



2023

Action Plan on Cold Wave



**Department of
Disaster Management
& Civil Defence**

&

**West Bengal State
Disaster Management
Authority (WBSDMA)**

As per NDMA National Guideline for Preparation of Action Plan- Prevention & Management of Cold Wave and Frost 2021, the State of West Bengal has prepared this action plan on Cold Wave which will be used as a ready guidelines for the Districts.

A cold wave is a meteorological event generally characterized by i) Sharp drop of air temperature near the surface, leading to extremely low values; ii) Steep rise of pressure; iii) Strengthening of wind speed; iv) Associated with hazardous weather like frost and icing.

Cold wave, heavy snowfall/rainfall, fog, snowstorms etc. have emerged as major weather hazards. It can affect adversely on environment, agriculture, health, livestock, livelihoods, socio-economy, and other allied sectors. The extent of damage caused by a cold wave depends on the temperature, length of exposure, humidity levels, and the wind speed.



Impact of Cold Wave in

West Bengal

Cold wave is a localized seasonal phenomenon. As only a very small part of the Himalayas runs through the northern parts of West Bengal, the occurrence of Cold Wave is very rare in this state. Although, the northern parts of West Bengal, specially the hilly regions (Darjeeling, Kalimpong) and Western Districts (Purulia, Paschim Bardhaman, Bankura, Birbhum and Jhargram) and the adjoining plains are influenced by transient disturbances in the mid latitude westerlies which often have weak frontal characteristics. *As per the information shared by Regional Meteorological Centre, Kolkata, these districts faced following few days of cold waves for the last four years.*

Sl No	Districts Observed Cold Wave	Year wise number of Months & Days in which cold wave prevails			
		2018	2019	2020	2021
1	Birbhum	January- 9 days. December- 1 day.	January-1 day. December- 5 days.	February -1 day. December- 2 days.	January -1 day. Decemeber-1 day.
2	Purulia	January- 2 days.	January-1 day December- 3 days.	February -1 day. December -3 days.	January- 4 days.

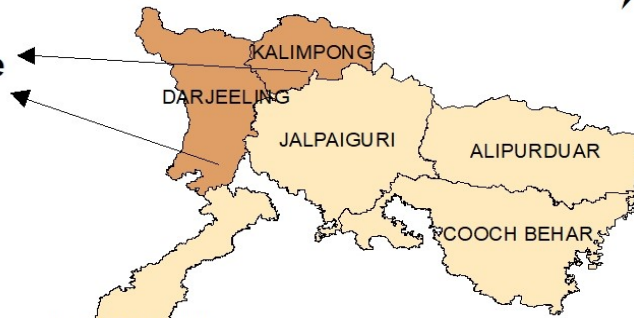
3	Bankura	---	January-1 day. Decemeber-1 day.	---	January-1 day. February-1 day.
4	Paschim Bardhaman	January-1 day Decemeber- 1 day.	January -1 day Decemeber-1 day.	---	---
5	Darjeeling	January-1 day. Decemeber- 1 day.	---	---	---
6	Kalimpong	January-1 day.	December- 4 days.	January -1 day.	---
7	Malda	January- 3 days.	January-9 days.	---	January -1 day.

Hence an Action plan on Cold wave has been framed for immediate and longer-term actions to increase preparedness, information sharing and response coordination to reduce the impacts on vulnerable populations. The NDMA guideline for Preparation of Action Plan- Prevention & Management of Cold Wave & Frost has been shared with all the Districts of the State.

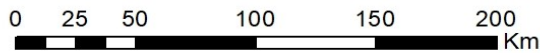
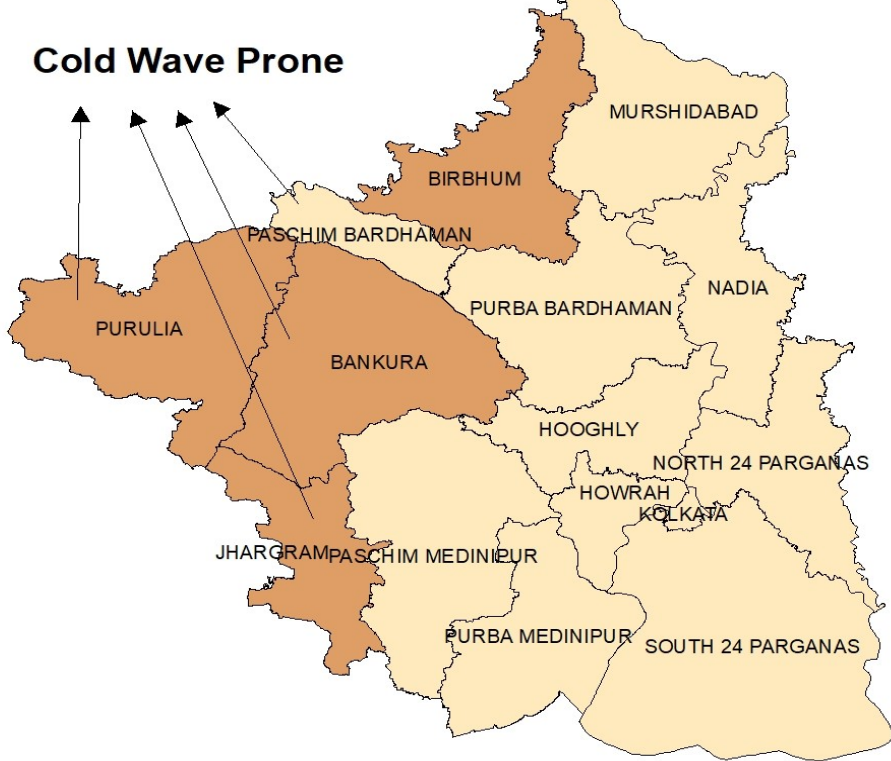
WEST BENGAL Cold Wave Prone Districts



Cold Wave Prone



Cold Wave Prone



Hazard Analysis-

Due to West Bengal's vast geographical area, Cold waves are prominent in the northern part of the State, along with adjoining area. In the current climate change regime, these weather-related events (like cold waves) are further aggravated.

Vulnerability Analysis-

The impact of hazard events such as cold waves, extreme cold waves, rainfall, snowfall, is substantial and represents an increasing threat over West Bengal. The extent of vulnerability (mild, moderate or intensive) and the probable estimate of damages to agriculture including animal husbandry due to cold wave is defined the vulnerability of cold wave. Cold waves may also impact the efficiency and operation of other infrastructure like, Energy/(Power), IT/(Communications), Transportation, Banking & Finance, Government Services, Emergency

Services, Water Supply/Management, Food production/security, etc.

Risk Analysis-

Risk assessment includes an evaluation of all elements that are relevant to the understanding of the existing hazards and their effects on a specific environment. Special care has been taken to prevent fire accidents caused by heating pots within homes.

Early Warning and Communication: IMD issues forecasts & warnings for all weather related hazards including Agro-met advisory for farmers at local level in short to medium range (valid for the next five days) every day as a part of its multi-hazard early warning system. The warnings received from IMD are transmitted to the concerned district authority as well as up to block offices and in some cases to the concerned district authority through Whatsapp system regulated at the SEOC.

Do's and Don'ts in Cold Wave:

Do's

➤ Before

- ❖ Listen to the radio; watch TV, read newspapers for local weather forecast to know if a cold wave is round the corner.
- ❖ Do stock adequate winter clothing. Multiple layers of clothing are more helpful.
- ❖ Keep emergency supplies ready.
- ❖ 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. Consult the doctor for symptoms like these.

➤ During

- ❖ Follow weather information and emergency procedure information closely and act as advised.
- ❖ Stay indoors as much as possible and minimize travel to prevent exposure to cold wind.
- ❖ Wear multiple layers of loose fitting, lightweight, windproof warm

woolen clothing, rather than one layer of heavy clothing. Tight clothing reduces blood circulation.

- ❖ Keep yourself dry. If wet, then cover your head, neck, hands and toes adequately as the majority of heat loss occurs through these body parts.
- ❖ Prefer mittens over gloves. Mittens provide more warmth and insulation from cold, as fingers share their warmth and expose less surface area to the cold.
- ❖ Use hats and mufflers to prevent heat loss, Wear insulated/waterproof shoes.
- ❖ Eat healthy food to maintain the equilibrium of body temperature.
- ❖ Drink hot fluids regularly, as this will maintain body heat to fight cold.
- ❖ Take care of elderly people and children and check on neighbors who live alone, especially the elderly about their well-being.
- ❖ Do store essential supply as per requirement. Store adequate water as pipes may freeze.
- ❖ Follow the guide on heat insulation for non-industrial buildings and take necessary preparedness measures.

- ❖ Watch out for symptoms of frostbite like numbness, white or pale appearance on fingers, toes, earlobes and the tip of the nose, while exposed to cold waves.
- ❖ Treat the areas affected by frostbite in warm (not hot) water (the temperature should be comfortable to touch for unaffected parts of the body).
- ❖ Do not ignore shivering. It is an important first sign that the body is losing heat and is a signal to return indoors quickly.
- ❖ Seek medical attention as soon as possible for someone suffering from Frostbite/Hypothermia.
- ❖ Move pet-animals indoors. Likewise, protect livestock or domestic animals from cold weather by moving them inside.
- ❖ Severe exposure to cold wave can lead to Hypothermia– a decrease in body temperature that can cause shivering, difficulty in speaking, sleepiness, stiff muscles, heavy breathing, weakness, and/or loss of consciousness. Hypothermia is a medical emergency that needs immediate medical attention.
- ❖ Consult doctor for symptoms like various illnesses, running/stuffy nose particularly during the period of COVID -19.

In the case of hypothermia

- ❖ Get the person into a warm place and change clothes.
- ❖ Warm the person's body with skin-to-skin contact, dry layers of blankets, clothes, towels, or sheets.
- ❖ Give warm drinks to help increase body temperature. Do not give alcohol.
- ❖ Seek medical attention if the condition worsens.

Don'ts

- ❖ Avoid prolonged exposure to cold,
- ❖ Don't drink alcohol. It reduces your body temperature; it actually narrows your blood vessels, particularly those in the hands, which can increase the risk of hypothermia.
- ❖ Do not massage the frostbitten area. This can cause more damage.
- ❖ Do not give the affected person any fluids unless fully alert.

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