

Thursday, September 19, 2024  
Time of Issue: 2015 hours IST  
(NIGHT)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

#### Weather Systems:

- ✓ The western end of monsoon trough is north of its normal position and eastern end is south of its normal position.
- ✓ A **cyclonic circulation** over lies over southeast Rajasthan & neighbourhood in lower & middle tropospheric levels.

#### Forecast & Warnings (upto 7 days):

##### Central India:

- ✓ Scattered to Fairly Widespread light to moderate rainfall very likely over Central India during the week.
- ✓ Isolated **heavy rainfall** very likely over East Madhya Pradesh, Chhattisgarh during 23<sup>rd</sup>-25<sup>th</sup>; West Madhya Pradesh, Vidarbha on 24<sup>th</sup> & 25<sup>th</sup> September.

##### East & Northeast India

- ✓ Fairly widespread to Widespread light/moderate rainfall very likely over Andaman & Nicobar Islands; Scattered to Fairly widespread light to moderate rainfall very likely over remaining East India & Northeast India during the week.
- ✓ Isolated **heavy rainfall** very likely over Andaman & Nicobar Islands on 19<sup>th</sup> & 20<sup>th</sup>; Odisha on 22<sup>nd</sup> & 23<sup>rd</sup>; Nagaland, Manipur, Mizoram & Tripura during 22<sup>nd</sup>-25<sup>th</sup>; Arunachal Pradesh, Assam & Meghalaya during 23<sup>rd</sup> – 25<sup>th</sup> September.

##### Northwest India

- ✓ Isolated to Scattered light to moderate rainfall very likely over the region during the week.

##### West & South Peninsular India

- ✓ Scattered to Fairly widespread light/moderate rainfall very likely over Konkan & Goa, Marathwada, Rayalaseema, Coastal and North Interior Karnataka; Isolated to scattered light/moderate rainfall very likely over remaining region during the week.
- ✓ Isolated **heavy rainfall** very likely over Coastal Andhra Pradesh & Yanam on 19<sup>th</sup> September.
- ✓ **Hot and Humid Weather** very likely over Tamil Nadu, Puducherry & Karaikal on 19<sup>th</sup> & 20<sup>th</sup> September.

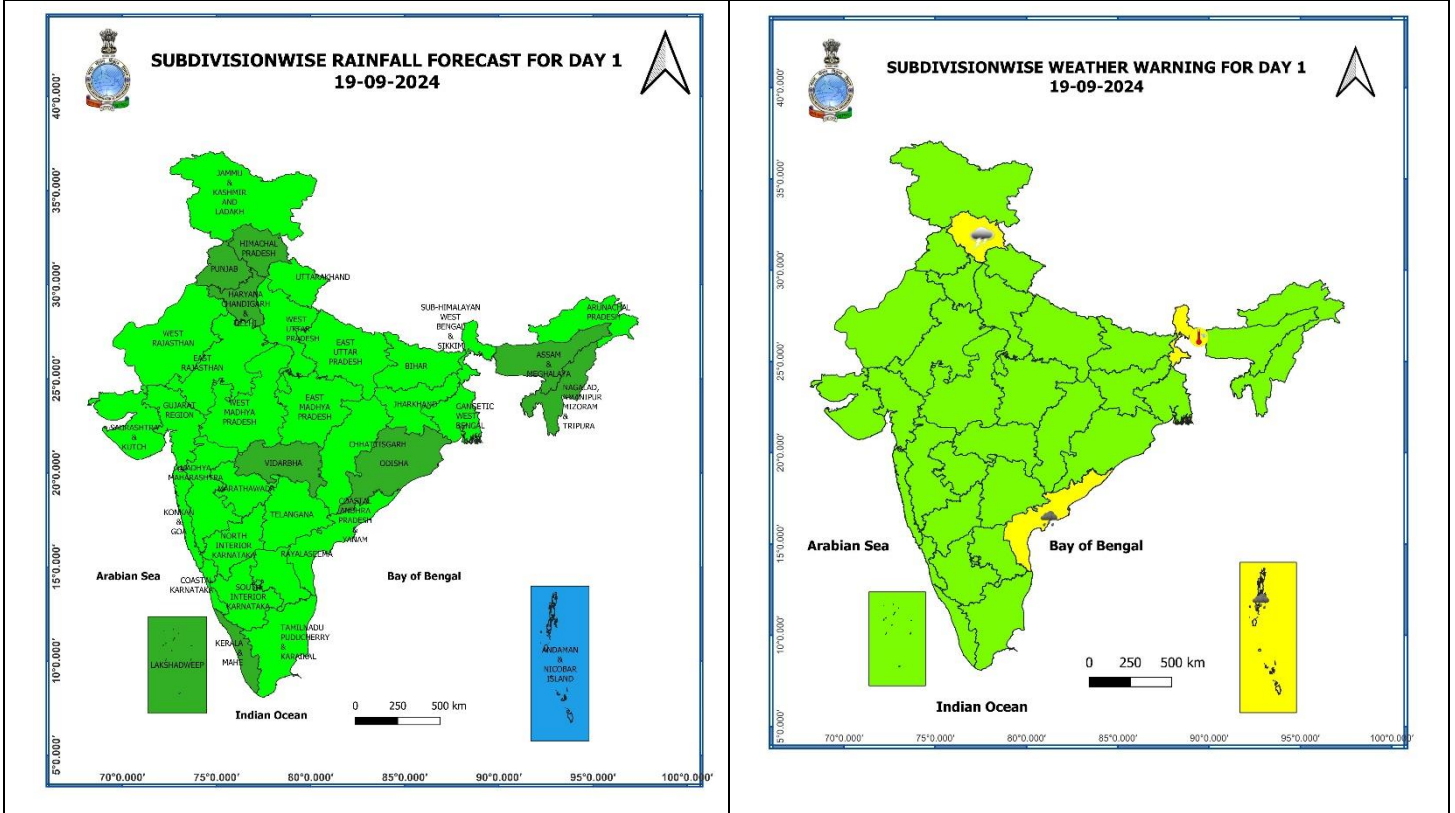
## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of today): **at many places** over Andaman & Nicobar Islands; **at a few places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, hp, Punjab, Coastal Andhra Pradesh & Yanam; **at isolated places** over Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, Nagaland, Manipur, Mizoram & Tripura, Odisha, East Madhya Pradesh, Haryana-Chandigarh-Delhi, Rajasthan, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST to 1730 hours IST of today): **Nil**
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of today) (in cm): **Odisha:** Daringabad-3; **Coastal Andhra Pradesh & Yanam:** Vishakhapatnam-1; **Kerala & Mahe:** Kannur-2; **Andaman & Nicobar Islands:** Long Island & Hut Bay-2 each.
- ❖ **Minimum Temperature Departures (as on 19-09-2024):** Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Punjab, Uttar Pradesh, Assam & Meghalaya; **above normal (1.6°C to 3.0°C)** at isolated places over East Rajasthan, Gujarat Region, Madhya Maharashtra, Coastal Andhra Pradesh & Yanam, Tamil Nadu, Puducherry & Karaikal, Bihar, Kerala & Mahe, Rayalaseema, Gangetic West Bengal, Sub-Himalayan West Bengal & Sikkim. These are **below normal (-1.6°C to -3.0°C)** at isolated places over Madhya Pradesh, Haryana-Chandigarh-Delhi and **near normal** over rest parts of the country. Today, **the lowest minimum temperature** of **17.8°C** is reported at **Delhi-Ridge (New Delhi)** over the plains of the country. **(Fig.4)**
- ❖ **Maximum Temperature Departures (as on 19-09-2024):** Maximum temperatures are **markedly above normal (5.1°C or more)** at many places over Arunachal Pradesh, Sub-Himalayan West Bengal & Sikkim, at a few places over Assam & Meghalaya; at isolated places over Nagaland, Manipur, Mizoram & Tripura; **appreciably above normal (3.1°C to 5.0°C)** at a few places over Coastal Andhra Pradesh & Yanam; at isolated places over Bihar, East Uttar Pradesh, Rayalaseema and Tamil Nadu, Puducherry & Karaikal; **above normal (1.6°C to 3.0°C)** at most places over Konkan & Goa and Karnataka; at many places over Gangetic West Bengal, Jharkhand, Telangana, Madhya Maharashtra, Marathwada, Kerala & Mahe; isolated places over Odisha and Chhattisgarh. These are **markedly below normal (-5.1°C or less)** at isolated places over Rajasthan, West Madhya Pradesh and Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; **below normal (-1.6°C to -3.0°C)** at a few places over Haryana-Chandigarh-Delhi; at isolated places over Himachal Pradesh, Punjab, West Uttar Pradesh and **near normal** over rest parts of the country. Today, **the highest Maximum Temperature** of **40.1°C** is reported at **Madurai (Tamil Nadu)** over the country. **(Fig. 2)**

## Meteorological Analysis (Based on 1730 hours IST)

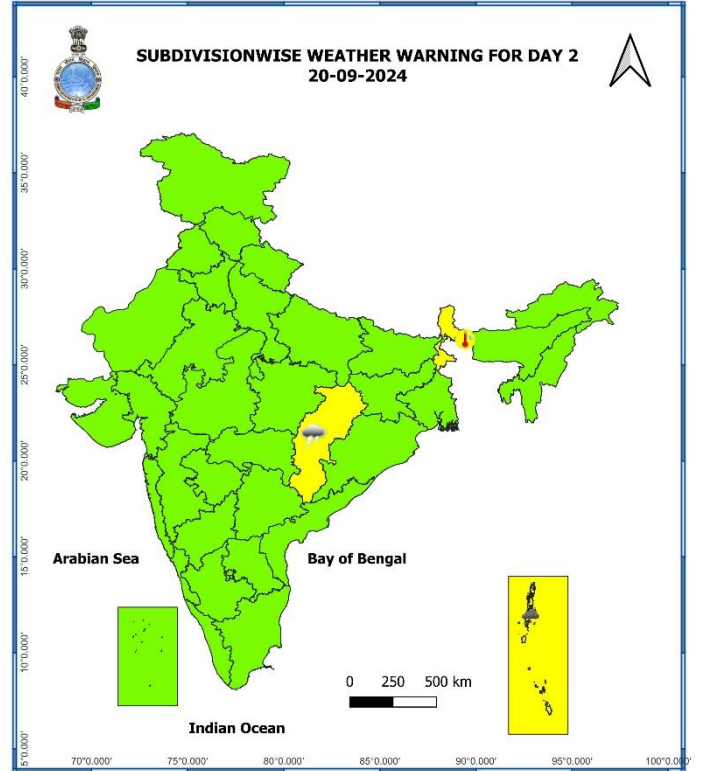
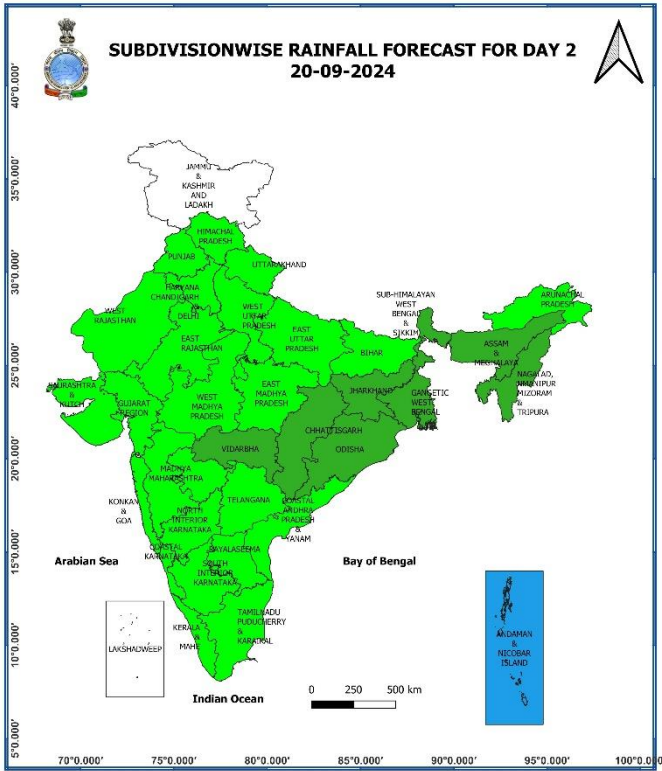
- ❖ The **Monsoon trough** at mean sea level now passes through Jaisalmer, Shivpuri, Sidhi, Jamshedpur, Digha and thence southeastwards to eastcentral Bay of Bengal.
- ❖ The **cyclonic circulation** over southeast Rajasthan & neighbourhood extending upto 5.8 km above mean sea level persists.
- ❖ An upper air **cyclonic circulation** is likely over north Andaman Sea & neighborhood around 21<sup>st</sup> September 2024. It is likely to move northwestwards and under its influence, a **low pressure area** is likely to form over northwest & adjoining central Bay of Bengal around 23<sup>rd</sup> September 2024.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 26<sup>th</sup> September, 2024)



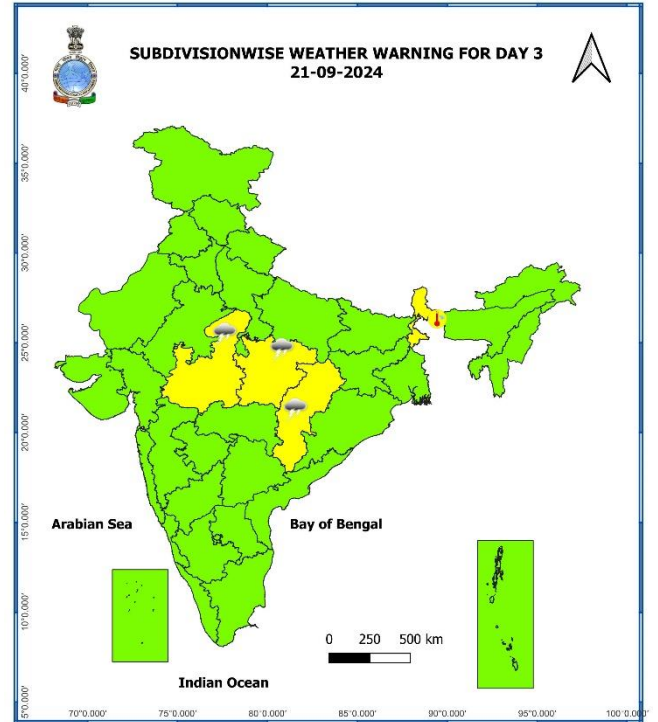
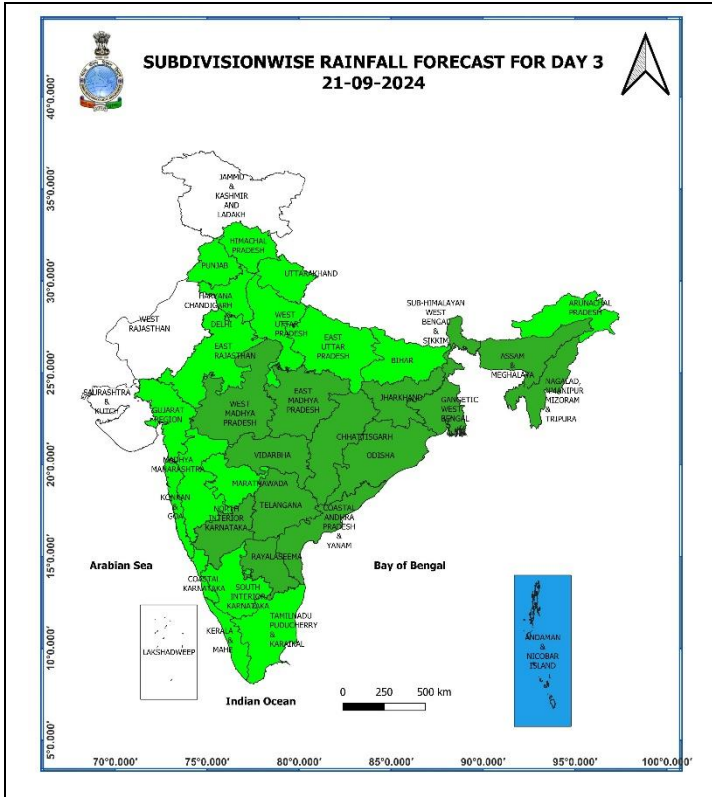
**19 September (Day 1):**

- ❖ **Heavy rainfall ( $\geq 7$  cm)** very likely at isolated places over Andaman & Nicobar Islands and Coastal Andhra Pradesh & Yanam.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Himachal Pradesh.
- ❖ **Hot & humid weather** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail few parts of westcentral adjoining southwest Arabian sea over gulf of Mannar, off Sri Lanka coast, most parts of south Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea adjoining west central Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.



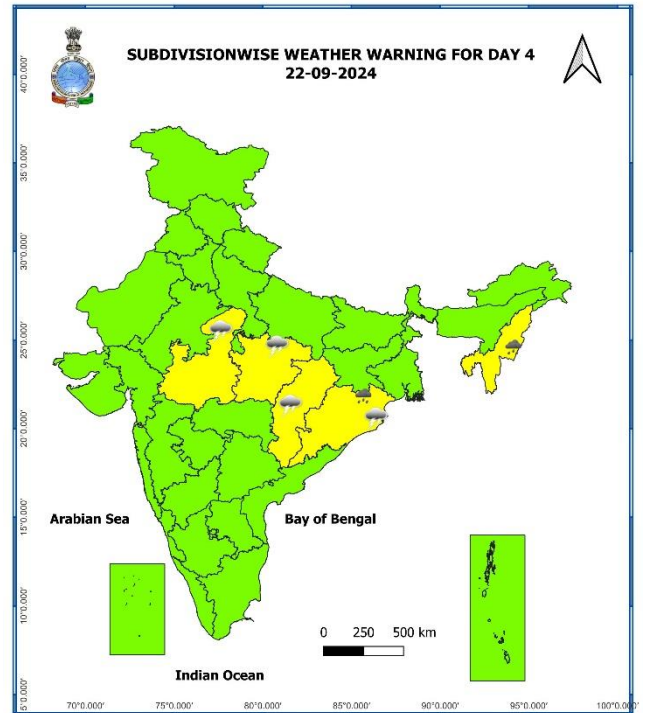
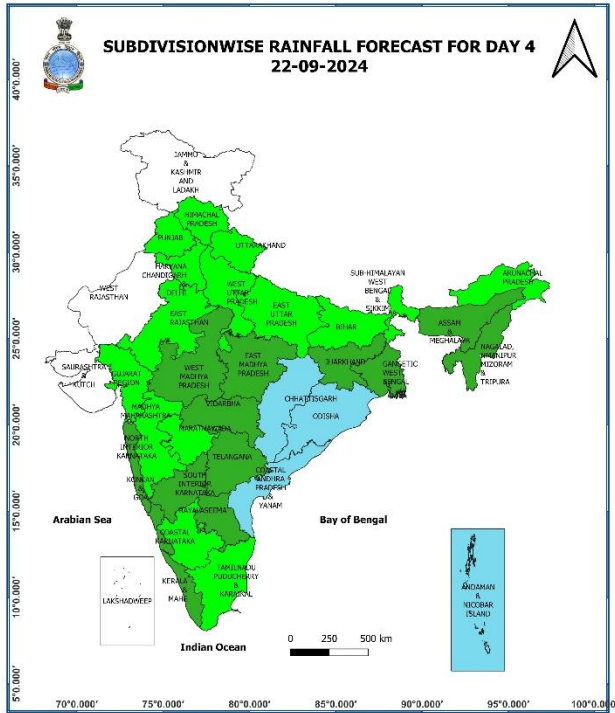
## 20 September (Day 2):

- ❖ **Heavy rainfall ( $\geq 7$  cm)** very likely at isolated places over Andaman & Nicobar Islands.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Chhattisgarh.
- ❖ **Hot & humid weather** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevail over gulf of Mannar, off Sri Lanka coast, most parts of south Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.



### 21 September (Day 3):

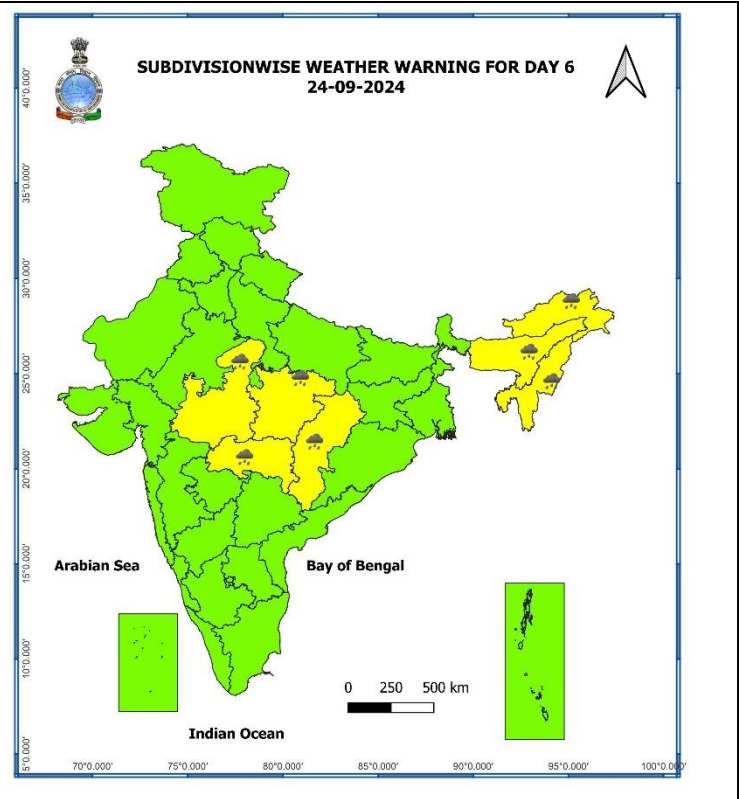
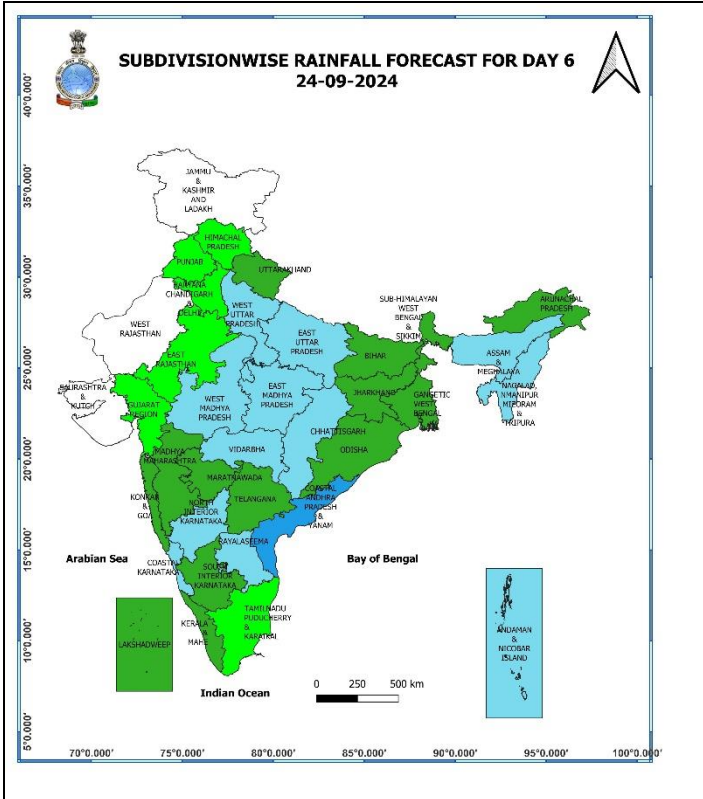
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Madhya Pradesh, Chhattisgarh.
- ❖ **Hot & humid weather** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over gulf of Mannar, off Sri Lanka coast, many parts of south Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea adjoining west central Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.



## 22 September (Day 4):

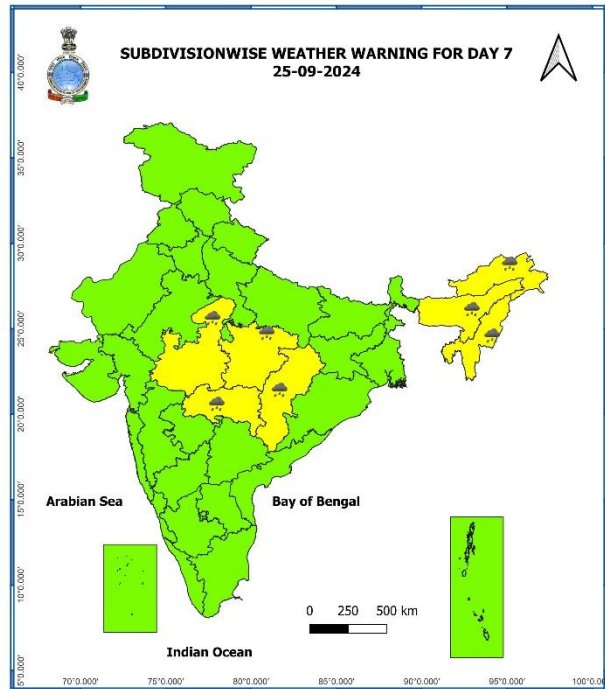
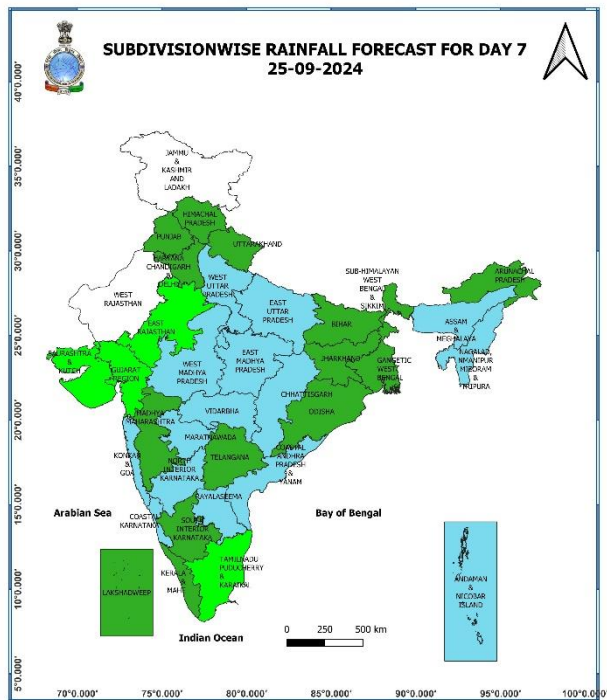
- ❖ **Heavy rainfall ( $\geq 7$  cm)** likely at isolated places over Odisha, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Madhya Pradesh, Chhattisgarh, Odisha.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevail over gulf of Mannar, off Sri Lanka coast, many parts of south Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea adjoining west central Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.





**24 September (Day 6):**

❖ **Heavy rainfall ( $\geq 7$  cm)** likely at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.



## 25 September (Day 7):

- ❖ **Heavy rainfall ( $\geq 7$  cm)** likely at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.

## Weather Outlook for subsequent 3 days (During 26<sup>th</sup> September– 28<sup>th</sup> September, 2024)

- ❖ Fairly widespread to widespread rainfall likely over most parts of the country except Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Rajasthan, Gujarat state, Punjab, Tamil Nadu, Puducherry & Karaikal where isolated to scattered rainfall likely.

## Agromet advisories for Heavy Rainfall likely over various parts of the country

- Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Andaman & Nicobar Islands, West Uttar Pradesh, West Madhya Pradesh and Tamil Nadu.
- Provide mechanical support to horticultural crops & staking to vegetables.
- Keep the harvested produce at safer place.

- Action may be taken based on **ORANGE AND RED COLOUR** warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

\* 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

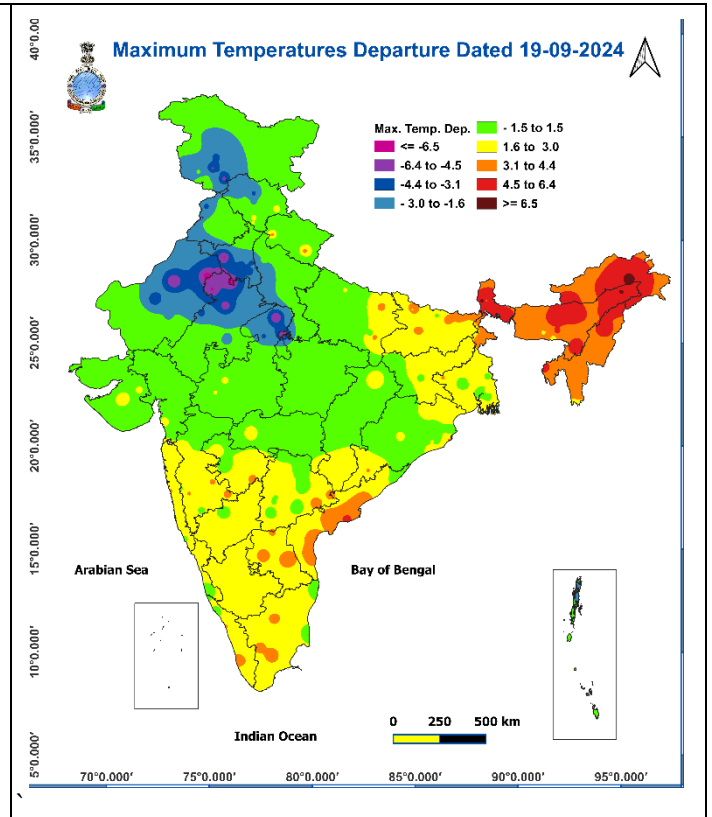
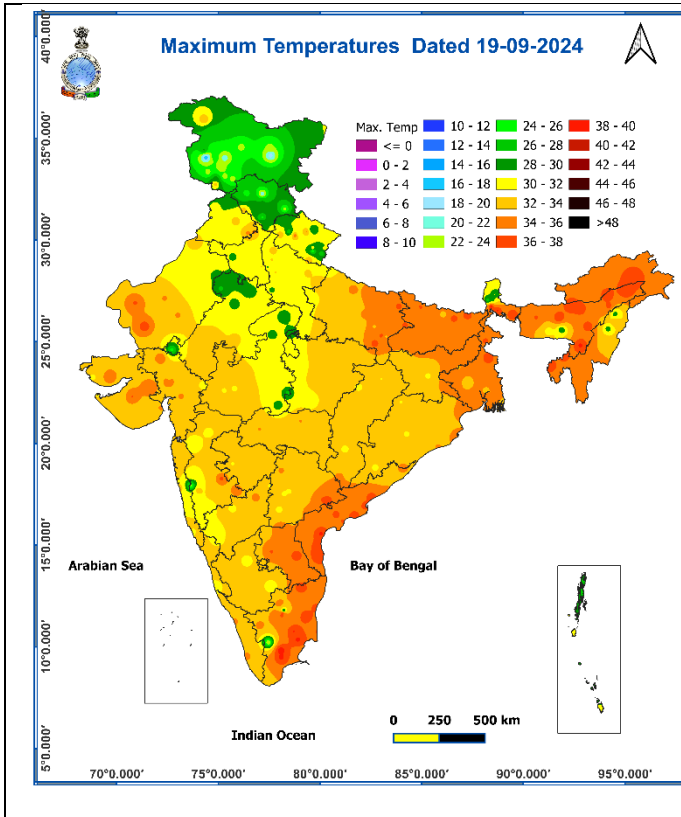


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

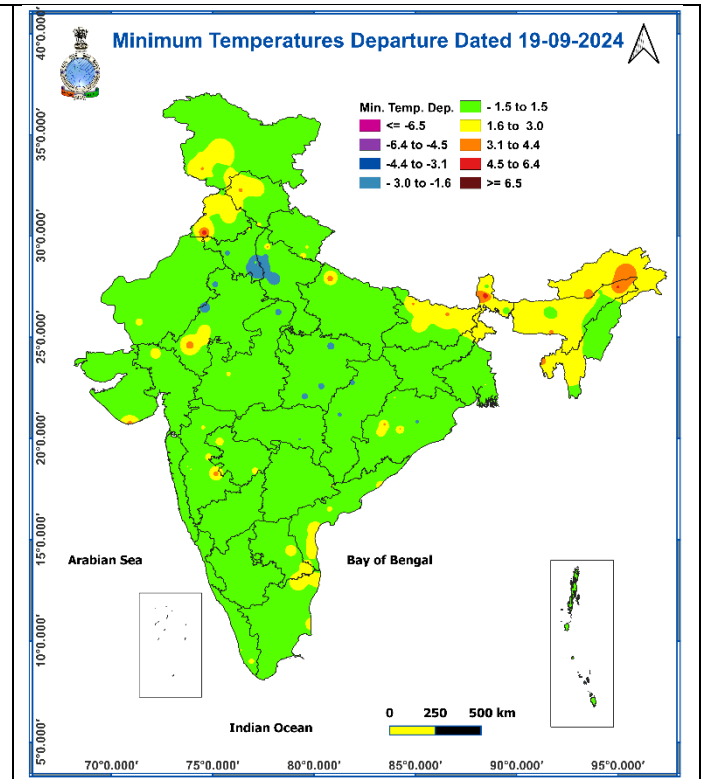
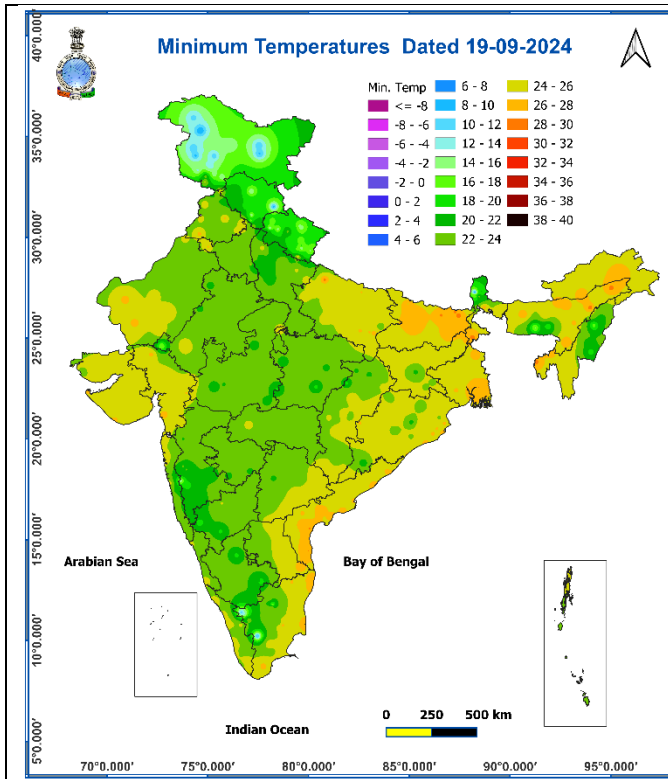
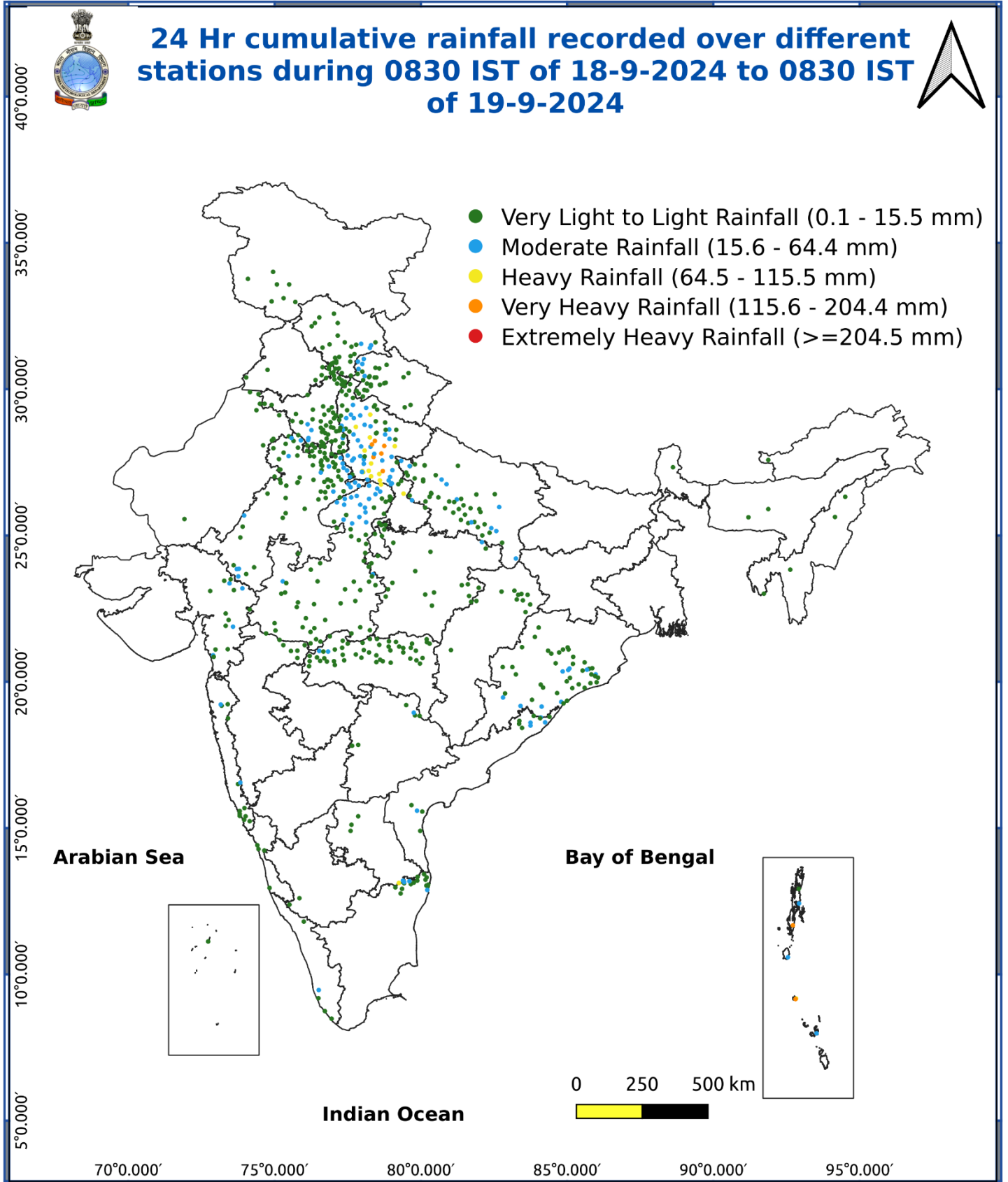


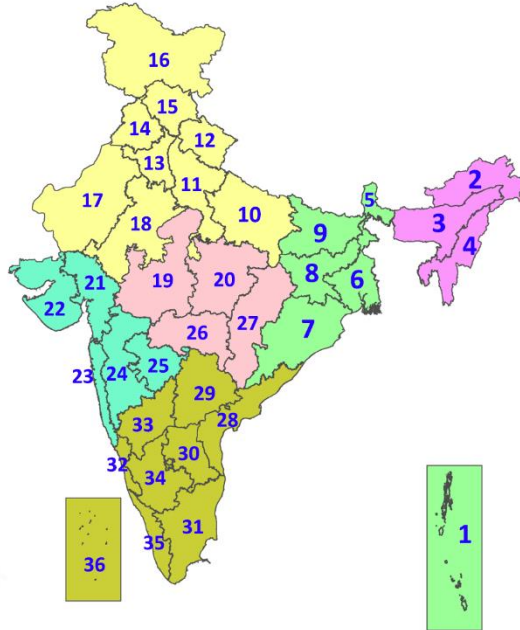
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



\* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".  
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## LEGENDS

1. अंडमान और निकोबार द्वीपसमूह
2. अरुणाचल प्रदेश
3. असम और मेघालय
4. नागालैंड, मणिपुर, मिजोरम और त्रिपुरा
5. उप-हिमालयी पश्चिम बंगाल और सिक्किम
6. गंगीय पश्चिम बंगाल
7. ओडिशा
8. झारखंड
9. बिहार
10. पूर्वी उत्तर प्रदेश
11. पश्चिम उत्तर प्रदेश
12. उत्तराखंड
13. हरियाणा, चंडीगढ़ और दिल्ली
14. पंजाब
15. हिमाचल प्रदेश
16. जम्मू और कश्मीर और लद्दाख
17. पश्चिम राजस्थान
18. पूर्वी राजस्थान
19. पश्चिम मध्य प्रदेश
20. पूर्वी मध्य प्रदेश
21. गुजरात
22. सौराष्ट्र
23. कोंकण और गोवा
24. मध्य महाराष्ट्र
25. मराठवाड़ा
26. विदर्भ
27. छत्तीसगढ़
28. तटीय आंध्र प्रदेश और यनम
29. तेलंगाना
30. रायलसीमा
31. तमिलनाडु, पुडुचेरी और कराईकल
32. तटीय कर्नाटक
33. आंतरिक उत्तरी कर्नाटक
34. आंतरिक दक्षिणी कर्नाटक
35. केरल और 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, Chandigarh & 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. Vidarbha
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)

- |                      |                      |              |
|----------------------|----------------------|--------------|
| Fog                  | Heavy Snow           | Cold Wave    |
| Heavy Rain           | Dust Storm           | Cold Day     |
| Very Heavy Rain      | Heat Wave            | Ground Frost |
| Extremely Heavy Rain | Warm Night           |              |
| Thunder & Lightning  | Hot Day              |              |
| Hailstorm            | Hot & Humid          |              |
| Dust Raising Winds   | Strong Surface Winds |              |

### COLOUR CODED WARNING

No Warning (No Action)
Watch (Be Aware)
Alert (Be Prepared To Take Action)
Warning (Take Action)

### Probabilistic Forecast

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

## DEFINITION/CRITERIA

### 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 Strom: Wind speed  $>220$  kmph ( $>119$  knots)