**Government of India**
**Ministry of Earth Sciences**
**India Meteorological Department**

**Press Release**
**Date: 21st February, 2024**
**Time of Issue: 1310 hours IST**

**Subject: Rainfall with isolated thunderstorm activity likely over Northeast & adjoining East India till 23rd February, 2024.**

## Realised weather during past 24 hours till 0830 hours IST of today:

- **Minimum temperatures**: Minimum temperatures are in the range of 9-13°C over most parts of Punjab, Haryana-Chandigarh-Delhi, West Uttar Pradesh and north Rajasthan which are normal to above normal by 1-3°C and near normal over rest parts of north India.**Today, the lowest minimum temperature of 6.8°C reported at Amritsar (Punjab).**
- **Hailstorm** recorded at isolated places over Gangetic West Bengal, Uttar Pradesh, Uttarakhand, Himachal Pradesh, West Madhya Pradesh.
- **Light to moderate rainfall/snowfall** occurred at most places with isolated **heavy rainfall/snowfall** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and **Light to moderate rainfall/snowfall** at many places over Himachal Pradesh; at a few places Uttarakhand and Arunachal Pradesh; **Light to moderate rainfall** at a few places over Assam & Meghalaya, Gangetic West Bengal; at isolated places over Sub-Himalayan West Bengal & Sikkim, Bihar, Jharkhand, West Uttar Pradesh, Punjab, Rajasthan and West Madhya Pradesh. **(refer Annexure I)**

## Weather Systems and Forecast & Warnings during next 5 days: (graphics in Annexure II)

- The **Western Disturbances** with trough in lower tropospheric westerlies runs along Long. 77°E to the north of Lat. 30°N and an induced cyclonic circulation lies over northwest Uttar Pradesh & neighbourhood in lower tropospheric levels. Under the influence of these systems:
  - Isolated to scattered light to moderate rainfall/snowfall accompanied with **thunderstorms & lightning** very likely over Western Himalayan Region on 21st and isolated/scattered light to moderate rainfall/snowfall on 22nd February, 2024.
  - **Hailstorm activity** very likely at isolated places over Himachal Pradesh, Uttarakhand on 21st February, 2024.
  - Isolated to scattered light/moderate rainfall very likely accompanied with thunderstorms, lightning over Punjab, Haryana-Chandigarh-Delhi, Madhya Pradesh on 21st; over East Uttar Pradesh on 22nd and with **gusty winds** (speed reaching 30-40 kmph gusting to 60 kmph) over Uttar Pradesh on 21st; isolated light/moderate rainfall over East Rajasthan on 21st; over Madhya Pradesh on 22nd February, 2024.
  - **Hailstorm activity** very likely at isolated places over East Uttar Pradesh, East Madhya Pradesh on 21st February, 2024.

- ❖ A fresh Western Disturbance is likely to affect Western Himalayan Region from 24th February night and under its influence isolated to scattered light to moderate rainfall/snowfall very likely over Western Himalayan Region during 24th -27th February, 2024.
- ❖ A cyclonic circulation over northeast Assam & neighbourhood in lower tropospheric levels: In addition, there is high moisture feeding likely from Bay of Bengal over East & Northeast India during next 2-3 days. Under the influence of these systems:
  - ➢ Fairly widespread to widespread light/moderate rainfall/snowfall with thunderstorms, lightning over Arunachal Pradesh during 21st – 23rd, Assam & Meghalaya on 23rd and with **gusty winds** (speed reaching 30-40 kmph gusting to 60 kmph) over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 21st & 22nd; and isolated to scattered light/moderate rainfall/snowfall over Arunachal Pradesh during 24th- 27th; over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 24th & 25th February, 2024.
  - ➢ **Isolated heavy rainfall/snowfall** also likely over Arunachal Pradesh during 21st – 23rd; over Assam, Nagaland on 22nd February, 2024.
  - ➢ Isolated to scattered light/moderate rainfall with thunderstorms, lightning likely over Bihar, Jharkhand on 21st; with gusty winds (speed reaching 30-40 kmph gusting to 60 kmph) West Bengal & Sikkim on 21st and with gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) over Gangetic West Bengal on 22nd February, 2024.
  - ➢ Isolated **heavy rainfall** likely over Sikkim on 22nd February,2024.
  - ➢ **Hailstorm activity** also very likely at isolated places over Sub-Himalayan West Bengal & Sikkim on 21st and over Gangetic West Bengal on 22nd February, 2024.
- ❖ **Hot and humid weather very likely to prevail over coastal Odisha, Rayalaseema and Kerala on 21st & 22nd February, 2024.**

## Minimum Temperature Forecast:

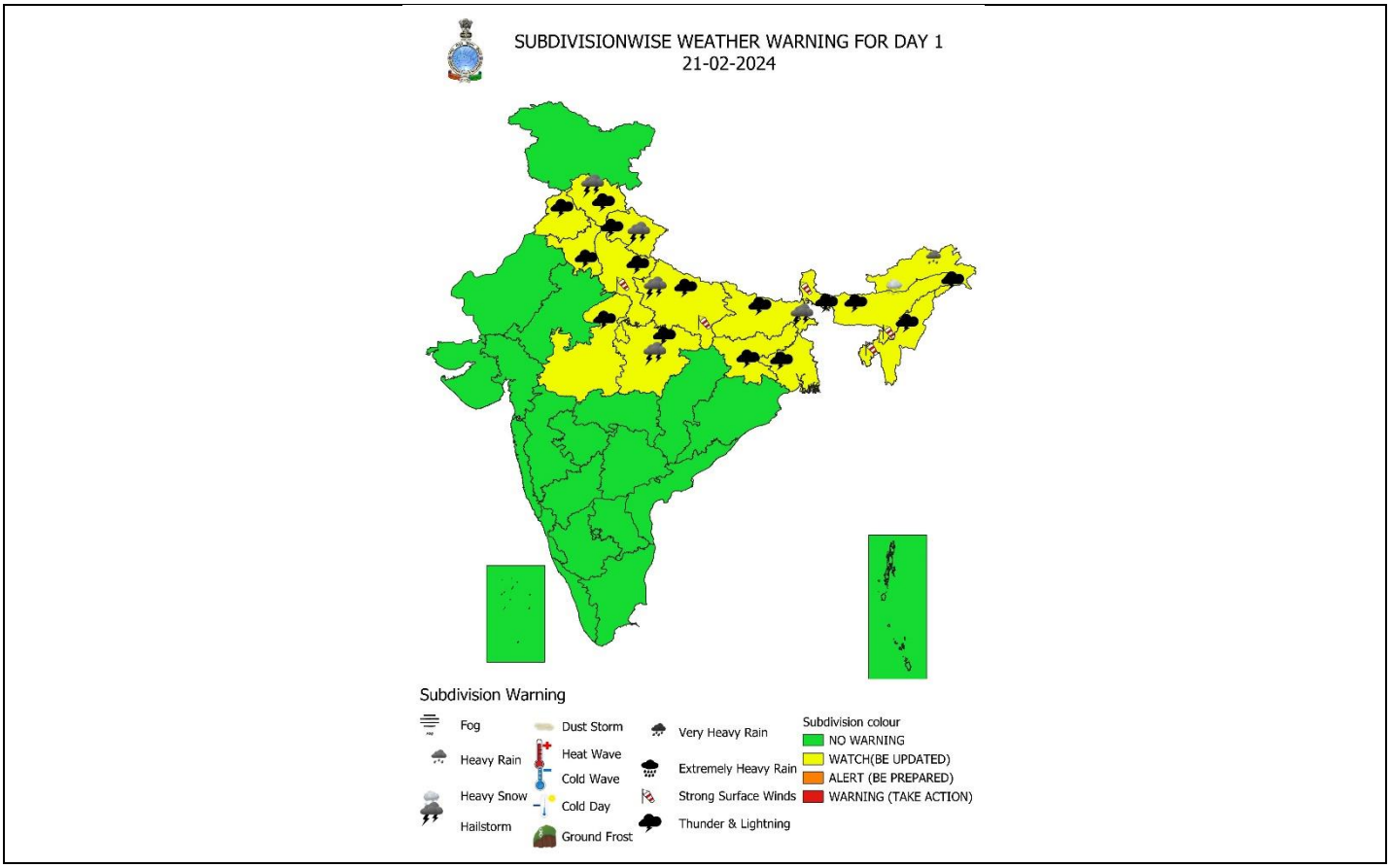
- ❖ No significant change in minimum temperatures likely over Northwest India during next 24 hours and fall by 2-3 °C thereafter.
- ❖ No significant change in minimum temperatures very likely over rest parts of north India during next 5 days.

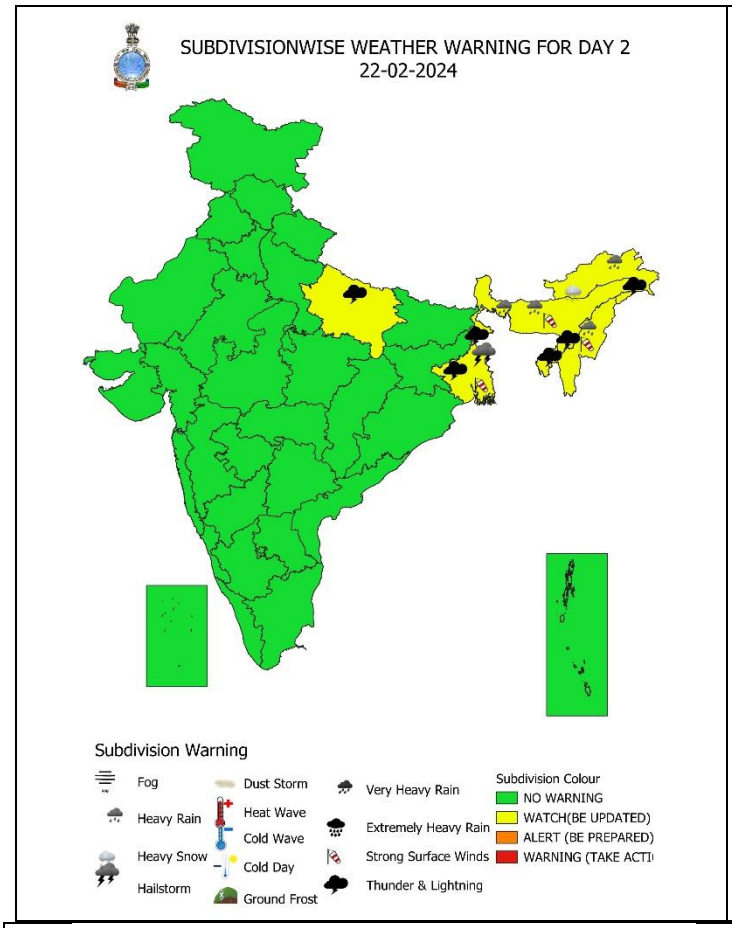
**For more details, kindly refer:** https://mausam.imd.gov.in/responsive/all_india_forcast_bulletin.php

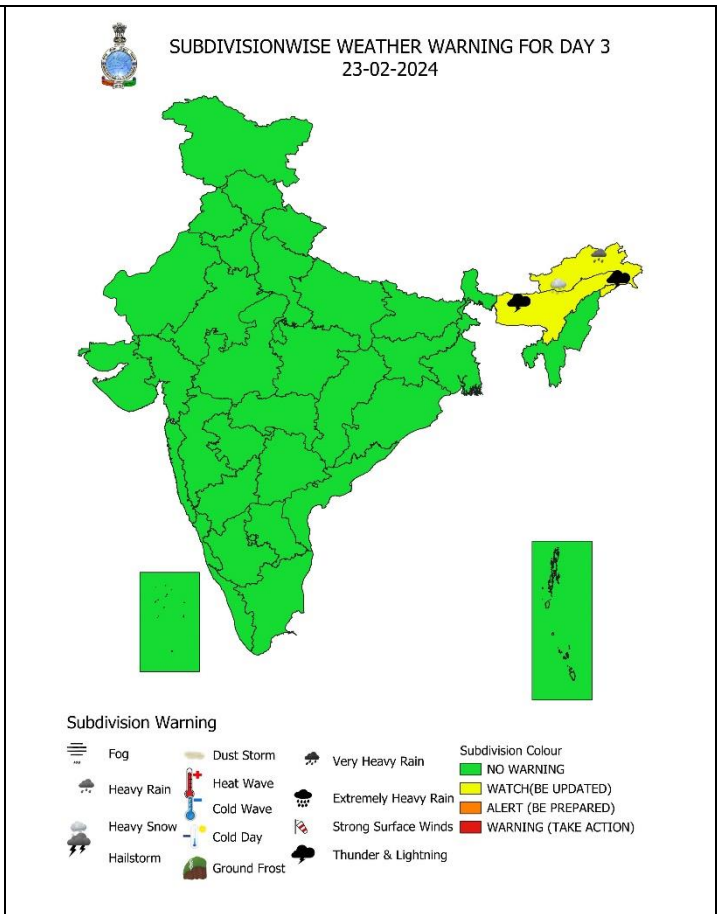
## ANNEXURE I

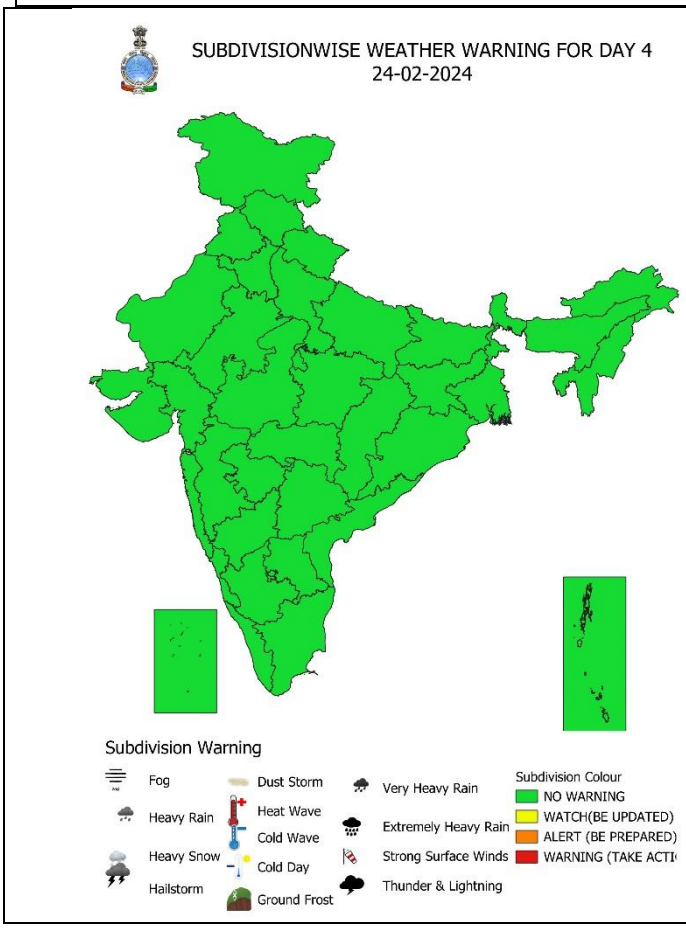
**Significant rainfall (from 0830 hours IST of yesterday to 0830 hours IST of today)** (in cm): **Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad:** Banihal (dist Ramban) 7, Kukernag (dist Anantnag) 7, Qazi Gund (dist Kulgam) 5, Gulmarg R.s. (dist Baramula) 5, Batote (dist Ramban) 4, Anantnag (dist Anantnag) 4, Srinagar Aero (dist Badgam) 3, Kargil (dist Kargil) 3, Govindpura Aws (dist Ramban) 3, Rajouri Arg (dist Rajouri) 3, Badarwah (dist Doda) 3, Tengmarg (dist Baramula) 2, Udhampur(iaf) (dist Udhampur) 2, Leh I.a.f. (dist Ladakh (leh)) 2, Pahalgam (dist Anantnag) 2, Srinagar (dist Srinagar) 2, Kupwara Kvk Aws (dist Kupwara) 2, Gund (dist Ganderbal) 2, Shalimar Agro (dist Srinagar) 2, Rajouri (dist Rajouri) 2; **Himachal Pradesh**: Manali & Kothi (dist Kullu) 3, Saloni (dist Chamba) 3, Tissa & Chamba (dist Chamba) 2, Keylong (dist Lahul & Spiti) 2; **Uttarakhand**: Bhatwari (dist Uttarkashi) 1, Dhanaulti (dist Garhwal Tehri) 1; East Uttar Pradesh: Fatehpur Obsy (dist Fatehpur) 3, Ram Sanehi Ghat Tehsil (dist Barabanki) 3.

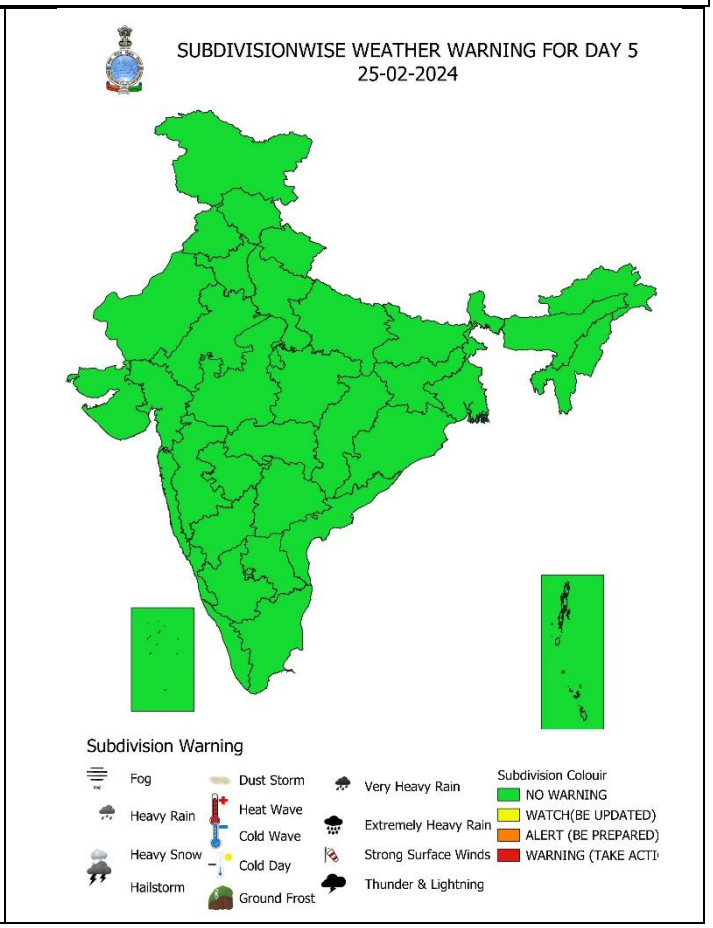
## ANNEXURE II




SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
22-02-2024
Subdivision Warning
Fog
Heavy Rain
Heavy Snow
Hailstorm
Dust Storm
Heat Wave
Cold Wave
Cold Day
Ground Frost
Very Heavy Rain
Extremely Heavy Rain
Strong Surface Winds
Thunder & Lightning
Subdivision Colour
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTI


SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
23-02-2024
Subdivision Warning
Fog
Heavy Rain
Heavy Snow
Hailstorm
Dust Storm
Heat Wave
Cold Wave
Cold Day
Ground Frost
Very Heavy Rain
Extremely Heavy Rain
Strong Surface Winds
Thunder & Lightning
Subdivision Colour
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION)


SUBDIVISIONWISE WEATHER WARNING FOR DAY 4
24-02-2024
Subdivision Warning
Fog
Heavy Rain
Heavy Snow
Hailstorm
Dust Storm
Heat Wave
Cold Wave
Cold Day
Ground Frost
Very Heavy Rain
Extremely Heavy Rain
Strong Surface Winds
Thunder & Lightning
Subdivision Colour
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTI


SUBDIVISIONWISE WEATHER WARNING FOR DAY 5
25-02-2024
Subdivision Warning
Fog
Heavy Rain
Heavy Snow
Hailstorm
Dust Storm
Heat Wave
Cold Wave
Cold Day
Ground Frost
Very Heavy Rain
Extremely Heavy Rain
Strong Surface Winds
Thunder & Lightning
Subdivision Colour
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTI

**Impact & Action Suggested due to heavy/very heavy rainfall/snowfall** over Arunachal Pradesh during 21st – 23rd; over Sikkim, Assam, Nagaland on 22nd February, 2024.

**Impacts Expected:**

- Disruption of Electricity.
- Landslide, rock fall and mudslides, Blocking/washout of roads/highways/bridges Nallahs.
- Disruption of traffic flow.
- Damage to Kuccha and unsecured structures.

**Action Suggested:**

- Avoid roadway underpasses, drainage ditches, low lying areas and areas where water collects – they can unexpectedly flood or overflow.
- Stay away from power lines or electrical wires.
- Don't stay in kuchcha houses during heavy rainfall as it may collapse anytime soon
- Drive carefully.

**Impact expected and action suggested due to thunderstorm with lightning/gusty winds & Hailstorm**: over East Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim on 21st; and over Gangetic West Bengal on 22nd February, 2024.

**Impact expected:**

- 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.
- Minor damage to kutcha houses/walls and huts.
- Loose objects may fly.

**Action suggested:**

- 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 rainfall accompanied with Heavy rainfall, Gusty winds and hailstorms likely over various parts of the country**

- Drain out excess water from crop fields to avoid water stagnation in Jammu & Kashmir and Himachal Pradesh.
- Make necessary arrangements to drain out excess water from the crop fields in Uttarakhand, Punjab, Arunachal Pradesh and Sub Himalayan West Bengal & Sikkim.
- Remove snow immediately from the branches and crotches in Jammu & Kashmir and Himachal Pradesh.
- Postpone sowing of French bean & Potato in Uttarakhand and direct sowing of vegetables in Jammu & Kashmir.
- Use hail nets or hail caps in fruit orchards to protect them from mechanical damage in Himachal Pradesh, Uttarakhand, Punjab, Haryana, West Uttar Pradesh and north Rajasthan.
- Keep harvested produce in safe places.
- Provide mechanical support to horticultural crops and staking to vegetables.

## Legends & abbreviations:

- **Heavy Rain:** 64.5 to 115.5 mm; **Very Heavy Rain:** 115.6 to 204.4 mm; **Extremely Heavy Rain:** >204.4mm.
- **Obsy:** Observatory; **AWS:** Automatic Weather Station; **dist:** District: **NH:** National Highway; **KVK**: Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation; PTO: Part Time Office.
- **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 Marathwada.
  - **South India:** Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal Karnataka, North Interior Karnataka, South Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.

**SPATIAL DISTRIBUTION** (% of Stations reporting)

| % Stations | Category | % Stations | Category |
|---|---|---|---|
| 76-100 | Widespread (WS/Most Places) | 26-50 | Scattered (SCT/ A Few Places) |
| 51-75 | Fairly Widespred (FWS/ Many Places) | 1-25 | Isolated (ISOL) |

| Subdivision Warning | | Subdivision color |
|---|---|---|
| Heavy Rain | Dust Storm | NO WARNING |
| Heavy Snow | Strong Surface Winds | WATCH(BE UPDATED) |
| Thunderstorms & Lightning | Heat Wave | ALERT (BE PREPARED) |
| Hailstorm | Cold wave | WARNING (TAKE ACTION) |
| | Fog | |

**Probabilistic Forecast**

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

| Flash Flood Risk |
|---|
| High Risk (Take Action) |
| Moderate Risk (Be Prepared) |
| Low Risk (Be Updated) |