

2026-03-16

Time of Issue: 08:44:00 hours IST
(Morning)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features

Northwest India:

- **Scattered to fairly widespread light rainfall/snowfall** likely over Western Himalayan region during **16th-21th March**.
- **Thunderstorm, lightning & gusty winds speed reaching (40-50 gusting to 60 kmph) with hailstorm** likely over Jammu-Kashmir-Ladakh and Himachal Pradesh on 19th; East Uttar Pradesh on 16th and **Thunderstorm, lightning & Squally winds speed reaching (50-60 gusting to 70 kmph) with hailstorm** likely over Uttarakhand on 16th March.
- **Thunderstorm, lightning & gusty winds speed reaching (40-50 gusting to 60 kmph)** likely over Jammu-Kashmir-Ladakh on 16th, 18th & 20th; Himachal Pradesh 16th & 18th; Uttarakhand on 18th, 19th; Haryana Chandigarh & Delhi and Punjab on 19th; West Uttar Pradesh on 19th; East Uttar Pradesh on 16th. **Thunderstorm, lightning & gusty winds speed reaching (30-40 kmph)** likely over Haryana Chandigarh & Delhi and Punjab on 16th & 20th; West Uttar Pradesh on 16th & 20th; West Rajasthan during 18th -21th; East Rajasthan during 16th and 19th -21th March.

Northeast India:

- **Thunderstorm, lightning & Gusty winds speed reaching (30-50 kmph)** over Arunachal Pradesh, Assam & Meghalaya on 16th and Nagaland, Manipur, Mizoram & Tripura on 16th & 17th March.
- Isolated **heavyrainfall/snowfall** very likely over Arunachal Pradesh during on 16th & 17th March.
- Isolated **heavyrainfall** very likely over Assam & Meghalaya on 16th & 17th March.

East & Central India:

- **Scattered to fairly widespread light/moderate rainfall with thunderstorm, lightning & gusty winds speed reaching (30-50 kmph)** likely over Sub-Himalayan West Bengal & Sikkim on 16th & 17th March and 20th, 21th March.
 - **Isolated to Scattered light/moderate rainfall with thunderstorm, lightning & gusty winds speed reaching (30-50 kmph)** likely over West Madhya Pradesh on 18th & 19th; East Madhya Pradesh on 18th & 19th; Vidarbha during 16th -20th & Chhattisgarh during 16th-20th; Jharkhand during 16th -19th; Gangetic West Bengal on 16 & 17th and 20th, 21th & Bihar during 16th-19th and Odisha during 16th-19th March. **Thunderstorm, lightning & squally winds speed reaching (50-60 gusting to 70 kmph) with hailstorm** likely over Gangetic West Bengal, Odisha, Jharkhand on 16th; **Thunderstorm, lightning & gusty winds speed reaching (40-50 gusting to 60 kmph) with hailstorm** likely over Bihar on 16th March.
- Isolated **heavyrainfall** very likely over Sub-Himalayan West Bengal & Sikkim on 21th March.

South Peninsular India:

- **Isolated to Scattered light/moderate rainfall with thunderstorm, lightning & gusty winds speed reaching (30-40 kmph)** likely over Telangana during 16th-19th; Rayalaseema and Coastal Andhra Pradesh & Yanam on 16th-17th; Coastal Karnataka on 17th & 18th; Isolated light/moderate rainfall with **thunderstorm & lightning** over Kerala & Mahe on 16th & 17th; Tamil Nadu on 17th, 18th & 19th; Interior Karnataka during 16th -19th March.

West India:

- **Isolated light/moderate rainfall with thunderstorm & lightning & gusty winds speed reaching (30-50 kmph)** likely over the Region during 16th -19th March except Gujarat state where it is likely during 18th & 19th March only.

Forecast of maximum/day temperatures:

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- Fall in maximum temperatures by 3-5°C likely over Northwest India during next 24 hours and gradual increase by 3-5°C during subsequent 3 days.
- Gradual fall in maximum temperatures by 2-4°C likely over Central India during subsequent 5 days.
- Gradual fall in maximum temperatures by likely 3-5°C. over East India during subsequent 4 days.
- Gradual fall in maximum temperature by 2-4°C likely over Gujarat State during next 2 days and no significant change during subsequent 4 days.
- Gradual fall by 2-4°C in maximum temperatures likely over Maharashtra during next 4 days and no significant change during subsequent 2 days.
- No significant change in maximum temperatures likely over South Peninsular India during next 2 days and gradual fall by 2-3°C during subsequent 3 days .

Main Weather Observations:

❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0530 hours IST of today): **at most places** over Assam & Meghalaya, Sub-himalayan West Bengal & Sikkim, Nagaland, Manipur, Mizoram & Tripura, Jammu & Kashmir and Ladakh, Arunachal Pradesh, Gangetic West Bengal and Andaman & Nicobar Islands; **at many places** over Punjab, West Rajasthan, Haryana Chandigarh & Delhi, West Uttar Pradesh, East Uttar Pradesh, Jharkhand, Odisha, Telangana and North Interior Karnataka; **Dry** over rest of the country.

❖ **Significant rainfall recorded(in cm)** (from 0830 hours IST of yesterday to 0530 hours IST of today): **Assam & Meghalaya:** Cherrapunji (dist East Khasi Hills) 12, Silchar (dist Cachar) 11, Dibrugarh (dist Dibrugarh), Guwahati (dist Kamrup Metropolitan) 3 Each, Dhubri (dist Dhubri) 2, North Lakhimpur (dist Lakhimpur), Shillong (dist East Khasi Hills) 1 Each; **Nagaland, Manipur, Mizoram & Tripura:** Imphal (tulihal) AP (dist Imphal East) 6, Dimapur (dist Dimapur), Kailashahar AP (dist Unakoti) 2 Each, Aizawl-lengpui (dist Mamit) 1; Jammu & Kashmir And Ladakh: Batote (dist Doda) 3, Jammu (dist Jammu), Banihal, Bhaderwah (dist Doda), Katra (dist Reasi) 2 Each, Quazigund, Kukernag, Pahalgam (dist Anantnag), Srinagar- City (dist Srinagar), Kupwara (dist Kupwara) 1 Each; **Arunachal Pradesh:** Pasighat (dist East Siang), Itanagar (dist Papum Pare) 2 Each; **Gangetic West Bengal:** Digha (dist North 24 Parganas) 1; **Odisha:** Jharsuguda (dist Jharsuguda) 1.

❖ **Heavy Rainfall observed** (from 0830 hours IST of yesterday to 0530 hours IST of today): **Heavy to very heavy rain** at isolated places over Assam & Meghalaya

❖ **Minimum Temperature Departures (as on 15-03-2026): markedly above normal (5.1? or more)** over Rajasthan & Bihar; appreciably above normal (3.1°C to 5.0°C) over Jammu-Kashmir, Himachal Pradesh, Punjab, Uttarakhand, Haryana Chandigarh & Delhi, Uttar Pradesh, Gujarat Region, Gangetic West Bengal; above normal (1.6°C to 3.0°C) over Madhya Pradesh, Maharashtra, Chhattisgarh, Odisha, Andaman & Nicobar Islands, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim and near normal over rest parts of the country. **The lowest minimum temperature of 10.3°C was reported at ALWAR (RAJASTHAN) over the Plains of India.**

❖ **Maximum Temperature range (36°C-40°C)** over South Rajasthan, Madhya Pradesh, South East Uttar Pradesh, West Jharkhand, Chhattisgarh, Interior Odisha, Vidarbha, Madhya Maharashtra, Marathwada, Gujrat, North Karnataka, Telangana, Rayalaseema, South Tamil Nadu, Puducherry & Karaikal, South Kerala & Mahe.

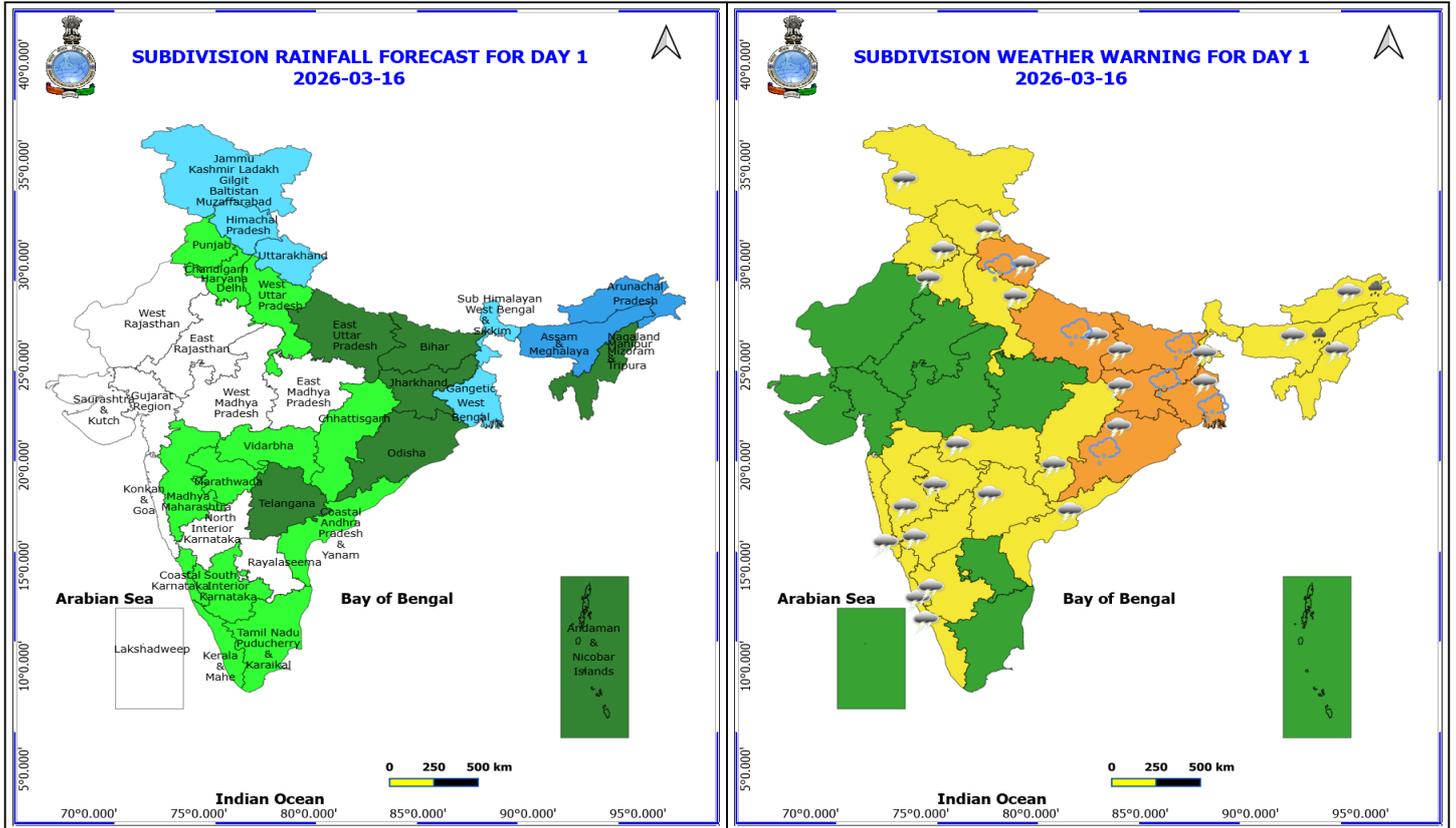
❖ **Maximum Temperature Departures (as on 15-03-2026): markedly above normal(> 5.1°C)** at few places over East Rajasthan; at isolated places over Jharkhand, East Uttar Pradesh, Jammu-Kashmir Ladakh-Gilgit-Baltistan-Muzaffarabad, West Rajasthan, Gujarat Region, Vidarbha and Chhattisgarh. **appreciably above normal(3.1°C to 5.0°C)** at few places over East Madhya Pradesh and Konkan & Goa; at isolated places over Bihar, West Uttar Pradesh, Himachal Pradesh, West Madhya Pradesh, Saurashtra & Kutch and Madhya Maharashtra. **above normal(1.6°C to 3.0°C)** at most places over Marathwada; at few places over Gangetic West Bengal and Coastal Karnataka; at isolated places over Odisha, Uttarakhand, Telangana and Tamil Nadu, Puducherry & Karaikal. **near normal(-1.5°C to 1.5°C)** at many places over Sub Himalayan West Bengal & Sikkim and Coastal Andhra Pradesh & Yanam; at most places over Andaman & Nicobar Islands, Haryana-Chandigarh-Delhi, Rayalaseema, North Interior Karnataka, South Interior Karnataka, Kerala & Mahe and Lakshadweep; at few places over Nagaland, Manipur, Mizoram & Tripura and Punjab. **The highest maximum temperature of 40.6°C was reported at AMRAVATI (MAHARASHTRA).**

Meteorological Analysis (Based on 0530 hours IST)

- The **Western Disturbance** as an upper air **cyclonic circulation** now lies over Punjab between 3.1& 5.8 km above mean sea level with the trough aloft in upper level westerlies with its axis at 7.6 km above mean sea level now runs roughly along Long. 71°E to the north of Lat. 30°N.
- The **upper air cyclonic circulation** over south Haryana & neighbourhood now lies Haryana & neighbourhood at 1.5 km above mean sea level persists.
- An **upper air cyclonic circulation** lay over northwest Rajasthan and neighbourhood at 0.9km above mean sea level.
- An east-west **trough** runs from above cyclonic circulation to southwest Uttar Pradesh across northeast Rajasthan at 0.9km above mean sea level.
- The **upper air cyclonic circulation** now lies over Northeast Assam & adjoining Arunachal Pradesh and extends upto 4.5 km above mean sea level.
- The **trough** in lower level westerlies with its axis roughly along Long. 93°E to the north of Lat. 22°N persists and now seen at 5.8 km above mean sea level.
- The **trough** from Marathwada to North Interior Tamilnadu across Interior Karnataka at 0.9 km above mean sea level persists.
- **Subtropical westerly Jet Stream** with core winds of the order of 105 knots at 12.6 km above mean sea level prevails over East India.
- A **fresh Western Disturbance** is likely to affect northwest India from night of 17th March 2026.
- The **upper air cyclonic circulation** over southeast Arabian sea along & off Lakshadweep area between 3.1 & 5.8 km above mean sea level has become less marked.
- The **trough** from Southwest Bay of Bengal off North Sri Lanka coast to Comorin area across Gulf of Mannar between 1.5 & 3.1 km above mean sea level has become less marked.

Weather Outlook for subsequent 3 days

Scattered to fairly widespread rainfall activity likely over Northwest India, East India, Northeast India and eastern parts of South Peninsular India.

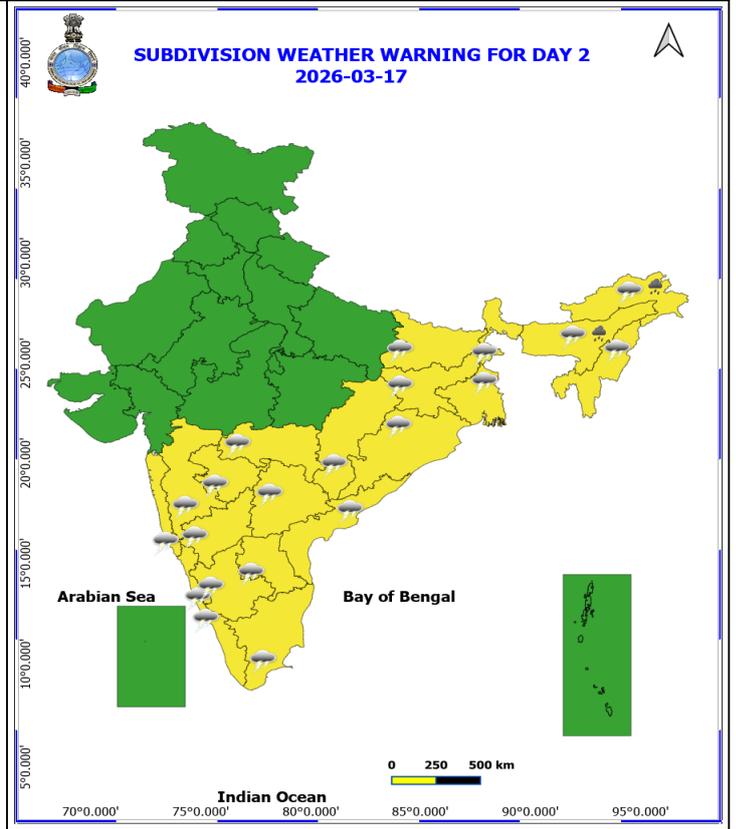
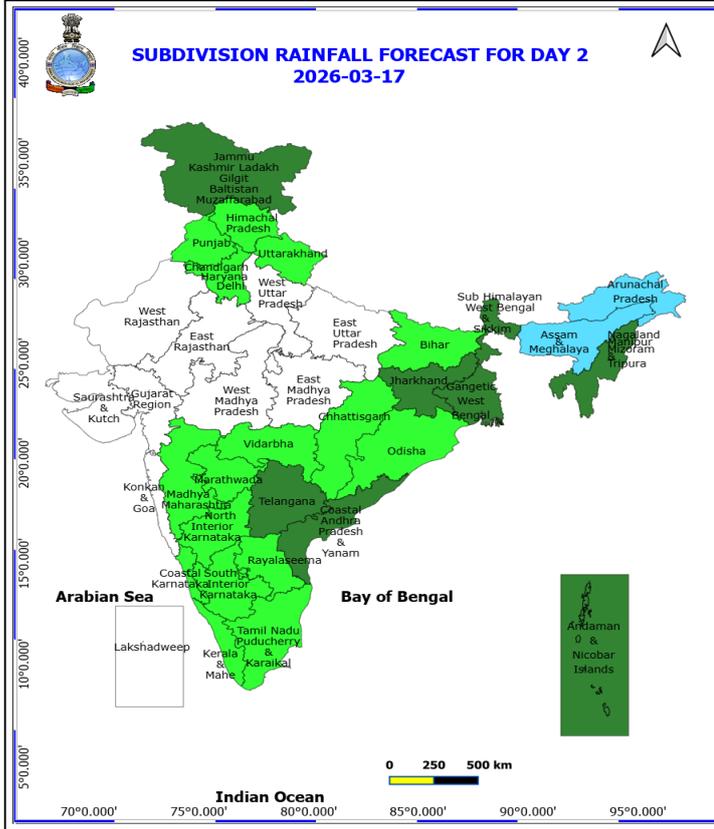


16 March (Day 1)

- ❖ **Heavy Rainfall** very likely at isolated places over Arunachal Pradesh and Assam & Meghalaya.
- ❖ **Thunderstorm accompanied with Hailstorm** very likely at isolated places over Bihar, East Uttar Pradesh, Gangetic West Bengal, Jharkhand, Odisha and Uttarakhand.
- ❖ **Thundersquall with wind speed reaching(50-60kmph)** very likely at isolated places over Gangetic West Bengal, Jharkhand and Uttarakhand.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(40-50kmph)** very likely at isolated places over Bihar, Himachal Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Odisha, Sub Himalayan West Bengal & Sikkim and Uttar Pradesh.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(30-40kmph)** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Chhattisgarh, Coastal Andhra Pradesh, Haryana, Chandigarh & Delhi, Konkan & Goa, Maharashtra, Nagaland, Manipur, Mizoram and Tripura, Punjab and Telangana.
- ❖ **Thunderstorm accompanied with Lightning** very likely at isolated places over Karnataka and Kerala & Mahe.

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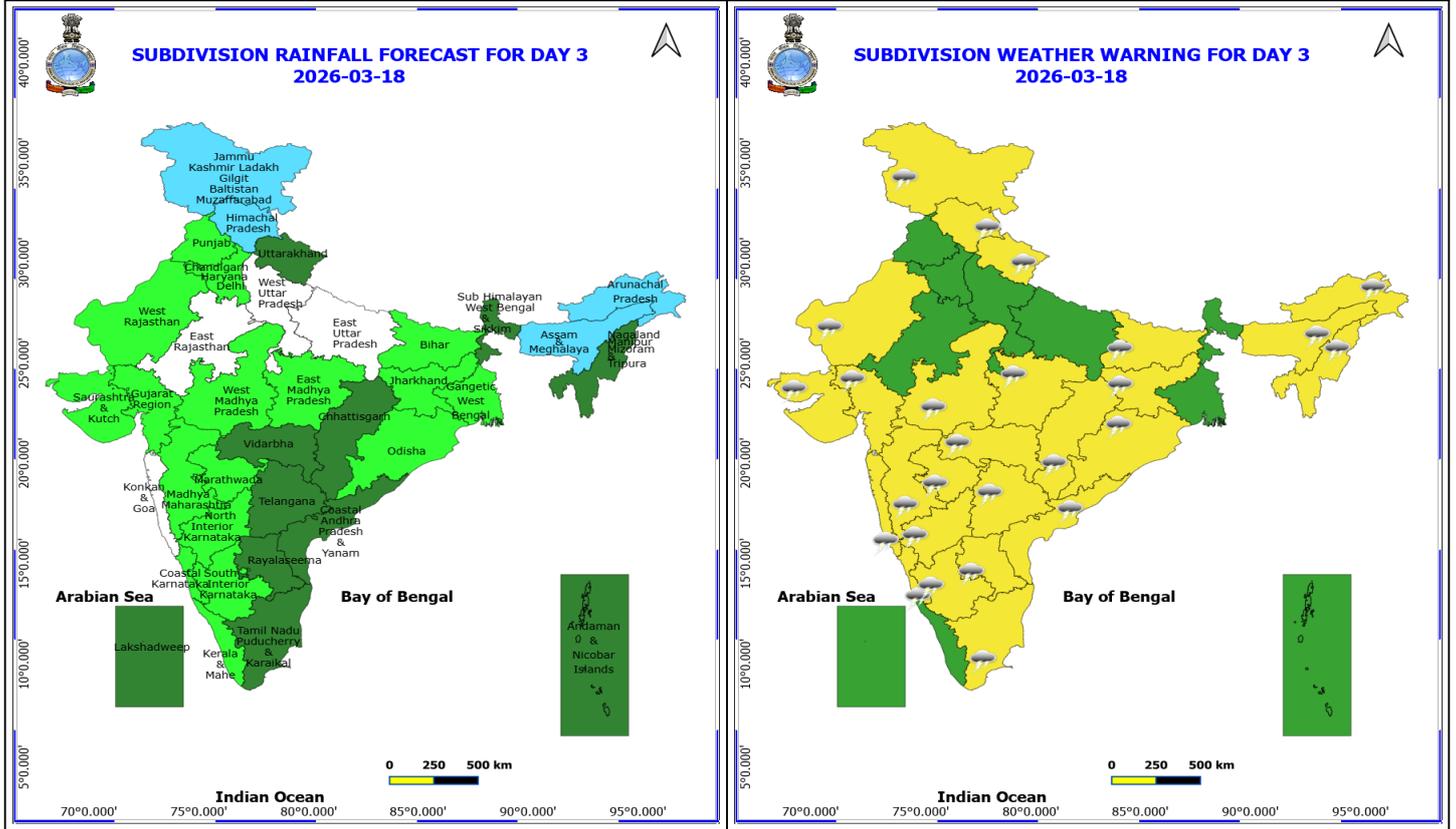
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17 March (Day 2)

- ❖ **Heavy Rainfall** very likely at isolated places over Arunachal Pradesh and Assam & Meghalaya.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(40-50kmph)** very likely at isolated places over Bihar, Chhattisgarh and Jharkhand.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(30-40kmph)** very likely at isolated places over Andhra Pradesh, Assam & Meghalaya, Coastal Karnataka, Konkan & Goa, Maharashtra, Nagaland, Manipur, Mizoram and Tripura, Odisha, Telangana and West Bengal & Sikkim.
- ❖ **Thunderstorm accompanied with Lightning** very likely at isolated places over Arunachal Pradesh, Interior Karnataka, Kerala & Mahe and Tamil Nadu Puducherry & Karaikal.

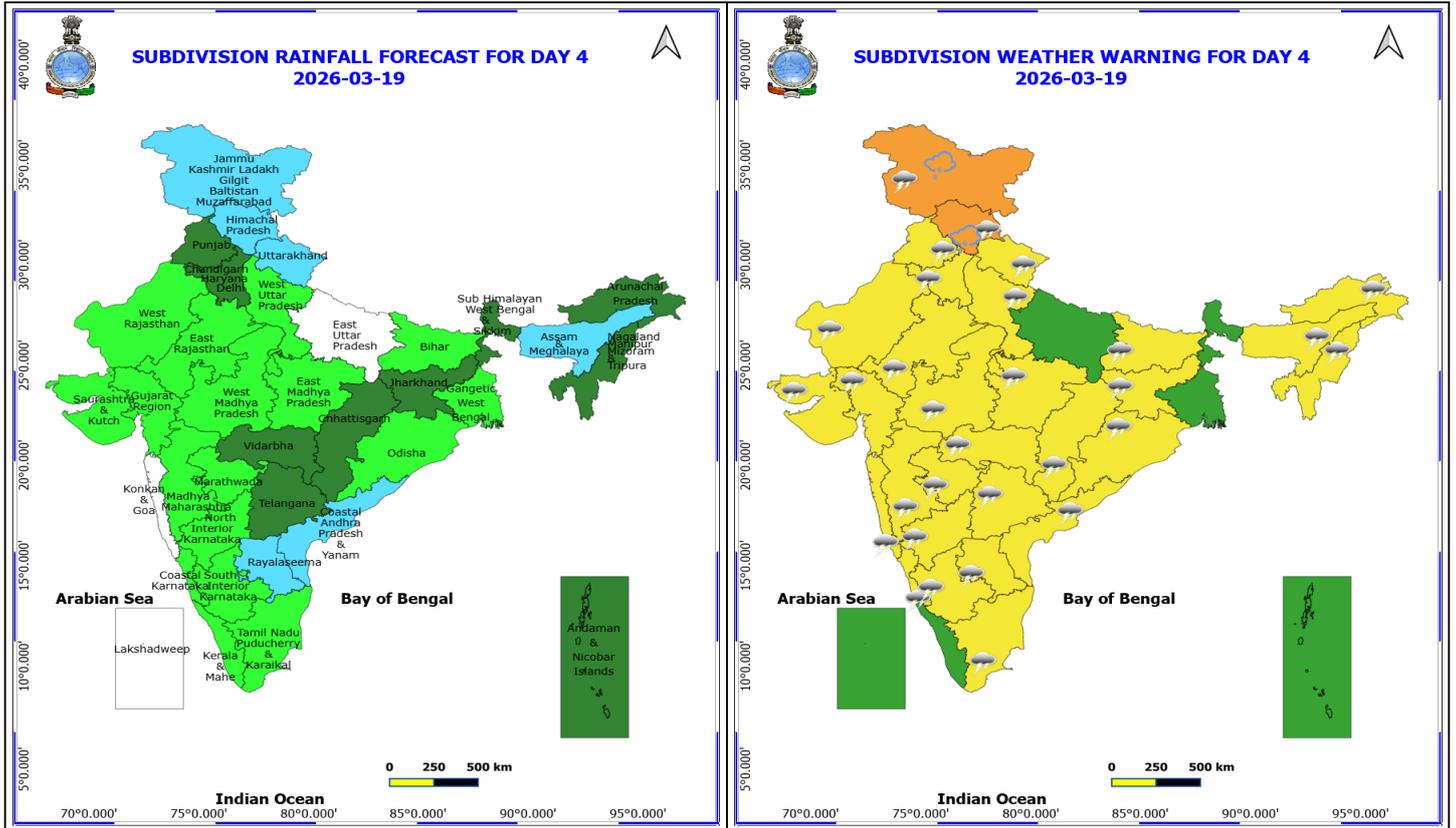
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18 March (Day 3)

- ❖ **Thunderstorm accompanied with lightning & gusty winds(40-50kmph)** very likely at isolated places over Andhra Pradesh, Bihar, Chhattisgarh, East Madhya Pradesh, Gujarat State, Himachal Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Jharkhand, Konkan & Goa, Maharashtra and Uttarakhand.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(30-40kmph)** very likely at isolated places over Coastal Karnataka, Odisha, Telangana and West Madhya Pradesh.
- ❖ **Thunderstorm accompanied with Lightning** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Interior Karnataka, Nagaland, Manipur, Mizoram and Tripura, Tamil Nadu Puducherry & Karaikal and West Rajasthan.

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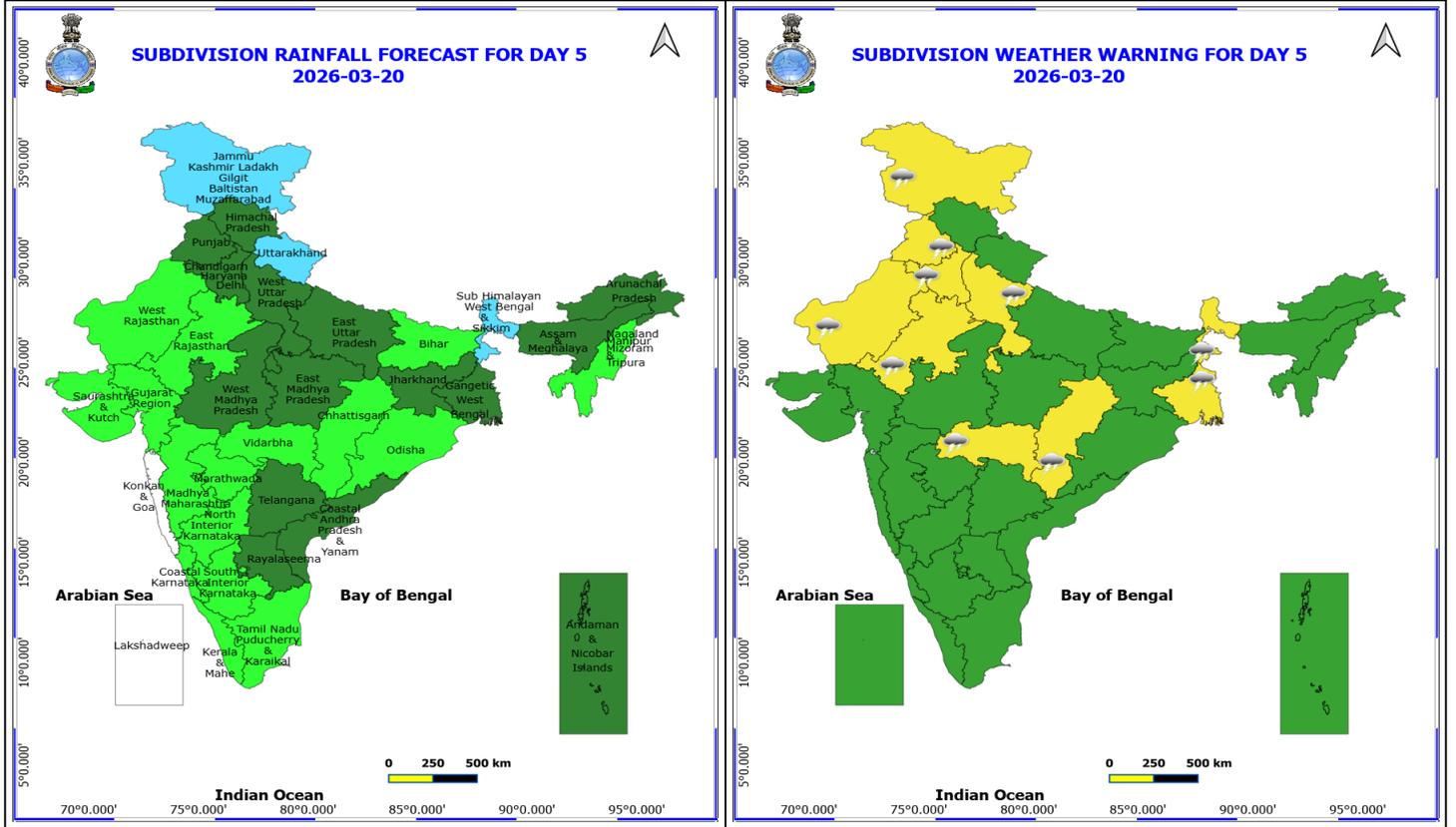
19 March (Day 4)

- ❖ **Thunderstorm accompanied with Hailstorm** likely at isolated places over Himachal Pradesh and Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(40-50kmph)** likely at isolated places over Andhra Pradesh, Bihar, Chhattisgarh, Gujarat State, Haryana, Chandigarh & Delhi, Himachal Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Jharkhand, Konkan & Goa, Madhya Pradesh, Maharashtra, Punjab, Uttarakhand and West Uttar Pradesh.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(30-40kmph)** likely at isolated places over East Rajasthan, Odisha and Telangana.
- ❖ **Thunderstorm accompanied with Lightning** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Karnataka, Nagaland, Manipur, Mizoram and Tripura, Tamil Nadu Puducherry & Karaikal and West Rajasthan.

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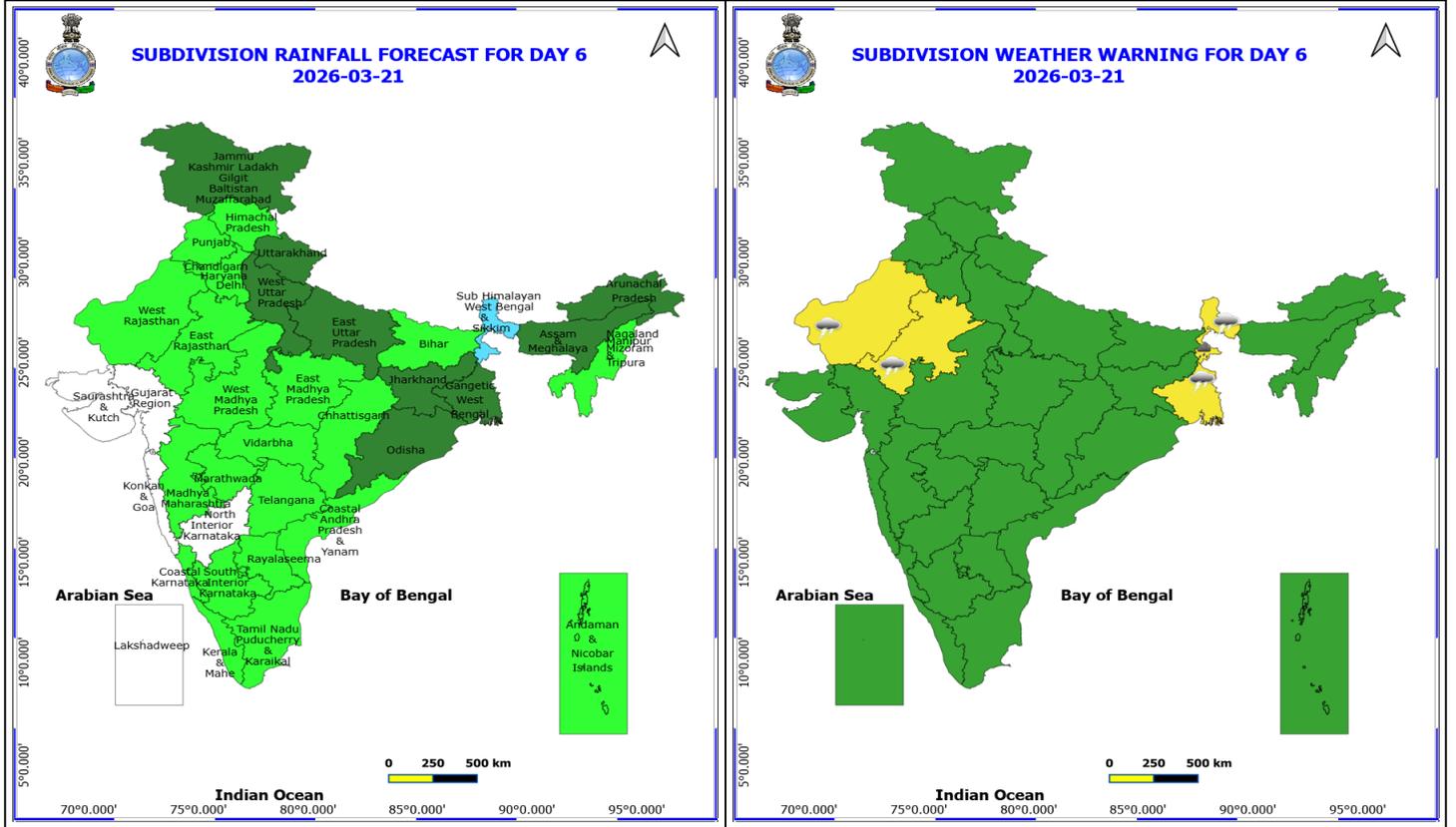
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20 March (Day 5)

- ❖ **Thunderstorm accompanied with lightning & gusty winds(40-50kmph)** likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and West Uttar Pradesh.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(30-40kmph)** likely at isolated places over Haryana, Chandigarh & Delhi, Punjab and West Bengal & Sikkim.
- ❖ **Thunderstorm accompanied with Lightning** likely at isolated places over Chhattisgarh, Rajasthan and Vidarbha.

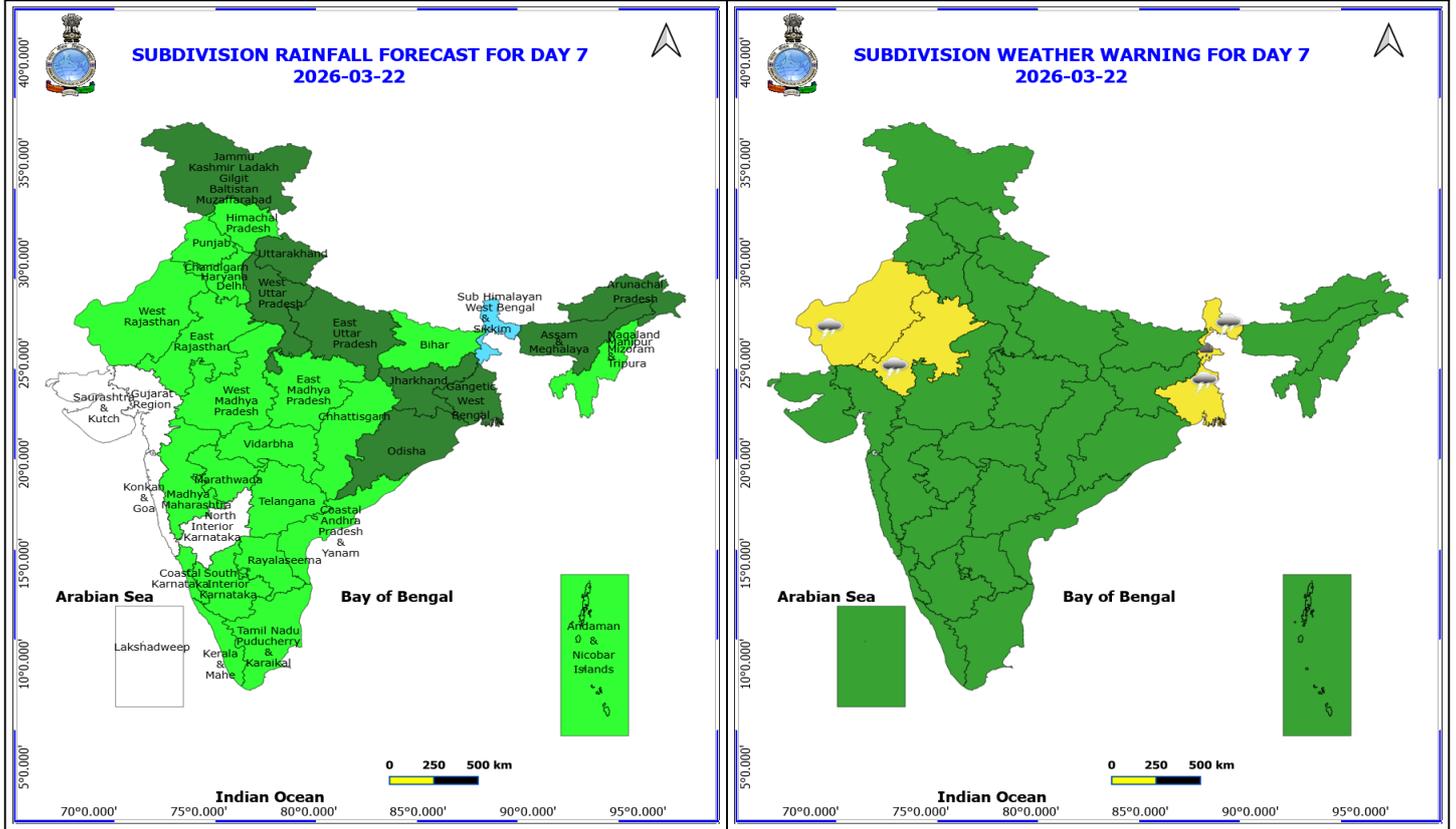
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21 March (Day 6)

- ❖ **Heavy Rainfall** likely at isolated places over Sub Himalayan West Bengal & Sikkim.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(30-40kmph)** likely at isolated places over West Bengal & Sikkim.
- ❖ **Thunderstorm accompanied with Lightning** likely at isolated places over Rajasthan.

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22 March (Day 7)

- ❖ **Heavy Rainfall** likely at isolated places over Sub Himalayan West Bengal & Sikkim.
- ❖ **Thunderstorm accompanied with lightning & gusty winds(30-40kmph)** likely at isolated places over West Bengal & Sikkim.
- ❖ **Thunderstorm accompanied with Lightning** likely at isolated places over Rajasthan.

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Table-1

7 Days Rainfall Forecast

S.No.	Subdivision	16-Mar	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar	22-Mar
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	SCT	SCT	SCT	SCT	SCT	ISOL	ISOL
2	ARUNACHAL PRADESH	WS	FWS	FWS	SCT	SCT	SCT	SCT
3	ASSAM & MEHGHALAYA	WS	FWS	FWS	FWS	SCT	SCT	SCT
4	N. M. M. & T.	SCT	SCT	SCT	SCT	ISOL	ISOL	ISOL
5	S.H. WEST BENGAL & SIKKIM	FWS	SCT	SCT	SCT	FWS	FWS	FWS
6	GANGETIC WEST BENGAL	FWS	SCT	ISOL	ISOL	SCT	SCT	SCT
7	ODISHA	SCT	ISOL	ISOL	ISOL	ISOL	SCT	SCT
8	JHARKHAND	SCT	SCT	ISOL	SCT	SCT	SCT	SCT
9	BIHAR	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
10	EAST UTTAR PRADESH	SCT	DRY	DRY	DRY	SCT	SCT	SCT
11	WEST UTTAR PRADESH	ISOL	DRY	DRY	ISOL	SCT	SCT	SCT
12	UTTARAKHAND	FWS	ISOL	SCT	FWS	FWS	SCT	SCT
13	HARYANA, CHD & DELHI	ISOL	ISOL	ISOL	SCT	SCT	ISOL	ISOL
14	PUNJAB	ISOL	ISOL	ISOL	SCT	SCT	ISOL	ISOL
15	HIMACHAL PRADESH	FWS	ISOL	FWS	FWS	SCT	ISOL	ISOL
16	JAMMU AND KASHMIR AND LADAKH	FWS	SCT	FWS	FWS	FWS	SCT	SCT
17	WEST RAJASTHAN	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
18	EAST RAJASTHAN	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
19	WEST MADHYA PRADESH	DRY	DRY	ISOL	ISOL	SCT	ISOL	ISOL
20	EAST MADHYA PRADESH	DRY	DRY	ISOL	ISOL	SCT	ISOL	ISOL
21	GUJRAT REGION	DRY	DRY	ISOL	ISOL	ISOL	DRY	DRY
22	SAURASHTRA & KUTCH	DRY	DRY	ISOL	ISOL	ISOL	DRY	DRY
23	KONKAN & GOA	DRY						
24	MADHYA MAHARASHTRA	ISOL						
25	MARATHWADA	ISOL						
26	VIDARBHA	ISOL	ISOL	SCT	SCT	ISOL	ISOL	ISOL
27	CHATTISGARH	ISOL	ISOL	SCT	SCT	ISOL	ISOL	ISOL
28	COASTAL ANDHRA PRADESH	ISOL	SCT	SCT	FWS	SCT	ISOL	ISOL
29	TELANGANA	SCT	SCT	SCT	SCT	SCT	ISOL	ISOL
30	RAYALASEEMA	DRY	ISOL	SCT	FWS	SCT	ISOL	ISOL
31	TAMILNADU & PUDUCHERRY	ISOL	ISOL	SCT	ISOL	ISOL	ISOL	ISOL
32	COSTAL KARNATAKA	ISOL						
33	NORTH INTERIOR KARNATAKA	DRY	ISOL	ISOL	ISOL	ISOL	DRY	DRY
34	SOUTH INTERIOR KARNATAKA	ISOL						
35	KERALA	ISOL						
36	LAKSHDWEEP	DRY	DRY	SCT	DRY	DRY	DRY	DRY

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

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Fig. 1: Maximum Temperatures Dated 2026-03-15

Fig. 2: Departure of Maximum Temp. Dated 2026-03-15

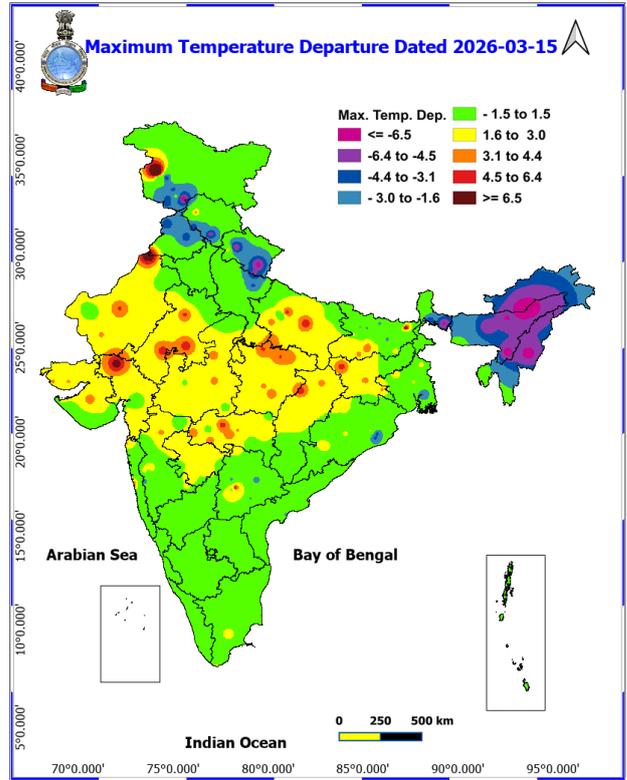
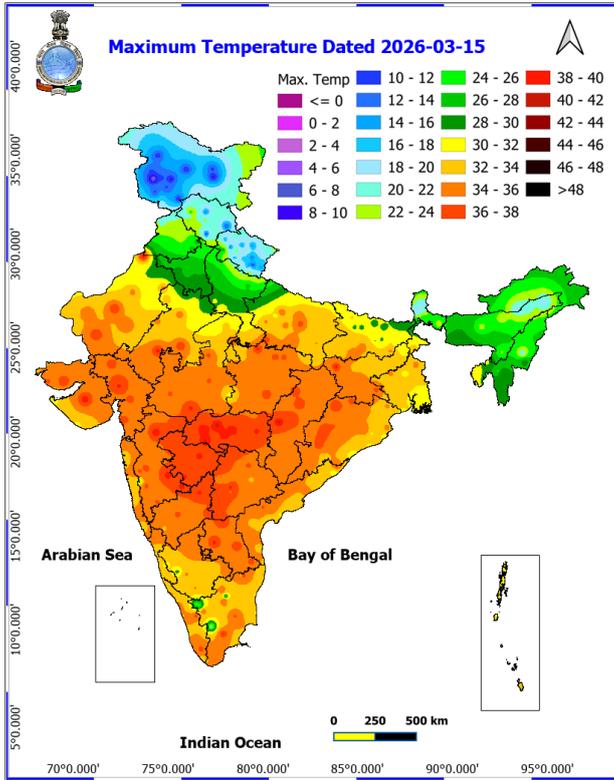
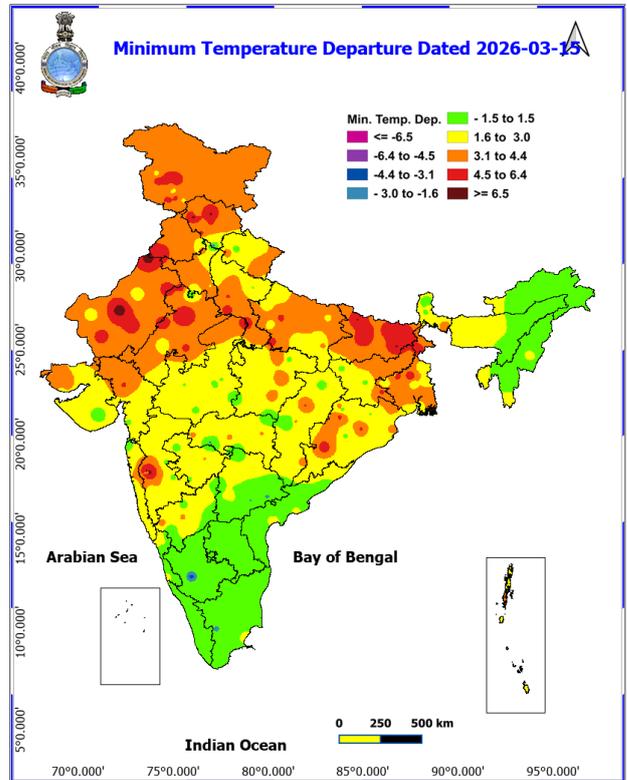
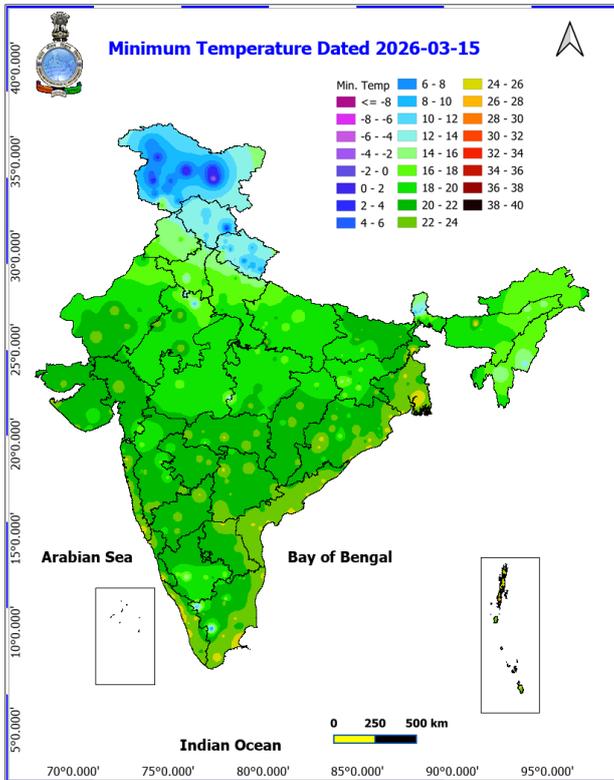


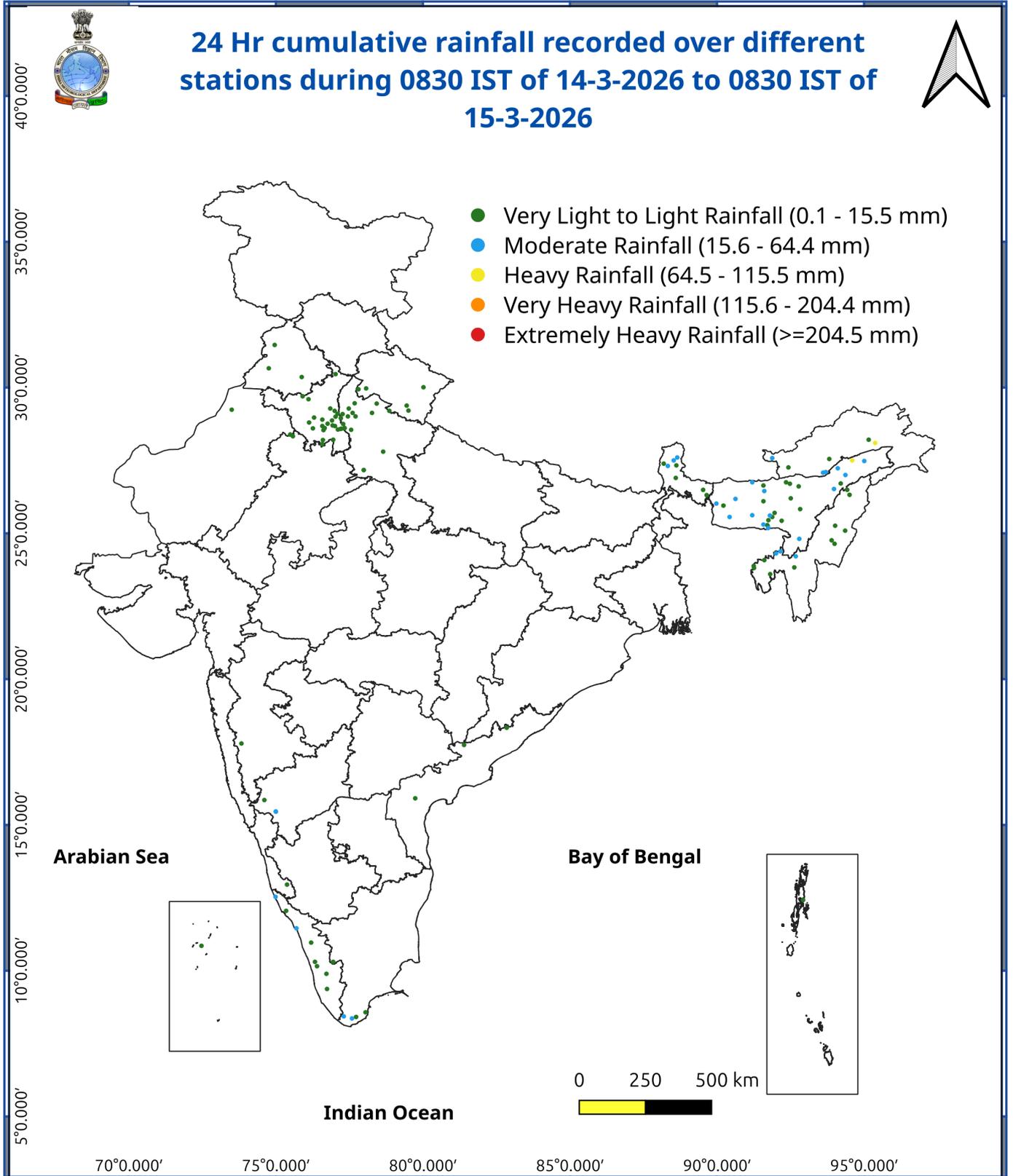
Fig. 3: Minimum Temperatures Dated 2026-03-15

Fig. 4: Departure of Minimum Temp. Dated 2026-03-15



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Impact and Actions

Impact & Action Suggested due to heavy/very heavy rainfall:

- Isolated **heavyrainfall** very likely over Sub-Himalayan West Bengal & Sikkim on 21th March.
- Isolated **heavyrainfall/snowfall** very likely over Arunachal Pradesh during 16th-17th March.
- Isolated **heavyrainfall** very likely over Assam & Meghalaya on 16th & 17th March.

Impact Expected

- Localized Flooding of roads, water logging in low lying areas and closure of underpasses mainly in urban areas of the above region.
- Occasional reduction in visibility due to heavy rainfall.
- Disruption of traffic in major cities due to water logging in roads leading to increased travel time.
- 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/squally winds & Hailstorm over

- Isolated **hailstorm** likely over Jammu-Kashmir-Ladakh, Himachal Pradesh on 19th; Uttarakhand, East Uttar Pradesh Gangetic West Bengal, Bihar, Jharkhand, Odisha on 16th March.
- **Thundersquall** (wind speed reaching 50-60 kmph gusting to 70 kmph) with Hailstorm likely over Uttarakhand and Gangetic West Bengal, Jharkhand, Odisha on 16th March.
- **Thunderstorm, lightning & gusty winds speed reaching (40-50 gusting to 60 kmph)** likely over Jammu-Kashmir-Ladakh on 16th, 18th & 20th; Himachal Pradesh 16th & 18th; Uttarakhand on 18th, 19th; Haryana Chandigarh & Delhi and Punjab on 19th; West Uttar Pradesh on 19th; East Uttar Pradesh on 16th; Haryana Chandigarh & Delhi and Punjab on 16th & 20th; West Uttar Pradesh on 16th & 20th; West Rajasthan during 18th-21th; East Rajasthan during 16th and 19th-21th; Arunachal Pradesh and Assam & Meghalaya during next 5-6 days; Arunachal Pradesh, Assam & Meghalaya during 16th and Nagaland, Manipur, Mizoram & Tripura on 16th & 17th; West Madhya Pradesh on 18th & 19th; East Madhya Pradesh on 18th & 19th; Vidarbha during 16th-20th & Chhattisgarh during 16th-20th; Jharkhand during 16th-19th, Gangetic West Bengal on 16th & 17th and 20th, 21th & Bihar during 16th-19th and Odisha during 16th-19th; over West India during 16th-19th March except Gujarat state where it is likely during 18th & 19th March only.

Impact expected:

- Breaking of tree branches, uprooting of large avenue trees. Large dead limbs blown from trees. Damage to Standing crops.
- Minor to Major damage to banana and papaya trees.
- Minor to major damage to power and communication lines due to breaking of branches.
- Strong wind/hail may damage plantation, horticulture and standing crops.
- Hail may injure people and cattle at open places.
- Partial damage to vulnerable structures due to strong winds.

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- 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 various parts of the country

Agromet advisories for likely impact of Hailstorms

- Use hail nets or hail caps in fruit orchards and vegetable plants to protect them from mechanical damage in Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh., Bihar, Jharkhand, Assam, Meghalaya, Manipur and Mizoram.

Agromet advisories for likely impact of Heavy Rainfall

- In **Arunachal Pradesh**, postpone harvesting of cabbage, pea, mustard and late-maturing paddy varieties and digging of potatoes. Shift the harvested produce to safe places. Drain out excess rainwater from the standing crop fields. Nursery for chilli, tomato, and other vegetables may be prepared under covered shelters or poly houses to protect seedlings from rain. Open nurseries should be immediately covered with polythene sheets or sack cloths to protect seedlings from rain.
- In **Assam**, drain out excess rainwater from the standing crop fields.
- In **Meghalaya**, ensure proper drainage in summer vegetable crops. Carry out staking and propping of plantation crops and protect young seedlings from heavy rainfall. Keep the harvested pods of garden peas in safer place immediately.
- In **Manipur**, harvest mature rapeseed, mustard, lentil during clear weather. Avoid water stagnation in the crop field due to rains.
- In **Sub-Himalayan West Bengal**, drain out excess rainwater from the standing crop fields. Cover the nursery of cucurbits and Dalle Korsani with polyethylene sheets or agro-net to protect the seedlings from adverse weather conditions.
- In **Kashmir** region, drain out excess rainwater from the standing crop fields.

Agromet advisories for likely impact of Thunderstorm / Gusty Winds

- Provide mechanical support to horticultural crops and staking or support to vegetables and young fruit plants / fruit-bearing plants to avoid lodging due to strong winds.

Likely Impact of Above normal Temperatures

- Increased evapotranspiration leading to soil moisture depletion and moisture stress, which may adversely affect crop growth, seed development and yield.
- Accelerated crop maturity, shortened grain filling duration and shrivelled grain formation, resulting in possible yield reduction in wheat crop.
- Increased moisture stress and reduced grain filling in cereals and other *rabi* crops such as *rabi* maize, sorghum and other late sown *rabi* crops (vegetative to reproductive stages).
- Flower drop, poor pod setting, premature pod drying and reduction in seed size and seed weight in oilseed and pulse crops.

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- Reduced tuber bulking and early plant senescence in tuber crops such as potato.
- Flower drop, fruit sunscald and reduction in marketable yield in vegetable crops such as tomato, capsicum, cabbage and cauliflower.
- Flower drop, reduced fruit setting, premature fruit drop, fruit sunburn (or sunscald), reduction in fruit size, uneven ripening, deformities such as spongy tissue (especially in mango), along with an overall decrease in yield and quality in horticultural crops (such as mango, apple, orange, etc.),
- Increased crop water requirements and higher risk of water stress under limited irrigation conditions.
- Reduced feed intake, milk yield and egg production along with increased water requirement in livestock and poultry.

Agromet advisories for likely impact of Above normal Temperatures

- In **Maharashtra**, provide light and frequent irrigation during the evening or early morning hours to sapota, chilli, brinjal and tomato. Apply irrigation at frequent intervals to reduce premature fruit drop and sun scorching in mango and undertake pre-harvest bagging of mango fruits using newspaper bags to prevent sun scalding in **Konkan**. Apply irrigation in late sown *rabi* crops like wheat, groundnut, sesame, safflower, sorghum, orchards and vegetables as per requirement and use straw mulch to reduce evaporation losses in **Vidarbha**.
- In **Madhya Pradesh**, apply light irrigation in wheat, chickpea and sugarcane to minimize the impact of high temperature. Complete harvesting of matured mustard during morning/evening hours and keep the produce in safe places.
- In **Chhattisgarh**, provide **light and frequent irrigation** in standing crops such as **wheat, chickpea, lentil and mustard** to minimize heat stress and maintain adequate soil moisture.
- In **Rajasthan**, provide protective irrigation in cumin, isabgol, mustard and gram during morning or evening hours to minimize heat stress.
- In **Uttar Pradesh**, provide light irrigation in wheat (grain filling stage), mustard and gram crops during morning or evening hours to reduce adverse impacts of heat.
- In **Punjab**, maintain optimum soil moisture through irrigation in mustard, gobhi sarson and potato.
- In **Haryana**, provide light irrigation to mustard and gram at flowering and pod formation stages. Maintain optimum soil moisture in wheat during grain filling stage.
- In **Himachal Pradesh**, apply irrigation to wheat during early morning or evening hours to protect the crop from heat stress conditions
- In **Uttarakhand**, apply irrigation to wheat, chickpea and lentil and French beans.
- In **Bihar**, provide irrigation to maize and wheat crops at their sensitive growth stages.
- In **Jharkhand**, provide irrigation in wheat at the grain-filling stage.
- In **Odisha**, apply light and frequent irrigation to *Boro* rice, green gram, black gram, vegetables, and horticultural crops at regular intervals in the early morning or late evening.
- Take appropriate action for conservation of soil moisture through mulching, proper field bunding, and avoiding unnecessary intercultivation.

Livestock / Poultry

- Keep the animals inside the shed during Heavy Rainfall/Hailstorm period and provide them balanced feed. Store feed and fodder in a safe place to prevent spoilage.
- Provide clean, hygienic and plenty of drinking water to animals.
- To reduce the effect of heat wave/high temperature, cover the roof of poultry sheds with grass.

LEGENDS:

Region wise classification of meteorological Sub-Divisions:

Northwest India: Western Himalayan Region (Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand); Punjab, Haryana-Chandigarh-Delhi; West Uttar Pradesh, East Uttar Pradesh, West Rajasthan and East Rajasthan.

Central India: West Madhya Pradesh, East Madhya Pradesh, Vidarbha and Chhattisgarh.



East India: Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim; Gangetic West Bengal, Odisha and Andaman & Nicobar Islands.

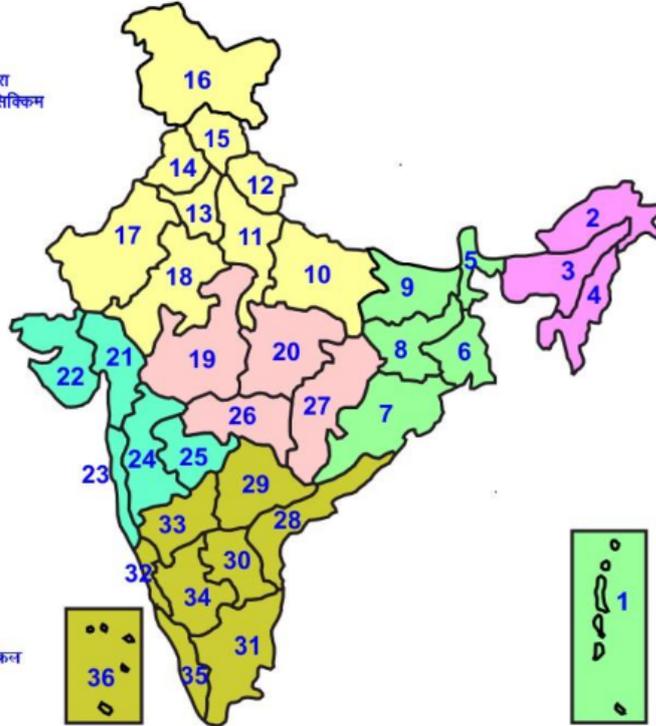
Northeast India: Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.

West India: Gujarat Region, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra and Marathawada.

South India: Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal Karnataka, North Interior Karnataka, South Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.

LEGENDS

- 1 अंडमान और निकोबार द्वीप समुह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड मनीपुर मीजोरम और त्रिपुरा
- 5 उप हिमालय पश्चिम बंगाल एवं सिक्किम
- 6 पश्चिम बंगाल
- 7 ओडिसा
- 8 झारखंड
- 9 बिहार
- 10 पूर्वी उत्तर प्रदेश
- 11 पश्चिम उत्तर प्रदेश
- 12 उत्तराखंड
- 13 हरियाणा चंडिगढ़ एवं दिल्ली
- 14 पंजाब
- 15 हिमाचल प्रदेश
- 16 जम्मू एवं कश्मीर एवं लद्दाख
- 17 पश्चिम राजस्थान
- 18 पूर्वी राजस्थान
- 19 पश्चिम मध्य प्रदेश
- 20 पूर्वी मध्य प्रदेश
- 21 गुजरात क्षेत्र
- 22 सौराष्ट्र एवं कच्छ
- 23 कोंकण एवं गोवा
- 24 मध्य महाराष्ट्र
- 25 मराठावाडा
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 तटीय आंध्र प्रदेश एवं यनम
- 29 तेलंगाना
- 30 रायलसीमा
- 31 तमिलनाडु, पुदुचेरी एवं कराईकल
- 32 तटिय कर्नाटक
- 33 आंतरिक उत्तरी कर्नाटक
- 34 आंतरिक दक्षिणी कर्नाटक
- 35 केरल एवं माहे
- 36 लक्षद्वीप



1. Andaman & Nicobar Islands
2. Arunachal Pradesh
3. Assam & Meghalaya
4. Nagaland, Manipur, Mizoram & Tripura
5. Sub-Himalayan West Bengal & Sikkim
6. Gangetic West Bengal
7. Orissa
8. Jharkhand
9. Bihar
10. East Uttar Pradesh
11. West Uttar Pradesh
12. Uttarakhand
13. Haryana, Chd & Delhi
14. Punjab
15. Himachal Pradesh
16. Jammu & Kashmir and Ladakh
17. West Rajasthan
18. East Rajasthan
19. West Madhya Pradesh
20. East Madhya Pradesh
21. Gujarat
22. Saurashtra
23. Konkan & Goa
24. Madhya Maharashtra
25. 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 Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)

Subdivision Colour

- NO WARNING
- WATCH (BE UPDATED)
- 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

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

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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



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



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 $\geq 37^{\circ}\text{C}$



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 $> 6.4^{\circ}\text{C}$.



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 $\leq 15^{\circ}\text{C}$



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 $\leq -6.5^{\circ}\text{C}$



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



Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)



An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.



Ice deposits on ground

Air temperature $\leq 4^{\circ}\text{C}$ (over Plains)



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



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



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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