

Wednesday, June 4, 2025  
Time of Issue: 0800 hours IST  
(MORNING)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

#### Weather Forecast and Warnings:

##### Northeast India:

- ✓ Light/moderate rainfall at most places likely to continue over northeast India during next 7 days with isolated heavy rainfall during 04<sup>th</sup> -05<sup>th</sup> with isolated very heavy falls over Assam & Meghalaya on 04<sup>th</sup> June.

##### Northwest India:

- ✓ Light/moderate rainfall at many/some places accompanied with **thunderstorm, lightning & gusty winds speed reaching 40-50 kmph** likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana Chandigarh & Delhi; light/moderate rainfall at some places over Uttar Pradesh, Rajasthan on 04<sup>th</sup> June.
- ✓ **Thundersquall wind speed reaching 50-60 kmph gusting to 70 kmph** likely over Himachal Pradesh on 04<sup>th</sup> June.

##### East & Central India:

- ✓ Light/moderate rainfall at most/many places likely to continue over Sub-Himalayan West Bengal & Sikkim during next 7 days with isolated heavy rainfall on 04<sup>th</sup> June.
- ✓ Light/moderate rainfall at some places accompanied with **thunderstorm, lightning & gusty winds speed reaching 40-50 kmph** likely over Madhya Pradesh, Vidarbha, Chhattisgarh during 04<sup>th</sup> -07<sup>th</sup> Bihar, West Bengal, Jharkhand on 04<sup>th</sup> June.
- ✓ **Thundersquall wind speed reaching 50-60 kmph gusting to 70 kmph** likely over Bihar, West Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim on 04<sup>th</sup> June.

##### South Peninsular India:

- ✓ Light/moderate rainfall at many places **over Kerala & Mahe, Coastal Karnataka; with isolated heavy rainfall** over Kerala on 04<sup>th</sup> June.
- ✓ Light/moderate rainfall at some places accompanied with **thunderstorm, lightning & gusty winds speed reaching 30-40 kmph** over Coastal Andhra Pradesh, Telangana and Interior Karnataka during 04<sup>th</sup> -05<sup>th</sup> June.

##### Maximum Temperature Forecast:

- ❖ Maximum Temperatures likely to fall by 2-3°C over Northwest India during next 2 days; gradual rise by 4-5°C during subsequent next 5 days.
- ❖ Maximum Temperatures likely to rise gradually by 2-3°C over East India during next 2 days and no large change thereafter.
- ❖ No significant change in maximum temperatures likely over rest parts of the country.

##### Heat wave and Hot & Humid warnings:

- ❖ **Heat wave conditions** are likely to prevail over Odisha during 04<sup>th</sup> -06<sup>th</sup> and Gangetic West Bengal on 04<sup>th</sup> June.
- ❖ **Hot & humid weather** is likely to prevail over Coastal Andhra Pradesh & Yanam during 04<sup>th</sup> -05<sup>th</sup>; Odisha during 04<sup>th</sup> -06<sup>th</sup>; Gangetic West Bengal, Tamilnadu Puducherry & Karaikal on 04<sup>th</sup> June.

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

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For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599

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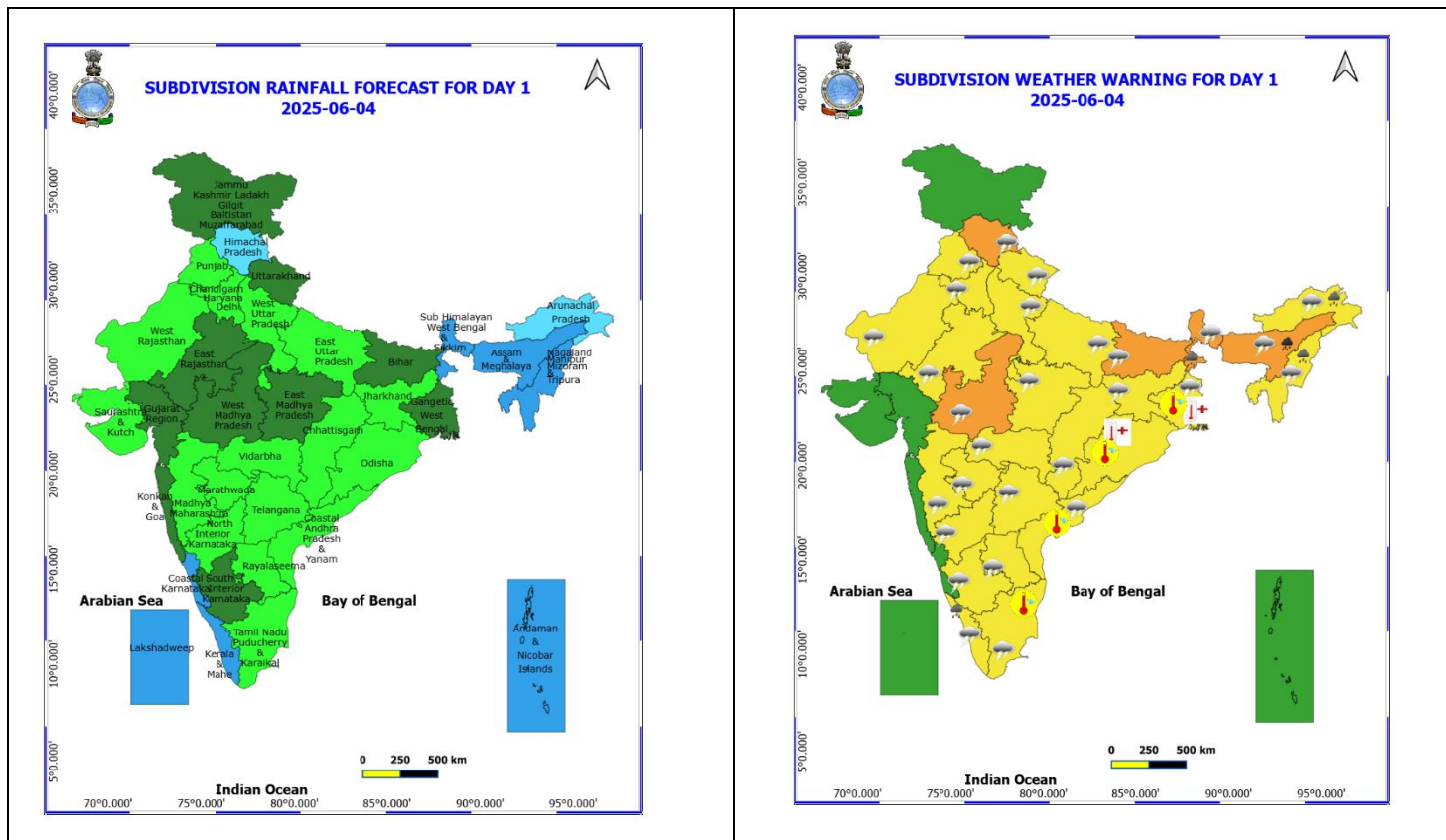
## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at most places** over Jammu & Kashmir and Ladakh, Konkan & Goa , Coastal Karnataka, Arunachal Pradesh, Kerala & Mahe and Lakshadweep ; **at many places** over West Uttar Pradesh, Madhya Maharashtra , Sub-Himalayan West Bengal & Sikkim, Uttarakhand, West Rajasthan, Assam & Meghalaya, Odisha, Haryana Chandigarh & Delhi, Rayalaseema, Gujarat Region, East Rajasthan, Himachal Pradesh, Telangana, North Interior Karnataka, Nagaland, Manipur, Mizoram & Tripura, West Madhya Pradesh, South Interior Karnataka, East Uttar Pradesh, Andaman & Nicobar Islands, East Madhya Pradesh, Tamilnadu Puducherry & Karaikal, Bihar, Jharkhand and Gangetic West Bengal; **Dry** over rest of the country.
- ❖ **Significant rainfall recorded (in cm)** (from 0830 hours IST to 1730 hours IST of yesterday): **Odisha:** Bhubaneshwar (dist. Khordha) 6; **West Madhya Pradesh:** Raisen (dist. Raisen) 3, Khargone-orbs (dist. Khargone) 2, **Gangetic west Bengal:** Digha (dist. North 24 Parganas) 2; **Jharkhand:** Ranchi AP (dist. Ranchi) 2; **Bihar:** Dehri (dist. Rohas) 2.
- ❖ **Minimum Temperature Departures (as on 03-06-2025):** Minimum Temperatures were **markedly above normal (> 5.1°C)** at a few places over East Madhya Pradesh; at isolated places over Assam & Meghalaya, Bihar, East Uttar Pradesh, West Uttar Pradesh, West Rajasthan, Gujarat Region, Saurashtra & Kutch and Madhya Maharashtra; **appreciably above normal (3.1°C to 5.0°C)** at a few places over Andaman & Nicobar Islands; at isolated places over Sub Himalayan West Bengal & Sikkim, Gangetic West Bengal, Odisha, Jharkhand, Jammu-KashmirLadakh-Gilgit-Baltistan-Muzaffarabad, West Madhya Pradesh, Coastal Andhra Pradesh & Yanam and Tamil Nadu, Puducherry & Karaikal; **above normal (1.6°C to 3.0°C)** at most places over Arunachal Pradesh; at isolated places over Himachal Pradesh, Konkan & Goa and Rayalaseema and **near normal (-1.5°C to 1.5°C)** at many places over South Interior Karnataka; at most places over North Interior Karnataka, Kerala & Mahe and Lakshadweep; at a few places over Uttarakhand, Chhattisgarh, Telangana and Coastal Karnataka; at isolated places over Nagaland, Manipur, Mizoram & Tripura, Haryana-Chandigarh-Delhi, Punjab, East Rajasthan, Marathwada and Vidarbha. Yesterday, **the lowest minimum temperature of 18.0°C** was reported at **Sikar (East Rajasthan)** over the Plains of India. (Fig.4).
- ❖ **Maximum Temperature Departures (as on 03-06-2025):** Maximum Temperatures were **markedly above normal (> 5.1°C)** at isolated places over Tamil Nadu, Puducherry & Karaikal; **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Assam & Meghalaya, Gangetic West Bengal and Odisha; **above normal (1.6°C to 3.0°C)** at few places over Lakshadweep; at isolated places over Sub Himalayan West Bengal & Sikkim, East Uttar Pradesh, West Uttar Pradesh, Saurashtra & Kutch and Coastal Andhra Pradesh & Yanam and **near normal (-1.5°C to 1.5°C)** at many places over Kerala & Mahe; at most places over Andaman & Nicobar Islands, Arunachal Pradesh, Konkan & Goa and Coastal Karnataka; at few places over Bihar, West Rajasthan, East Madhya Pradesh and Gujarat Region; at isolated places over Himachal Pradesh, Rayalaseema and North Interior Karnataka. Yesterday, **the highest maximum temperature of 42.6°C** was reported at **Banda (East Uttar Pradesh)**.

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

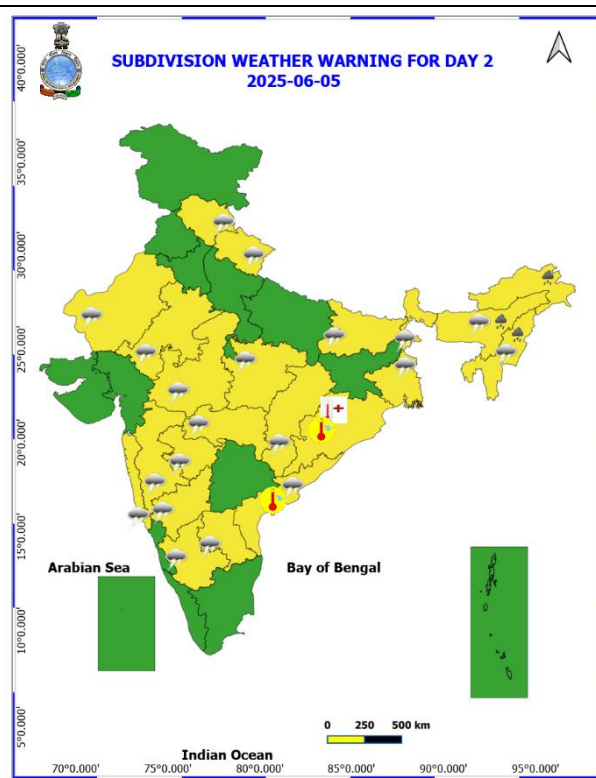
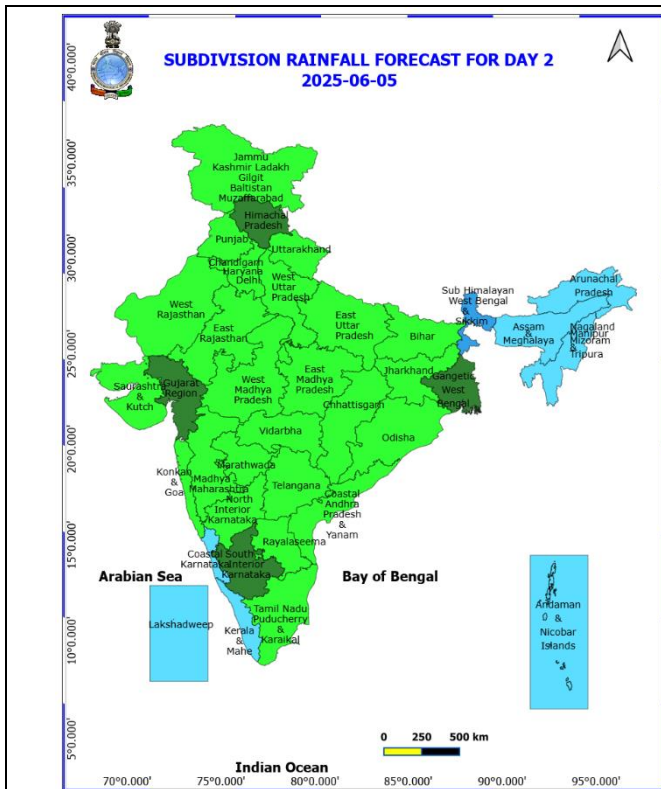
- ❖ The Northern Limit of Monsoon continues to pass through 17.0°N/55°E, 17.5°N/60°E, 18°N/65°E, 18.5°N/70°E, Mumbai, Ahilyanagar, Adilabad, Bhawanipatna, Puri, Sandhead Island, 23.5°N/89.5°E, Balurghat, 30°N/85°E.
- ❖ The **Western disturbance** as a **cyclonic circulation** over Punjab & neighbourhood between 3.1 & 4.5 km above mean sea level persists and the trough aloft in middle tropospheric level with its axis at 5.8 km above mean sea level now runs roughly along Long. 78°E to the north of Lat. 28°N.
- ❖ The **upper air cyclonic circulation** over Haryana at 0.9 km above mean sea level persists.
- ❖ The **upper air cyclonic circulation** over northwest Uttar Pradesh at 1.5 km above mean sea level persists.
- ❖ The **upper air cyclonic circulation** over east Bihar at 0.9 km above mean sea level persists.
- ❖ The **north-south trough** roughly along Long. 92°E to the north of Lat. 22°N at 1.5 km above mean sea level persists.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 10<sup>th</sup> June, 2025)



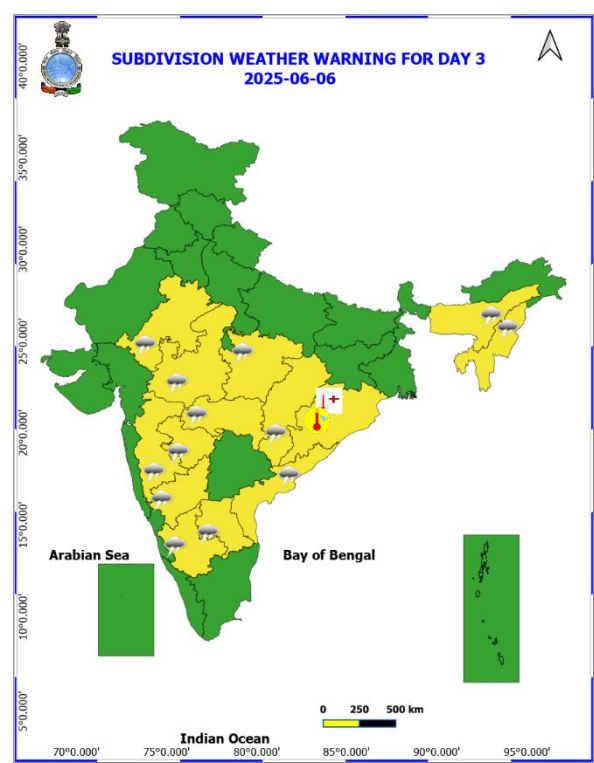
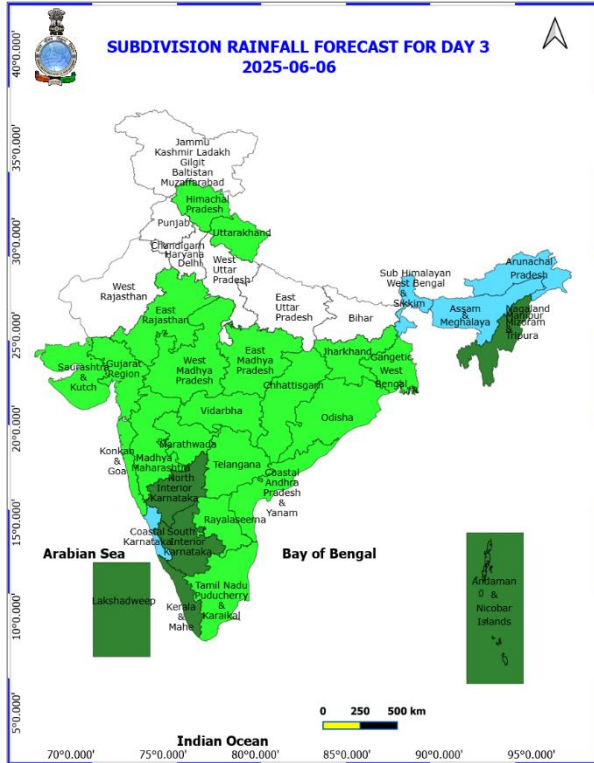
04<sup>th</sup> June (Day 1)

- ❖ **Heavy to Very Heavy Rainfall** very likely at isolated places over Assam & Meghalaya.
- ❖ **Heavy Rainfall** very likely at isolated places over Arunachal Pradesh, Kerala & Mahe, Nagaland, Manipur, Mizoram and Tripura and Sub Himalayan West Bengal & Sikkim.
- ❖ **Thundersquall with wind speed reaching(50-60kmph)** very likely at isolated places over Bihar, Himachal Pradesh, Sub Himalayan West Bengal & Sikkim and West Madhya Pradesh.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(40-50kmph)** very likely at isolated places over Assam & Meghalaya, Chhattisgarh, East Madhya Pradesh, Gangetic West Bengal, Nagaland, Manipur, Mizoram and Tripura, North Interior Karnataka, Rajasthan and Uttarakhand.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(30-40kmph)** very likely at isolated places over Andhra Pradesh, Haryana, Chandigarh & Delhi, Kerala & Mahe, Punjab, South Interior Karnataka, Telangana, Uttar Pradesh and Vidarbha.
- ❖ **Thunderstorm accompanied with Lightning** very likely at isolated places over Arunachal Pradesh, Jharkhand, Madhya Maharashtra, Marathwada and Tamil Nadu Puducherry & Karaikal.
- ❖ **Heat Wave conditions** very likely at isolated places over Gangetic West Bengal and Odisha.
- ❖ **Hot and Humid weather** very likely at isolated places over Coastal Andhra Pradesh, Odisha and Tamil Nadu Puducherry & Karaikal.
- ❖ **Squally wind with speed 45 kmph to 55 kmph gusting to 65 kmph** very likely to prevail along and off Somalia coast and adjoining southwest Arabian Sea, westcentral Arabian Sea, over some western parts of westcentral Arabian Sea; **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** prevailing along and off Kerala, Karnataka coasts and adjoining Lakshadweep area, off north Tamil Nadu coast, over northern parts of central Bay of Bengal and adjoining parts of north Bay of Bengal and along. Fisherman are not advised not to venture into the sea.



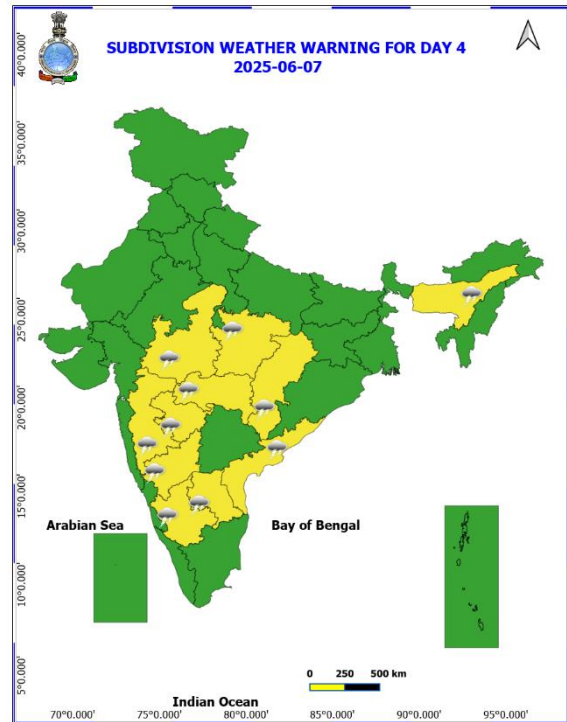
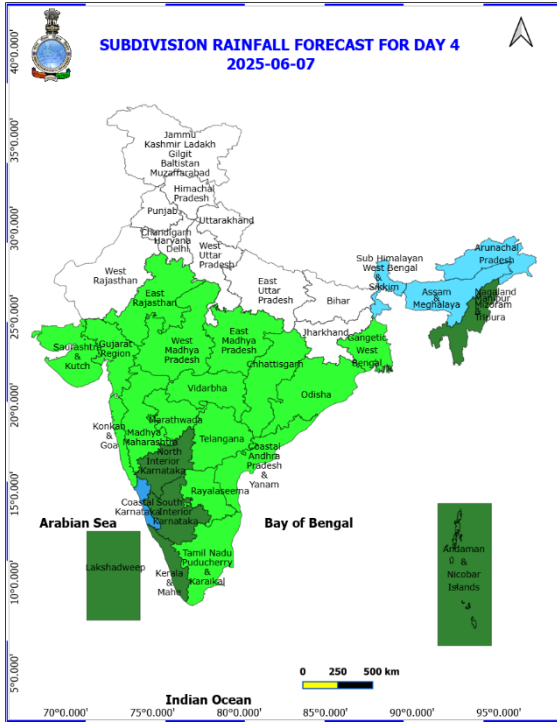
05<sup>th</sup> June (Day 2)

- ❖ **Heavy Rainfall** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram and Tripura.
  - ❖ **Thunderstorm accompanied with lightning & gusty winds(40-50kmph)** very likely at isolated places over Chhattisgarh, East Rajasthan, Himachal Pradesh, Madhya Pradesh, North Interior Karnataka, Vidarbha and West Bengal & Sikkim.
  - ❖ **Thunderstorm accompanied with lightning & gusty winds(30-40kmph)** very likely at isolated places over Andhra Pradesh, Bihar, South Interior Karnataka, Uttarakhand and West Rajasthan.
  - ❖ **Thunderstorm accompanied with Lightning** very likely at isolated places over Assam & Meghalaya, Konkan & Goa, Madhya Maharashtra, Marathwada and Nagaland, Manipur, Mizoram and Tripura.
  - ❖ **Heat Wave conditions** very likely at isolated places over Odisha.
  - ❖ **Hot and Humid weather** very likely at isolated places over Coastal Andhra Pradesh and Odisha.
- Squally wind with speed 45 kmph to 55 kmph gusting to 65 kmph** very likely to prevail along and off Somalia coast and adjoining southwest & westcentral Arabian Sea, over some western parts of westcentral Arabian Sea; **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** prevailing off north Tamil Nadu and south Andhra Pradesh coasts. Fisherman are not advised not to venture into the sea.



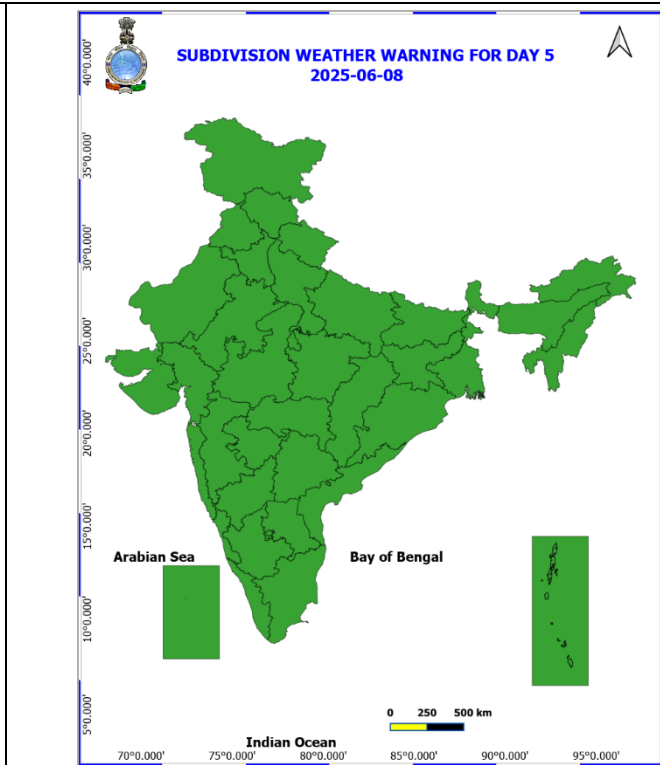
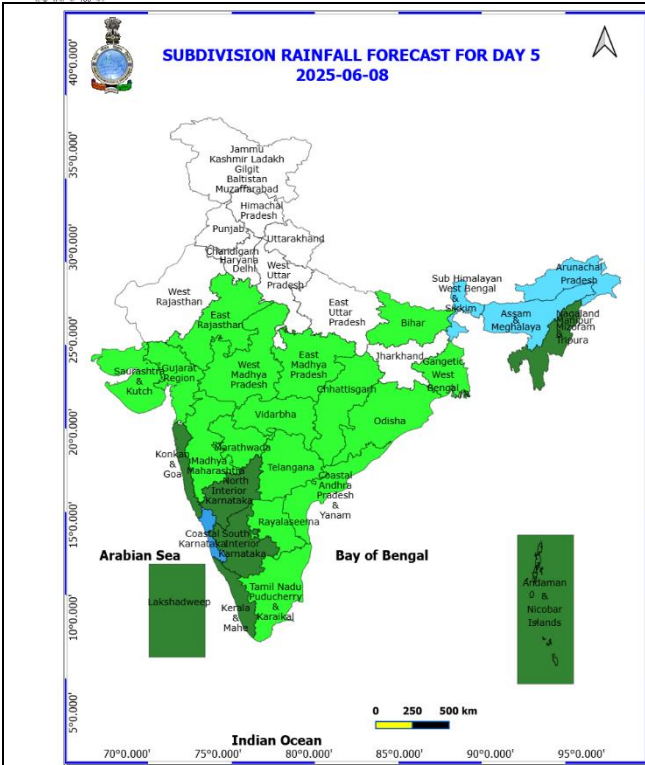
### 06<sup>th</sup> June (Day 3)

- ❖ **Thunderstorm accompanied with lightning & gusty winds(40-50kmph)** likely at isolated places over Chhattisgarh, East Rajasthan, Madhya Pradesh, North Interior Karnataka and Vidarbha.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(30-40kmph)** likely at isolated places over Andhra Pradesh and South Interior Karnataka.
- ❖ **Thunderstorm accompanied with Lightning** likely at isolated places over Assam & Meghalaya, Madhya Maharashtra, Marathwada and Nagaland, Manipur, Mizoram and Tripura.
- ❖ **Heat Wave conditions** likely at isolated places over Odisha.
- ❖ **Hot and Humid weather** likely at isolated places over Odisha.
- ❖ **Squally wind with speed 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail along and off Somalia coast and adjoining sea area. Fisherman are not advised not to venture into the sea.



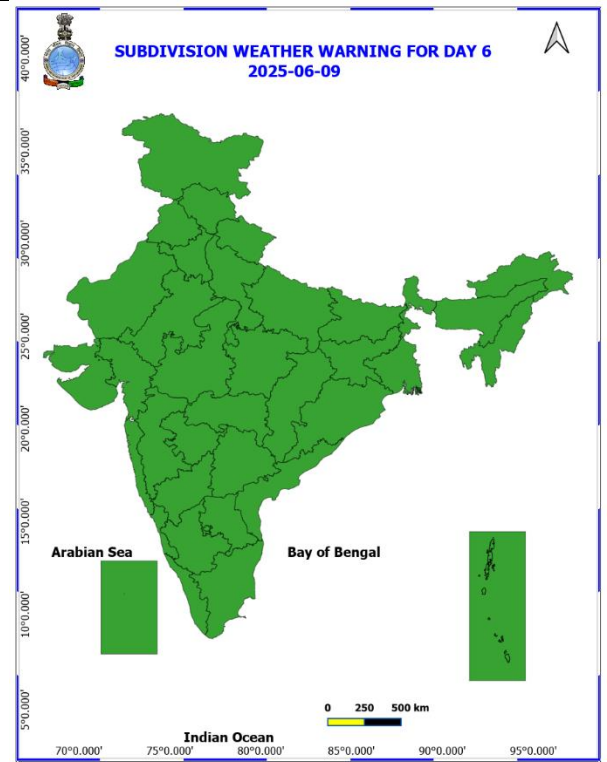
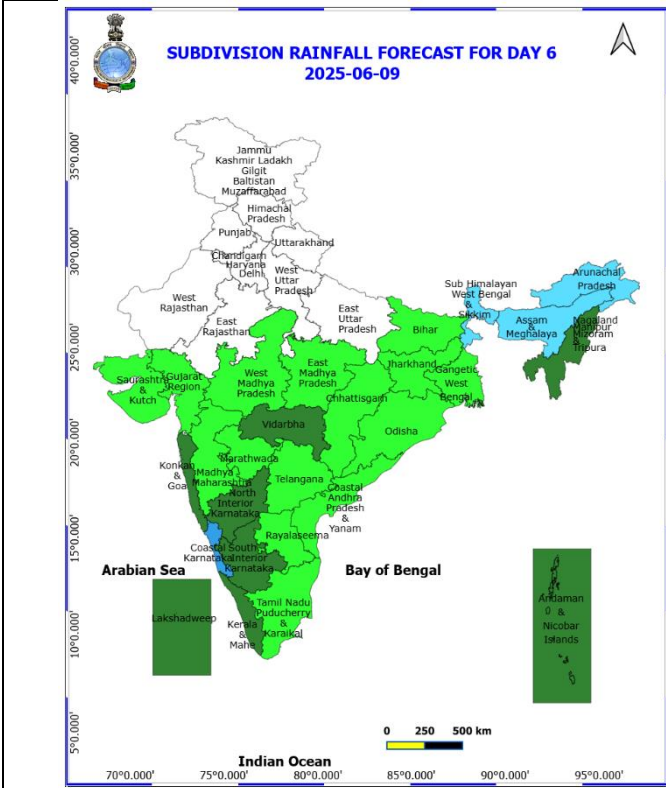
#### 07<sup>th</sup> June (Day 4)

- ❖ **Thunderstorm accompanied with lightning & gusty winds(40-50kmph)** likely at isolated places over Chhattisgarh, Madhya Pradesh, North Interior Karnataka and Vidarbha.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(30-40kmph)** likely at isolated places over Andhra Pradesh and South Interior Karnataka.
- ❖ **Thunderstorm accompanied with Lightning** likely at isolated places over Assam & Meghalaya, Madhya Maharashtra and Marathwada.
- ❖ **Squally wind with speed 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail along and off Somalia coast and adjoining sea area. Fisherman are not advised not to venture into the sea.



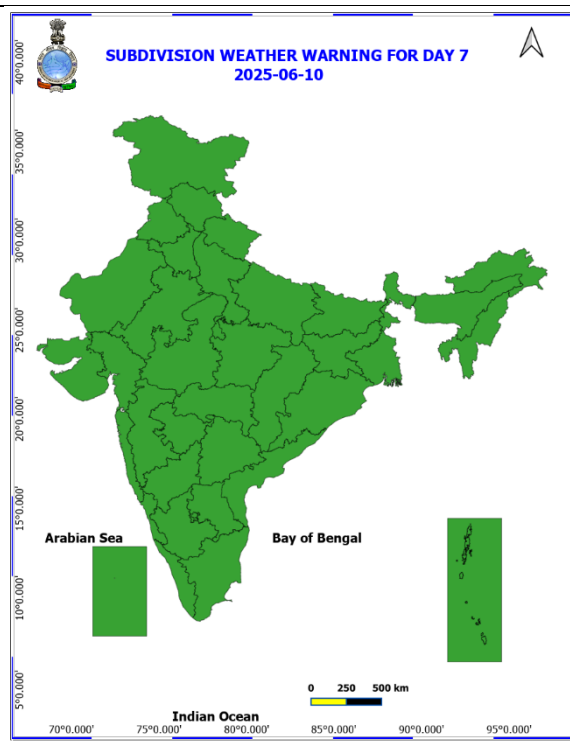
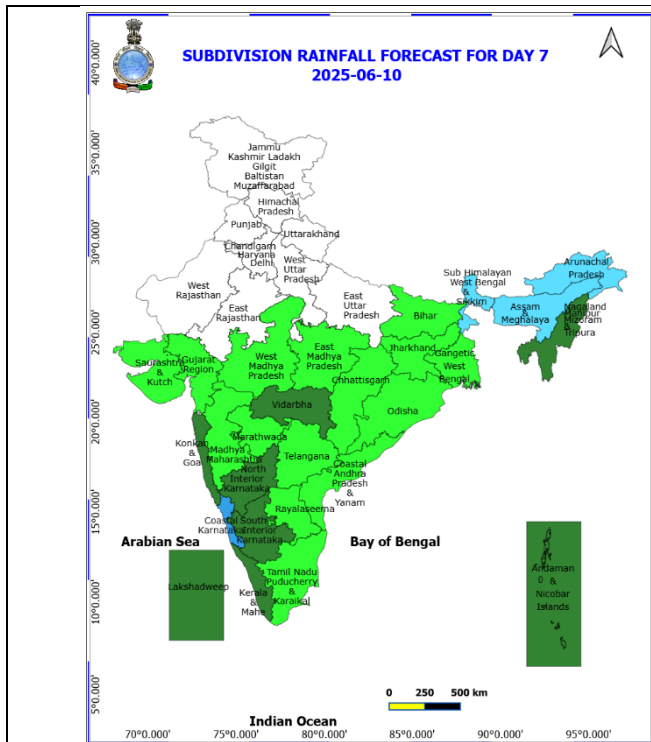
08<sup>th</sup> June (Day 5)

❖ No Warning.



09<sup>th</sup> June (Day 6)

❖ No Warning.



10<sup>th</sup> June (Day 7)

❖ No Warning.

**Weather Outlook for subsequent 3 days (During 11<sup>th</sup> June- 13<sup>th</sup> June, 2025)**

- ❖ Fairly widespread to widespread rainfall activity likely over Northeast India, Sub-Himalayan West Bengal & Sikkim, Andaman & Nicobar Islands, Lakshadweep, Konkan & Goa, Marathwada, Coastal Karnataka, Telangana, Rayalaseema and Kerala & Mahe.
- ❖ Isolated to scattered rainfall likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Odisha, south Chhattisgarh, Vidarbha, West Madhya Pradesh, Madhya Maharashtra, Interior Karnataka, East Uttar Pradesh, Bihar and Jharkhand.

- 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.

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Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

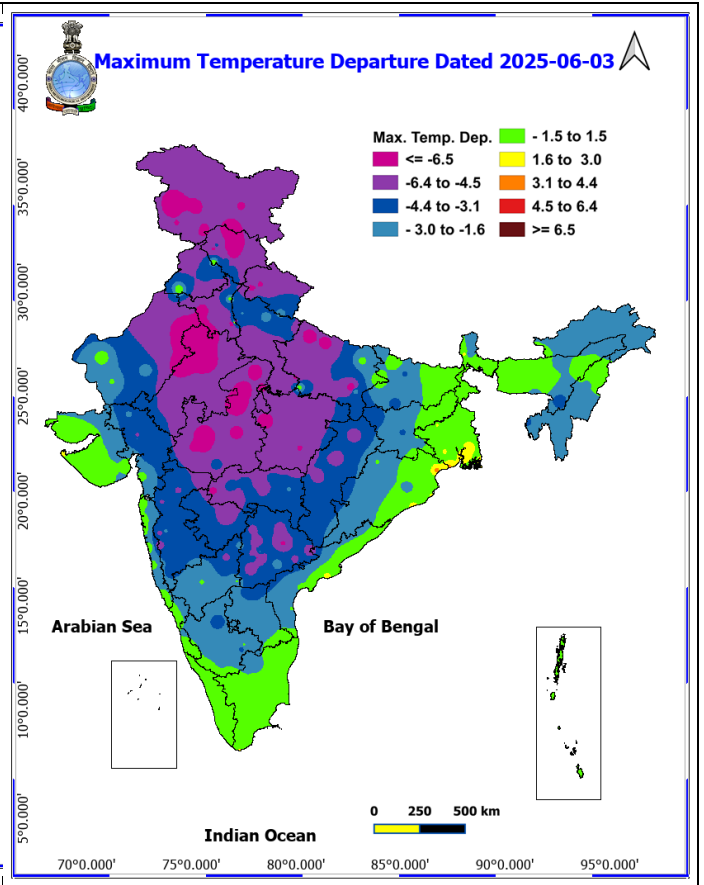
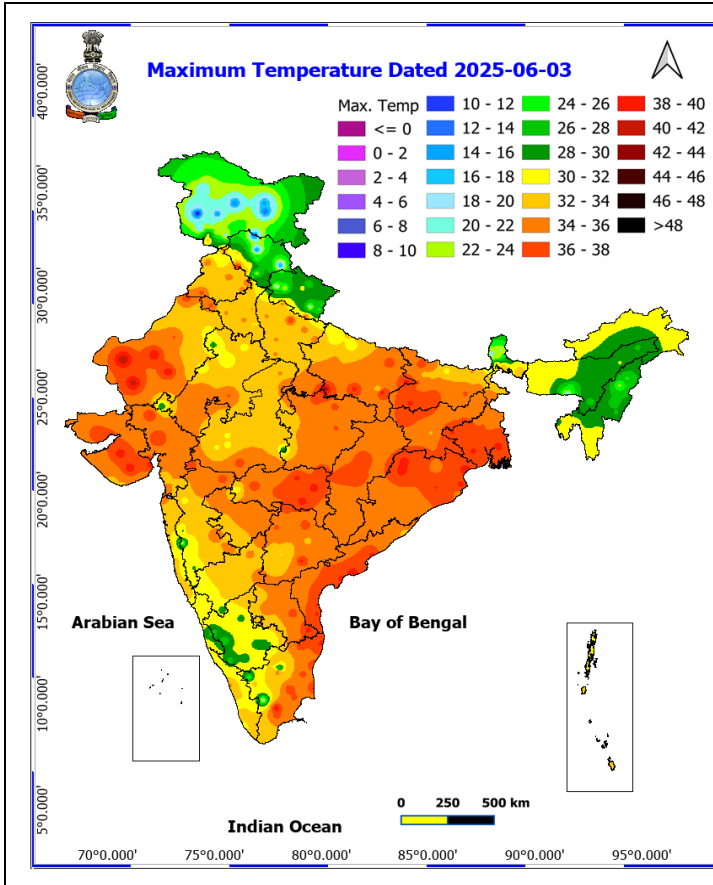


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

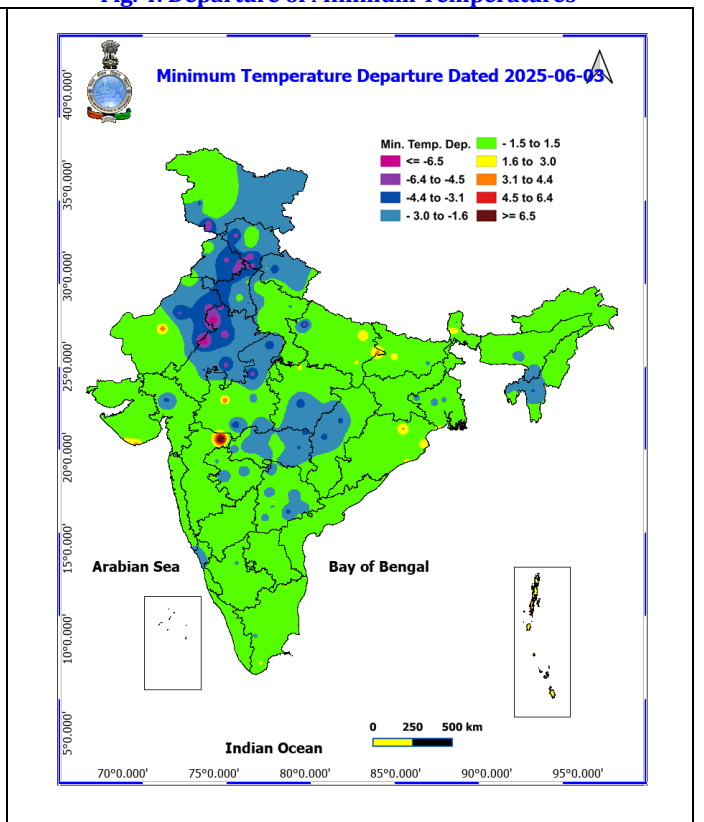
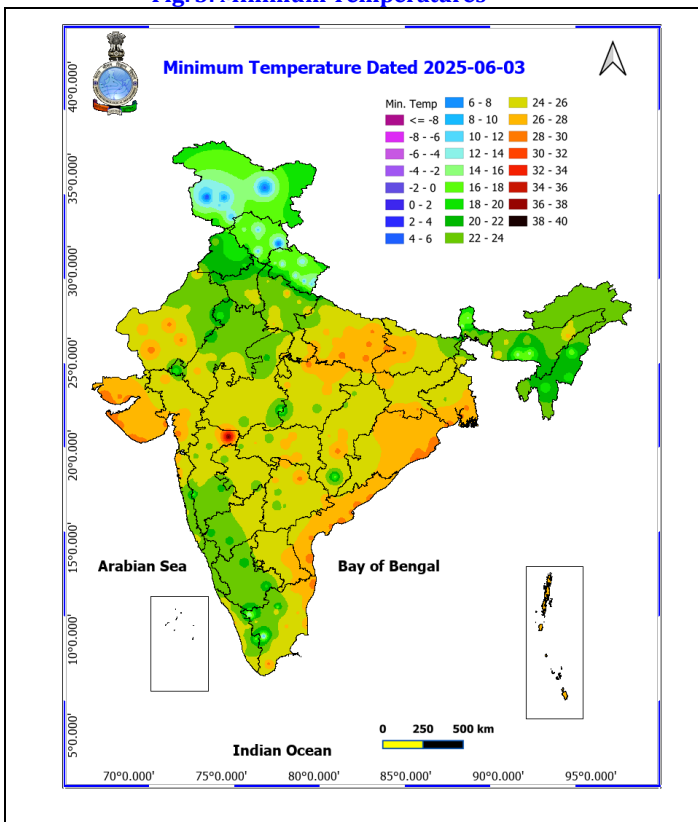
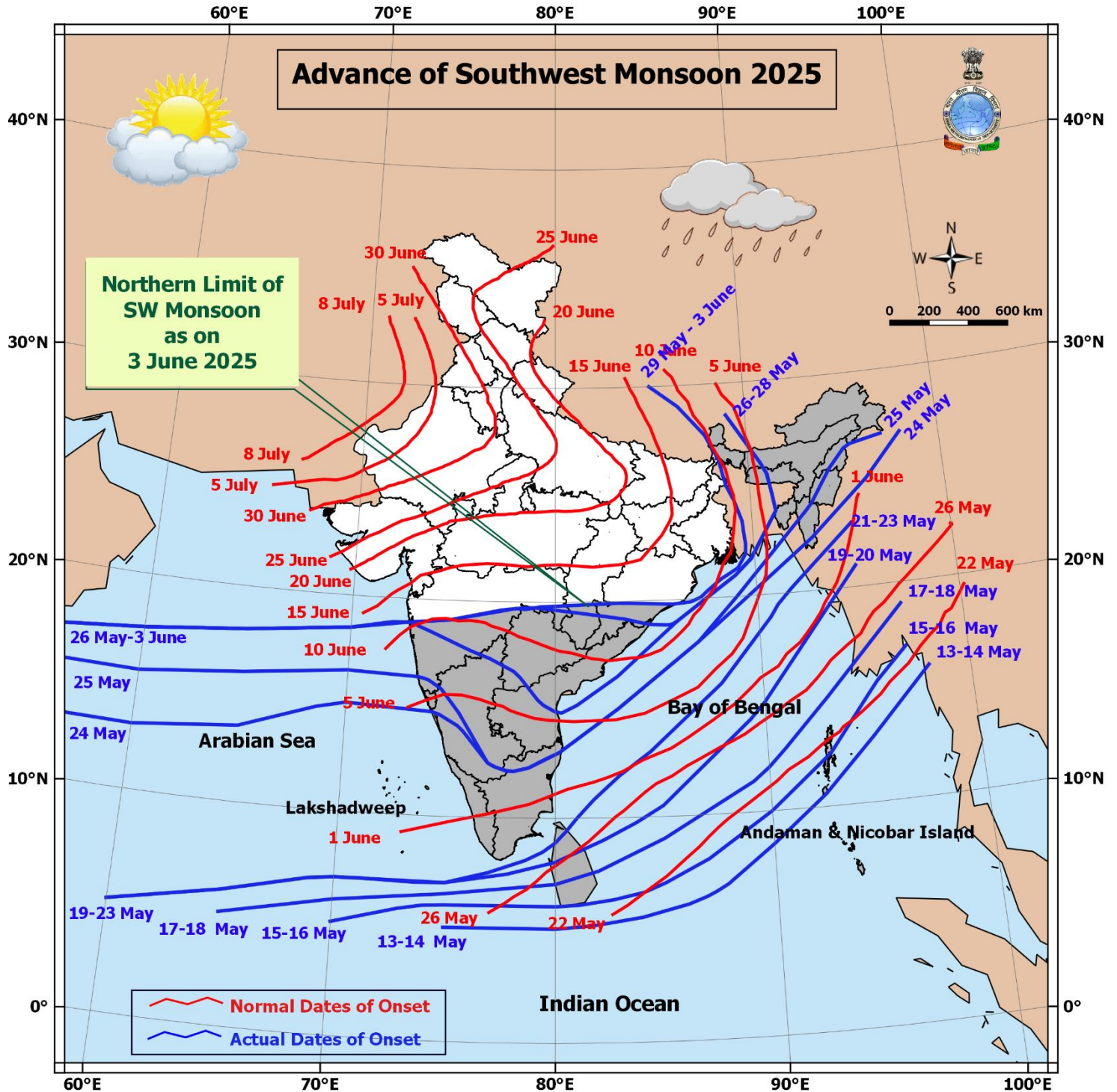
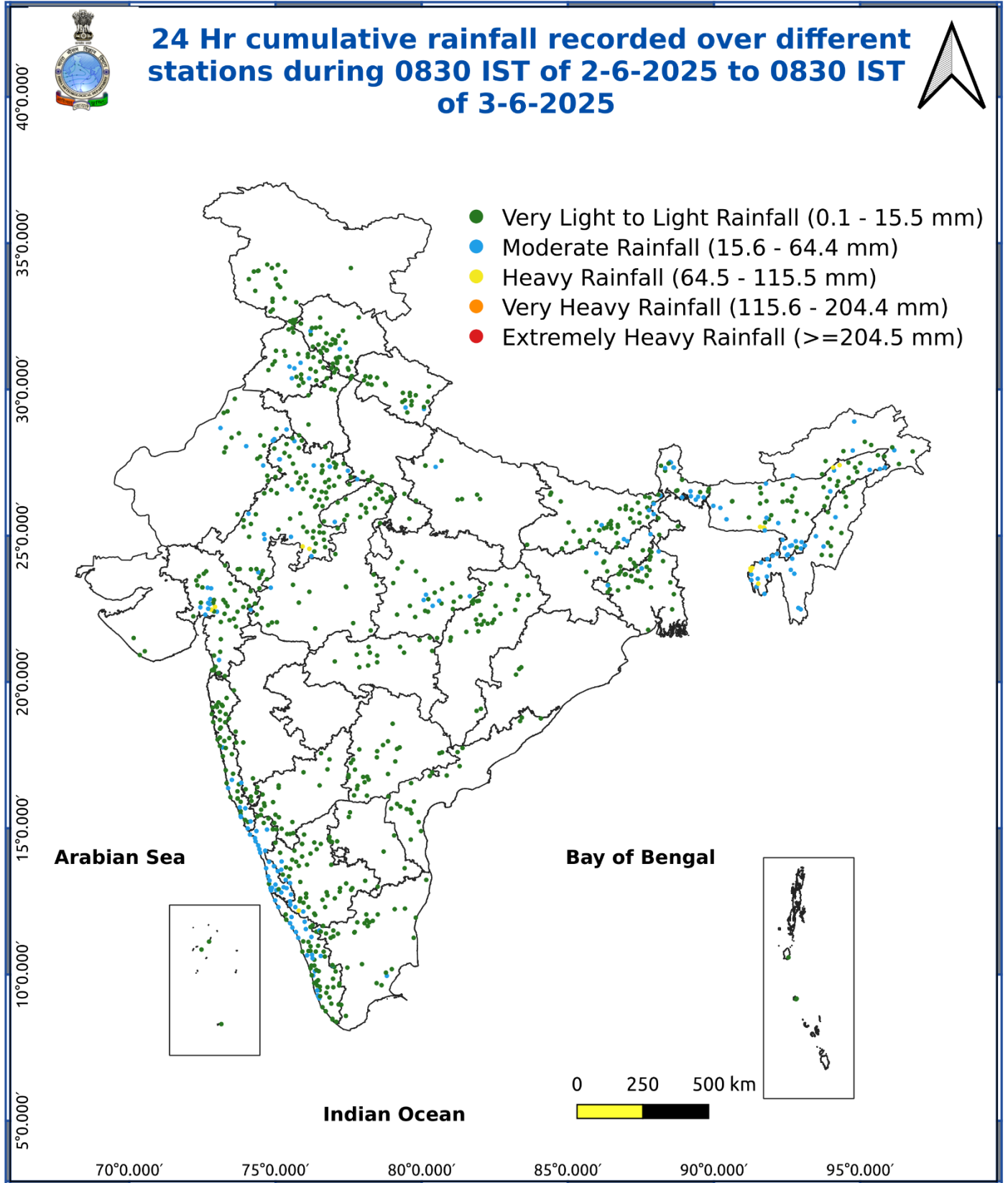


Fig. 5: Advance of Southwest Monsoon 2025



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Fig. 6: Accumulated Rainfall (mm) during past 24 hours



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## Impact & Action Suggested due to heavy to very heavy rainfall over Assam & Meghalaya on 04<sup>th</sup> June. (For Orange colour warning areas)

### Impact Expected

- ❖ Localized Flooding of roads, water logging in low lying areas of the above region.
- ❖ Occasional reduction in visibility due to heavy rainfall.
- ❖ Minor damage to kutcha roads.
- ❖ Possibilities of damage to vulnerable structure.
- ❖ Localized Landslides/Mudslides
- ❖ Damage to horticulture and standing crops in some areas due to inundation.
- ❖ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC).

### Action Suggested

- ❖ Check for traffic congestion on your route before leaving for your destination.
- ❖ Follow any traffic advisories that are issued in this regard.
- ❖ Avoid going to areas that face the water logging problems often.
- ❖ Avoid staying in vulnerable structure.

## Impact expected and action suggested due to isolated thunderstorm with lightning/gusty & Squally winds over

- ❖ **Thundersquall wind speed reaching 50-60 kmph gusting to 70 kmph** over likely over West Madhya Pradesh, Bihar, Himachal Pradesh, Sub-Himalayan West Bengal & Sikkim on 04<sup>th</sup> June.

### Impact expected:

- Minor to Major damage to banana and papaya trees.
- Strong wind/hail may damage plantation, horticulture and standing crops.
- Partial damage to vulnerable structures due to strong winds.
- Minor damage to kutcha houses/walls and huts.
- Loose objects may fly.

### Action suggested:

- People are advised to keep a watch on the weather for worsening conditions and be ready to move to safer places accordingly.
- Stay indoors, close windows & doors and avoid travel if possible.
- Take safe shelters; do not take shelter under trees.
- Do not lie on concrete floors and do not lean against concrete walls.
- Unplug electrical/ electronic appliances.
- Immediately get out of water bodies.
- Keep away from all the objects that conduct electricity.

### Agromet advisories for likely impact of Heavy Rainfall / Hailstorms / Gusty Winds / Heat Wave

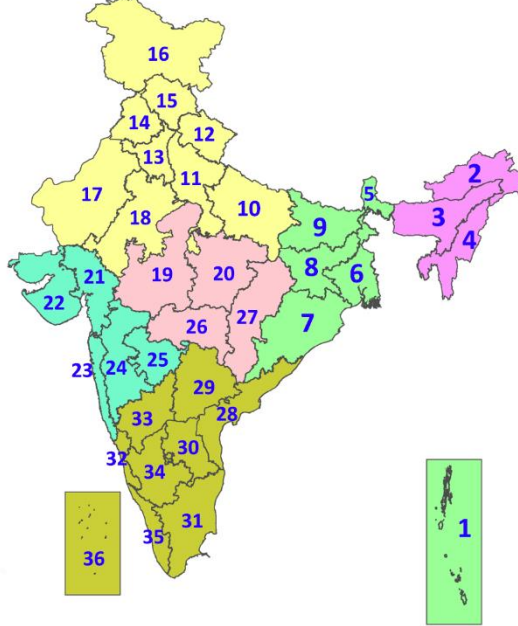
- Postpone transplanting of rice in **Arunachal Pradesh**; sowing of *Sali* rice and vegetables in **Assam**; sowing of finger millet, maize and black gram in **Manipur** and harvesting of rice in **Tripura**.
- Drain out excess water and ensure proper drainage in the rice nursery beds, fields of soybean, chilli, okra and other vegetables and in **Arunachal Pradesh**; rice, sesame, maize, sugarcane, ginger and turmeric in **Assam**; bottle gourd and French bean in **Meghalaya**; maize and upland rice in **Mizoram**; pre-*kharif* rice, soybean, finger millet, maize, black gram, vegetables and orchards in **Manipur**; cabbage, maize and orchards in **Nagaland**; rice fields, and *Aus* rice nurseries and vegetables.
- In **Himachal Pradesh**, use hail nets and hail caps to prevent mechanical damage in vegetables and orchards due to the possibility of hailstorms.
- Shift the harvested produce in safer places or cover the produce with tarpaulin sheets in the fields. Tie the harvested crops properly and cover them to minimise the risk of displacement due to strong surface winds.
- Provide mechanical support and propping to horticultural crops and staking to vegetables to avoid lodging.
- In **Gangetic West Bengal** and **Odisha**, apply light and frequent irrigation in the evening to protect standing crops, vegetables and orchards from the adverse effects of heat waves and high temperatures.

### Livestock / Poultry / Fishery

- Keep the animals inside the shed during heavy rainfall / hailstorm and provide them balanced feed.
- Store feed and fodder in a safe place to prevent spoilage.
- Construct an outlet with proper netting around the ponds to drain out excess water, thereby preventing fish from escaping in case of overflow.
- To reduce the effect of heat wave/high temperature, cover the roof of poultry sheds with grass. Also, provide clean, hygienic and plenty of drinking water to animals.

## 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)