



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Date: 16<sup>th</sup> March, 2024

Time of Issue: 1315 hours IST

**Special Message (No.- 1)**

FROM: INDIA METEOROLOGICAL DEPARTMENT  
TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS  
CONTROL ROOM NDMA  
SECRETARY, MOES  
DIRECTOR GENERAL, DOORDARSHAN  
DIRECTOR GENERAL, AIR  
PIB MOES  
CHIEF SECRETARY, GOVT. OF MADHYA PRADESH  
CHIEF SECRETARY, GOVT. OF CHHATTISGARH  
CHIEF SECRETARY, GOVT. OF JHARKHAND  
CHIEF SECRETARY, GOVT. OF ODIsha  
CHIEF SECRETARY, GOVT. OF WEST BENGAL  
CHIEF SECRETARY, GOVT. OF MAHARASHTRA

**Subject: Thunderstorms accompanied with lightning/hail and moderate to heavy rainfall at isolated places is likely over East & Central India during 16<sup>th</sup>-20<sup>th</sup> March, 2024.**

**Weather Systems and Forecast & Warnings during next 5 days: (Annexure I)**

- ❖ A trough runs from Sub-Himalayan West Bengal to Coastal Andhra Pradesh and another trough runs from Marathwada to Comorin Area in lower tropospheric levels. The anti-cyclonic circulation lies over westcentral Bay of Bengal & neighbourhood and has strengthened since yesterday. The Sub Tropical Westerly Jet core lies over east central India at upper tropospheric levels today. Under their influence:
  - ✓ Scattered to fairly widespread light to moderate rainfall with isolated **thunderstorms, lightning & gusty winds (30-40 kmph) very likely over Gangetic West Bengal during 16<sup>th</sup>-20<sup>th</sup> March with possibility of hailstorm & squall (speed reaching 50-60 kmph) on 17<sup>th</sup> March, 2024.**
  - ✓ Scattered to fairly widespread light to moderate rainfall with **thunderstorms, lightning & gusty winds (30-40 kmph)** over Jharkhand, Odisha, Vidarbha, Chhattisgarh and East Madhya Pradesh during 17<sup>th</sup>-20<sup>th</sup> March, 2024. **Isolated hailstorm also likely over Vidarbha during 16<sup>th</sup>-19<sup>th</sup>; East Madhya Pradesh & Chhattisgarh during 17<sup>th</sup>-19<sup>th</sup> March.**
  - ✓ Isolated **heavy rainfall** very likely over Odisha and Chhattisgarh on 19<sup>th</sup> March, 2024.
  - ✓ Isolated light rainfall/snowfall very likely over Sub-Himalayan West Bengal & Sikkim on 16<sup>th</sup>, 18<sup>th</sup> & 19<sup>th</sup> March, 2024.

The state-wise forecast is given below: (Warning graphics are given at ANNEXURE-I)

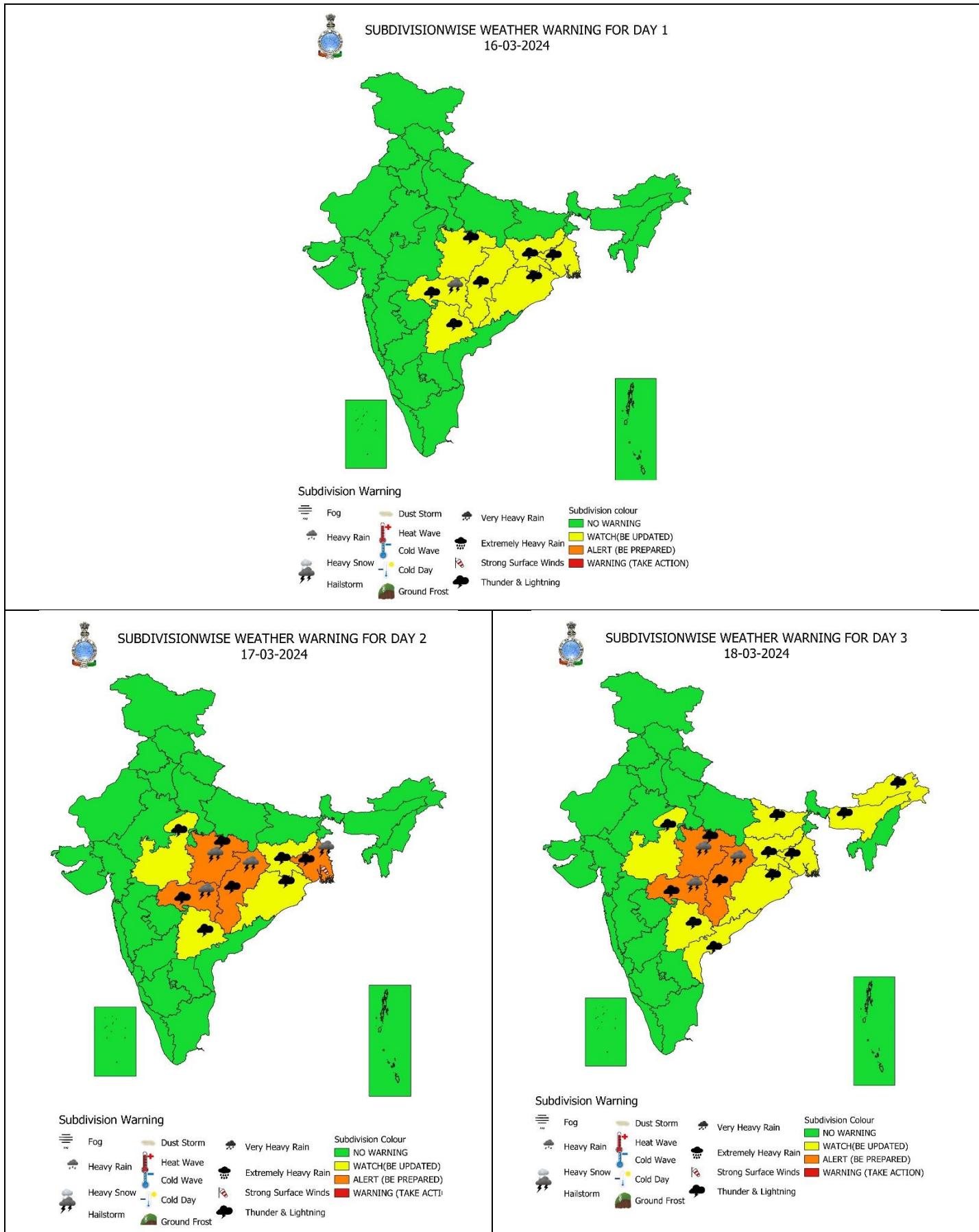
S. No.	State/sub-division	Forecast
1.	East Madhya Pradesh	<ul style="list-style-type: none"> <li>Light to moderate rain accompanied with thunderstorm, lightning at isolated places on 16<sup>th</sup> March and with gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) at some places during 17<sup>th</sup>- 19<sup>th</sup> March and with gusty winds (speed reaching 30-40 kmph gusting to 50 kmph) at isolated places on 20<sup>th</sup> March.</li> <li><b>Hailstorm also likely at isolated places during 17<sup>th</sup>- 19<sup>th</sup> March.</b></li> </ul>
2.	Vidarbha	<ul style="list-style-type: none"> <li>Light to moderate rain accompanied with thunderstorm, lightning &amp; gusty winds (speed reaching 30-40 kmph gusting to 50 kmph) at isolated places on 16<sup>th</sup> March and with gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) at isolated places on 17<sup>th</sup> &amp; 18<sup>th</sup>; at some places on 19<sup>th</sup> March.</li> <li>Light to moderate rain accompanied with thunderstorm, lightning at isolated places on 20<sup>th</sup> March.</li> <li><b>Hailstorm also likely at isolated places during 16<sup>th</sup>- 19<sup>th</sup> March.</b></li> </ul>
3.	Chhattisgarh	<ul style="list-style-type: none"> <li>Light to moderate rain accompanied with thunderstorm, lightning &amp; gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) at isolated places on 16<sup>th</sup> &amp; 17<sup>th</sup> March and with gusty winds (speed reaching 30-40 kmph gusting to 50 kmph) at some places on 18<sup>th</sup> March.</li> <li>Light to moderate rain accompanied with thunderstorm &amp; lightning at many places on 19<sup>th</sup>; at isolated places on 20<sup>th</sup> March.</li> <li>Light to moderate rain at isolated places on 21<sup>st</sup> March,</li> <li><b>Hailstorm also likely at isolated places during 17<sup>th</sup>- 19<sup>th</sup> March.</b></li> <li><b>Heavy rainfall at isolated places likely on 19<sup>th</sup> March.</b></li> </ul>
4.	Jharkhand	<ul style="list-style-type: none"> <li>Light to moderate rain accompanied with thunderstorm &amp; lightning at isolated places on 16<sup>th</sup> March and with gusty winds (speed reaching 30-40 kmph gusting to 50 kmph) at some places on 17<sup>th</sup> &amp; 18<sup>th</sup> March and with gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) at many places on 19<sup>th</sup> &amp; 20<sup>th</sup> March.</li> <li>Light to moderate rain at isolated places on 21<sup>st</sup> &amp; 22<sup>nd</sup> March.</li> </ul>
5.	Gangetic West Bengal	<ul style="list-style-type: none"> <li>Light to moderate rain accompanied with thunderstorm &amp; lightning with gusty winds (speed reaching upto 30-40 kmph gusting to 50 kmph) at some places on 16th March; <b>with squall (speed reaching 50-60 kmph) at isolated places on 17<sup>th</sup> March</b> and with gusty winds (speed reaching upto 40-50 kmph gusting to 60 kmph) at some places on 18th March; at many places on 19th; at most places on 20th March.</li> <li>Light to moderate rain at some places on 21<sup>st</sup> &amp; 22<sup>nd</sup> March.</li> <li><b>Hailstorm is likely at isolated places on 17<sup>th</sup> March.</b></li> </ul>

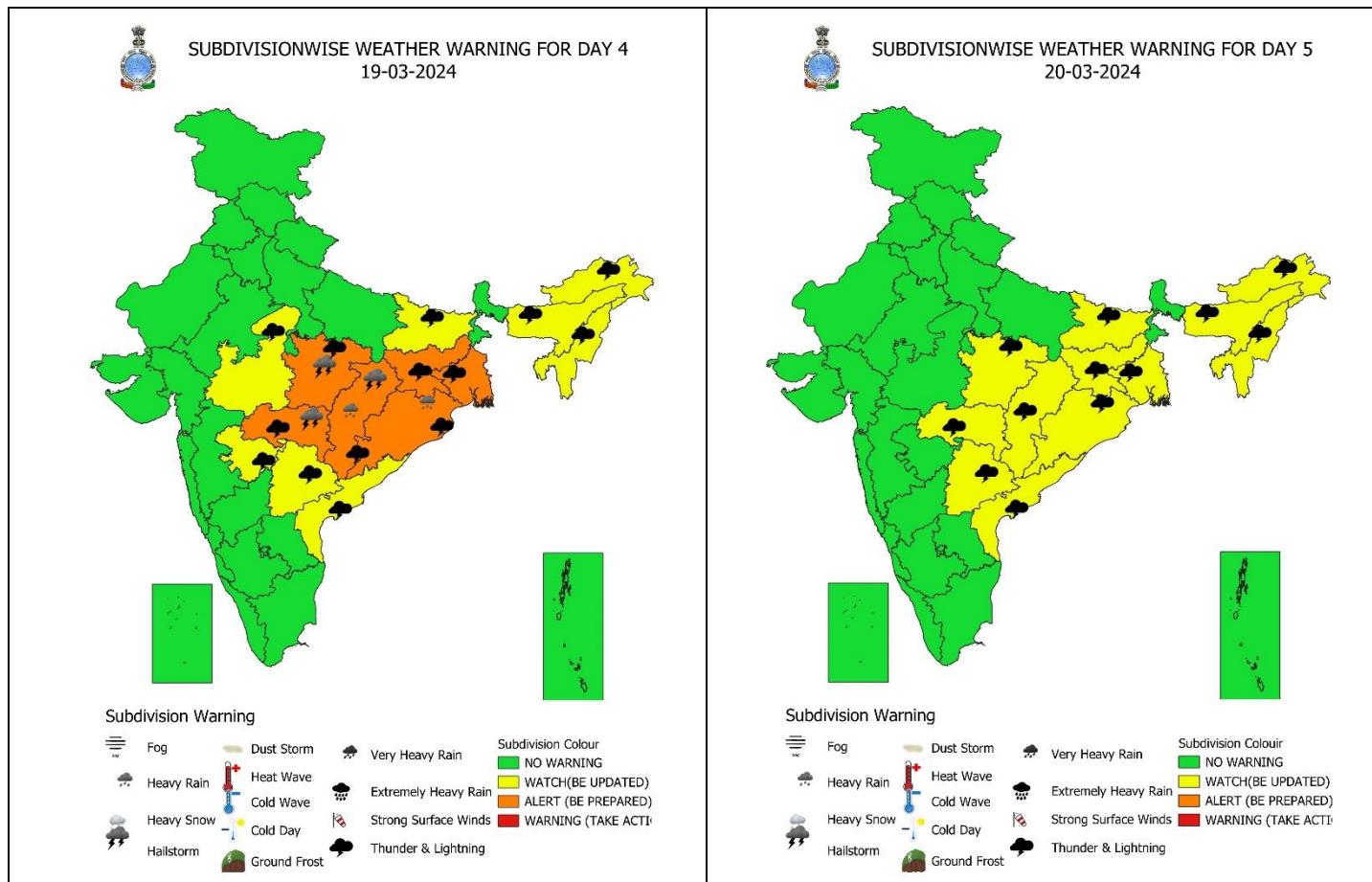
6.	Odisha	<ul style="list-style-type: none"> <li>Light to moderate rain accompanied with thunderstorm &amp; lightning with gusty winds (speed reaching upto 30-40 kmph gusting to 50 kmph) at isolated places on 16<sup>th</sup> March; at some places on 17<sup>th</sup> &amp; 18<sup>th</sup>; with gusty winds (speed reaching upto 40-50 kmph gusting to 60 kmph) at most places on 19<sup>th</sup>; at many places on 20<sup>th</sup> March.</li> <li>Light to moderate rain at isolated places on 21<sup>st</sup> &amp; 22<sup>nd</sup> March.</li> <li><b>Heavy rainfall at isolated places likely on 19<sup>th</sup> March.</b></li> </ul>
7.	West Madhya Pradesh	<ul style="list-style-type: none"> <li>Light to moderate rain accompanied with thunderstorm, lightning at isolated places during 17<sup>th</sup>- 19<sup>th</sup> March.</li> </ul>

For more details, kindly refer: [https://mausam.imd.gov.in/responsive/all\\_india\\_forcast\\_bulletin.php](https://mausam.imd.gov.in/responsive/all_india_forcast_bulletin.php)

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## ANNEXURE I





**Impact expected and action suggested due to thunderstorm with lightning/gusty winds & Hailstorm over East Madhya Pradesh, Vidarbha, Chhattisgarh during 17<sup>th</sup>-19<sup>th</sup>; Gangetic West Bengal on 17<sup>th</sup> & 19<sup>th</sup>; Odisha and Chhattisgarh on 19<sup>th</sup> March.**

#### **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.

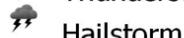
### Legends & abbreviations:

- ❖ **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 Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)

Subdivision Warning



Dust Storm

Strong Surface Winds

Heat Wave

Cold wave

Fog

Subdivision color

NO WARNING

WATCH(BE UPDATED)

ALERT (BE PREPARED)

WARNING (TAKE ACTION)

### 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)