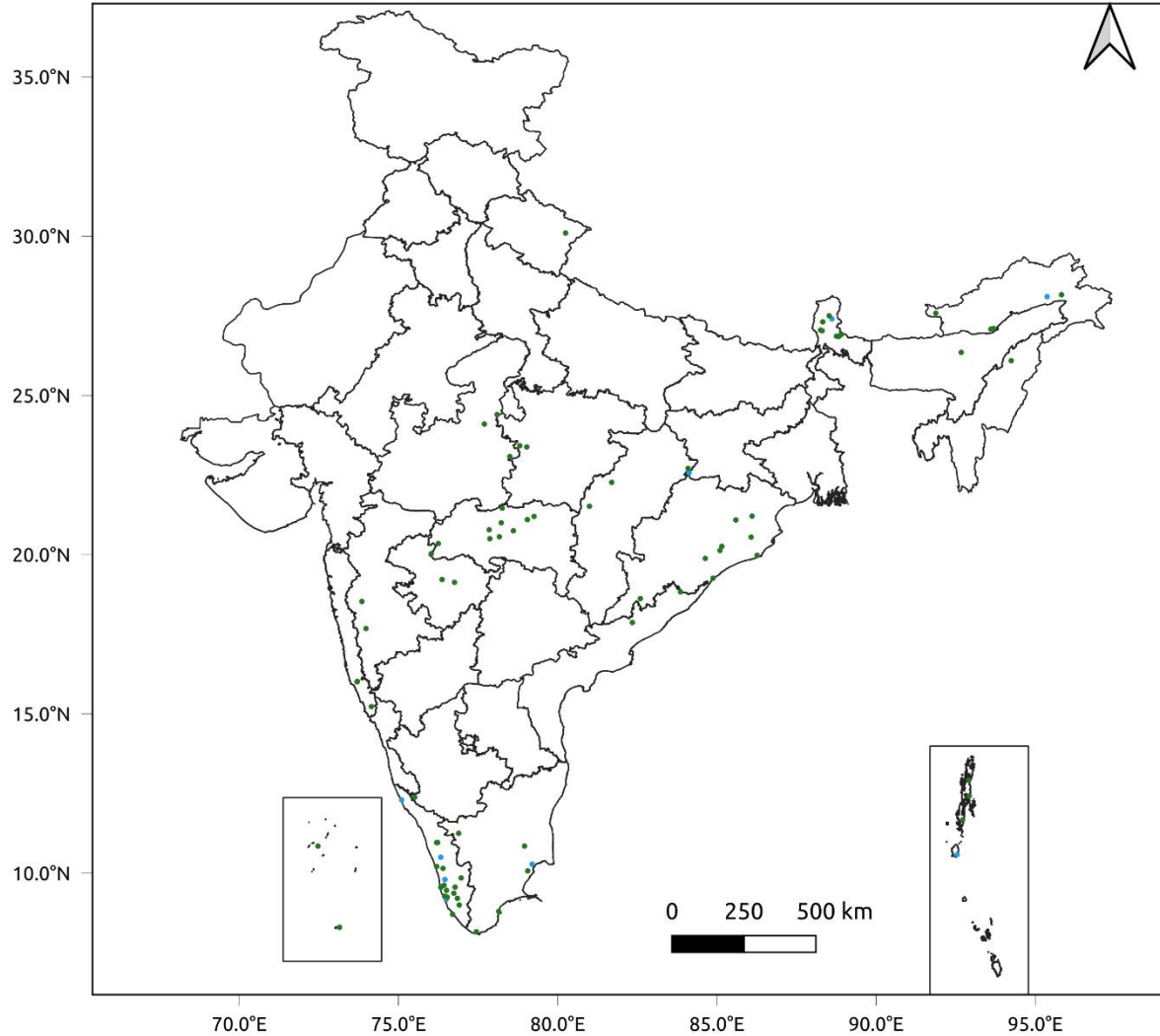


Fig. 5: Accumulated Rainfall (mm) during past 24 hours

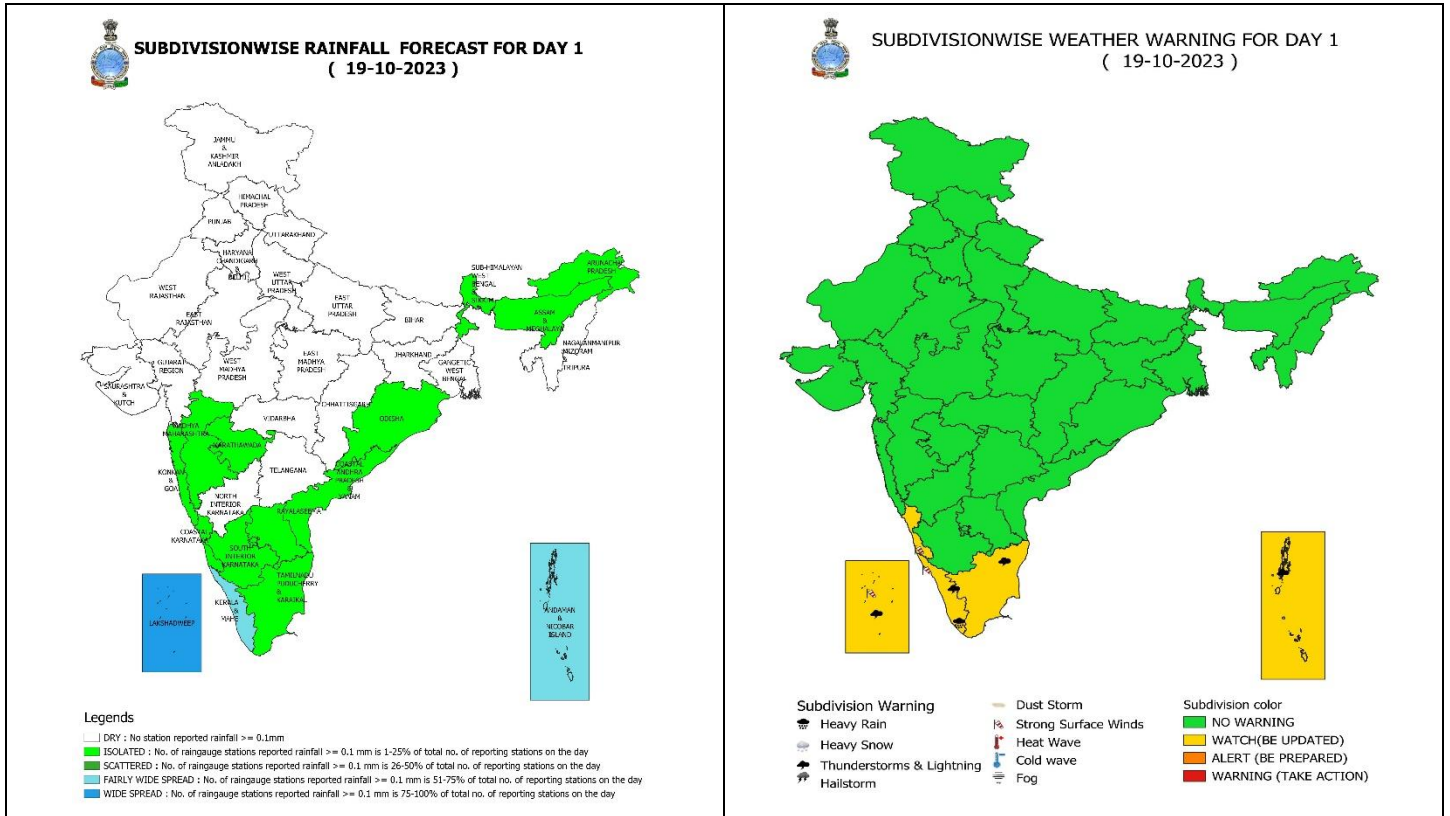


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 18-10-2023 to 0830 IST of 19-10-2023



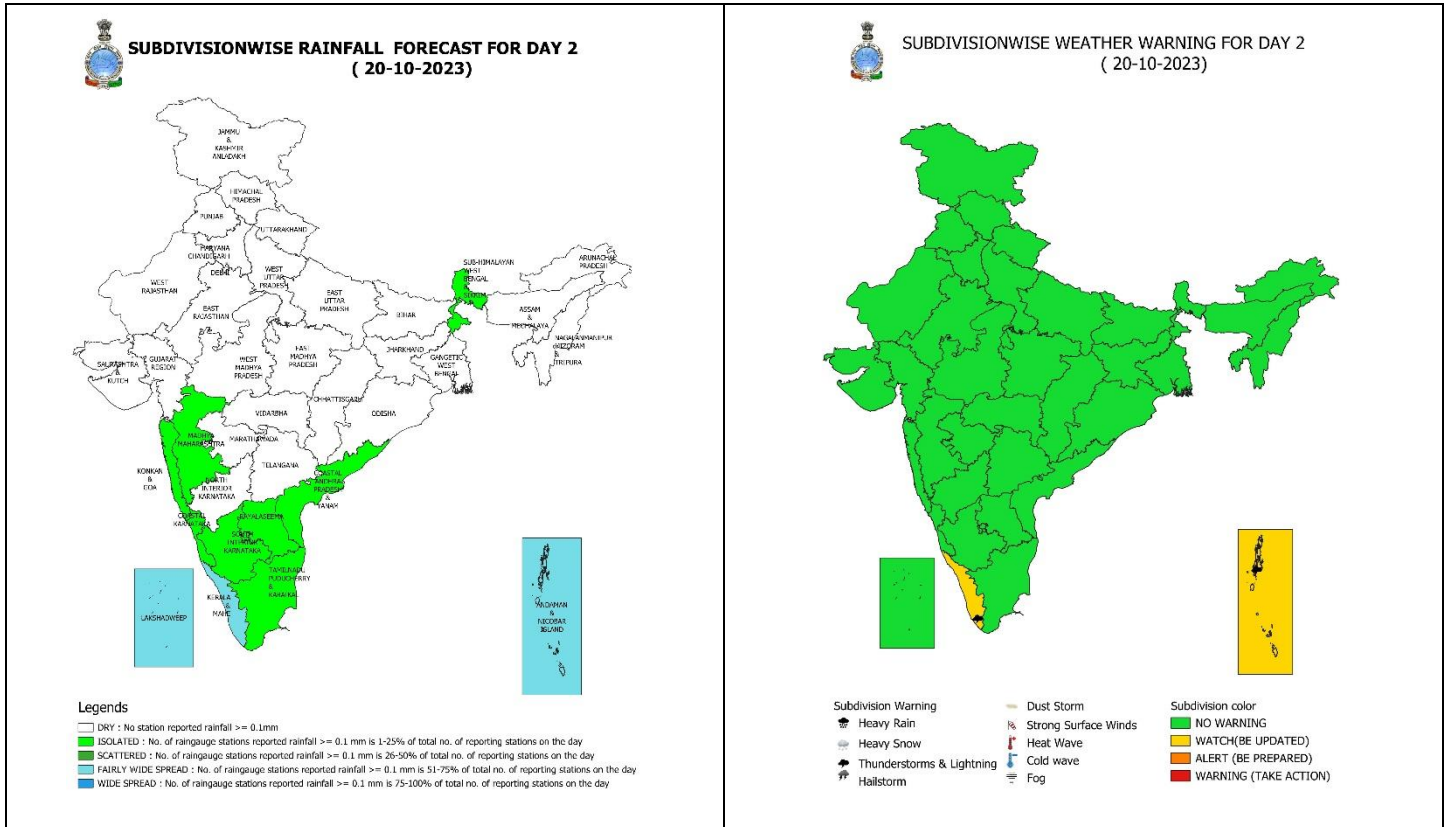
Legends

- 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)



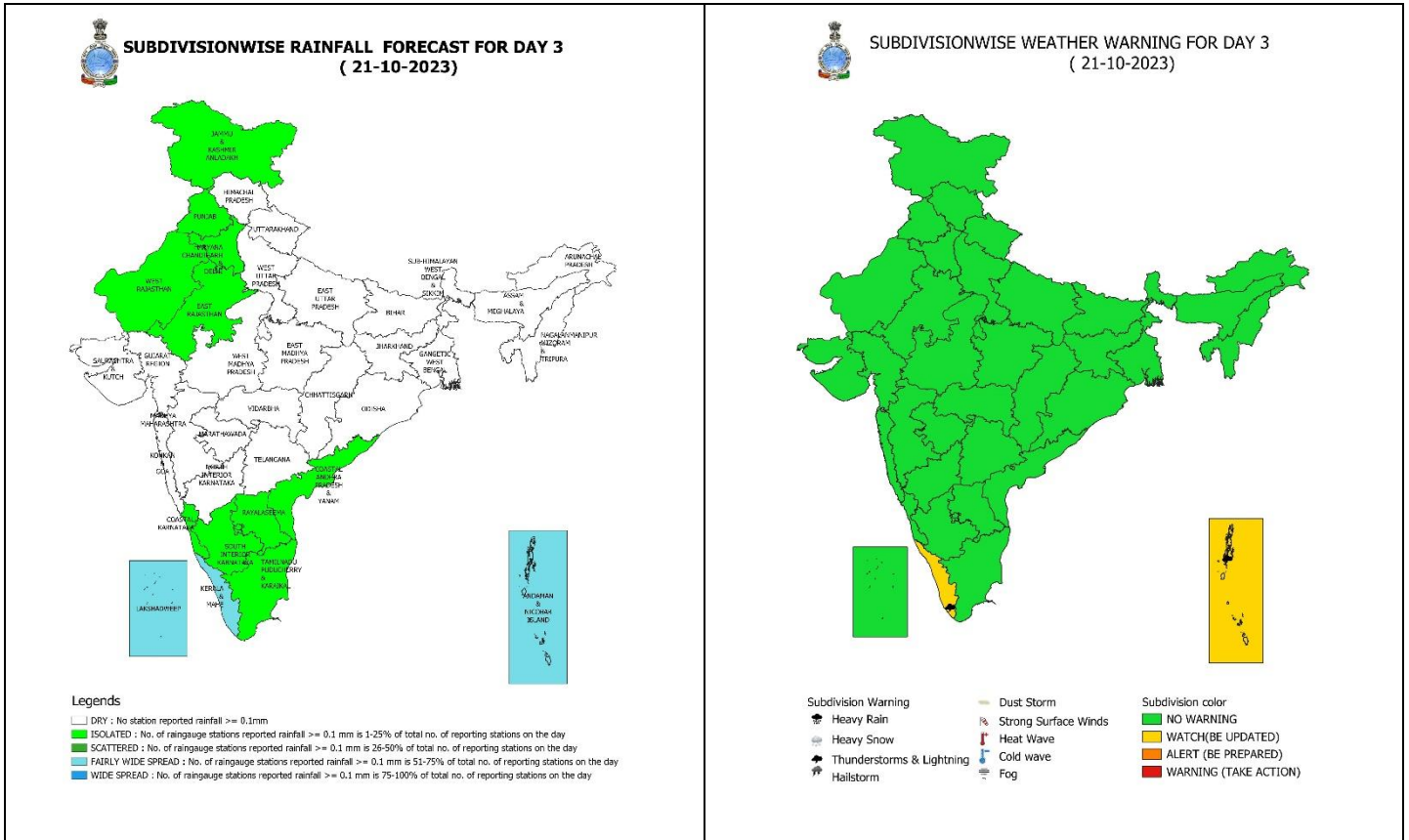
19 October (Day 1):

- ❖ **Heavy rainfall** very likely at isolated places over Kerala & Mahe.
- ❖ **Thunderstorm with lightning** very likely at isolated places over Andaman & Nicobar Islands, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Lakshadweep.
- ❖ **Squally weather** (wind speed 40-45 kmph gusting to 55 kmph) very likely over South & adjoining Central Arabian Sea, along & off Kerala coast, Lakshadweep-Comorin-Maldives areas, Gulf of Mannar; Southwest Bay of Bengal along & off Tamil Nadu coast. Fishermen are advised not to venture into these areas.



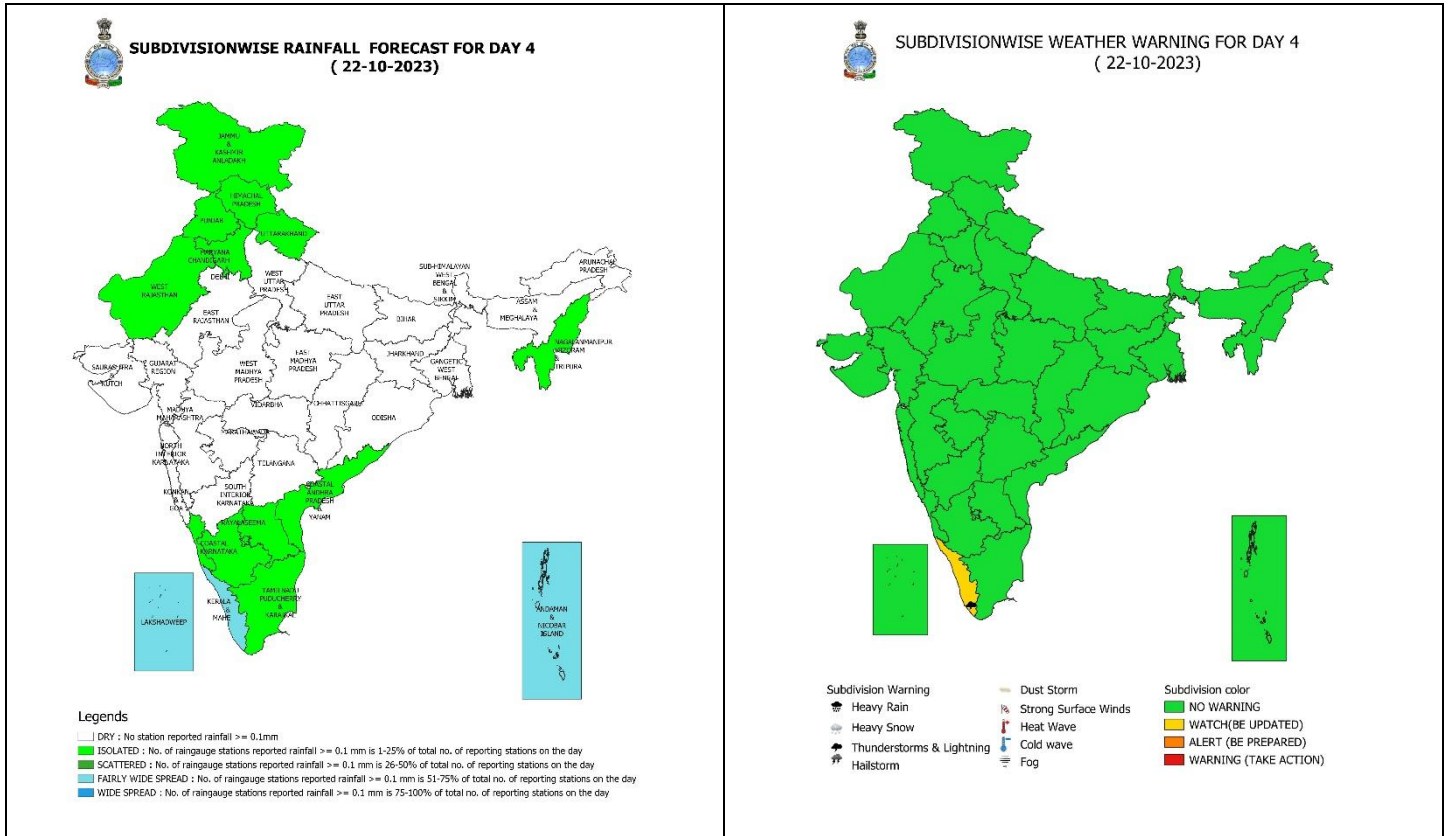
20 October (Day 2):

- ❖ **Thunderstorm with lightning** very likely at isolated places over Andaman & Nicobar Islands and Kerala & Mahe.
- ❖ **Squally weather** (wind speed 45-55 kmph gusting to 65 kmph) very likely over Southwest & adjoining Westcentral Arabian Sea; **Squally weather** (wind speed 40-45 kmph gusting to 55 kmph) South & adjoining Westcentral Bay of Bengal. Fishermen are advised not to venture into these areas.



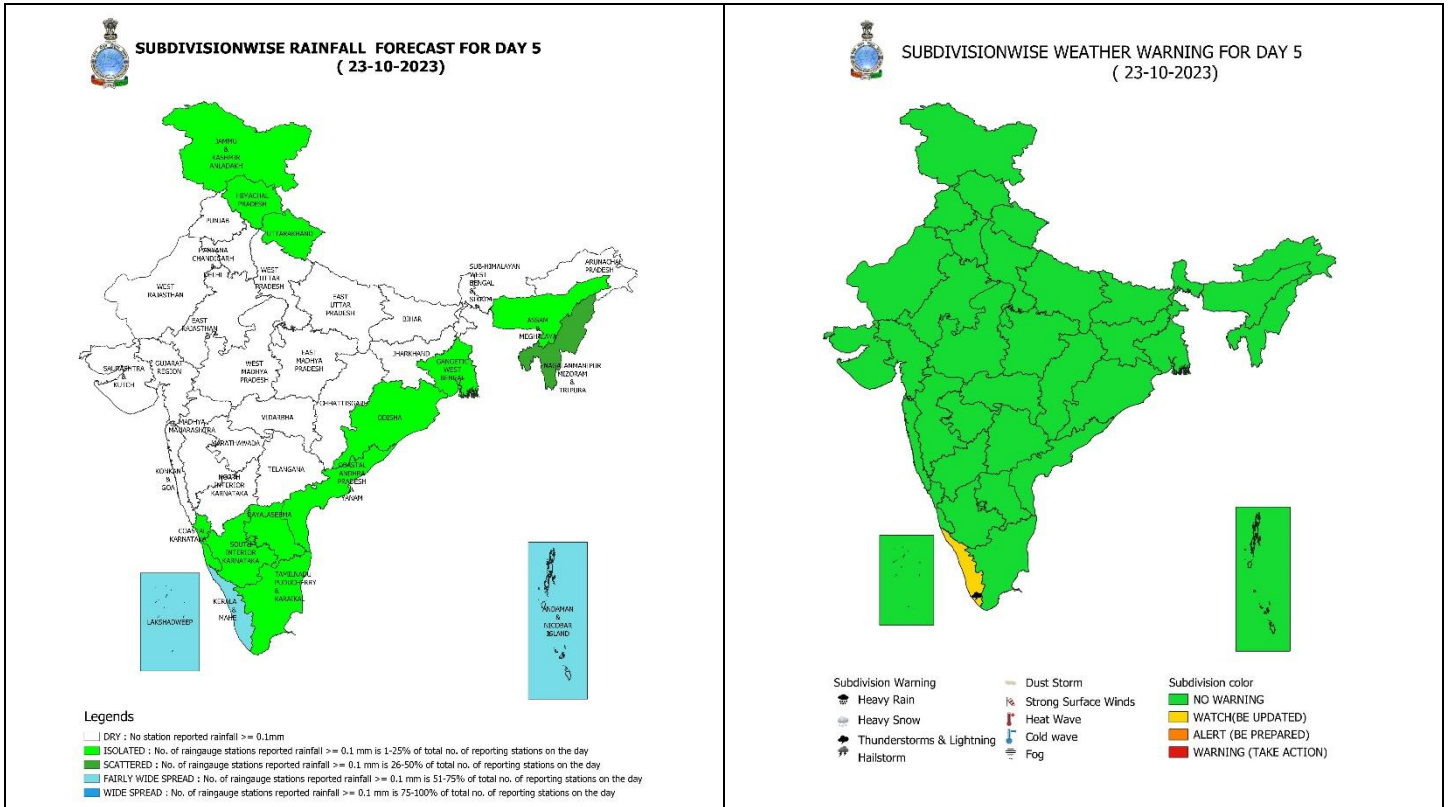
21 October (Day 3):

- ❖ **Thunderstorm with lightning** very likely at isolated places over Andaman & Nicobar Islands and Kerala & Mahe.
- ❖ **Squally winds** (wind speed 50-60 kmph gusting to 70 kmph) likely over Southwest & adjoining Westcentral Arabian Sea; **Squally weather** (wind speed 40-45 kmph gusting to 55 kmph) Southwest & adjoining Westcentral Bay of Bengal. Fishermen are advised not to venture into these areas.



22 October (Day 4):

- ❖ **Thunderstorm with lightning & gusty winds (30-40 kmph)** likely at isolated places over Kerala & Mahe.
- ❖ **Squally winds** (wind speed 50-60 kmph gusting to 70 kmph) likely over Westcentral Arabian Sea; **Squally weather** (wind speed 45-55 kmph gusting to 65 kmph) Southwest Arabian Sea, Westcentral & adjoining Bay of Bengal. Fishermen are advised not to venture into these areas.

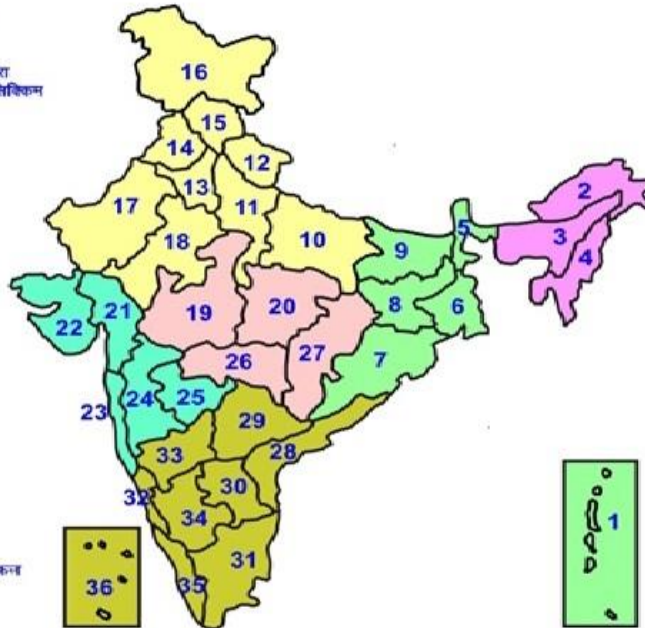


23 October (Day 5):

- ❖ **Thunderstorm with lightning & gusty winds (30-40 kmph)** likely at isolated places over Kerala & Mahe.
- ❖ **Squally winds** (wind speed 50-60 kmph gusting to 70 kmph) likely over Westcentral Arabian Sea; **Squally weather** (wind speed 45-55 kmph gusting to 65 kmph) Westcentral Bay of Bengal off Andhra Pradesh coast. 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 मनीपुर मीजोरम 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
- 24 मध्य महाराष्ट्र
- 25 महाराष्ट्र
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 तटीय आंध्र प्रदेश एवं यनम
- 29 तेलंगाना
- 30 चण्डीगढ़
- 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. 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. Marathawada
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 Widespred (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 Occurance (%)
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)

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