

Sunday, September 22, 2024
Time of Issue: 1315 hours IST
(MID-DAY)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems:

- ✓ Conditions are becoming favourable for withdrawal of **Southwest Monsoon** from parts of West Rajasthan and Kachchh around from 23rd September.
- ✓ An **east-west trough** runs from Andhra Pradesh coast to south coastal Myanmar with two embedded upper air cyclonic circulations, one over Westcentral Bay of Bengal and another over south coastal Myanmar & neighbourhood and extends upto mid tropospheric levels. The later upper air cyclonic circulation is likely to move west-northwestwards.
- ✓ Under the influence of these two upper air cyclonic circulations, a **low-pressure** area is likely to form over Westcentral Bay of Bengal & neighbourhood around 23rd September, 2024.

Forecast & Warnings (upto 7 days):

South Peninsular India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Coastal Karnataka during the week; Isolated to Scattered light to moderate rainfall very likely over Tamil Nadu, Puducherry & Karaikal during the week; Scattered to Fairly widespread light to moderate rainfall very likely over the remaining south peninsular India during the week.
- ✓ Isolated **heavy rainfall** very likely over South Interior Karnataka on 22nd & 23rd; Coastal Karnataka, Kerala & Mahe on 23rd & 24th; Telangana, Coastal Andhra Pradesh & Yanam during 22nd-25th; Rayalaseema, North Interior Karnataka during 22nd-24th September.

Central India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Vidarbha, Chhattisgarh during the week; Isolated to Scattered light to moderate rainfall during next 3 days over Madhya Pradesh & Scattered to Fairly widespread light to moderate rainfall during the next subsequent 4 days over the same region.
- ✓ Isolated **heavy rainfall** very likely over Vidarbha and Chhattisgarh during 22nd-26th; Madhya Pradesh during 24th -27th September.

East & Northeast India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Odisha, Andaman & Nicobar Islands, West Bengal & Sikkim; Isolated to Scattered light to moderate rainfall over Bihar, Jharkhand during next 3 days and Scattered to Fairly widespread light to moderate rainfall during the next subsequent 4 days over the same region; Isolated to Scattered light to moderate rainfall very likely over northeast India during next 2 days and Fairly widespread to widespread light/moderate light to moderate rainfall during the next subsequent 5 days over the same region.
- ✓ Isolated **heavy rainfall** very likely over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 23rd-28th; Odisha during 23rd-26th; Arunachal Pradesh during 24th-28th; Sub-Himalayan West Bengal & Sikkim, Jharkhand during 25th-27th; Gangetic West Bengal on 25th & 26th; Bihar on 27th & 28th September.
- ✓ **Hot and Humid Weather** very likely over Sub-Himalayan West Bengal & Sikkim on 22nd; Northeast India on 22nd & 23rd September.

West India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over West India during the week except Saurashtra & Kutch and Gujarat Region where Isolated to Scattered light to moderate rainfall very likely during next 2 days & Scattered to Fairly widespread light to moderate rainfall very likely during the next subsequent 4 days.
- ✓ Isolated **heavy to very heavy rainfall** very likely over Konkan & Goa during 23rd-26th; Madhya Maharashtra during 23rd-27th; Marathwada during 23rd-25th September.
- ✓ Isolated **heavy rainfall** very likely over Gujarat Region on 22nd & during 25th-27th September.

Northwest India

- ✓ Isolated to Scattered light to moderate rainfall very likely over northwest India except West Rajasthan where mainly dry weather likely to prevail during the week.

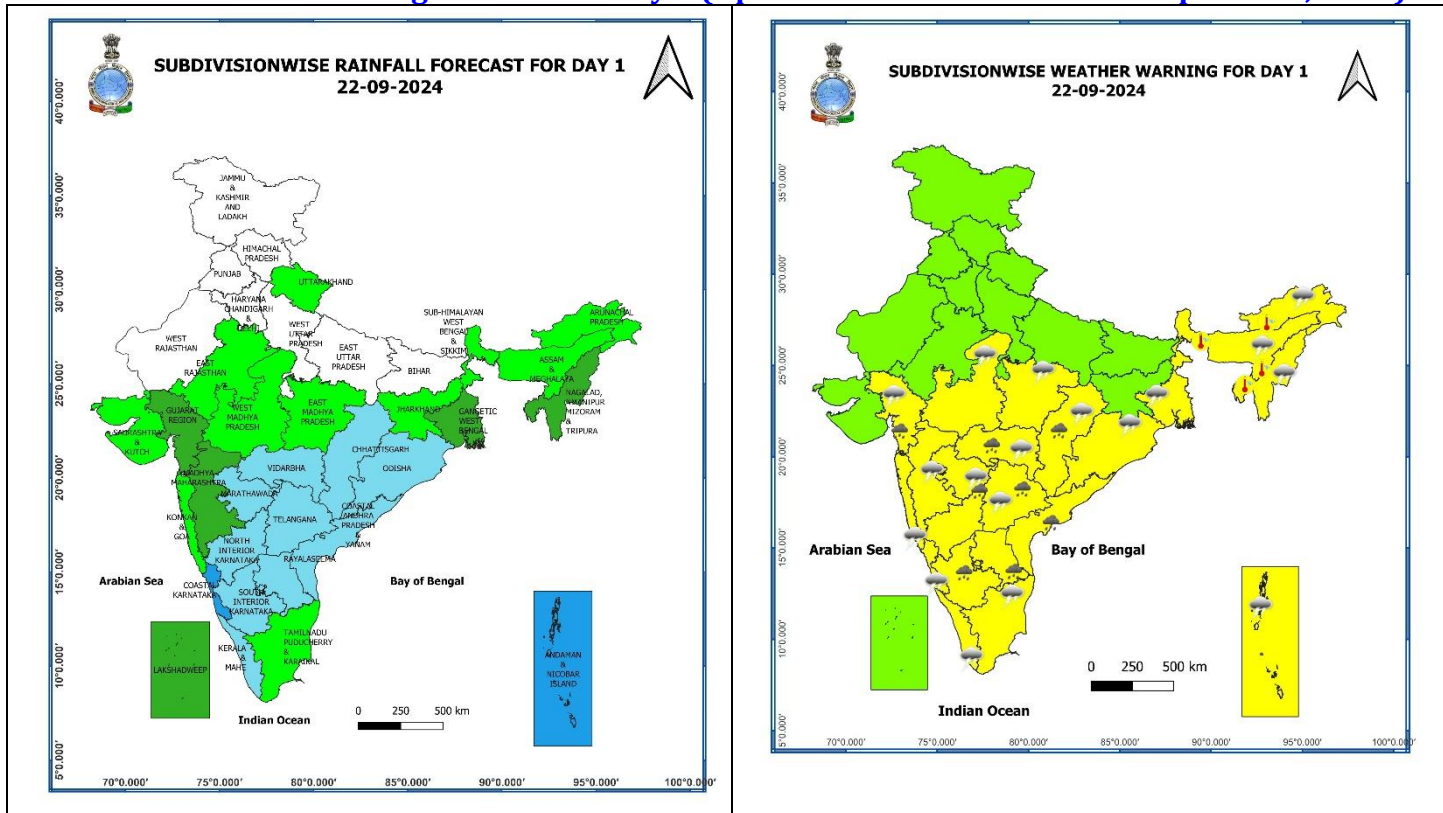
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): **at most places** over Vidarbha, Telangana and Andaman & Nicobar Islands; **at many places** over Nagaland, Manipur, Mizoram & Tripura and Marathwada; **at a few places** over Chhattisgarh, West Bengal & Sikkim, Odisha, Konkan & Goa, Madhya Maharashtra, Lakshadweep and Coastal & North Interior Karnataka; **at isolated places** over Uttarakhand, East Rajasthan, Madhya Pradesh, Jharkhand, Arunachal Pradesh, Assam & Meghalaya, Gujarat state, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema and South Interior Karnataka.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST of yesterday to 0830 hours IST of today): **Heavy rainfall** at isolated places over Rayalaseema, Telangana, South Interior Karnataka, Tamil Nadu, Marathwada and Andaman & Nicobar Islands.
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm): **Rayalaseema:** Gooty (dist Anantapuramu) 10; **Telangana:** Bhuvanagiri (dist Y. Bhuvanagiri) 9; **South Interior Karnataka:** Midigeshi (dist Tumakuru) 8; **Tamil Nadu:** Kattumayilur (dist Cuddalore) 7; **Marathwada:** Bhum (dist Dharashiv) 7; **Andaman & Nicobar Islands:** Port Blair (dist South Andaman) 7.
- ❖ **Minimum Temperature Departures (as on 22-09-2024):** Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Punjab, Rajasthan, Madhya Pradesh; **above normal (1.6°C to 3.0°C)** at a few places over Tamil Nadu, Puducherry & Karaikal and Gujarat Region; at isolated places over Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, Odisha, Vidarbha, West Bengal & Sikkim, Assam & Meghalaya, Madhya Maharashtra, Saurashtra & Kutch and Coastal Andhra Pradesh & Yanam. These are **below normal (-1.6°C to -3.0°C)** at isolated places over Telangana and **near normal** over rest parts of the country. Today, **the lowest minimum temperature** of 21.8°C is reported at **Dhar (West Madhya Pradesh)** over the plains of the country. **(Fig.4)**
- ❖ **Maximum Temperature Departures (as on 21-09-2024):** Maximum temperatures were **markedly above normal (5.1°C or more)** at a few places over Assam & Meghalaya; at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh and Jammu division; **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Gangetic West Bengal, Bihar, Odisha, Odisha, Vidarbha, West Madhya Pradesh, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal, Himachal Pradesh and Uttarakhand; **above normal (1.6°C to 3.0°C)** at most places over East Madhya Pradesh; at many places over East Uttar Pradesh and Punjab; at a few places over South Interior Karnataka and Konkan & Goa; at isolated places over Saurashtra & Kutch, East Rajasthan, Haryana-Chandigarh-Delhi, Jharkhand, Rayalaseema, Madhya Maharashtra, Marathwada and Telangana. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Nagaland, Manipur, Mizoram & Tripura and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature** of 39.2°C was reported at **Madurai (Tamilnadu)** over the country. **(Fig. 2)**

Meteorological Analysis (Based on 0830 hours IST)

- ❖ Conditions are becoming favourable for withdrawal of **Southwest Monsoon** from parts of West Rajasthan and Kachchh around from 23rd September.
- ❖ The **Monsoon trough** at mean sea level now passes through Bikaner, Guna, Sagar, Bilaspur, Chandbali and thence southeastwards to westcentral Bay of Bengal.
- ❖ An **east-west trough** runs from Andhra Pradesh coast to south Coastal Myanmar with two embedded upper air cyclonic circulations, one over **Westcentral Bay of Bengal** and another over **south Coastal Myanmar & neighbourhood** and extends upto 5.8 Km above mean sea level. The later upper air cyclonic circulation is likely to move west-northwestwards.
- ❖ Under the influence of these two upper air cyclonic circulations, a **low-pressure area** is likely to form over Westcentral Bay of Bengal & neighbourhood around 23rd September, 2024.
- ❖ The **cyclonic circulation** over Tripura & neighbourhood at 0.9 km above mean sea level has become less marked.
- ❖ The **cyclonic circulation** over north Rajasthan extending upto 1.5 km above mean sea level has become less marked.

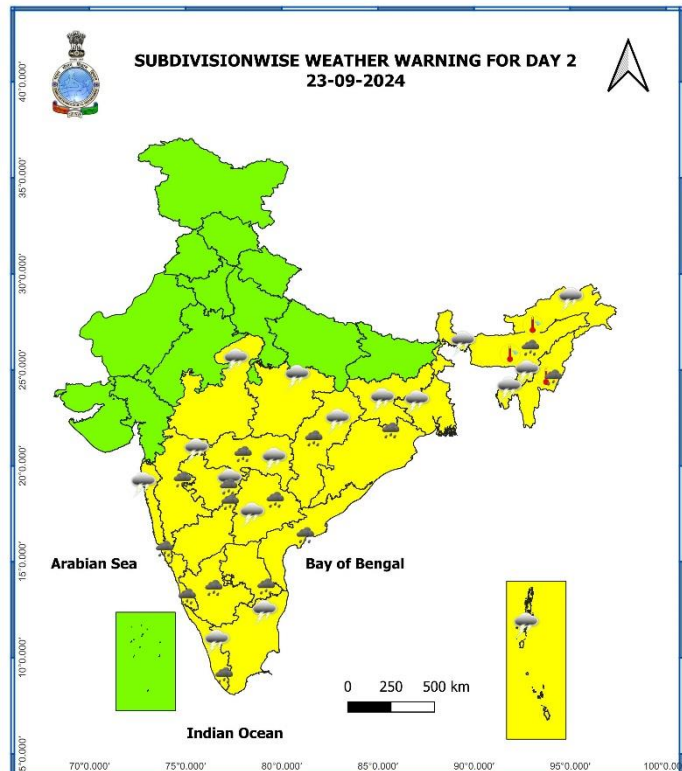
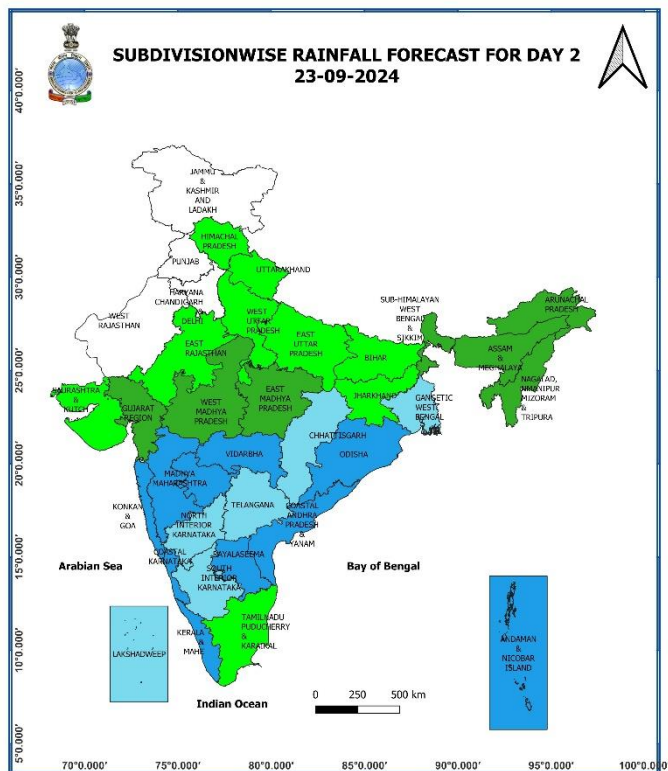
Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 29th September, 2024)



22 September (Day 1):

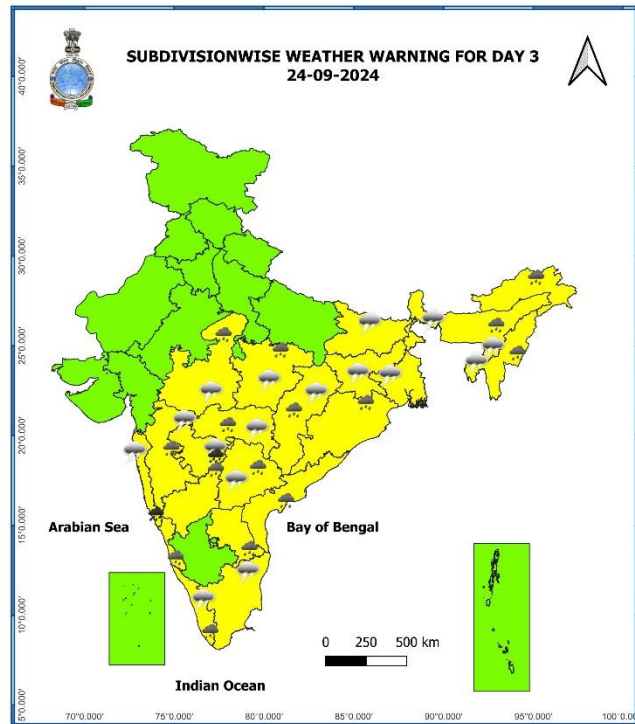
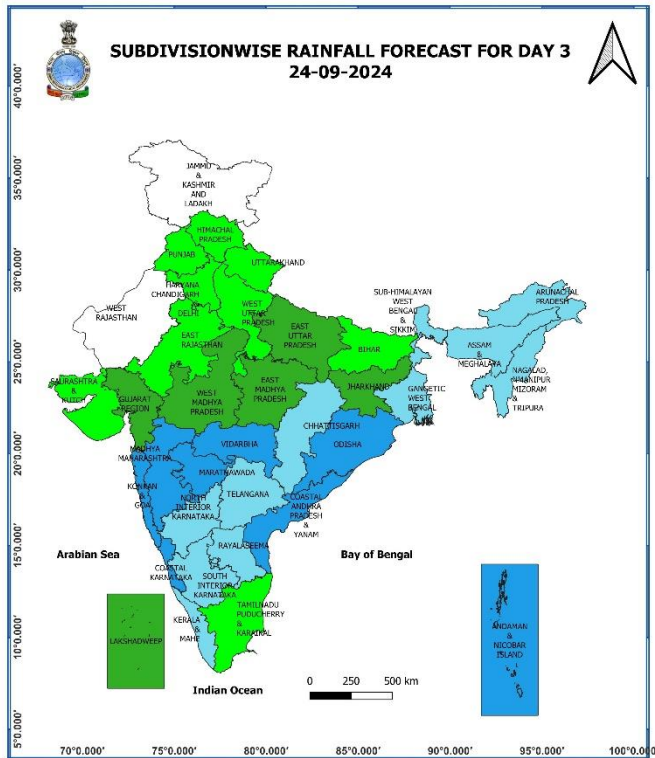
- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Vidarbha, south Chhattisgarh, north Gujarat, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana and Interior Karnataka.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Telangana, Gangetic West Bengal, Andaman & Nicobar Islands and Kerala & Mahe; **with lightning** very likely at isolated places over Chhattisgarh, Madhya Pradesh, Vidarbha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Marathwada, Gujarat Region, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema, Coastal Karnataka and North Interior Karnataka.
- ❖ **Hot & humid weather** very likely at isolated places Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **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 and adjoining parts of central 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.

* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".
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23 September (Day 2):

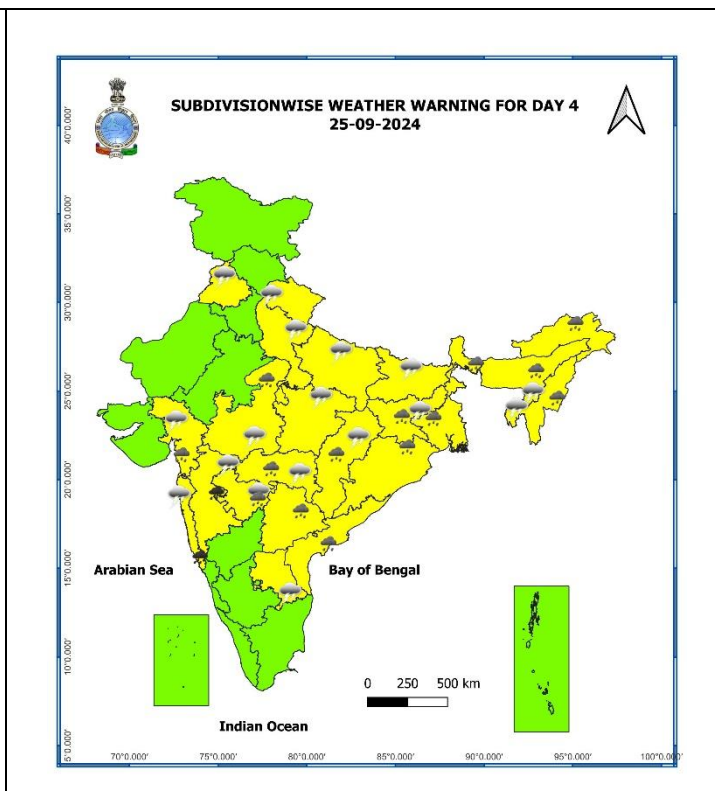
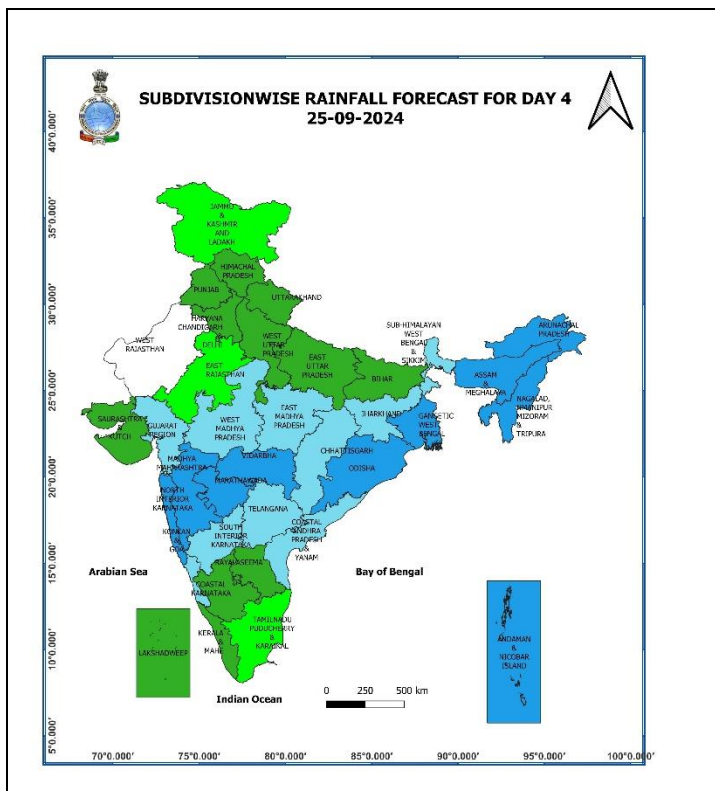
- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Vidarbha, Chhattisgarh, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Marathwada, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana and Coastal & North Interior Karnataka.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Telangana, Andaman & Nicobar Islands and Kerala & Mahe; **with lightning** very likely at isolated places over Chhattisgarh, Madhya Pradesh, Vidarbha, West Bengal & Sikkim, Jharkhand, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema, Coastal Karnataka and North Interior Karnataka.
- ❖ **Hot & humid weather** very likely at isolated places over Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over some parts of eastcentral Arabian sea, along and off Kerala, Karnataka coasts, adjoining Lakshadweep area, over gulf of Mannar, off Sri Lanka coast, many parts of south and adjoining parts of westcentral Bay of Bengal, many parts of eastcentral 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 westcentral Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.



24 September (Day 3):

- ❖ **Heavy to very Heavy rainfall (≥12 cm)** very likely at isolated places over Konkan & Goa and Marathwada; **Heavy rainfall (≥7 cm)** very likely at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, Coastal & North Interior Karnataka.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Telangana, Sub-Himalayan West Bengal & Sikkim and Kerala & Mahe; **with lightning** very likely at isolated places over Chhattisgarh, Madhya Pradesh, Vidarbha, Gangetic West Bengal, Bihar, Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema, Coastal Karnataka and North Interior Karnataka.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevail along and off Kerala, Karnataka coasts and adjoining Lakshadweep, Comorin areas, along and off goa, Konkan coasts, over gulf of Mannar, off Sri Lanka coast, many parts of south and adjoining parts of central 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 westcentral Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.

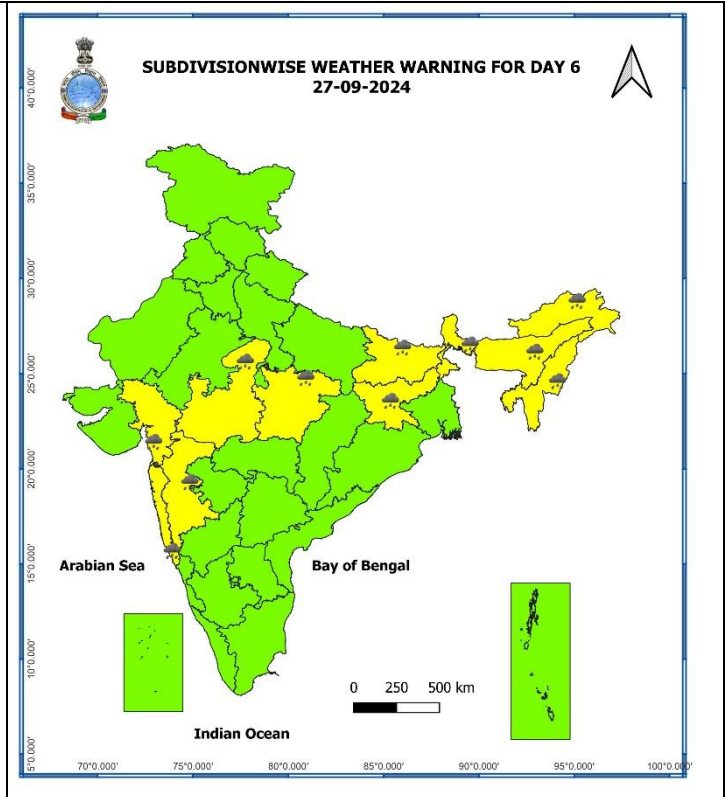
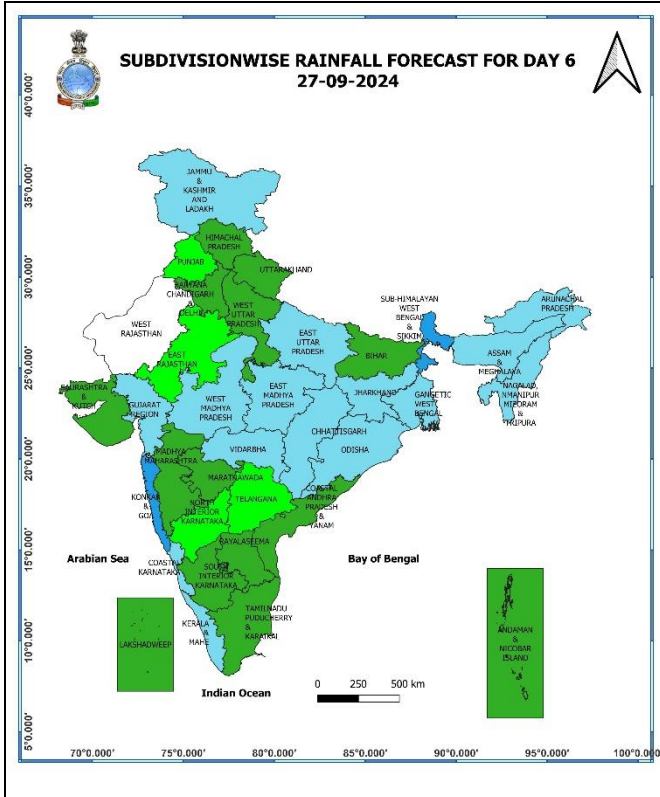
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25 September (Day 4):

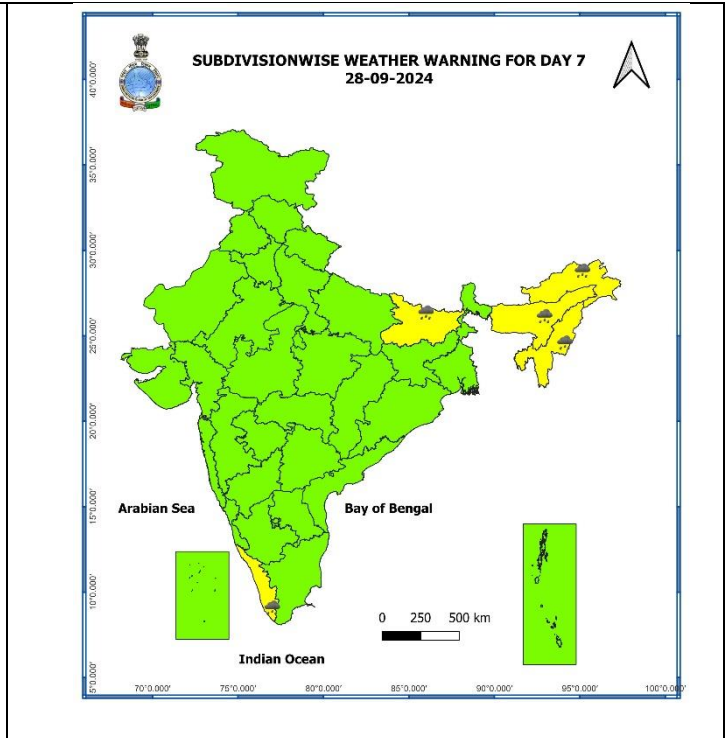
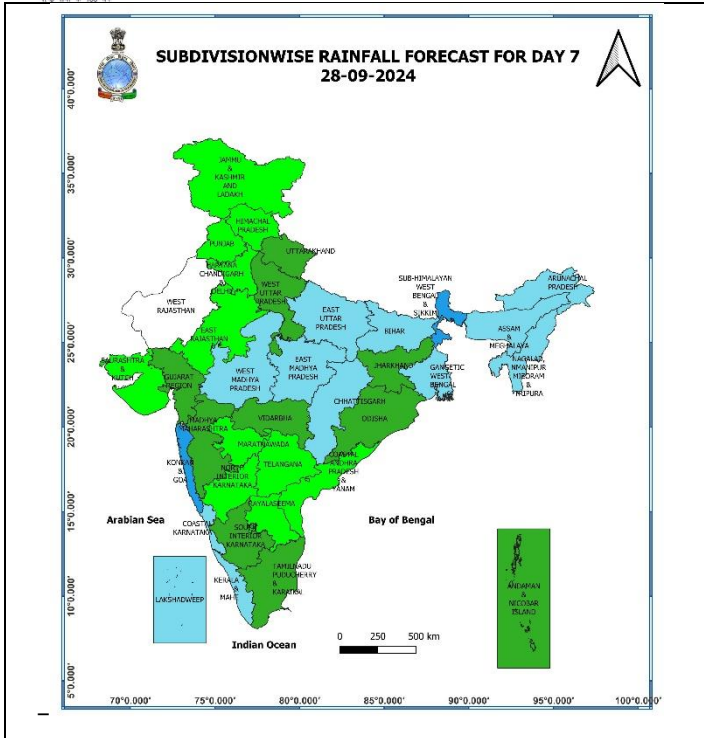
- ❖ **Heavy to very Heavy rainfall (≥ 12 cm)** very likely at isolated places over Konkan & Goa and Madhya Maharashtra; **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, West Bengal & Sikkim, Jharkhand, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Gujarat Region, Coastal Andhra Pradesh & Yanam and Telangana.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Chhattisgarh, Madhya Pradesh, Vidarbha, Uttarakhand, Punjab, Uttar Pradesh, Bihar, Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Gujarat Region, Marathwada, Coastal Andhra Pradesh & Yanam and Rayalaseema.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over along and off Maharashtra, Konkan, goa coasts, over gulf of Mannar, off Sri Lanka coast, many parts of south and central 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 few parts of west central Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.

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27 September (Day 6):

❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Bihar, Jharkhand, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra and Gujarat Region.



28 September (Day 7):

- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Bihar, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Kerala & Mahe.

Weather Outlook for subsequent 3 days (During 29th September- 01st October, 2024)

- ❖ Dry weather likely to prevail over West Rajasthan, north Gujarat, Punjab, Haryana-Chandigarh-Delhi, and Isolated rainfall activity likely over Himachal Pradesh, Uttarakhand, East Rajasthan and Uttar Pradesh.
- ❖ Isolated to Scattered rainfall likely over Central, Eastern, North Eastern and Peninsular India.

- 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.



Agromet advisories for Heavy Rainfall and Gusty Winds 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 Tamil Nadu, Interior Karnataka, Andhra Pradesh, Telangana, Chhattisgarh, Maharashtra and North Eastern States.
- ✓ Keep the harvested produce at safer places.
- ✓ Provide mechanical support to horticultural crops & staking to vegetables.

Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

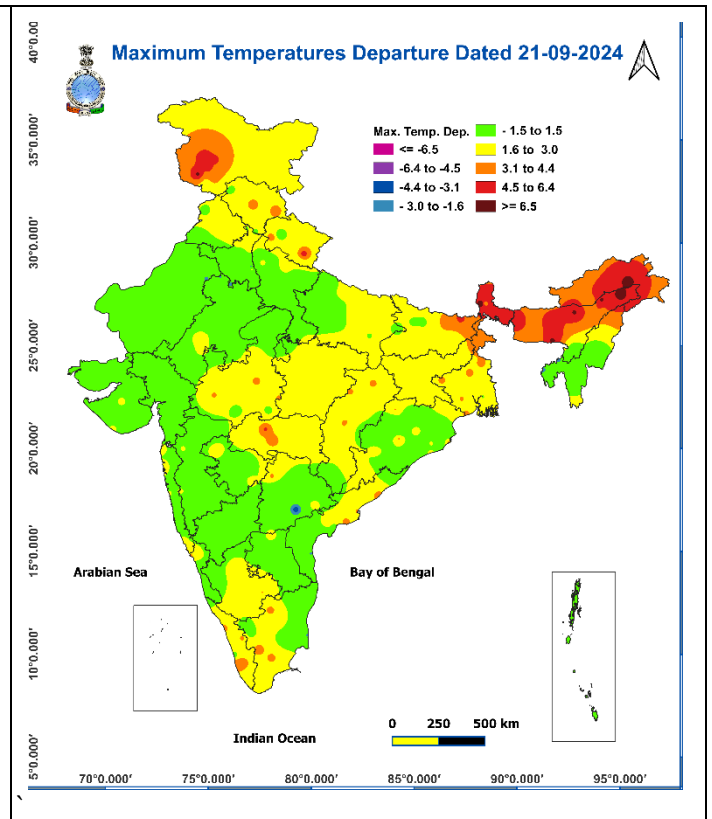
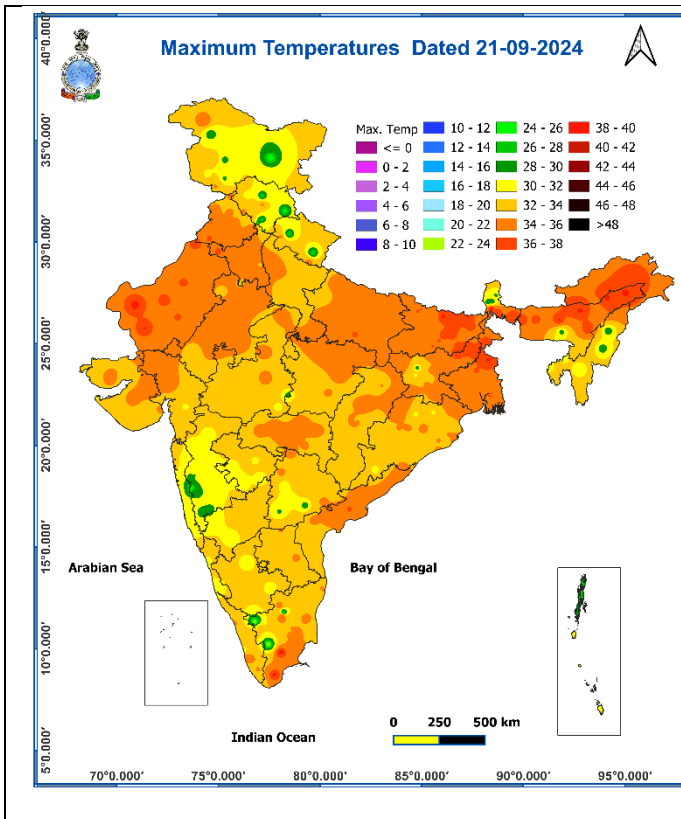
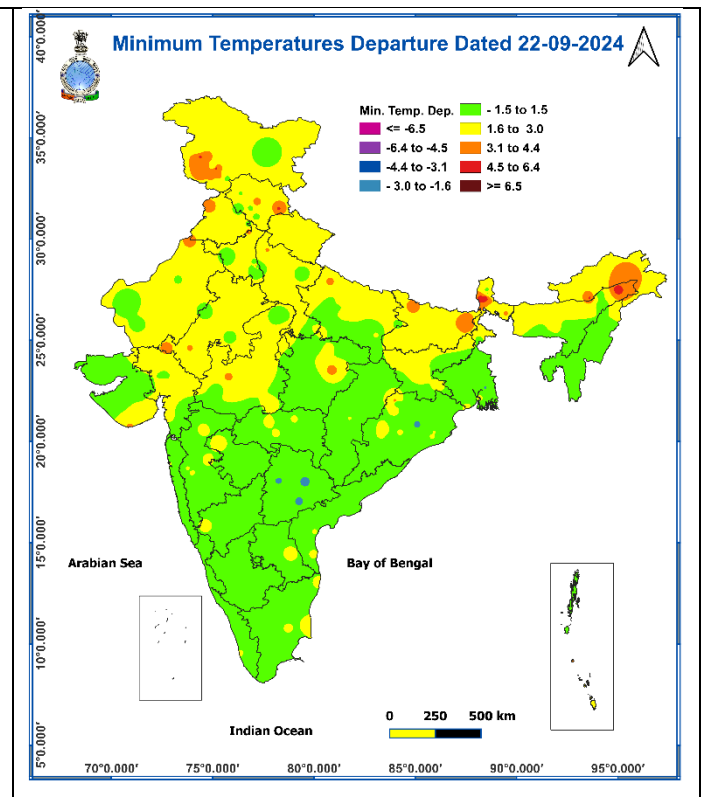
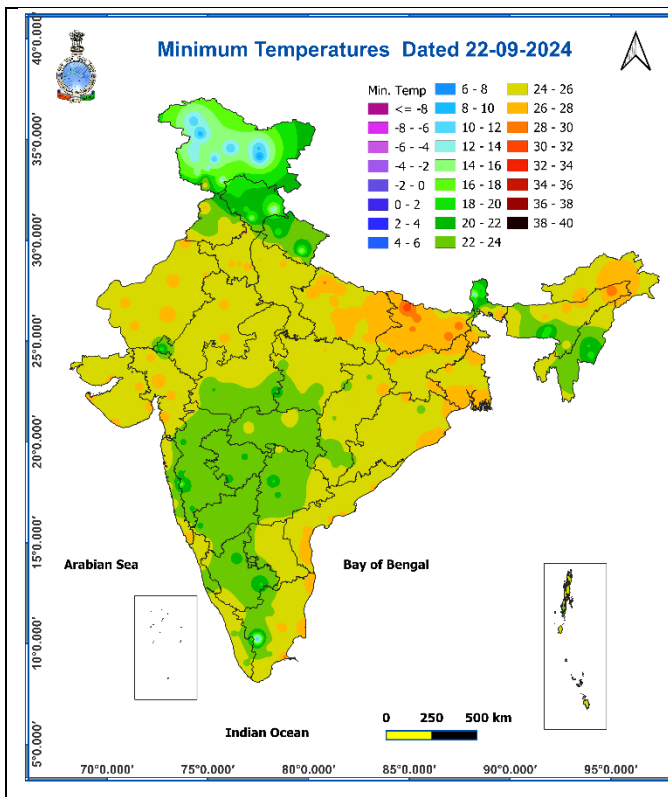


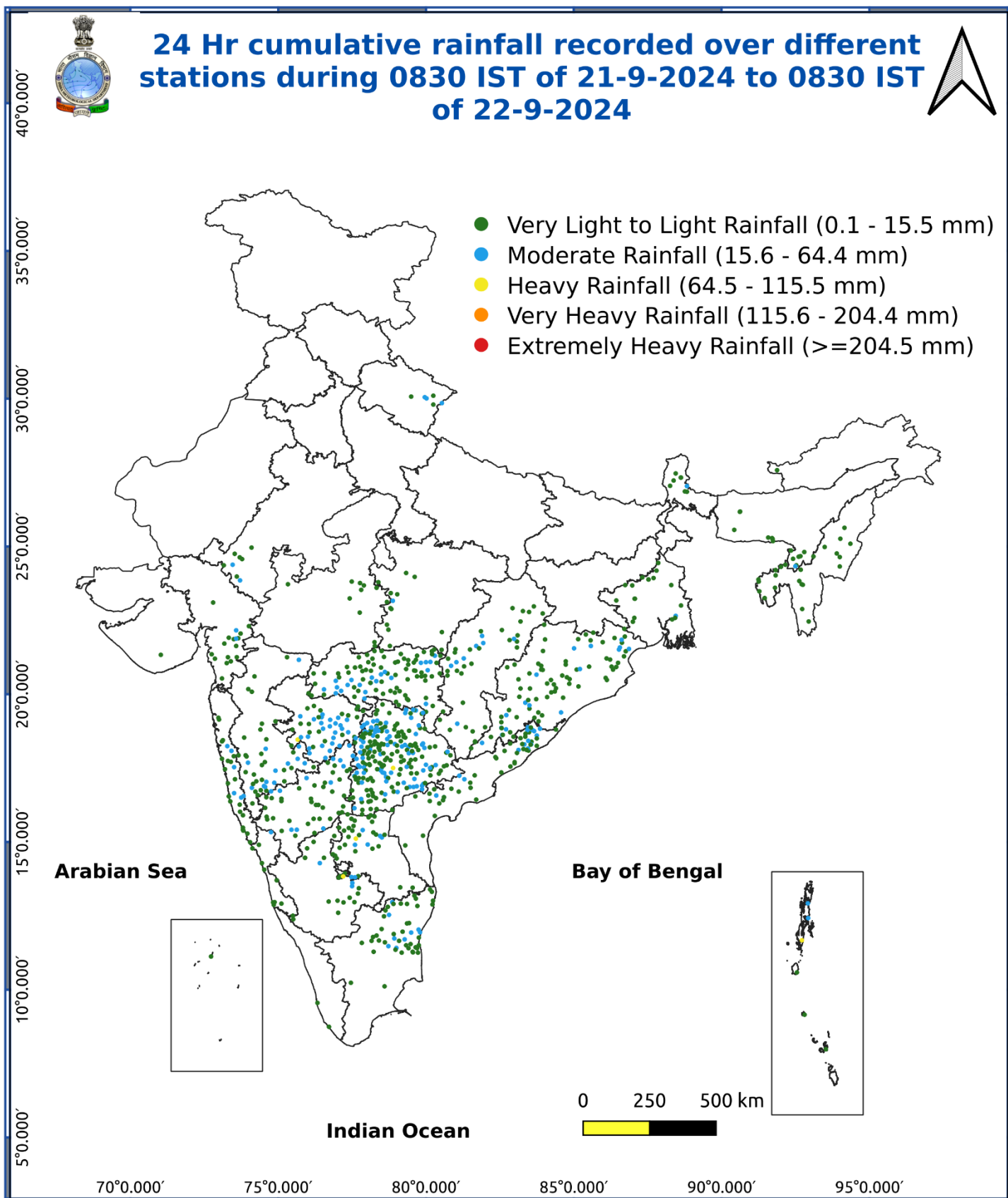
Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures



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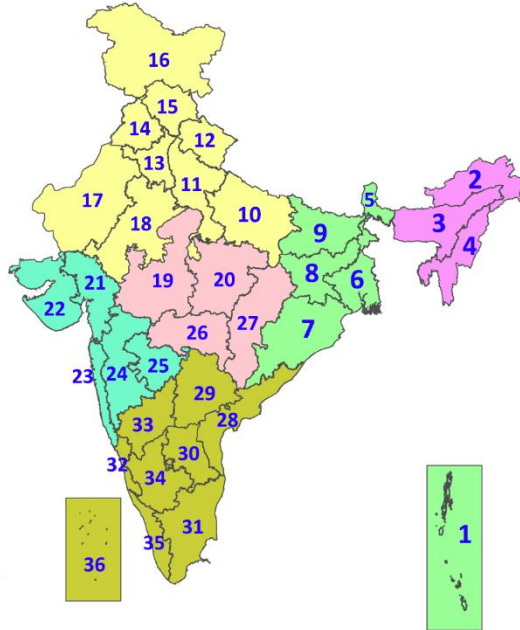
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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 *	<p>Heavy: 64.5 to 115.5 mm/cm *</p> <p>Very Heavy: 115.6 to 204.4 mm/cm*</p> <p>Extremely Heavy: > 204.4 mm/cm *</p>
Heat Wave	<p>When maximum temperature of a station reaches $\geq 40^\circ\text{C}$ for plains and $\geq 30^\circ\text{C}$ for hilly regions</p> <p>(a) Based on Departure from normal</p> <p>Heat Wave: Maximum Temperature Departure from normal 4.5°C to 6.4°C.</p> <p>Severe Heat Wave: Maximum Temperature Departure from normal $\geq 6.5^\circ\text{C}$</p> <p>(b). Based on Actual maximum temperature</p> <p>Heat Wave: When actual maximum temperature $\geq 45^\circ\text{C}$.</p> <p>Severe Heat Wave: When actual maximum temperature $\geq 47^\circ\text{C}$</p> <p>(c). Criteria for heat wave for coastal stations</p> <p>When maximum temperature departure is $>4.5^\circ\text{C}$ from normal. Heat Wave may be described provided maximum temperature $\geq 37^\circ\text{C}$</p>
Warm Night	<p>When maximum temperature remains 40°C</p> <p>Warm Night: When minimum temperature departure 4.5°C to 6.4°C.</p> <p>Severe Warm Night: When minimum temperature departure $>6.4^\circ\text{C}$.</p>
Cold Wave	<p>When minimum temperature of a station $\leq 10^\circ\text{C}$ for plains and $\leq 0^\circ\text{C}$ for hilly regions.</p> <p>(a). Based on departure</p> <p>Cold Wave: Minimum Temperature Departure from normal -4.5°C to -6.4°C.</p> <p>Severe Cold Wave: Minimum Temperature Departure from normal $\leq -6.5^\circ\text{C}$</p> <p>(b) Based on actual Minimum Temperature (for Plains only)</p> <p>Cold Wave : When Minimum Temperature is $\leq 4.0^\circ\text{C}$</p> <p>Severe Cold Wave: When Minimum Temperature is $\leq 2.0^\circ\text{C}$</p> <p>(c) For Coastal Stations</p> <p>When Minimum Temperature departure is $\leq -4.5^\circ\text{C}$ & actual Minimum Temperature is $\leq 15^\circ\text{C}$</p>
Cold Day	<p>When minimum temperature of a station $\leq 10^\circ\text{C}$ for plains and $\leq 0^\circ\text{C}$ for hilly regions</p> <p>Based on departure</p> <p>Cold Day: Maximum Temperature Departure from normal -4.5°C to -6.4°C.</p> <p>Severe Cold Day: Maximum Temperature Departure from normal $\leq -6.5^\circ\text{C}$</p>
Fog	<p>Phenomenon of small droplets suspended in air and the horizontal visibility $< 1\text{km}$</p> <p>Moderate Fog: When the visibility between 500-200 metres</p> <p>Dense Fog: when the visibility between 50- 200 metres</p> <p>Very Dense Fog: when the visibility < 50 metres</p>
Thunderstorm	<p>Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)</p>
Dust/Sand Storm	<p>An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.</p>
Frost	<p>Ice deposits on ground</p> <p>Air temperature $\leq 4^\circ\text{C}$ (over Plains)</p>
Squall	<p>A strong wind that rises suddenly, lasts for atleast 1 minute.</p> <p>Moderate: Wind speed 52-61 kmph</p> <p>Severe: Wind speed 62-87 kmph</p> <p>Very Severe: Wind speed >87 kmph</p>
Sea State	<p>Effect of various waves in the sea over specific area</p> <p>Rough to very rough: Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre</p> <p>High to very high: Wind speed 63-117 kmph (34-63 knots) & Wave height 6-14 metre</p> <p>Phenomenal: Wind speed >117 kmph (>63 knots) & Wave height >14 metre</p>
Cyclone	<p>Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots)</p> <p>Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)</p> <p>Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots)</p> <p>Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots)</p> <p>Super Cyclone Strom: Wind speed >220 kmph (>119 knots)</p>