Government of India
Ministry of Earth Sciences
India Meteorological Department

Press Release
Date: 03rd January, 2024
Time of Issue: 1345 hours IST

Subject: 1) Cold Day to Severe Cold Day conditions likely to continue over some parts of Punjab, Haryana, Uttar Pradesh and Rajasthan during next 2 days and decrease thereafter.
2) Dense to very dense fog likely to continue over some parts of plains of Northwest & East India during next 2 days and gradually decrease thereafter.

Realized weather during past 24 hours till 0830 hours IST of today:

- **Minimum temperatures**: The Minimum temperatures are in the range of 6-9°C over most parts of Punjab, Haryana-Chandigarh-Delhi, West Uttar Pradesh and Rajasthan and in range of 10-12°C over East Uttar Pradesh, north Madhya Pradesh, Bihar, Jharkhand, West Bengal & Sikkim. **These are above normal by 2-4°C** over many parts of Punjab, Madhya Pradesh, Maharashtra, Chhattisgarh and Gujarat.
- **Fog: Very dense fog occurred (visibility < 50 m)** for a few hours in isolated pockets of East Uttar Pradesh, East Rajasthan, West Madhya Pradesh and Bihar in the morning hours **Dense fog (visibility 50-200 m)** for a few hours in isolated places over West Rajasthan, West Uttar Pradesh, Gangetic West Bengal, Uttarakhand and Assam in the morning hours**.**
- **Visibility Recorded at 0530 hours IST (≤200 meters): East Uttar Pradesh**: Bahraich & Gorakhpur-25 each, Lucknow-200; **West Madhya Pradesh**: Bhopal-25, Guna-50**; Bihar**: Purnea-25, Patna-200; **West Uttar Pradesh**: Bareilly-50, Jhansi-200; **Rajasthan**: Bikaner, Jaipur & Ajmer-50 each; **Jammu Division**: Jammu-200; **Haryana**: Ambala-200; **East Madhya Pradesh**: Sagar-200; **Delhi**: Sardarjung-500m & Palam-600m.
- **Visibility Recorded at 0830 hours IST (≤200 meters): East Uttar Pradesh**: Bahraich-25, Gorakhpur-50, Lucknow & Varanasi-200 each; **Bihar**: Purnea-25, Patna-200; **West Uttar Pradesh**: Meerut, Jhansi & Bareilly-50 each; **Rajasthan**: Ajmer- 25, Bikaner, Jaisalmer & Jaipur-50 each; **Gangetic West Bengal**: Cooch Behar-50; **Assam**: Dhubri-50; **Haryana**: Ambala & Karnal-200 each; **Delhi**: Safdarjung- 200; **Punjab**: Ludhiana- 200; **West Madhya Pradesh**: Bhopal-200; **East Madhya Pradesh**: Sagar-200.
- **Cold day to severe cold day conditions** prevailed at many places over Punjab, Haryana- Chandigarh and central Uttar Pradesh and at some places over Bihar.

Weather Systems and Forecast & Warnings during next 5 days:

Weather Systems:

- Yesterday's **Low Pressure Area** over Southeast Arabian Sea persists over the same region today, the 2nd January, 2024 and a trough runs from the cyclonic circulation associated with this low pressure area to off north Kerala coast in lower levels.
- The Western Disturbance lay as a cyclonic circulation over Jammu & adjoining north Pakistan in mid-tropospheric levels; an induced cyclonic circulation lies over south Haryana & neighbourhood and a trough also runs from north Konkan to the cyclonic circulation over south Haryana in lower levels.

Dense fog and Cold day warning: (graphics in Annexure I)

- **Dense to very dense fog** conditions very likely to prevail for a few hours in morning in some parts over Punjab, Haryana-Chandigarh, Bihar on 04th & 05th January and **Dense fog** in isolated pockets for subsequent 3 days.
- **Dense to very dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets over Rajasthan on 04th & 05th January and **Dense fog** in isolated pockets for subsequent 2 days.
- **Dense to very dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets over West Uttar Pradesh on 04th January and **Dense fog** in isolated pockets on 05th January.

- **Dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Odisha, West Bengal & Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 04th-06th January and over East Uttar Pradesh and Madhya Pradesh on 04th & 05th January.
- **Cold Day to Severe Cold Day** conditions very likely to continue in some parts over Punjab, Haryana-Chandigarh and Rajasthan on 03rd & 04th January and **Cold Day** conditions in isolated pockets on 05th January.
- **Cold Day** conditions very likely to continue in isolated pockets over West Uttar Pradesh on 03rd & 04th January and over East Uttar Pradesh on 03rd January.
- **Cold wave** conditions very likely in isolated pockets over East Rajasthan on 04th &05th January 2024.

Rainfall Forecast:

- Under the influence of above **Low Pressure Area over southeast Arabian Sea** and trough from cyclonic circulation associated with this low pressure area to off north Kerala coast in lower levels; light to moderate rainfall at some places very likely over south Tamil Nadu, south Kerala and Lakshadweep during next 3-4 days with isolated **heavy rainfall** over Lakshadweep during 03rd and 05th; Kerala on 04th & 05th January, 2024; over south Tamil Nadu on 04th, 05th and 07th January 2024. Isolated **very heavy rainfall** also likely over Lakshadweep on 04th January, 2023.
- Light isolated rainfall very likely over East Madhya Pradesh during 04th - 05th; over Uttar Pradesh, Bihar and Jharkhand during 03rd-05th; over West Madhya Pradesh on 04th January, 2024.

Temperatures Forecast:

- Rise by 2-3°C in minimum temperatures likely over many parts of Central & East India during next 3 days and no significant change thereafter.
- No significant change in minimum temperatures likely over rest parts of north India during next 5 days.

Fishermen Warning in association with the Low Pressure Area over Arabian Sea: (Annexure II)

- **Day 1 (03rd Jan):** Squally weather with wind speed 40-45 kmph gusting to 55 kmph likely to prevail over Comorin area; Southwest Bay of Bengal off south Sri Lanka coast; Southeast Arabian Sea, adjoining Lakshadweep area.
- **Day 2 (04th Jan):** Squally weather with wind speed 40-45 kmph gusting to 55 kmph likely to prevail over Comorin area; Southeast & adjoining Eastcentral Arabian Sea and adjoining Lakshadweep area.
- **Day 3 & 4 (05th & 06th Jan):** Squally weather with wind speed 40-45 kmph gusting to 55 kmph likely to prevail over Southeast Arabian Sea and adjoining Eastcentral Arabian sea, adjoining Lakshadweep area.
- **Day 5 (07th Jan):** Squally weather with wind speed 40-45 kmph gusting to 55 kmph likely to prevail over Eastcentral and adjoining Southeast Arabian Sea.

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

Impact expected due to dense to very dense fog in the night/morning hours over Punjab, Haryana, Chandigarh and north Rajasthan during next 2 days and over West Uttar Pradesh during next 24 hours.

- **Transport and Aviation:**
  - May affect some airports, highways and railway routes in the areas of met- sub-division.
  - Difficult driving conditions with slower journey times.
  - Unless taken precautionary measures, it may lead to some road traffic collisions.
- **Power Sector:**
  - Chances of Tripping of Power lines in the very dense fog routes.
- **Human Health:**
  - Lung related health impacts: Dense fog contains particulate matter and other pollutants and in case exposed it gets lodged in the lungs, clogging them and decreasing their functional capacity which increases episodes of wheezing, coughing and shortness of breath.
  - Impact on people having asthma bronchitis: Long time exposure to dense fog may cause respiratory problem for people having asthma bronchitis and other lung related health problems.
  - Eye Irritation: Dense fog contains pollutions of various types and these Pollutants in the air if exposed may tend to irritate the membranes of the eye causing various infections leading to redness or swelling of the eye.

Action suggested:

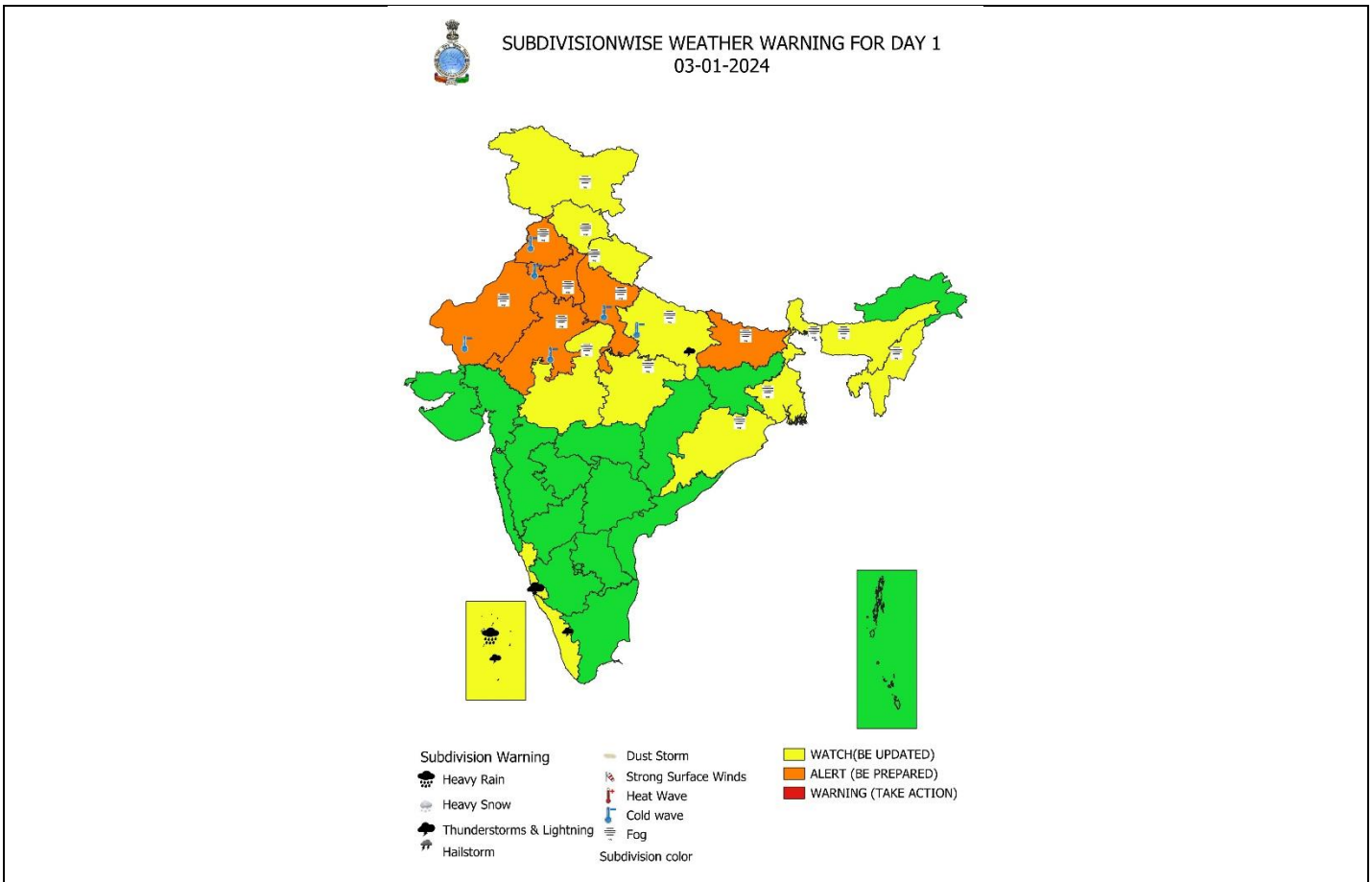
- **Transport and Aviation:**
  - Be careful while driving or outing through any transport.
  - Use fog lights during driving.
  - Be in touch with airlines, railways and state transport for schedule of your journey.
- **Power Sector:**
  - To keep ready Maintenance Team
  - Human Health: To avoid outing until unless emergency and to cover the face.

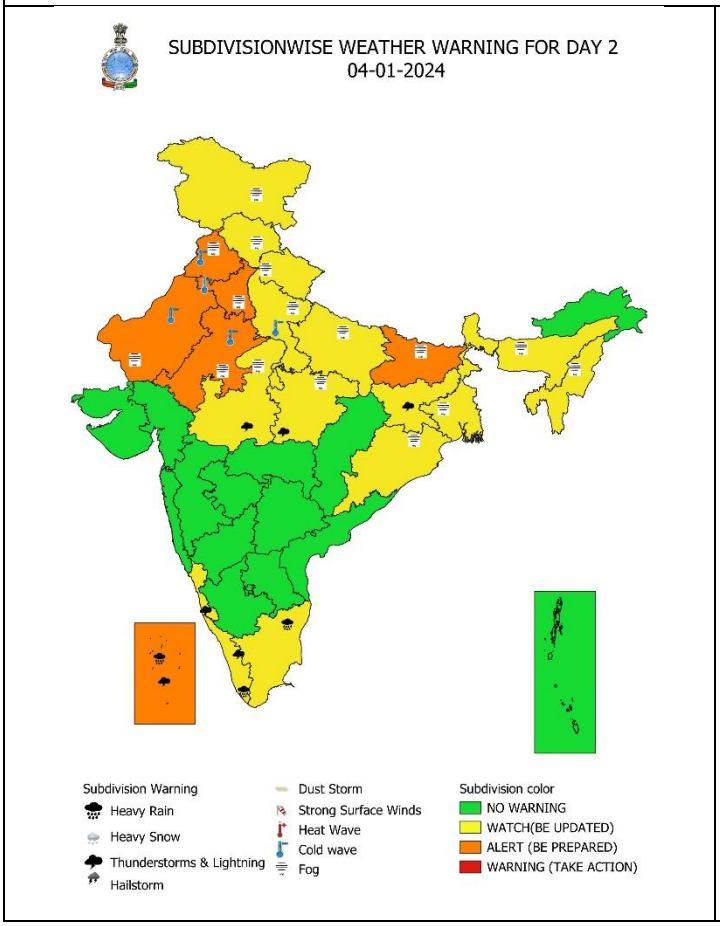
Impact expected due to Cold Day/Severe Cold day conditions in some parts over of Punjab, Haryana & Chandigarh, north Rajasthan during next 3 days.

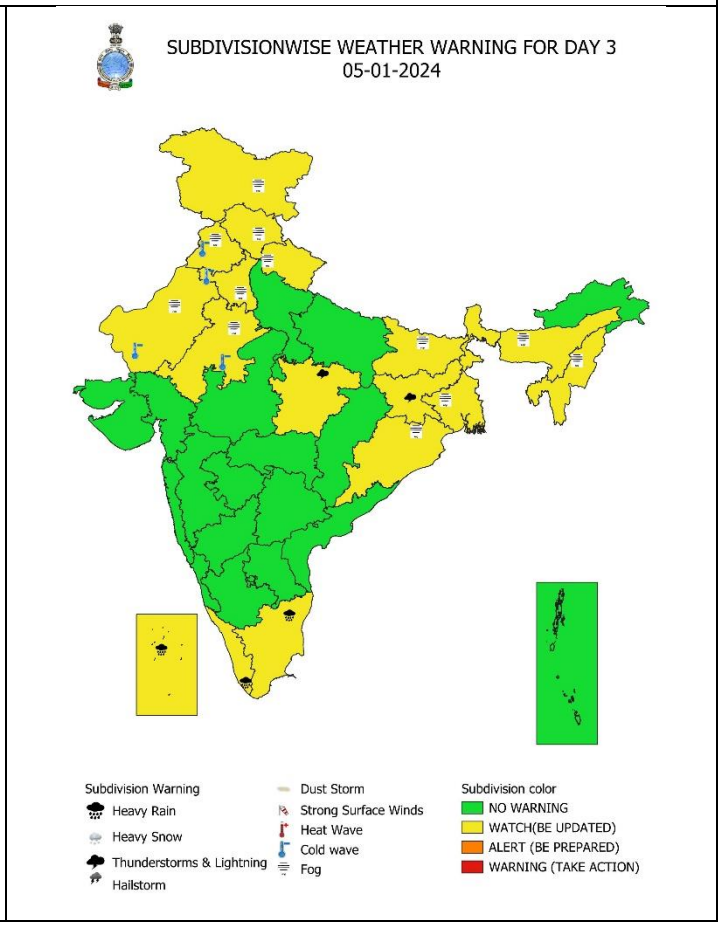
- An increased likelihood of various illnesses like flu, running/ stuffy nose or nosebleed, which usually set in or get aggravated due to prolonged exposure to cold.
- Do not ignore shivering. It is the first sign that the body is losing heat. Get Indoors.
- Frostbite can occur due to prolonged exposure to cold. The skin turns pale, hard and numb and eventually black blisters appear on exposed body parts such as fingers, toes, nose and or earlobes. Severe frostbite needs immediate medical attention and treatment.
- Impact on agriculture, crop, livestock, water supply, transport and power sector at some places.

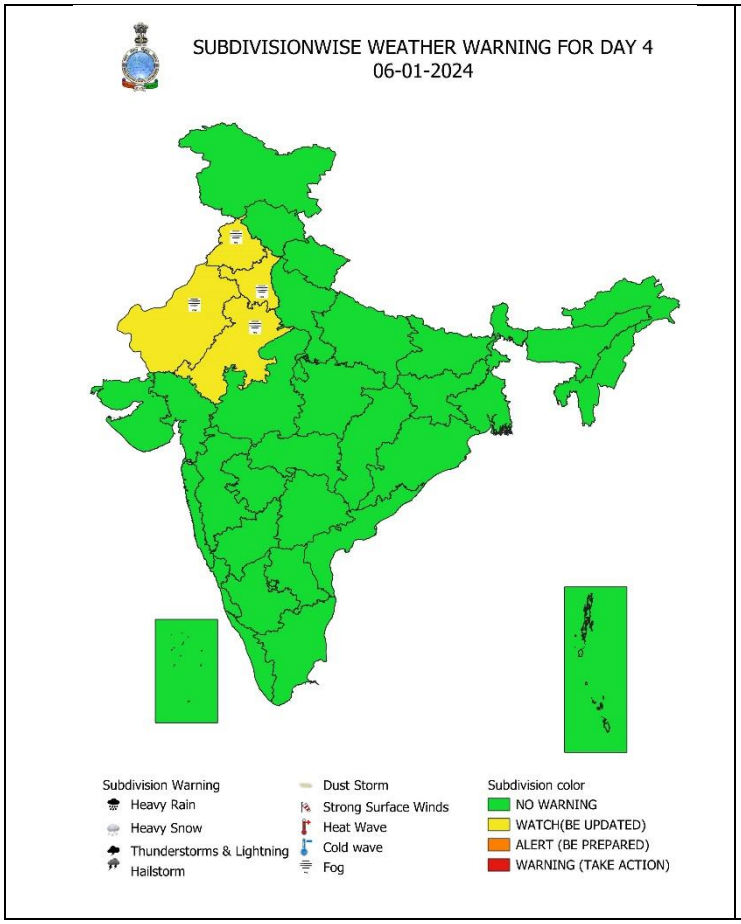
Action suggested:

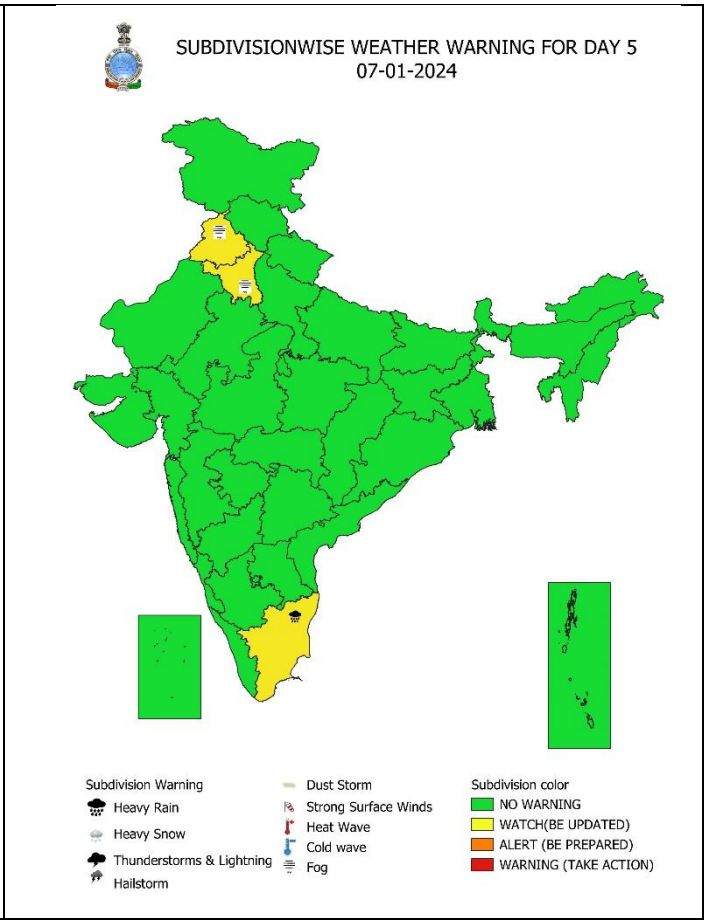
- Wear several layers of loose fitting, light weight; warm woollen clothing.
- Cover your head, neck, hands and toes adequately as majority of heat loss occurs through these body parts. Wear several layers of loose fitting, light weight; warm woolen clothing rather than one layer of heavy cloth.
- Eat vitamin-C rich fruits & vegetable and drink sufficient fluids preferably warm fluids to maintain adequate immunity.
- Avoid or limit outdoor activities.
- Keep dry, if wet, change cloths immediately to prevent loss of body heat. Wear insulated/waterproof shoes.
- Warm the affected area of the body slowly with lukewarm water; do not rub the skin vigorously.
- If the affected skin area turns black, immediately consult a doctor.
- Maintain ventilation while using Heaters to avoid inhaling toxic fumes.
- Take safety measures while using electrical and gas heating devices.
- Extreme care needed for vulnerable people.
- Seek medical attention as soon as possible for someone suffering from frostbite/ Hypothermia.
- Protect livestock from cold weather.


SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
03-01-2024
Subdivision Warning
Heavy Rain
Heavy Snow
Thunderstorms & Lightning
Hailstorm
Dust Storm
Strong Surface Winds
Heat Wave
Cold wave
Fog
Subdivision color
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION)

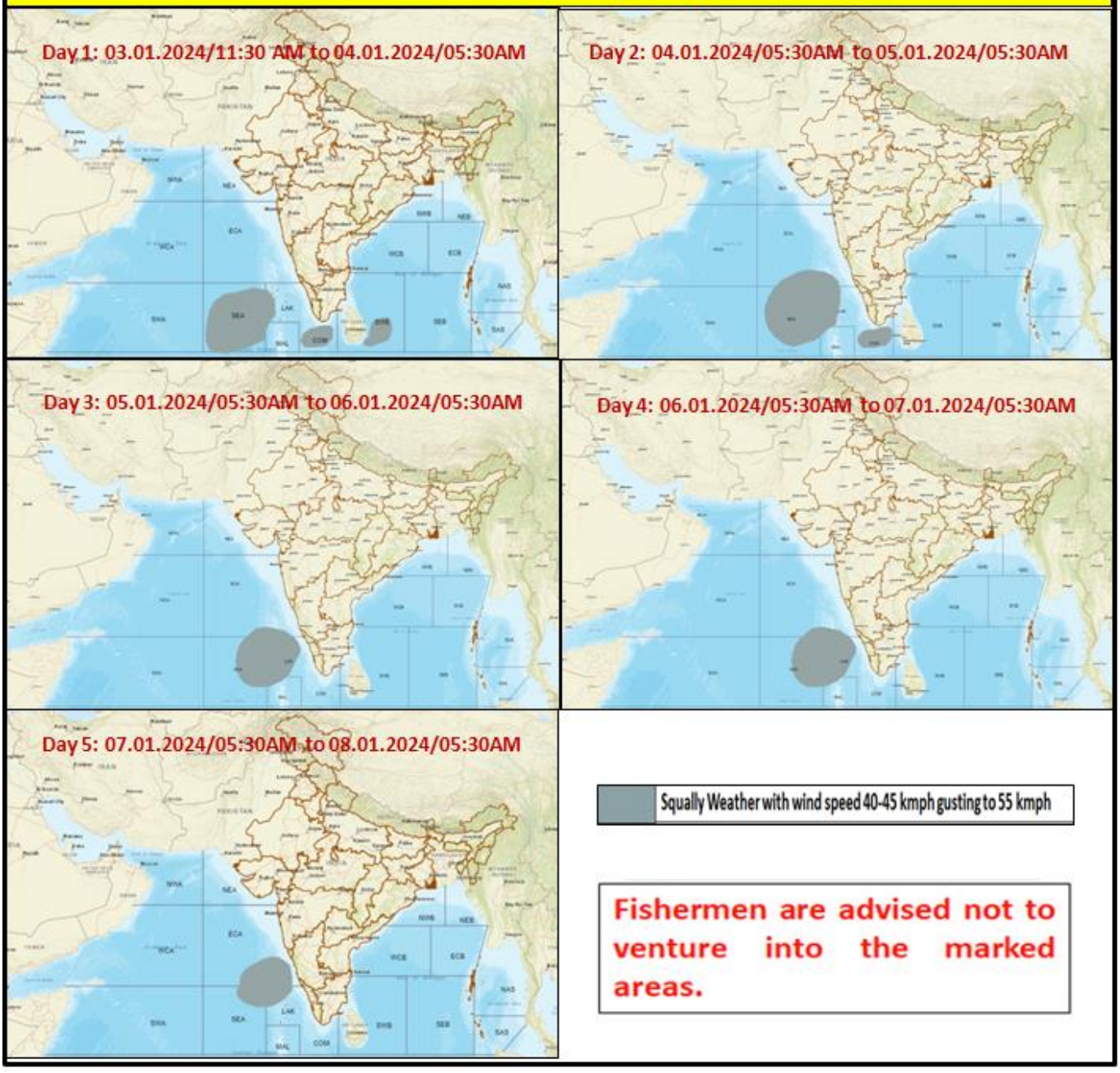

SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
04-01-2024
Subdivision Warning
Heavy Rain
Heavy Snow
Thunderstorms & Lightning
Hailstorm
Dust Storm
Strong Surface Winds
Heat Wave
Cold wave
Fog
Subdivision color
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION)


SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
05-01-2024
Subdivision Warning
Heavy Rain
Heavy Snow
Thunderstorms & Lightning
Hailstorm
Dust Storm
Strong Surface Winds
Heat Wave
Cold wave
Fog
Subdivision color
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION)


SUBDIVISIONWISE WEATHER WARNING FOR DAY 4
06-01-2024
Subdivision Warning
Heavy Rain
Heavy Snow
Thunderstorms & Lightning
Hailstorm
Dust Storm
Strong Surface Winds
Heat Wave
Cold wave
Fog
Subdivision color
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION)


SUBDIVISIONWISE WEATHER WARNING FOR DAY 5
07-01-2024
Subdivision Warning
Heavy Rain
Heavy Snow
Thunderstorms & Lightning
Hailstorm
Dust Storm
Strong Surface Winds
Heat Wave
Cold wave
Fog
Subdivision color
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION)

Fishermen Warning Graphics



Legends:

- **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
- **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)

Definition of Cold wave, Cold Day and Fog Conditions:

Cold Wave

When minimum temperature of a station ≤10°C for plains and ≤0°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 ≤ -6.5 °C

(b) Based on actual Minimum Temperature (for Plains only)

- **Cold Wave :** When Minimum Temperature is ≤ 4.0 °C
- **Severe Cold Wave:** When Minimum Temperature is ≤ 2.0 °C

(c) For Coastal Stations

When Minimum Temperature departure is ≤-4.5 °C & actual Minimum Temperature is ≤ 15 °C

Cold Day

When minimum temperature of a station ≤10°C for plains and ≤0°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 ≤ -6.5 °C

Fog

Phenomenon of small droplets suspended in air and the horizontal visibility < 1km

- **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