



Government of India  
Ministry of Earth Sciences  
India Meteorological Department

Press Release  
Date: 21<sup>st</sup> March, 2023  
Time of Issue: 1330 hours IST

**Subject: i) Thunderstorm with hailstorm activity over east India on 21<sup>st</sup> March, 2023 and significant reduction thereafter.  
ii) Fresh spell of rainfall/thunderstorm/hailstorm activity over Northwest India during 23<sup>rd</sup>-25<sup>th</sup> March and Central and adjoining eastern India during 24<sup>th</sup>-25<sup>th</sup> March, 2023.**

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

- ❖ **Light/Moderate rainfall/thundershowers** observed over most parts of northwest, Madhya Pradesh, east and northeast India (Details of rainfall are given in Annexure 1).
- ❖ **Heavy rainfall** occurred at isolated places at isolated places over Himachal Pradesh, Sub-Himalayan West Bengal, Punjab, Haryana, West Uttar Pradesh, Tamilnadu and Assam & Meghalaya.
- ❖ **Hailstorm** observed at isolated places over over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh and Odisha.
- ❖ **Maximum temperatures** are in the range of 22-27°C over Punjab, Haryana, Chandigarh & Delhi, north Rajasthan, Uttar Pradesh, Bihar and Northeast states; in the range of 24-34°C over rest parts of the country except over Western Himalayan Region where these are in the range of 15-21°C.
- ❖ Maximum Temperatures are 7-10°C below normal over north Rajasthan, Himachal Pradesh, Uttar Pradesh, Bihar, north Chhattisgarh; 4-7°C below normal over rest parts of the country except Tamilnadu, Kerala, South Karnataka, south Gujarat and Westcentral India where these are 1-4°C below normal.

**Weather Forecast and Warnings (Annexure II):**

- ❖ A **Western Disturbance** as a **trough** in middle & upper tropospheric westerlies runs roughly along Long. 79°E to the north of Lat. 28°N.
- ❖ A **cyclonic circulation** lies over Haryana & neighbourhood and an east-west **trough** runs from this cyclonic circulation to Bangladesh in lower tropospheric levels.
- ❖ A **cyclonic circulation** lies over northeast Assam & neighbourhood in lower tropospheric levels.
- ❖ A fresh active **Western Disturbance** likely to affect Northwest India from 23<sup>rd</sup> March, 2023.
- ❖ 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** likely over Western Himalayan Region and **Isolated hailstorm likely over Uttarakhand and East Uttar Pradesh on 21<sup>st</sup> March** and decrease subsequently.  
Thereafter, a fresh spell of **rainfall & thunderstorm activity is likely to commence over the region from 23<sup>rd</sup> March with Isolated hailstorm likely over Punjab, Haryana, West Rajasthan on 23<sup>rd</sup> March** and over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh and West Uttar Pradesh on 24<sup>th</sup> March.  
**Central India:** Isolated light rainfall with **thunderstorm, lightning & gusty winds** likely over interior Maharashtra, Madhya Pradesh and north Chhattisgarh on 21<sup>st</sup> March and reduce significantly thereafter. Thereafter, a fresh spell of **rainfall & thunderstorm activity is likely to commence over the region from 24<sup>th</sup> March.**  
**South Peninsular India:** Isolated light/moderate rainfall with **thunderstorm, lightning & gusty winds** likely over Andhra Pradesh, Telangana, north interior Tamil Nadu and Kerala during next 3 days. A fresh spell of **rainfall & thunderstorm activity is likely to commence over the region from 24<sup>th</sup> March.**  
**East & Northeast India:** Fairly widespread to widespread light/moderate rainfall activity with **thunderstorm, lightning & gusty winds** likely to continue over East India on 21<sup>st</sup> March and over Northeast India during 21<sup>st</sup>-22<sup>nd</sup> March and **Isolated hailstorm likely over Jharkhand, Gangetic West Bengal, north Odisha on 21<sup>st</sup> March** and decrease subsequently.  
Isolated **heavy rainfall** very likely over Arunachal Pradesh, Assam & Meghalaya during 21<sup>st</sup>-22<sup>nd</sup> and Nagaland, Manipur, Mizoram & Tripura on 21<sup>st</sup> March.

### Maximum Temperatures Forecast during next 5 days:

- ❖ **Central India:** Gradual rise in maximum temperatures by 2-3°C during next 3 days and no significant change thereafter.
- ❖ **East India:** No significant change in maximum temperatures very likely during next 24 hours and rise by 2-4°C thereafter.
- ❖ **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

- **21<sup>st</sup> March:** Uttarakhand, East Uttar Pradesh, Gangetic West Bengal, Jharkhand, Odisha
- **23<sup>rd</sup> March:** Uttarakhand and West Rajasthan
- **24<sup>th</sup> March:** Himachal Pradesh, Uttarakhand, Punjab and Haryana

#### 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:

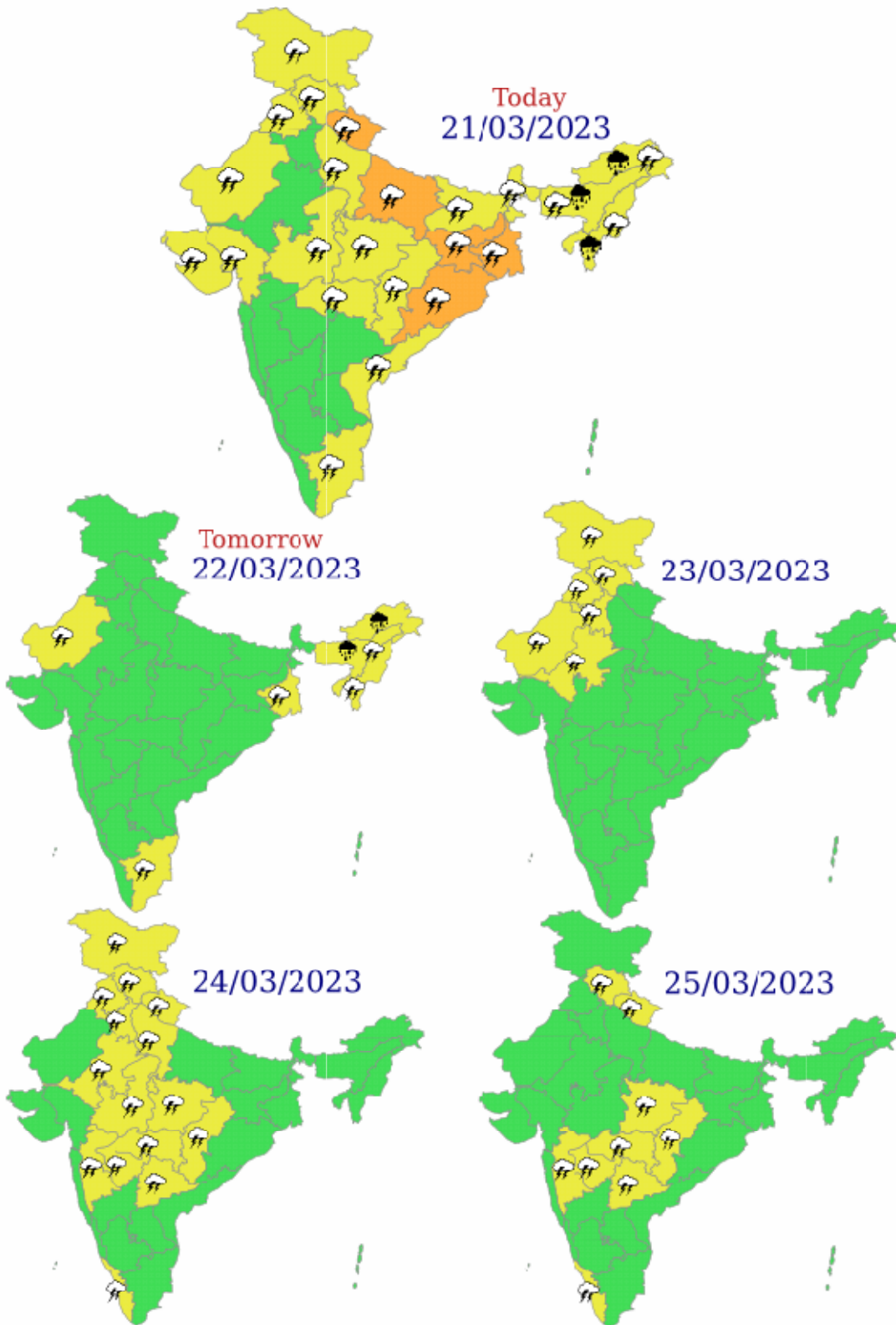
- Stay indoors, close windows & doors and avoid travel if possible.
- Take safe shelters; do not take shelter under trees.
- Do not lie on concrete floors and do not lean against concrete walls.
- Unplug electrical/ electronic appliances.
- Immediately get out of water bodies.
- Keep away from all the objects that conduct electricity.

#### Advisory for farmers:

- Postpone harvesting of crops in Uttarakhand and Arunachal Pradesh; keep already harvested produce in a safe place or cover the heaps of already harvested produce in the field with tarpaulin sheets.
- Postpone sowing of Jute in Sub-Himalayan West Bengal and maize in Sikkim and Arunachal Pradesh.
- Drain out excess water from crop fields.
- Provide mechanical support to horticultural crops and staking to vegetables.
- Use hail nets to protect orchards.

For more details kindly refer: [https://mausam.imd.gov.in/imd\\_latest/contents/all\\_india\\_forecast\\_bulletin.php](https://mausam.imd.gov.in/imd_latest/contents/all_india_forecast_bulletin.php)

- ❖ **Light/moderate rainfall/thundershowers** observed **at most places over** Arunachal Pradesh, Assam & Meghalaya Nagaland, Manipur, Mizoram & Tripura, Himachal Pradesh, Haryana, Chandigarh & Delhi and West Bengal & Sikkim; **at many places over** Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Uttarakhand, Punjab, West Uttar Pradesh, Chhattisgarh and Bihar; **at a few places over** East Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Odisha, Coastal Andhra Pradesh & Yanam, Tamil Nadu, Puducherry & Karaikal and **at isolated places over** West Rajasthan, Vidarbha, Gujarat, Jharkhand, Konkan & Goa and Kerala & Mahe.
- ❖ **Significant amount of rainfall (in cm):**
  - **Assam & Meghalaya:** Cherrapunji (dist East Khasi Hills) 9, Mawsynram (dist East Khasi Hills) 9, Mawkyrwat\_arg (dist South West Khasi Hills) 9, Mawkyrwat (dist South West Khasi Hills) 9, Cherrapunji(rkm) (dist East Khasi Hills) 8, Williamnagar (dist East Garo Hills) 7,
  - **Jharkhand:** Sahibganj-4
  - **Sub-Himalayan West Bengal:** Jalpaiguri-8, Cooch Behar-6 each,
  - **Odisha:** Kendrapara, Nayagarh, Sonepur-3 each
  - **Himachal Pradesh:** Sirmaur-9, Solan-6, Chamba-5, Shimla, Mandi-4 each
  - **Uttarakhand:** Pantnagar-6, Mussoorie, Hardwar-5 each, Uttarkashi-4
  - **Jammu & Kashmir:** Badarwah-3
  - **Rajasthan:** Alwar-5, Nagaur, Hanumangarh-3 each,
  - **Uttar Pradesh:** Meerut, Bareilly-9 each, Bijnor-8, Pilibhit-6, Aligarh, Hathras, Baghpat, Moradabad-5 each, Deoria-3
  - **Madhya Pradesh:** Gaurihar (dist Chhatarpur) 5, Isagarh (dist Ashoknagar) 4,
  - **Chhattisgarh:** Chhura (dist Gariaband) 3,
  - **Haryana:** Guhla (dist Kaithal) 10, Rai Rev (dist Sonapat) 8, Kharkoda (dist Sonapat) 7, Sahlawas (dist Jhajjar) 6, Ismailabad (dist Kurukshetra) 6,
  - **Punjab:** Derabassi(basi) (dist Sas Nagar (mohali)) 7,
  - **Telangana:** Aswaraopeta (dist B. Kothagudem) 3,
  - **Coastal Andhra Pradesh & Yanam:** Bondapalle (dist Vizianagaram) 5,
  - **Rayalaseema:** Satyavedu (dist Tirupati) 2,
  - **Tamilnadu:** Polur (dist Tiruvannamalai), Sattur (dist Virudhunagar) 7 each, Mandapam (dist Ramanathapuram), Gummidipoondi (dist Tiruvallur) 6 each, Red Hills (dist Tiruvallur), Puzhal ARG (dist Tiruvallur), Danishpet (dist Salem), Madavaram Aws (dist Tiruvallur) 5 each,
  - **Konkan & Goa:** Palghar\_agri (dist Palghar) 4,
  - **Kutch:** Anjar (dist Kutch) 5,



**Legends:**

- ❖ **Heavy Rain:** 64.5 to 115.5 mm; **Very Heavy Rain:** 115.6 to 204.4 mm; **Extremely Heavy Rain:** > 204.4 mm.
- ❖ **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 <span style="color: green;">(% of Stations reporting)</span>			
% 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

