



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

**Press Release
Date: 20th March, 2023
Time of Issue: 1315 hours IST**

**Subject: i) Significant reduction in rainfall/thunderstorm/hailstorm activity over Northwest & East India from 21st March, 2023.
ii) Widespread rainfall with isolated heavy rainfall over Northeast India during 20th to 22nd March, 2023.**

Weather observed during past 24hours ending at 0830 hrs IST of today:

- ❖ **Light/Moderate rainfall/thundershowers** observed over most parts of the country (Details of rainfall are given in Annexure 1).
- ❖ **Very heavy rainfall** occurred at isolated places over Odisha and **heavy rainfall** at isolated places at isolated places over Jharkhand, Tamilnadu, Himachal Pradesh and Assam & Meghalaya.
- ❖ **Hailstorm** observed at isolated places over Gangetic West Bengal, East Uttar Pradesh, Himachal Pradesh, Rajasthan, Madhya Maharashtra, Vidarbha and Chhattisgarh.

Weather Forecast and Warnings (Annexure II):

- ❖ A **Western Disturbance** as a **trough** in middle & upper tropospheric westerlies runs roughly along Long. 72°E to the north of Lat. 25°N.
- ❖ A **cyclonic circulation** lies over Northeast Rajasthan & neighbourhood and an east-west **trough** runs from this cyclonic circulation to Nagaland in lower tropospheric levels.
- ❖ Another **cyclonic circulation** lies over Southwest Rajasthan & neighbourhood in lower tropospheric levels.
- ❖ A **trough/wind discontinuity** runs from interior Tamilnadu to central Chhattisgarh in lower tropospheric levels.
- ❖ Under the influence of above synoptic features, following weather is expected;
Northwest India: Scattered to fairly widespread light/moderate rainfall with **thunderstorm, lightning/gusty winds along with isolated hailstorm** likely over Western Himalayan Region and Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh & Rajasthan on 20th. There is significant decrease in rainfall & distribution till 22nd March. Thereafter, a fresh spell of **rainfall & thunderstorm activity is likely to commence over the region from 23rd March, 2023.**
West & Central India: Isolated to scattered light/moderate rainfall with **thunderstorm, lightning & gusty winds** likely over Gujarat, Maharashtra, Madhya Pradesh, Vidarbha, Chhattisgarh on 20th March and reduce significantly thereafter. **Isolated hailstorm is also likely over Madhya Pradesh on 20th March, 2023.**
South Peninsular India: Isolated to scattered light/moderate rainfall with **thunderstorm, lightning & gusty winds** likely over Andhra Pradesh, Telangana, north interior Tamil Nadu and Kerala on 20th March and reduce significantly thereafter.
East & Northeast India: Fairly widespread to widespread light/moderate rainfall activity **with thunderstorm, lightning & gusty winds** likely to continue over West Bengal & Sikkim and Northeast India during 20th-23rd March. Scattered to fairly widespread light/moderate rainfall/thundershowers are also likely over Bihar and Jharkhand on 20th March and reduction thereafter. Isolated **heavy rainfall** very likely over Arunachal Pradesh, Assam & Meghalaya during 20th-22nd; Nagaland, Manipur, Mizoram & Tripura, during 20th-21st; over Sub-Himalayan West Bengal & Sikkim, Bihar on 20th March. **Isolated very heavy rainfall also likely over south Assam & Meghalaya on 20th March, 2023.**

Maximum Temperatures Forecast during next 5 days:

- ❖ **East India:** No significant change in maximum temperatures very likely during next 2 days and rise by 2-4°C thereafter.
- ❖ **West India:** Rise in maximum temperatures by 3-5°C very likely during next 4-5 days.
- ❖ **Rest parts of the Country:** No significant change in Maximum Temperatures very likely during next 5 days.

Impact expected and action suggested due to isolated thunderstorm/lightning/gusty winds & Hailstorm

- **20th March:** Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh, Madhya Pradesh and East Rajasthan.
- **21st March:** Uttarakhand and West Uttar Pradesh

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.

Advisory for farmers:

- Postpone harvesting of crops in Jharkhand, Bihar, Uttarakhand, Uttar Pradesh, Andhra Pradesh, Punjab and Haryana; keep already harvested produce in a safe place or cover the heaps of already harvested produce in the field with tarpaulin sheets to prevent it getting wet.
- Postpone the harvesting of fruits and vegetables in Assam and move the already harvested produce at safer places immediately.
- Postpone sowing of Jute in Sub-Himalayan West Bengal and maize in Sikkim.
- Drain out excess water from crop fields.
- Provide mechanical support to horticultural crops and staking to vegetables.
- Use hail nets to protect apple, pear, plum and peach orchards in Himachal Pradesh and Uttarakhand and orchards in Punjab, Haryana, Uttar Pradesh, East Rajasthan and Madhya Pradesh.

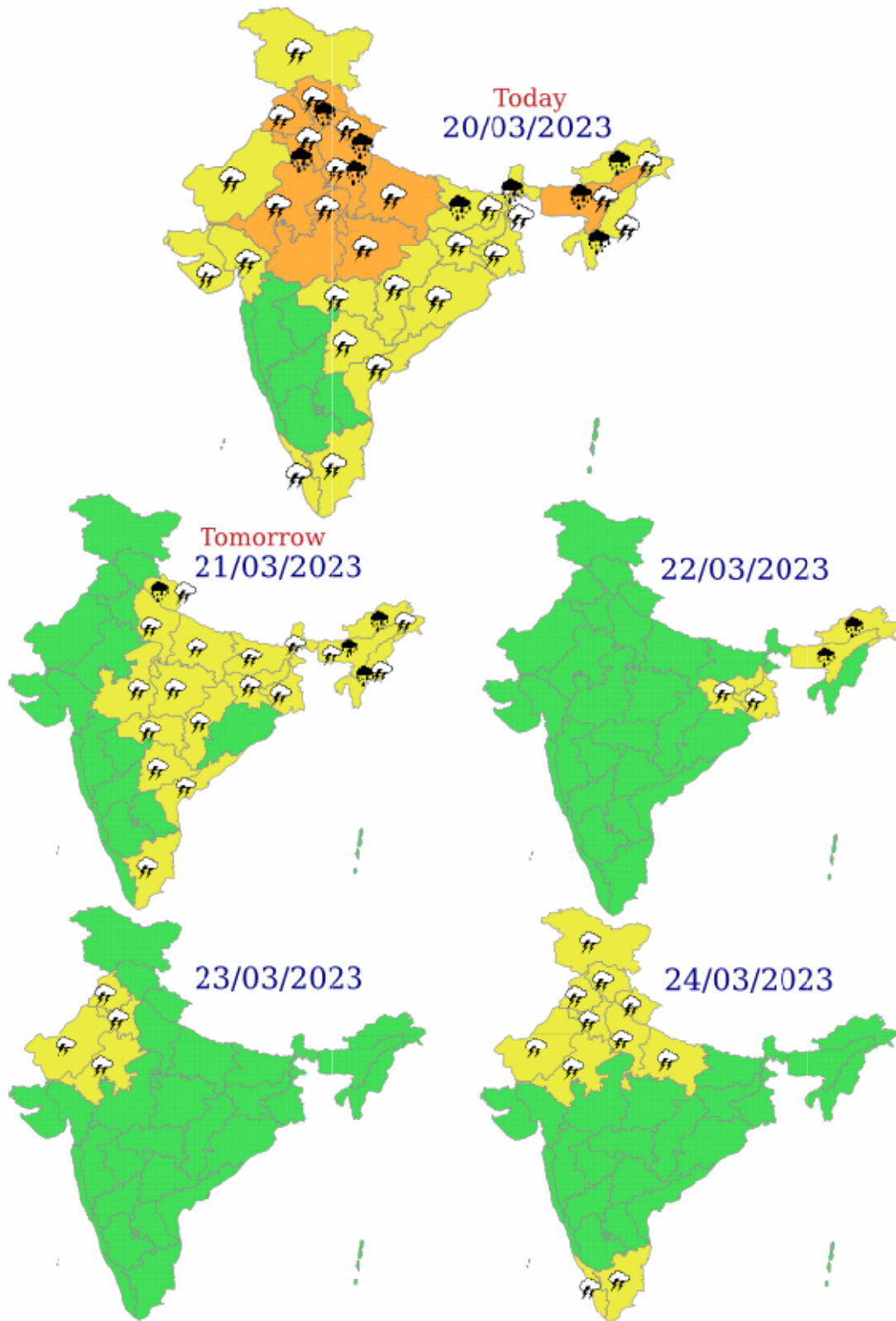
For more details kindly refer: https://mausam.imd.gov.in/imd_latest/contents/all_india_forecast_bulletin.php

Annexure I

- ❖ **Light/moderate rainfall/thundershowers** observed **at most places over** Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, West Bengal & Sikkim, Odisha, Jharkhand; **at many places** over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Haryana, Chandigarh & Delhi, Rajasthan; **at a few places** over Uttar Pradesh, Bihar, Tamil Nadu, Puducherry & Karaikal, Lakshadweep and **at isolated places** over Punjab, Gujarat state, Madhya Maharashtra, Telangana, Rayalaseema, Kerala & Mahe.

❖ **Significant amount of rainfall (in cm):**

- **Assam & Meghalaya:** Goalpara_pto (dist Goalpara) 8, Mawkyrwat_arg (dist South West Khasi Hills) 7, Mawkyrwat (dist South West Khasi Hills) 7, Dhubri_Cwc (dist Dhubri) 6, Cherrapunji (dist East Khasi Hills) 5, Mawsynram (dist East Khasi Hills) 5, Dhubri_imd (dist Dhubri) 5, Williamnagar (dist East Garo Hills) 5,
- **Nagaland:** Mokokchang (dist Mokokchung) 5,
- Jharkhand: Dumka: Messenjor-8, Jarmindi-7, Hazaribag: Hazaribagh-7, Latehar: Latehar-4
- **Sub-Himalayan West Bengal:** Darzeeling, Jalpaiguri-5 each,
- **Gangetic West Bengal:** East Midnapore, North 24 Parganas-3,
- **Odisha:** Sundargarh: Mandira-13, Mayurbhanj: Kaptipada-6, Boudhgarh: Boudhgarh-4, Ganjam: Sorada-4, Sonapur: Tarva-4
- **Himachal Pradesh:** Sirmaur-8, Chamba-3
- **Jammu & Kashmir:** Banihal-3, Batote, Pahalgam, Bandipore, Gulmarg-2 each
- **Rajasthan:** Nagaur: Parbatsar-4, Sawai Madhopur: Bonli-4
- **Haryana:** Rewari: Bawal-3
- **Telangana:** Srirampur (dist Peddapalle) 5, Gudurwrgl (dist Mahabubabad) 4,
- **Vidarbha:** Kalmeshwar (dist Nagpur) 3,
- **Chhattisgarh:** Gandai (dist Rajnandgaon) 5, Kondagaon (dist Kondagaon) 4, Makadi (dist Kondagaon) 4
- **Coastal Andhra Pradesh & Yanam:** Narsapuram (dist West Godavari) 4, Bheemavaram (dist West Godavari) 4, Prathipadu (dist Kakinada) 3, Sullurpeta (dist Tirupati) 3;
- **Rayalaseema:** Nagari (dist Chittoor) 4, Satyavedu (dist Tirupati) 4, Thottambedu (dist Tirupati) 3, Srialahasti (dist Tirupati) 3, Palasamudram (dist Chittoor) 2;
- **Tamilnadu:** Pelandurai (dist Cuddalore) 9; Annamalai Nagar (dist Cuddalore) 8; Chidambaram AWS (dist Cuddalore) 8; Tozhudur (dist Cuddalore) 8; Veppur (dist Cuddalore) 7 .
- **Gujarat Region:** Dangs (ahwa) (dist Dangs) 4, Ghandinagar_aws (dist Gandhinagar) 3, Gandhinagar (dist Gandhinagar) 2, Detroj (dist Ahmedabad) 1, Dhansura (dist Aravalli) 1, Kadi (dist Mehsana) 1, Mandal (dist Ahmedabad) 1, Mahuva (dist Surat) 1
- **Saurashtra & Kutch:** Savarkundla (dist Amreli) 4, Kandla Airport (dist Kutch) 4, Gandhidham (dist Kutch) 3, Babra (dist Amreli) 2, Una (dist Gir Somnath) 1, Bhachau (dist Kutch) 1, Kandla New (dist Kutch) 1, Anjar (dist Kutch) 1



Legends:

- ❖ **Heavy Rain:**64.5to115.5mm;**Very Heavy Rain:**115.6to204.4mm;**Extremely Heavy Rain:**>204.4mm.
- ❖ **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- Himalaya 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 Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)

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 Rain	 Heavy Snow	 Thunderstorm	 Dust Storm
 Strong Winds	 Visibility	 Cyclone	 Squall/ Hail
 Frost	 Cold Wave	 Heat Wave	 Sea State