Piscataquis County, Maine

Extreme Temperature Plan

October 2023

Contents

Preface & Acknowledgements

Piscataquis County and its citizens are increasingly impacted by extreme temperature events each year. Guided and informed by the Piscataquis County Emergency Management Agency, county leaders seek to support municipalities, nonprofits, local health system partners, residents, and visitors in the county as they prepare for, respond to, and recover from extreme temperature events.

Special thanks to:

This document outlines the county's plan to respond to an extreme temperature event and was created through a partnership between the Maine Center for Disease Control and Prevention (Maine CDC), Piscataquis County Emergency Management Agency, and TRC Environmental, working under contract through Maine CDC. Funding for this work was provided by Maine CDC's cooperative agreement #1 NUE1EH001459- 01-00 from the U.S. Centers for Disease Control and Prevention, under the Building Resilience Against Climate Effects (BRACE) Program.

To implement this plan, numerous stakeholders, including county government representatives, local emergency responders, and outside organizations have worked with the Piscataquis County Emergency Management Agency to provide critical information and recommendations to successfully mitigate extreme temperature events. The Piscataquis County Emergency Management Agency thanks each participating group and municipality:

Dover-Foxcroft Police Dept.	Greenville Police Dept.	Helping Hands with Heart	Hibbard Skilled Nursing & Rehab Center	Kingsbury Plantation
Monson Fire Dept.	Northern Light Mayo Hospital	Penquis CAP	Piscataquis Regional YMCA	Thompson Free Library
Town of Dover-Foxcroft	Town of Greenville	Town of Medford	Town of Shirley	

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Authority

Piscataquis County Emergency Management Agency operates under the authority of Maine Revised Statute Title 37-B Ch.13 §781.

Acronyms

BRACE	Building Resilience Against Climate Effects
CMP	Central Maine Power
ED	Emergency Department
EOC	Emergency Operation Center
FEMA	Federal Emergency Management Agency
HAN	Health Alert Network
HRI	Heat Related Illness
ICS	Incident Command System
LIHEAP	Low Income Home Energy Assistance Program
MECDC	Maine Center for Disease Control
NIH	National Institutes of Health
NIHHIS	National Integrated Heat Health Information System
NIMS	National Incident Management System
NSSP	National Syndromic Surveillance Program
NWS	National Weather Service
OCCHE	Office of Climate Change and Health Equity
OPA	Office of the Public Advocate
PUC	Public Utilities Commission
RAPT	Resilience Analysis and Planning Tool
USEPA	United States Environmental Protection Agency
WCT	Wind Chill Temperature

Promulgation

The Piscataquis County Emergency Management Agency serves as a link between local jurisdictions and the State for both the collection and distribution of information during a disaster. Piscataquis County Emergency Management Agency protects communities by coordinating and integrating all activities necessary to build, sustain, and improve the capability to mitigate against, prepare for, respond to, and recover from threatened or actual natural or man-made disasters. To perform this mission, Piscataquis County Emergency Management Agency must ensure its operations are performed efficiently with minimal disruption, especially during an extreme temperature event. This document provides planning and program guidance for implementing the Piscataquis County Emergency Management Agency Extreme Temperature Plan in preparation for, and in response to, extreme temperature events in the county.

This plan has been developed in coordination with local emergency responders, municipal management staff, nonprofit administrators, faith-based leaders, and healthcare providers under the direction of the Director of Piscataquis County Emergency Management Agency. This project was guided by input from public health experts at the Maine Center for Disease Control.

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Jaeme Duggan, Director

Piscataquis County Emergency Management Agency

Plan Approval Page

The Piscataquis County, Maine Extreme Temperature Plan has been reviewed and approved.

Paul T. Davis, County Commissioner — Date
District 1

Andrew R. Torbett, County Commissioner — Date
District 2

Wayne E. Erkkinen, County Commissioner — Date
District 3

Executive Summary

This plan describes preparatory and responsive county activities to extreme temperature events and provides guidance for county agencies, local governments, and non-governmental organizations in the preparation of their extreme temperature event response plans and other related activities. This plan supports the County Emergency Operations Plan.

The plan exists to further the goals of:

1) Accurately collecting and analyzing information related to extreme temperature events and emergencies in Piscataquis County. guidance.
2) Communicating and coordinating information to local leaders.
3) Supporting local governments' actions according to National Incident Management System (NIMS) and Incident Command System (ICS) guidance.

The plan recognizes four phases of action:

I. Seasonal Readiness
II. Warning and Preparation
III. Emergency Response
IV. Recovery

These phases are initiated based on the severity of the risk of the weather to the county's population, with special focus on vulnerable community members. Government's direct involvement at all levels increases with the severity of the risk.

This plan contains specific actions to be taken by the county in each of the four phases and a suggested list of activities to guide local decision makers.

The plan contains the following:

- A description of the purpose and scope of the plan.
- Background information including the history of extreme temperature emergencies in the county and other parts of the state.
- Descriptions of the conditions triggering each phase of the plan.
- The responsible agencies and the actions those agencies will carry out during the different phases of the plan.
- Guidance for local agencies to help plan and coordinate efforts during extreme temperature events.
- Attachments with supporting information.

While extreme temperatures pose risks to domestic animals and livestock, users of this plan are encouraged to refer to the Department of Agriculture and Forestry as well as the State Veterinarian Office for more information related to this specific consequence topic.

Review

The Extreme Temperature Plan is a living document that requires periodic review and update.

Section	Date of Review	Individual(s) Conducting Review

Document Revision Record

Revisions to this document are listed below. Each row contains an entry for a separate revision.

Revision	Revision Date	Authored	Reviewed & Approved	Description of Revision

1. Introduction/Overview

The Extreme Temperature Plan for Piscataquis County was created to effectively mitigate against, prepare for, and respond to extreme temperature emergencies at the county level, and is aligned with state and local measures. An 'extreme temperature event or emergency' is characterized by temperatures—whether hot or cold—that deviate from the norm for our region, catching people unprepared or unaccustomed to dealing with such conditions, in the opinion of the Piscataquis County Emergency Management Agency, that can increase the incidence of morbidity and mortality in affected populations.

Vulnerable Populations

Aligning with the American Red Cross Sheltering Handbook, the United States Environmental Protection Agency (USEPA) Excessive Heat Events Guidebook (2016), and the Fourth National Climate Assessment, individuals possessing any combination of the following characteristics or conditions are at greater risk for experiencing an extreme temperature-attributable adverse health outcome:

Physical Constraints: This at-risk group includes infants, older adults (age 65 and older, who may also be less likely to recognize symptoms of excessive heat exposure), the very obese, those with underlying medical conditions or chronic medical conditions (e.g., heart disease, diabetes), those taking certain medications (e.g., for high blood pressure, depression, insomnia), and individuals under the influence of drugs or alcohol.

Mobility Constraints: People with mobility constraints are at higher risk during extreme temperature emergencies if the constraints limit their ability to access appropriately cooled/heated locations. This group includes the very young and those confined to a bed.

Cognitive Impairments: People with mental illnesses, with cognitive disorders, or under the influence of drugs or alcohol may be unable to make rational decisions that would help limit their exposure to excessive heat or cold or to recognize symptoms of excessive heat or cold exposure.

Economic Constraints: Those with fewer financial resources may be disproportionately at risk during extreme temperature emergencies if their homes lack air conditioning or heating or if they are less likely to use available utilities because of the cost.

Social Isolation: Socially isolated individuals are less likely to recognize symptoms of excessive heat or cold exposure. This can delay or prevent treatment and result in more serious health outcomes. Members of this group, which include the homeless and those living alone, may also be less willing or able to reach out to others for help.

Social Vulnerabilities: Individuals and communities have different levels of access to resources to prepare for, cope with and recover from disasters. Many factors may contribute to social vulnerability, including but not limited to gender, race, socioeconomic status, age, and language.

Planning

In cooperation with other public agencies and the private sector, the county's primary goals in managing an extreme temperature event shall be:

- To maintain situational awareness of extreme temperature events, including likelihood, forecasted impact, timelines, and intersections with other ongoing relevant events which may affect the magnitude, longevity, or intensity of an extreme temperature event;
- To effectively communicate with local stakeholders in the county to convey information as rapidly and efficiently as possible through all available communications channels;
- To effectively communicate with stakeholders in peer counties and at Maine Emergency Management Agency (MEMA) as needed;
- To provide information and resources for local jurisdictions to manage their own events;
- To remain accessible to municipal leaders and community stakeholders before, during, and after extreme temperature events in order to assist in problem-solving, information gathering and distribution, and situational monitoring;
- To collect data after an event through an interview review process to assist municipalities in maintaining best practices and improving on identified opportunities during extreme temperature events.

Plan Development and Maintenance

This plan is the principal outline of Piscataquis County Emergency Management Agency's extreme temperature event response actions, including support to local governments. This plan will be reviewed and updated as needed by the Piscataquis County Emergency Management Agency and according to the schedule listed in the Emergency Operations Plan. After an extreme temperature event and/or emergency, an internal review may be conducted to assess the viability of the plan, identify strengths, and target areas for improvement. This may include data collection from 2-1-1, MEMA, and other partners to assess communications and impact on citizens. Updates shall be made to the plan as needed. The overall coordination of updates will be controlled by the Piscataquis County Emergency Management Agency Director.

A record of revisions will be logged in the "Record of Changes' section of this plan, and each review will be logged in the "Review" section of this plan.

2. Purpose, Scope, and Assumptions

Purpose

This plan outlines the Piscataquis County Emergency Management Agency's planned response to extreme temperature emergencies, communications to the public, and coordination with municipalities and other agencies to ensure that the population is provided with information and resources needed before, during, and after extremely hot or extremely cold temperature events.

Scope

The plan details the organization, roles, and responsibilities of Piscataquis County Emergency Management Agency and its partners, as well as the concept of operations for response to extremes in temperature that place county residents in danger of adverse health consequences. It encompasses triggers for activation of the plan, procedures, public outreach, warming/cooling center recommendations, and alternative solutions.

The plan helps to:

- Limit adverse public health effects from extreme temperature events.
- Identify conditions and/or events that would trigger activation of part or the entire plan.
- Provide a framework for coordinating the efforts of divisions within Piscataquis County and other stakeholders and agencies that provide services to support the population. This includes necessary considerations for vulnerable populations, including but not limited to:
    - Older adults (age 65 and older)
    - Infants, children, and youth
    - Pregnant women
    - Workers
    - People with mental illness
    - People experiencing homelessness
    - Medically "at-risk" (fragility)
    - People with access and functional needs
- Reduce the health risks associated with extreme temperature events and/or emergencies.
- Provide a list of prevention and educational resources that may mitigate or prevent heat- and cold-related adverse health effects and/or deaths.

Assumptions

- It is the responsibility and authority of the Piscataquis County Emergency Management Agency to ensure that the governmental response to an extreme temperature event and/or emergency is appropriate.
- The Piscataquis County Emergency Management Agency may initiate specified actions independently but will communicate to and coordinate those actions with local government.
- The Piscataquis County Emergency Management Agency actions identified in the plan will assist local government.
- Local governments may have programs to address extreme cold/heat and those programs may vary in organization and operation but are consistent with National Incident Management System (NIMS) guidelines.
- Nothing in this plan serves to restrict local government operations if they are consistent with NIMS.

- We recognize that extreme temperatures pose risk to domestic animals and livestock, and we refer residents to the Department of Agriculture and Forestry's Animal Health Department.
- Vulnerable populations were determined using best-available information from Maine CDC and other state and federal sources.

Extreme Heat

- The term 'Citizen' in this plan represents all people residing in, working in, visiting, or commuting through the county for any length of time.
- Piscataquis County will experience periods of extreme heat and humidity during the summer months.
- Careful and precise weather monitoring is critical to the activation of this plan.
- Timely notifications to partners, relevant agencies, and the public are important for coordinated preparedness and response.
- Public health information about extreme heat should include information about which at-risk populations could be adversely affected.
- Many residences in Piscataquis County do not have air conditioners or may experience power failures or breakdowns, and those without air conditioning should be encouraged to take advantage of cooling centers or alternative cooling solutions.
- Increased demand during periods of extreme heat will place an increased burden on the electrical systems, so coordination with Central Maine Power (CMP) is vital.
- Power surges/outages associated with extreme temperatures can present special health risks for:
    - Individuals relying on electronically powered/charged medical devices
    - Individuals relying on refrigerated medicines (ex: insulin)

Extreme Cold

- The term 'Citizen' in this plan represents all people residing in, working in, visiting, or commuting through the county for any length of time.
- Piscataquis County will experience periods of extreme cold or loss of power for extended time due to winter storms, resulting in loss of heat and water (for those people who depend upon wells).
- Careful and precise weather monitoring is critical to the activation of this plan.
- Timely notifications to partners, relevant agencies, and the public are important to coordinated preparedness and response.
- Old or inadequate heating systems may fail under extended duress.
- Use of space heaters, fireplaces, or generators, increases the risk of household fires and carbon monoxide poisoning.
- Increased demand during periods of extreme cold will place an increased burden on the electrical systems, so coordination with CMP is vital.
- Transportation concerns during winter conditions, such as snow and ice, will increase.
- Power surges/outages associated with extreme temperatures can present health risks for:
    - Individuals relying on electronically charged medical devices
    - Individuals relying on refrigerated medicines (ex: insulin)
- There may be challenges with the heating fuel supply chain resulting in delays in residential deliveries, increase in cost, and shortages.

3. Concept of Operations

Local Response Phases

To prepare members of the public and government resources for extreme temperature event conditions, a series of four phased levels are referred to as Phase I, Phase II, Phase III, and Phase IV depending upon the severity of the threat to public health. Severity is determined by several factors, including the absolute degree of temperature deviation to levels that threaten health, contributing factors such as humidity and daily variation, the expected duration of the extreme temperature event, intersection with power supply issues, and the status of the community infrastructure (e.g., utilities, transportation) to allow the public to self-mitigate the impact of temperature extremes. The general criteria for gauging the severity of threat posed by an extreme temperature event/emergency are described in this section.

These four phases are:

- Phase 1: Seasonal Readiness
- Phase 2: Warning and Preparation
- Phase 3: Emergency Response
- Phase 4: Recovery

Activities during these four phases are coordinated by the local jurisdiction and/or the Piscataquis County Emergency Management Agency Director.

- Phase 1: Seasonal readiness through public education and outreach communication during normal temperature events, particularly in the spring and fall in preparation for the summer and winter, respectively;
- Phase 2: Warning and preparation through recognition and surveillance of potential or actual extreme temperature events and communication activities with stakeholder partners at Maine CDC, MEMA, and community health services;
- Phase 3: Emergency Response support to local municipalities as needed and internal- and external-facing communication; and
- Phase 4: The event has abated and resources are being recalled for return to normal operations.

Throughout all phases, the local jurisdictions and/or Piscataquis County Emergency Management Agency will monitor a series of extreme temperature indicators. These indicators may include:

- National Weather Service (NWS) warnings, watches, and advisories
- Other partners, such as Maine Emergency Management Agency and Maine CDC, via official relevant communication or messaging.

While NWS forecasts are the primary source for identifying extreme temperature events, the NWS is not the sole determinant of an extreme temperature event. For example, a single day of high heat may not trigger an emergency, but high temperatures and humidity more than a number of days in a row could. Similarly, a freeze warning may not cause concern, but an ice storm combined with a power outage might. The decision on whether circumstances constitute a potential or actual extreme temperature event is made by the local leadership responsible for emergencies and/or the Piscataquis County Emergency Management Agency Director in consultation with his or her staff, public health resources, and other subject matter experts as deemed necessary.

Thresholds for Action

A threshold for action is a certain temperature or number of days (or nights) above/below a specific temperature or humidity that "triggers" aspects of an extreme temperature response plan. There are many factors that can be used to determine the threshold for action based on local climate, vulnerability, capacity, and adaptations already in place.

Phase I: Seasonal Readiness

Phase I actions are taken prior to hotter months (usually in March, April, or early May) and prior to colder months (usually in late September, October, or early November) to prepare for and maintain a state of increased readiness. Seasonal readiness is primarily focused on raising public awareness of the risks of an extreme temperature event in the upcoming season and in preparing local governments and communities to recognize and respond to such an event.

Phase I Conditions for Action

Phase I is routinely initiated during spring and fall seasons to help prevent heat and cold injuries through awareness and preparation during spring and fall months when heat and cold temperature events are expected to occur.

Activities

- Provide initial notification to key stakeholders.
- Review and update existing plans, procedures, and resources.
- Identify and update lists of potential extreme temperature centers and other key facilities, as needed.
- Develop and maintain a coordinated public education and outreach program for extreme temperature events.
- Issue public service announcements through available traditional media outlets.
- Provide public information on preventing temperature-related illnesses and injuries on agency websites and through social media.
- Provide information through direct mail when possible (e.g., utility bill enclosures, tax bill mailings, etc.).
- Send notification and prevention tips through schools, businesses, and associations.
- Post public information tips at hospitals, medical offices, grocery stores, libraries, community centers, and other locations frequented by community residents.
- Provide outreach to parks and recreation departments, sports leagues and coaches, outdoor activity venues, senior and daycare centers, and organizations serving Access and Functional Needs (AFN) populations.
- Perform outreach to existing communication programs through partner agencies that perform check-in services to vulnerable populations.
- Monitor extreme temperature indicators and projections using vetted resources.

Public Message

The public messages for Phase I are primarily public service announcements issued by departments and agencies to raise awareness of the upcoming potential risks associated with the season and preventative or preparatory actions that can be taken. Messages are general in nature and focused on preventing the effects of extreme heat or cold by providing safety awareness and health tips.

Phase II: Warning and Preparation

Phase II is initiated when an extreme temperature event is expected within the next three days, based on an NWS Excessive Heat/Cold Outlook and/or other indicators. Phase II is characterized by public watches and warnings and preparations by the public, departments, and agencies for a response to such an event.

Phase II Conditions for Action – Heat

Based on an assessment of extreme temperature indicators, Piscataquis County Emergency Management Agency and other subject matter experts will determine that an extreme temperature event is likely to occur within 48 to 96 hours. Additional factors such as high night-time temperatures, power outages, or other compounding factors may require increased monitoring or action.

Heat Event Piscataquis County Emergency Management Agency Actions (Waterfall)	
Internal Piscataquis County Emergency Management Agency Benchmark *Temperatures approach 90°F or nighttime temperatures do not abate.*	Increase outlook monitoring. Communicate messages issued by NWS via established channels. Evaluate outlook for development into more serious weather conditions. Review and make ready center operations guidance documents. Take necessary actions to protect Piscataquis County Emergency Management Agency assets and operations.
NWS Hazardous Weather Outlook for Excessive Heat *Period of excessive heat possible within next 3-5 days*	Initiate touchpoints with relevant stakeholders. Prepare internal communications with local leaders for center operations. Communicate via established channels.
NWS Heat Advisory *2+ hours of 95-104°F or 100-104°F for any amount of time*	Understand cooling center landscape. Review potential for secondary order and/or intersectional effects.
NWS Excessive Heat Watch *Prolonged period of dangerous excessive heat possible within 48 hours*	Prepare to open Piscataquis County Emergency Management Agency EOC. Confirm Piscataquis Cooling Center data is accurate on MEMA and 211 listings. Communicate guidance related to center.
NWS Excessive Heat Warning *Prolonged period of dangerous excessive heat possible within 2+ hours of 105°+*	Consider moving to Phase III. May open Piscataquis County Emergency Management Agency EOC. Liaise with MEMA, Maine CDC, NWS for guidance. Attend standing calls.

Phase II Conditions for Action – Cold

Based on an assessment of extreme temperature indicators, Piscataquis County Emergency Management Agency and other subject matter experts will determine that an extreme temperature event is likely to occur within 48 to 96 hours. Additional factors such as severe weather, power outages, or other compounding factors may require increased monitoring or action. Extreme cold weather is determined by wind chill, which calculates the danger when factoring in air temperature and wind speed.

Cold Emergency Piscataquis County Emergency Management Agency Actions (Waterfall)	
Excessively Long Cold Period *NWS may make statement when it predicts excessively long periods of cold temperatures to protect human health and infrastructure.*	Increase outlook monitoring. Communicate messages issued by NWS via established channels. Evaluate outlook for development into more serious weather conditions. Review and make ready center operations guidance documents. Take necessary actions to protect Piscataquis County Emergency Management Agency assets and operations.
Wind Chill Advisory *Wind chill temperatures of -20°F to -29°F are expected.*	Communicate dangers of frostbite and hypothermia with public. Prepare internal communications with local leaders for center operations and understand warming center landscape. Review potential for secondary order and/or intersectional effects if conditions deteriorate.
Wind Chill Watch *Conditions are favorable for wind chill temperatures to meet, or exceed, local wind chill warning criteria in the next 12-48 hours.*	Increase stakeholder touchpoints, including shelter and center owners, utility operators, local leadership for emergencies. Communicate guidance related to center operations. Prepare to open Piscataquis County Emergency Management Agency EOC. Confirm Warming Center data is accurate on MEMA and 211 listings.
Wind Chill Warning *Wind chill temperatures reaching -30°F are expected, resulting in dangerously cold conditions.*	Consider moving to Phase III. May open Piscataquis County Emergency Management Agency EOC. Liaise with MEMA, Maine CDC, NWS for guidance. Attend standing calls.

Activities for Both Heat and Cold Events

- Develop strategy and action plans for the potential emergency.
- Issue and/or amplify existing messaging and public communications through media, websites, and social media.
- Increase outreach and information flow to vulnerable populations.
- Encourage municipalities to identify and prepare to open selected extreme temperature centers.

- Consider aggravating circumstances including Winter Storm, Blizzard, Nor'easter, Ice Storm watches and warnings and/or utility infrastructure impacts such as rolling black or brown outs.
    - Open the Piscataquis County Emergency Management Agency EOC to support response activities if threshold is met.

Public Message

Public messages in Phase II are directed at warning the public of the imminent hazard and providing specific information on how to reduce their risk of injury. Messages provide information on both prevention and immediate treatment of potential injuries. Messages may also include information on specific actions being taken by the government to prepare for a response.

Phase III: Emergency Response

Phase III is initiated when an extreme temperature emergency is occurring. An extreme heat emergency, labeled by the NWS as an "excessive heat warning" is defined as a weather event where the environment reaches 105°F for two hours or more. An extreme cold emergency is less well-defined, characterized by a coordinated government response to the temperature emergency, which could be related to normal low temperatures co-occurring with a storm event causing a power outage, or could be related to actual extremely low wind chill temperatures.

Phase III Conditions for Action - Heat

Based on an assessment of extreme temperature indicators, Piscataquis County Emergency Management Agency and its subject matter experts determine that an extreme temperature emergency is occurring that exceeds the measures being taken in Phase II. Indicators may include the following or may occur in conjunction with other significant events such as power outages. More detailed information on indicators and risks can be found in Appendix A.

Heat Event Piscataquis County Emergency Management Agency Actions (Waterfall)	
NWS Excessive Heat Warning *Prolonged period of dangerous excessive heat possible within 2+ hours of 105°+*	Consider moving to Phase III. May open Piscataquis County Emergency Management Agency EOC. Liaise with MEMA, Maine CDC, NWS for guidance. Attend standing calls.

Phase III Conditions for Action - Cold

Based on an assessment of extreme temperature indicators, Piscataquis County Emergency Management Agency and its subject matter experts determine that an extreme temperature emergency is occurring that exceeds the measures being taken in Phase II. Indicators may include the following or may occur in conjunction with other significant events such as power outages. More detailed information on indicators and risks can be found in Appendix A.

Cold Emergency Piscataquis County Emergency Management Agency Actions (Waterfall)	
Wind Chill Warning *Wind chill temperatures reaching -30°F.*	Consider opening Piscataquis County Emergency Management Agency EOC. Liaise with MEMA, Maine CDC, NWS for guidance. Attend standing calls.

Activities for Both Heat and Cold Events

- Coordinate inter-agency activities.
- Open the County EOC to support response activities.
- Continue monitoring relevant information on health impacts, weather alerts, and utility performance from partner agencies.
- Issue public information through media, websites, and social media regarding mitigation measures, open centers, and other public health information to include additional information related to severity.
- Provide guidance to and encouragement for municipalities operating warming or cooling centers and/or shelters if possible.

Public Message

Public messages during Phase III are oriented towards providing information related to the response. Phase III messages are specific and tell the public how and where they can access resources and services (e.g., location of warming or cooling centers, when to use 911 and hospital emergency departments, etc.).

Messages should also include information from Phase II relating to mitigating the effects of the emergency.

Phase IV: Recovery

Phase IV is initiated when temperatures approach seasonal norms and the population seeking assistance abates. This phase consists of terminating center operations if centers were activated during the temperature emergency, closing the EOC, and conducting activity reviews for analysis.

Activities

- Continue to liaise and communicate with necessary stakeholders.
- Continue to communicate with public via sharing content related to current conditions.
- Help, as needed, local stakeholders in closing centers by providing guidance and assistance, as practicable.
- Follow Piscataquis County Emergency Management Agency EOC closure procedures.

4. Hazard Profile

Maine is typically referred to as a “cold” state, characterized by cold, snowy winters and mild summers. Winter average temperatures range from 25°F in the far south to less than 15°F in the northern and interior portions of the state. Summer average temperatures range from near 60°F in the far north to near 70°F in the south (NOAA State Climate Summaries, 2022). However, several times each year, Maine experiences summer days during which the maximum temperature exceeds 90°F, and winter days with

lows in the negative teens, twenties, and thirties. Additionally, extreme weather events, including extreme temperature days, continue to increase in frequency, duration, and severity.

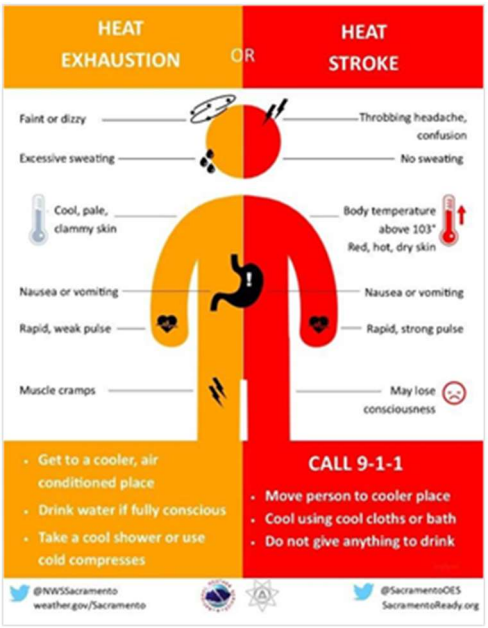
Description

Extreme temperatures includes both heat and cold events, which can have a significant impact on human health, which may affect commercial and agricultural businesses, and which can have primary and secondary effects on infrastructure (e.g., burst pipes, power failure). What constitutes "extreme cold" or "extreme heat" does not vary significantly across Piscataquis County.

Extreme Heat Hazard Analysis

Vulnerable Populations

People at highest risk of negative outcomes from extreme heat events are older individuals, infants and young children; pregnant women; people in poor physical health or with chronic health conditions (such as kidney disease, heart disease, or diabetes); people with mental and behavioral health conditions; those who are socially isolated; those with mobility constraints; those living in poverty or experiencing homelessness; new residents (such as immigrants, refugees, or non-English speakers); and those who play, exercise, or work outdoors, or those who work in hot indoor environments (i.e. restaurant kitchens). People who are included in two or more of these categories are at elevated risk of negative health outcomes.



Between 2001 and 2019, Piscataquis County saw an average of 5 heat-related emergency room visits per year, with a range from 0 to 10.

Weather Hazard Description

Days that are hotter than the average seasonal temperature in the summer cause increased levels of illness and death by compromising the body's ability to regulate its temperature or by inducing direct or indirect health complications. Loss of internal temperature control can result in a cascade of illnesses, including heat cramps, heat exhaustion, and heatstroke or hyperthermia (US Global Research Program: Climate Change and Health).

Although outdoor temperatures may not reach the level of a heat advisory or warning, indoor temperatures in non-air-conditioned buildings can rise to dangerous levels that may exacerbate or cause adverse health results, particularly for vulnerable populations such as children in schools or childcare or older adults in care facilities. Maine has the lowest rate of air conditioning in the Northeast; only 58.1% of homes in Piscataquis County had any kind of air conditioning, according to a 2019 survey.

The extent of extreme heat temperatures is generally measured through the Heat Index, presented in Appendix A. Created by the NWS, this locally adjusted Heat Index is a chart which accurately measures

the apparent temperature of the air as it increases with the relative humidity. To determine the Heat Index, the temperature and relative humidity are needed. Once both values have been identified, a formula is applied to establish the Heat Index ("feels like") temperature. This provides a measure of how temperatures actually feel; however, the values are devised for shady conditions with light wind. Exposure to full sun can increase the Heat Index by up to 15 degrees.

High temperature events do occur regularly, though infrequently, across the state in the summer season. Piscataquis County's mean annual high temperature for the meteorological summer (June, July, August) is 78F. Temperatures in Dover-Foxcroft, the largest town in the county, normally meet or exceed 90F between zero and two times each summer.

It is quite uncommon for the air temperature to reach triple digits; however, higher temperatures combined with humidity may lead to days that feel much hotter. Nearly every summer in Piscataquis County has at least one heat wave with high temperatures and high humidity leading to uncomfortable and potentially unsafe conditions. As Maine continues to warm due to climate change, the number of heat illness emergency visits and other negative health outcomes are likely to increase, as demonstrated by the graphic below.

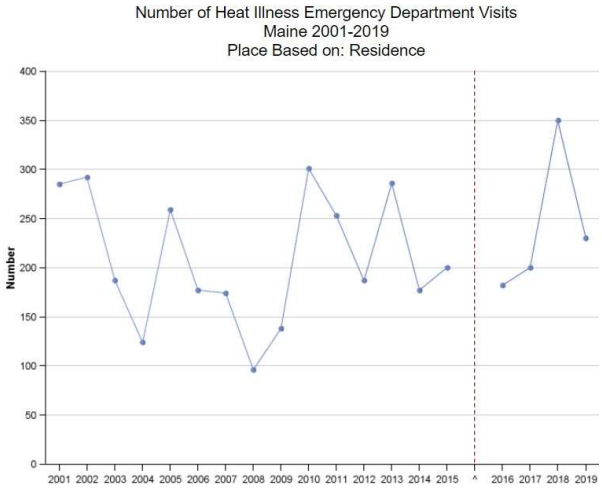


Figure 1 Maine CDC, 2022 "Extreme Temperature Planning" Focus Group Presentation

Secondary Effects of Extreme Heat

- Prolonged periods of heat may result in increased demands for electricity.
- Ozone levels can increase dramatically with accompanying adverse respiratory health effects.

Extreme Cold Hazard Analysis

Vulnerable Populations

People at highest risk of negative outcomes from extreme cold are older individuals; infants and young children; those living in poverty or experiencing homelessness; those with chronic health conditions or special medical conditions; those with mental and behavioral health conditions; people who drink alcohol in excess or use illicit drugs; those who are socially isolated; those with mobility constraints; new residents (such as immigrants, refugees, or non-English speakers); and those who are disproportionally exposed such as outdoor workers, hunters, or hikers. People who are included in two or more of these categories are at elevated risk of negative health outcomes.

Weather Hazard Description

Whenever temperatures drop below normal and as wind speed increases, heat can more rapidly leave the body. These weather-related conditions may lead to serious health complications. Exposure to cold can produce frostbite and/or hypothermia, trench foot or immersion foot (damage to foot tissue that results from prolonged exposure to cold, wet conditions; often a concern among the homeless) or chilblains (a painful skin condition). Secondary effects include an increased risk of heart attacks from heavy work such as shoveling or falls from slipping on icy patches.

Between 2001 and 2018, Piscataquis County saw an average of 7 cold-related emergency room visits annually with a range from 0 to 15. The extent (severity or magnitude) of extreme cold temperatures is generally measured through the Wind Chill Temperature (WCT) Index, presented in Appendix A. The index uses advances in science, technology, and computer modeling to provide an accurate, understandable, and useful formula for calculating the dangers from wind chill. For details regarding the WCT, refer to:http://www.nws.noaa.gov/om/winter/windchill.shtml.

Extreme cold temperatures occur throughout the winter season and generally accompany most winter storm events throughout the State. Piscataquis County's mean annual high temperatures for the meteorological winter (December, January, February) is 29°F. Average low temperatures fall to 7°F. While data demonstrates the average temperatures in Maine are increasing due to climate change, the number of cold-related illness emergency department visits and other negative health outcomes are likely to increase due to increasingly difficult to forecast weather events, as demonstrated by the graphic below.

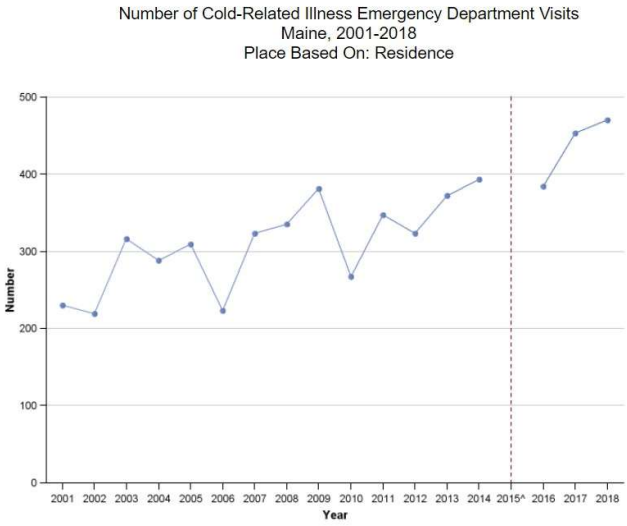


Figure 2Maine CDC, 2022 "Extreme Temperature Planning" Focus Group Presentation

Secondary Effects of Extreme Cold

- Increased demand for heating oil resulting in high prices, delayed deliveries.
- Staffing issues at warming centers due to inability to travel safely.
- Prolonged electrical outages due to damage in winter storms.

5. Roles and Responsibilities

Roles

Piscataquis County Emergency Management Agency

The primary purpose of Piscataquis County Emergency Management Agency is to lead county coordination efforts and serve as a trustworthy rapid communications facilitator during an emergency. This is achieved by coordinating and communicating situational information, supporting operational prioritization, and assisting with resource allocation before, during, and after an emergency event has occurred, if possible. Its staff are trained in Incident Command System (ICS) and are responsible for strategic overview and coordination of response efforts within Piscataquis County.

The Piscataquis County Emergency Management Agency EOC is activated by the authority of the Piscataquis County Emergency Management Agency Director. The EOC maintains all necessary equipment for communication.

Statewide communications are facilitated by MEMA and by the Maine CDC Health Alert Network (HAN) System, which is a secure, web-based communication system used by the Maine CDC to communicate important or timely public health information to healthcare providers, public health professionals, emergency preparedness personnel, first responders, and other partners.

The Piscataquis County Emergency Management Agency Director also serves as the Agency's communications lead and manages public information dissemination from the emergency management

perspective across the county. Piscataquis County Emergency Management Agency primarily communicates via social media (Facebook) with an active online presence, and via email and phone calls with established community stakeholders. In addition to creating original content, the office frequently reshares other agency postings, which assists in consistency and clarity of messaging.

Local Municipal Leaders

Local municipal leaders across all towns, including council members, city managers, mayors, and/or Fire, EMS, Police leaders, and local health officers, are responsible for the decision-making process around activating, staffing, and post-activation recovery operations of warming or cooling centers and/or shelters if available. These leaders are also responsible for non-center-based support efforts such as water distribution points, situational awareness, operation of public buildings and parks, community surveillance and reporting, and other such activities. Local community leaders maintain primary responsibility to take reasonable steps to provide for the care and welfare of their residents in the event of an emergency by providing information, opening warming/cooling centers, and coordinating with local health officers and other appropriate municipal departments.

National Weather Service

The National Weather Service (NWS) is an agency of the United States federal government that is tasked with providing weather forecasts, warnings of hazardous weather, and other weather-related products to organizations and the public for the purposes of protection, safety, and general information. The NWS performs its primary tasks through a collection of national and regional centers, and 122 local Weather Forecast Offices (WFOs), which are responsible for issuing advisories, warnings, statements, and short-term forecasts for their local county warning area. WFOs alert the public, media, emergency management, the aviation community, and other customers 24 hours per day, 365 days per year to keep the public safe from weather hazards. The WFO for Piscataquis County is located in Caribou, ME (WFO CAR).

Other Stakeholders

Across the county and state, there are hundreds of stakeholders in community health, social services, faith-based organizations, first responders, government weather authorities, disaster service organizations, and other important or overlapping groups which provide myriad support and resources to Piscataquis County Emergency Management Agency. A general, non-exhaustive list of these stakeholders in Piscataquis County is found in Appendix C.

Responsibilities

“All” as used below is defined as local leadership with emergency management authorities, Piscataquis County EMA, MEMA, and other stakeholders which independently perform the actions outlined in the relevant Activity column within each entity’s respective scope. This section is not meant to mandate or require these entities to accomplish these tasks as described in this plan but serves to memorialize and communicate that each entity is responsible for its own activities related to extreme temperature preparation and response. Phase IV – Recovery is conducted by each respective stakeholder.

Phase I: Seasonal Readiness

Responsible Agency	Activity
All	Review and update plans
Local leadership	Identify, maintain, and communicate list of potential extreme temperature centers and report this information to Piscataquis County Emergency Management Agency (EMA)
Local leadership	Facilitate and promote coordinated public education around risks of extreme temperature events
MEMA	Issue public service announcements through the media
All	Provide information on preventing temperature-related injuries on agency websites and through social media
Local leadership	Facilitate the provision of information through direct mail at the local level (e.g., utility bill enclosures, etc.)
Local leadership	Send notification and prevention tips through schools, businesses, and associations
Piscataquis County EMA	
MEMA	
Local leadership	Post public information tips at hospitals, medical offices, grocery stores, and community centers
Local leadership	Provide outreach to parks and recreation, coaches and outdoor activity ventures, senior and day care centers and organizations serving special needs populations, faith-based partners
Piscataquis County EMA	
Local leadership	Monitor extreme temperature indicators
Piscataquis County EMA	
MEMA	
NWS	
MECDC	

Phase II: Warning and Preparation

Lead Agency	Activity
Local leadership	Develop strategy and action plans for the potential emergency
Piscataquis County EMA	
Local leadership	Identify and communicate list of extreme temperature centers which will be opened and report to Piscataquis County Emergency Management Agency
Piscataquis County EMA	Aggregate list of opened extreme temperature center information and report to MEMA and 2-1-1; communicate center information to public through established channels
MEMA	Collect, display, and communicate opened extreme temperature center information to public
MECDC	Monitor indicators, particularly temperature related injuries and deaths

MECDC	Communicate with local public health entities
All	Issue public warnings through media, websites, and social media
All	Increase outreach and information flow to vulnerable populations
Local leadership	Identify and prepare to open selected extreme temperature centers
MECDC	Issue reminders on treatment protocols to physicians and hospitals
Local leadership	Coordinate with localities with capabilities for extreme temperature centers to understand planned activation

Phase III: Emergency Response

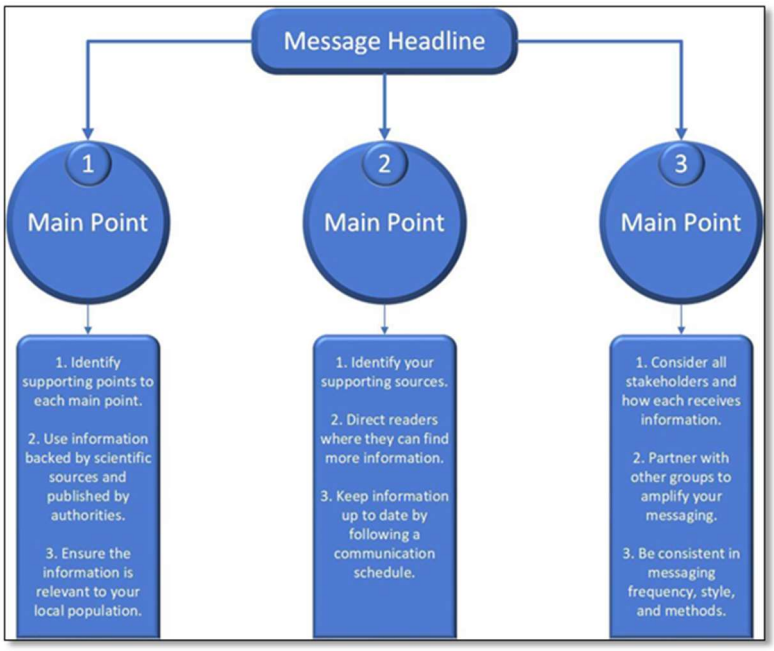
Lead Agency	Activity
Local leadership	Activate extreme temperature centers; monitor and evaluate changing conditions
Piscataquis County EMA	Activate the county EOC if warranted; monitor and evaluate changing conditions
Piscataquis County EMA	Coordinate inter-county activities and communication as needed; integrate into EOC if opened
MECDC	Monitor indicators, including emergency department visits, via the ME Tracking Network data portal
All	Issue public information through media, websites, and social media

Phase IV: Recovery

Lead Agency	Activity
All	Each stakeholder is responsible for determining its recovery actions based on the severity of the event and level of involvement.

6. Communication and Public Information

Message mapping is one of the most important risk communication tools that can be employed during extreme temperature events. The image below is a general set of guidelines for creating original content for public communication. While Piscataquis County Emergency Management Agency's communication efforts are focused on amplification of vetted, reputable entities for the sharing of fact-based information, there may be instances where the agency needs to create original communication products and this guideline should be used.



General Guidelines for Completing a Message Map.

- Stick to 3 key messages, or 1 key message with 3 parts, for each underlying concern or specific question.
- Keep key messages brief. The reader should ideally spend less than 10 seconds per line.
- Develop messages that are easily understood by the target audience.
- Place messages within a message set. The most important messages should occupy the first and last positions.
- Develop key messages that cite only credible, vetted sources.
- Use graphics and other visual aids to enhance key messages.
- Keep a positive tone. Messages should be solution-oriented and constructive. Try to balance negative messages with positive ones.
- Avoid unnecessary uses of negative words such as: no, not, never, nothing, none.

Emergency Communication

A strong public information program is a key crisis management tool. Relevant, timely, and accurate communication helps prevent confusion and uncertainty and can enlist public support and cooperation. Cohesive communication is as important internally as it is externally. Communication during an extreme temperature event or emergency serves two primary functions:

1. Helps the public understand the nature of the problem and prevents panic.
2. Encourages appropriate responses including (but not limited to) resilience-in-place and warming or cooling center information.

Internal Messaging

Extreme temperature events need to be communicated internally to appropriate county departments and stakeholders to trigger appropriate actions and raise awareness of the impending temperature risk.

An internal warning would go to county leadership, local officials and emergency personnel, among others. These officials would be responsible for disseminating the warning throughout their departments and ensuring that appropriate action takes place because of the warning.

Public Messaging

The mode of communication will vary depending on the target group and amount of time available before the start of an extreme temperature event. When issuing an emergency warning to the public it is important to be sure that the message includes the following six elements:

1. **TIMING –** When is the extreme temperature event due to start?
2. **LOCATION –** Which areas of the county will be affected?
3. **SCALE –** How high/low are temperatures likely to go?
4. **IMPACT –** Who is most likely to be impacted by the weather?
5. **PROBABILITY –** What are the chances of this extreme temperature event/emergency occurring?
6. **RESPONSE –** What should at-risk populations do to protect themselves?

External warnings are messages to the general public. To reach as many people as possible, particularly the most vulnerable, it is important to involve key messengers in this effort. This includes a collaborative response framework for communications and information sharing with partners such as school systems, healthcare systems, non-government organizations, and other supporting entities.

7. Information Resources

The following is a selection of tools that may be helpful to Piscataquis County as it analyzes risk, creates communication materials, informs municipal leaders and the public, prioritizes efforts, and crafts policy and strategy to manage temperature emergencies. While not all-encompassing, this table presents the most complete and up-to-date resources published through the federal government. A more in-depth description including background, description, and instructions for use are found in Appendix D.

Online Tools

Tool Name	Location	Offering
Heat.gov	www.heat.gov	One-stop shop at the federal government level for heat resilience resources.
NOAA's Climate Prediction Center (CPC) Week-2 Extremes Tool	https://www.cpc.ncep.noaa.gov/products/predictions/threats/extremesTool.php	The Week-2 global probabilistic extremes forecast tool, or GEFS Reforecast Tool, is a model guidance tool that applies statistical adjustments to raw Global Ensemble Forecast System (GEFS) model forecasts.
FEMA's Geospatial Resource Center	https://gis-fema.hub.arcgis.com/	Explore hazard-specific resources in this free FEMA GIS mapping resource.

FEMA's Resilience Analysis and Planning Tool (RAPT)	https://www.fema.gov/emergencymanagers/practitioners/resilience-analysis-and-planning-tool	Free GIS web mapping tool to examine people, infrastructure, and hazards.
NOAA and Health and Human Services' Climate and Health Outlook	https://www.hhs.gov/climate-change-health-equity-environmental-justice/climate-change-health-equity/climate-health-outlook/index.html	Sharable Monthly Climate and Health Outlook report for download in PDF format.
CDC's Heat and Health Tracker	https://ephtracking.cdc.gov/Applications/heatTracker/	Map that provides heat and health data with regular updates.
U.S. Climate Resilience Toolkit Climate Explorer	https://www.heat.gov/pages/climate-explorer	Long-range planning dashboard using global climate models.
FEMA's National Risk Index	https://hazards.fema.gov/nri/map	Online mapping application that identifies communities most at risk from 18 natural hazards.
State Climate	https://statesummaries.ncics.org	Summaries cover assessment topics related to climate variations and trends, future model predictions, and past/present future conditions of sea level and coastal flooding.

8. Community Resilience and Long-Range Planning

This section of the plan serves as a collection of guideposts for desired future operations within Piscataquis County by capturing planned changes to National Weather Service offerings and potential additional community-level interventions.

National Weather Service Updates

The National Weather Service Weather Forecast Office (WFO) Caribou has notified Piscataquis County Emergency Management Agency that it plans to update its notifications for extreme temperature statements, watches, and warnings starting in Winter 2023-24 and/or 2024-25. NWS will discontinue specific temperature advisories and will instead move to a model that simply states "Extreme [Cold or Hot] Temperature [statement, watch, or warning]". This change will likely improve the ease of communication with the public through simplification of messaging and increased understanding.

Possible Interventions

Potential alternative, accessible interventions include:

- Extreme Temperature Health Messaging and Communications
  - 2-1-1 Maine's ability to provide cooling and warming center location information.
  - NOAA weather radio updates
  - Acclimation awareness campaign
  - In-home and out-of-home behaviors (see table below)

    - Unintentionally harmful behaviors
- Social care and front-line health worker education and training
- Neighbor outreach to at risk-persons and pets/animals
- Heating/cooling centers/shelters
- Water distribution points – drinking, misters, splashpads, community swimming areas, fountains
- Fan distribution and use, but only when appropriate
- Energy assistance
- Changes to the built environment
- Workplace Heat Alert Program

Appendix A: Extreme Heat Emergencies

Indicators: National Weather Service Forecasts

Excessive Heat Outlook: When the potential exists for an excessive heat event in the next 3 to 7 days. An outlook is used to indicate that a heat event may develop. It is intended to provide information to those who need considerable lead time to prepare for the event, such as public utilities, emergency management and public health officials.

Excessive Heat Watch: Conditions favorable for an excessive heat event to meet/exceed heat warning criteria in the next 12 to 48 hours.

Heat Advisory: Heat index of 95F for 2 hours or more, or 100-104F for any length or time.

Excessive Heat Warning: Heat Index at least 105°F or greater for 2 hours or more.

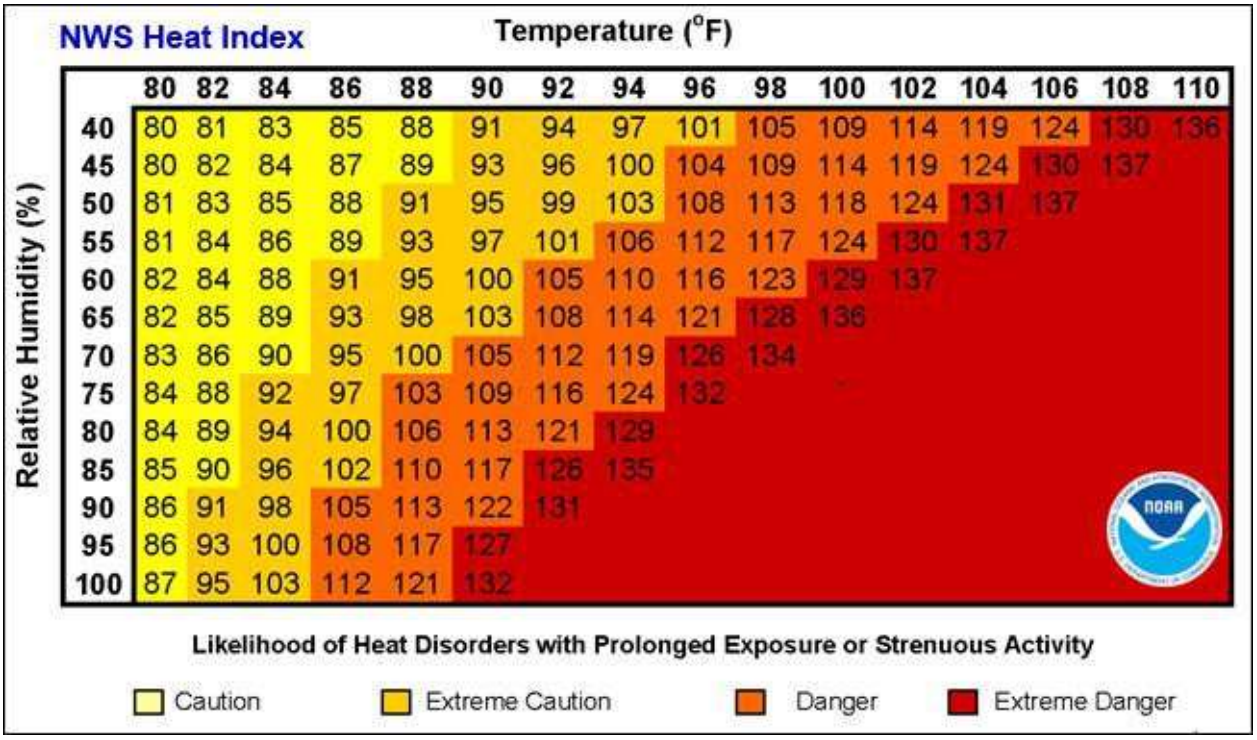


Figure 1: National Weather Service Heat Index Chart, locally adjusted

Other Indicators

- Increased heat-related illness and death.
- Potential or actual impacts to the electrical grid, e.g. brownouts or blackouts.
- Predicted high daytime temperatures accompanied with night temperatures of 70°F or more.
- Number of consecutive days over 90°F.

Appendix B: Extreme Cold Emergencies

Indicators: National Weather Service Forecasts

Wind Chill Advisory: Issued when wind chill temperatures are expected to be between -20°F to -29°F
Wind Chill Watch: Conditions are favorable for Wind Chill temperatures to meet, or exceed, local Wind Chill Warning criteria in the next 12 to 48 hours. .

Winter Storm Watch: Alerts the public to the possibility of a blizzard, heavy snow, freezing rain, or heavy sleet. Winter Storm Watches are usually issued 12 to 36 hours before the beginning of a Winter Storm.

Wind Chill Warning: Wind chill temperature reaching -30°F or colder.

Severe Weather Statement: Issued when the forecaster wants to follow up a warning with important information on the progress of severe weather elements.

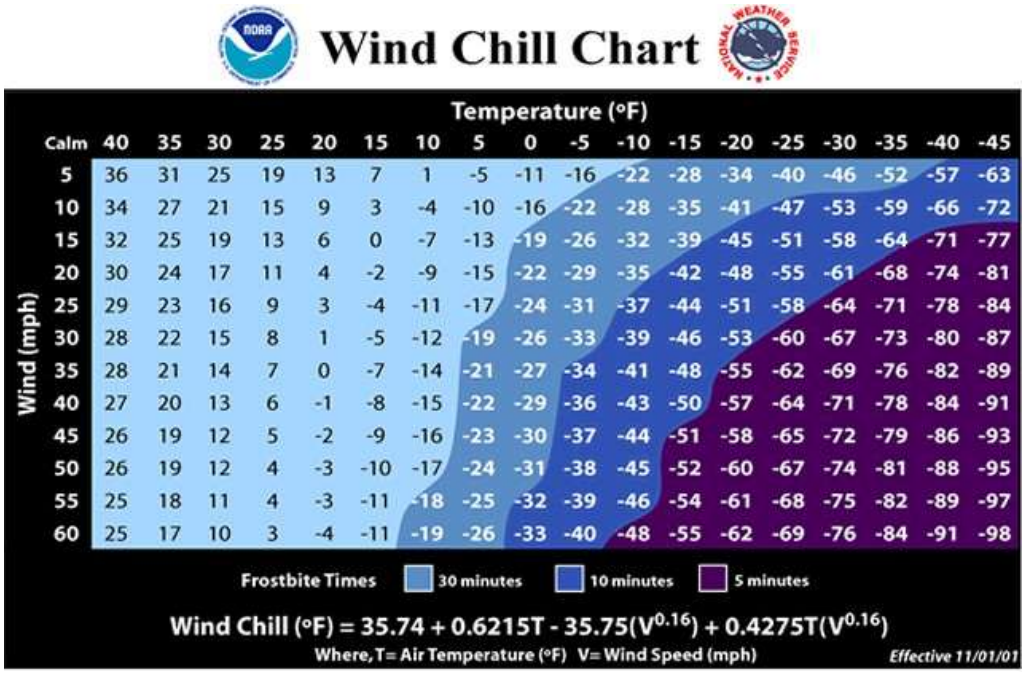


Figure 2: National Weather Service Wind Chill Chart

Other Indicators

- One of the gravest dangers of winter weather is wind chill. The wind chill is based on the rate of heat loss from exposed skin by combined effects of wind and cold. As the wind increases, heat is carried away from the body at an accelerated rate, driving down the body temperature. Animals are also affected by wind chill.
- Issuance of a NWS Freeze Warning (28°F and below) with a duration of three or more consecutive days.
- Issuance of an NWS Extreme Weather Statement identifying objective conditions which in combination may cause cold injury to unprotected people.
- Potential or real impacts to the electrical grid, e.g. brownouts or blackouts.
- Other conditions that in the judgment of the Health Officer indicate a higher risk of injury or health impairment to the public due to cold temperatures.

Appendix C: Key Stakeholder Contacts

Piscataquis County works with the following groups of stakeholders during an extreme temperature event.

- Maine Centers for Disease Control and Prevention
- Maine Emergency Management Agency
- Local Emergency Planning Committee (LEPC)
- The National Weather Service
- Local Municipalities
- First Responders
- Hospitals and healthcare centers, including congregate care and dialysis facilities
- Organizations that work with children or older adults, including Age- Friendly groups
- Local schools and universities, including HeadStart
- Maine Department of Transportation – and local transportation partners
- Non-profit organizations
- Local Businesses
- Faith-based organizations
- Utility companies
- City Council members and municipal leaders
- Immigrant and multi-cultural organizations
- Local Public Health Officers
- Libraries

Appendix D: Online Tools and Resources

Heat.gov

Background

Heat.gov is the federal government's website presence for the National Integrated Heat Health Information System (NIHHIS). This system, which promotes equitable resilience across the general population and vulnerable community members, "identifies needs for extreme heat services, develops science-based solutions, and leverages partnerships to empower communities with improved communications, capacity building, and decision-making."

Description

This tool seeks to build equitable resilience to extreme heat events by leveraging the NIHHIS Partner network, which includes a broad set of federal agencies, private sector, and nonprofit partners. All partner contributors seek to improve federal, state, and local information and capacity to reduce the health, economic, and infrastructural impacts of extreme heat.

How to Use

In addition to resources produced by Maine's NWS Caribou Local Forecast Office, MEMA, and Maine CDC, www.heat.gov should be a key resource used by Piscataquis County Emergency Management Agency in preparing for extreme heat, monitoring response resources, and seeking to improve heat event resiliency in Piscataquis County. It features planning materials, educational materials, and action-based tools as well as up-to-date information on current conditions and future outlooks. Many of the tools referenced below are included at heat.gov. Available tools include the Climate and Health Outlook; Climate Prediction Center Probabilistic Extremes Forecast; Extreme Heat Vulnerability Mapping Tool; Heath and Health Tracker; National Risk Index (FEMA); LIHEAP and Extreme Heat (HHS); OSHA NIOSH Heat Safety Tool; and "Protecting Outdoor Workers from Heat Illness" App. Learning topics include the intersection of extreme heat and compounding factors, and information about at-risk groups. Finally, the "Planning & Preparing" menu item includes resources for Piscataquis County Emergency Management Agency and local officials, healthcare providers, and individuals.

NOAA's Climate Prediction Center (CPC) - Week-2 Extremes Tool

Background

The Week-2 global probabilistic extremes forecast tool, or GEFS Reforecast Tool, is a model guidance tool that applies statistical adjustments to raw Global Ensemble Forecast System (GEFS) model forecasts.

Description

The Week-2 Probabilistic Extremes GEFS Reforecast Tool consists of 4 variables: (1)

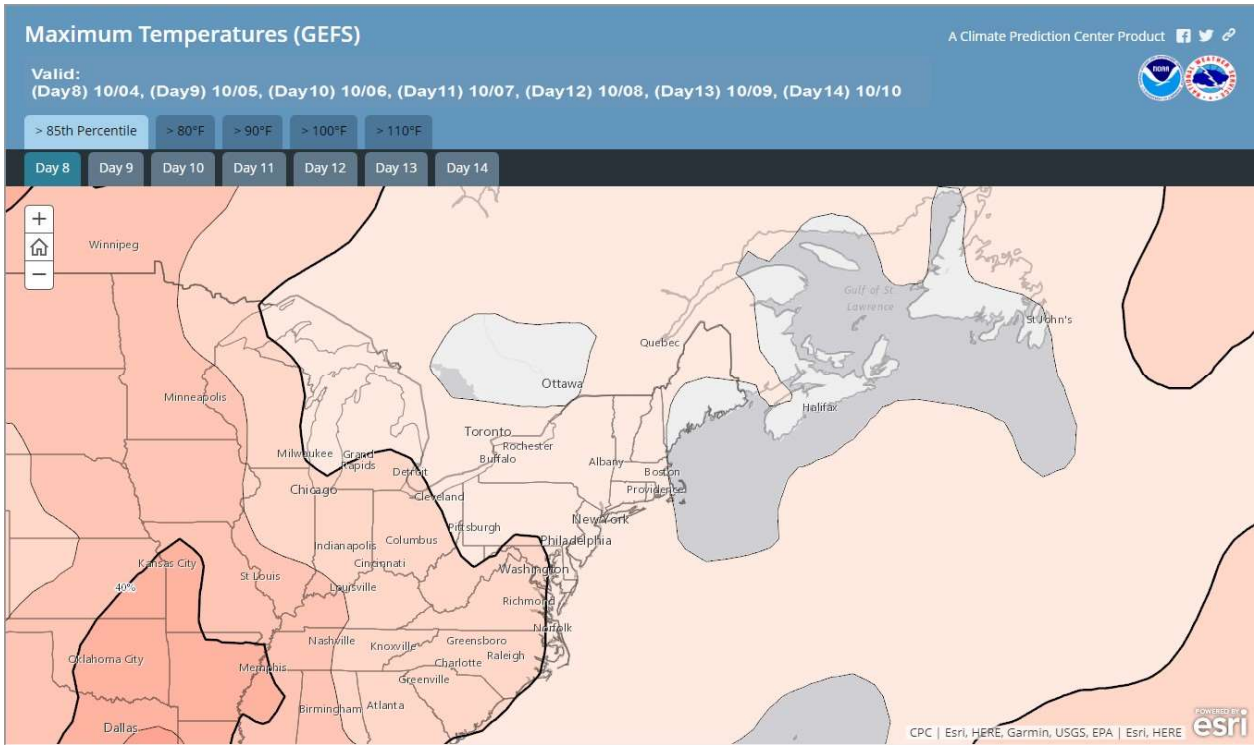
Maximum Temperature (tmax)

(2) Minimum Temperature (tmin)

(3) Accumulated Precipitation (precip)

(4) Maximum Wind (wmax)

How to Use



Visit https://www.cpc.ncep.noaa.gov/products/predictions/threats/extremesTool.php to access the tool. Users can zoom to the area of the country to understand forecast extreme probabilities.

In an example screenshot shown above, the contours represent forecast probabilities reaching values that are greater than or less than various percentiles or thresholds at given locations, depending on the variable for the valid day selected. The percentiles are calculated based on a 30-year normal/climatology (i.e. historical mean) from 1991 to 2020. Percentiles were selected based on what would likely produce sufficiently skillful forecasts in the extreme range, indicating what may be considered hazardous. Threshold values (e.g. actual temperatures, precipitation amounts, or wind speeds) were chosen based on conditions that may be deemed hazardous. Each variable's forecast time aggregation was selected based on those that likely have the most predictability at the week-2 lead associated with model skill. Forecasts are provided across the global domain.

FEMA's Geospatial Resource Center

Background

FEMA GIS supports the emergency management community with world-class geospatial information, services, and technologies to prepare for, protect against, respond to, recover from and mitigate against all hazards.

Description

Explore hazard-specific resources in the FEMA Geospatial Resource Center by clicking on earthquakes, flooding, hurricanes, pandemic, radiological, tornados, wildfire, and winter weather. Learn more about resources such as climate resilience, coordination calls, data catalog,

incident pages and data, indices and analytical tools, national hurricane program tools, remote sensing resources, USA structures, geospatial damage assessments.

How to Use

Visit https://gis-fema.hub.arcgis.com/ and navigate through the various resources as described below.

Hazard Specific - Click on the specific hazard you want to know more about. For example, click on "Winter Weather" and a page with the winter weather hazard overview map, current advisories, applications, other National Weather Service key links, data & imagery, state & local resources, historic resources, data catalog, and incident pages and data will appear.

Data Catalog – FEMA's newly curated and organized data catalog includes over 600 items tagged and organized items for ease of retrieval. Sort by disaster type, or incident phase, or by state. Choose the "Filter" button to search the categories in the FEMA Geospatial Resource Center, available here: https://fema.maps.arcgis.com/apps/instant/filtergallery/index.html?appid=de5a81292cde4f71805dc4304ca5288f. For example, search "snowfall forecast" to view the Snowfall Forecast WebApp to view the total accumulation of new snow over the next 72 hours across the Continental United States. Data is updated hourly from the National Digital Forecast Database produce by the NWS.

FEMA's Resilience Analysis and Planning Tool (RAPT)

Background

The Resilience Analysis and Planning Tool (RAPT) is a free GIS web mapping tool that allows federal, state, local, tribal and territorial emergency managers and other community leaders to examine the interplay of people, infrastructure, and hazards – including real-time weather forecasts, historic disasters, and estimated annualized frequency of hazard risk.

Description

RAPT is a GIS web map that combines population and community data (community resilience indicators), infrastructure locations, and hazard data, including real-time weather forecasts, historic disasters, and estimated annualized frequency of hazard risk. States and counties can use this information to visually assess challenges to resilience, refine emergency operations plans, and develop tailored preparedness outreach strategies.

How to Use

Visit https://www.fema.gov/emergency-managers/practitioners/resilience-analysis-and- planning-tool and click "Access the Resilience and Analysis and Planning Tool" to launch the ArcGIS platform.

RAPT contains several community resilience indicators at three different geographic scales: county, census tract, and tribal territory. These indicators fall into two different categories: population-focused indicators and community-focused indicators. A summary of all RAPT data layers and data sources for each layer can be found at the RAPT Resource Center: https://rapt-fema.hub.arcgis.com/

NOAA and Health and Human Services' Climate and Health Outlook

Background

The Interagency Working Group on Extreme Heat, formed by the White House Climate Policy Office in July 2021 and co-led by HHS, NOAA, and EPA, will continue to regularly convene agencies to communicate, coordinate, and improve the federal response to extreme heat. These efforts will include facilitating the use of federal data sharing and mapping resources to help states, Tribes, territories, and local governments improve heat-related planning and decision-making. HHS co-leads this group through its recently established Office of Climate Change and Health Equity, which works to protect communities with disproportionate exposures and vulnerabilities to climate-related threats, and to engage the healthcare workforce in its climate response.

Description

The Department of Health and Human Services (HHS) Office of Climate Change and Health Equity (OCCHE) publishes a monthly Climate and Health Outlook report that can be downloaded from the HHS website linked above. The report is broken down into nine regions, including the Northeast region. The Climate and Health Outlook is a brief report to inform health professionals and the public about how public health may be affected in the coming month(s) by climate events and provides resources for taking proactive action. The current edition expands beyond extreme heat to include additional climate-related health hazards.

How to Use

Visit https://www.hhs.gov/climate-change-health-equity-environmental-justice/climate-change-health-equity/climate-health-outlook/index.html to access monthly downloads. This resource is an online publication that includes monthly sub-publications. Seasonally relevant information related to weather, climate, public health, vulnerable populations, risks, potential impacts, and actionable mitigations are available for online review and PDF download. Downloads are 4-5 pages long and are concise, visually interesting, and contain valuable information for the entire U.S., broken down by region.

CDC'S Heat and Health Tracker

Background

The CDC's Heat and Health Tracker, which provides heat and health data to help communities better prepare for and respond to extreme heat events, will issue regular updates to provide a nationwide month by month heat forecast. The forecast will include the expected number of days at or above a dangerous level of heat, based on climatological norms. This county-level information will help health departments and emergency planners identify the needs of vulnerable populations and take appropriate public health action.

Description

The Heat-Related Illness and Temperature map shows the rate of emergency department (ED) visits associated with heat-related illness (HRI) per 100,000 ED visits by region (as defined by Health and Human Services) for the selected week using data available through the National Syndromic Surveillance Program (NSSP). The colors on the map show average maximum temperature by county for the same week, using data from the National Center for Environmental Information.

How to Use

This resource, which is available by navigating to https://ephtracking.cdc.gov/Applications/heatTracker/, is a navigable map that is easy and intuitive to use. Searchers can enter relevant zip codes in the upper right-hand corner of the tool, which brings up search results for the entire associated county. The display is easy to read, and offers clear, accessible language and information. Embedded displays include graphs that show current temperature trends overlaid with historical averages; a Heat Vulnerability Data Explorer map with overlays for social vulnerability, language, age, and historical heat information; points of interest such as day care centers, EMS, fire stations, hospitals, nursing homes, parks, and public schools; and population characteristic breakdowns for the county.

The U.S. Climate Resilience Toolkit Climate Explorer (Version 3.1)

Background

The Climate Explorer gives users a way to check how climate conditions in the United States are projected to change over the coming decades. This information—derived from global climate models—is available for counties and county-equivalents for all 50 states and U.S. territories in the United States.

Built to accompany the U.S. Climate Resilience Toolkit, the Climate Explorer graphs projections for two possible futures: one in which humans drastically reduce and stabilize global emissions of heat-trapping gases (labeled Lower emissions, also known as RCP4.5), and one in which we continue increasing emissions through the end of the 21st century (labeled Higher emissions, also known as RCP8.5). Note that only higher emissions projections are available for Alaska. Decision makers can check climate projections based on these two plausible futures and then plan according to their tolerance for risk and the timeframe of their decisions.

Description

Learn how climate conditions in the U.S. are projected to change over the coming decades. This information—derived from global climate models—is available for counties and county equivalents for the U.S. and its territories.

How to Use

Visit https://www.heat.gov/pages/climate-explorer and enter a zip code, city, or county to arrive at The Climate Explorer's area-specific dashboard. Displays include past and projected future condition maps, climate graphs, high-tide flooding tools, and extreme temperature event frequency summaries.

FEMA's National Risk Index

Background

Intended users of the National Risk Index include planners and emergency managers at the local, regional, state, and federal levels, as well as other decision makers and interested members of the general public. With improved understanding of natural hazard risk, communities can take action to reduce risks to their communities. Specifically, the National Risk Index can help with: enhancing hazard mitigation plans, encouraging community-level risk communication and engagement, supporting the development or enhancement of codes and standards, informing long-term community recovery, educating new homeowners and renters, prioritizing and allocating resources,

identifying the need for more refined risk assessments, informing the insurance and mortgage industries, and updating emergency operations plans.

Description

The National Risk Index is an online mapping application from FEMA that identifies communities most at risk from 18 natural hazards. This application visualizes natural hazard risk metrics and includes data about expected annual losses from natural hazards, social vulnerability, and community resilience. The Risk Index leverages available source data for natural hazard and community risk factors to develop a baseline relative risk measurement for each United States county and Census tract.

How to Use

Go to https://hazards.fema.gov/nri/map and search the county name in the upper left search bar to create a report. The report generated includes a summary, risk index, expected annual loss, social vulnerability, community resilience, about the National Risk Index, and how to take action.

State Climate Summaries 2022

Background

NOAA State Climate Summaries were originally produced in response to a growing demand for state-level information in the context of the Third National Climate Assessment (NCA) and subsequent sustained activities. This 2022 version represents a new and improved summary for each state that provides more up-to-date information on observed changes in climate, including both long-term trends and extreme weather events relevant to that state.

Description

The summaries cover assessment topics directly related to NOAA's mission, specifically historical climate variations and trends, future climate model projections of climate conditions during the 21st century, and past and future conditions of sea level and coastal flooding.

While the datasets and simulations in these state climate summaries are not, by themselves, new (they have been previously published in various sources), these documents represent a targeted synthesis of historical and plausible future climate conditions for each U.S. state. Each summary consists of a description of the historical climate conditions in the state, as well as that of the climate conditions associated with future pathways of greenhouse gas emissions.

How to Use

Go to https://statesummaries.ncics.org/ and click on the state of Maine to view the State Climate Summary. Useful information such as the observed and projected temperature change, observed winter temperature, observed summer temperature, observed number of very cold nights can be viewed in graphs and charts.

Appendix E: Pet and Domestic Animals Vulnerabilities

For more information related to pets and domestic animals in extreme temperature events, readers should contact the Division of Animal and Plant Health within the Maine Department of Agriculture, Conservation, and Forestry[4]. The information provided below is only a very basic set of guidelines.

Animals in Hot Weather

Domesticated animals are designed to conserve heat and are less efficient at cooling than humans. They are in danger of heat stroke at 110° Fahrenheit. Pets' sweat glands are located on the nose and footpads, which are inadequate for cooling on hot days. Panting and drinking water help cooling, but if the air temperature is high, brain and organ damage can occur in 15 minutes. Risk factors for heat stress include body size, age (young and old), breed (short nosed breeds, such as bulldogs), obesity, and existing metabolic, cardiovascular or respiratory disease.

Car with window rolled down slightly + windows collecting light, trapping heat inside = pressure cooker effect:

Outside air = 85° Fahrenheit	**Outside air = 72° Fahrenheit + humidity**
After 30 minutes: inside car = 104°F	After 10 minutes: inside car = 102°F After
After 60 minutes: inside car = 112°F	After 30 minutes: inside car = 120°F

Prevention

- Never leave pets in a car on warm days.
- Be alert for any sign of heat stress: heavy panting, glazed eyes, a rapid pulse, unsteadiness, a staggering gait, vomiting, deep red or purple tongue.
- Never leave pets tied up without shade, air circulation, and fresh water.
- Offer a cool place to rest when temperatures are uncomfortable.
- Call animal control or police immediately if an animal is in distress in a car.

Treatment

- Overheated pets must be cooled immediately.
- Move pet to shade.
- Apply cool water all over body.
- Apply ice packs to neck and chest area.
- Allow licking ice and small amount of water (large amount will cause vomiting).
- Take to veterinarian immediately for evaluation.

Animals in Cold Weather

Domesticated animals require human care for protection from freezing weather. Pets should not be left outdoors in freezing weather or unprotected in wind-chilled open air. Hypothermia and dehydration are the most likely life-threatening conditions for animals in cold weather, with wet conditions and wind-chill greatly adding to cold-stress.

[4] https://www.maine.gov/dacf/ahw/animal_health/index.shtml

Prevention

- Schedule a veterinarian checkup before temperatures drop below freezing. Chronic illnesses, like arthritis, can worsen in winter. Very young, old, or ill pets with medical conditions like diabetes or serious wounds are more susceptible to cold and injuries.
- Keep pets indoors when the temperature drops below freezing (32 °F). If they must be in the open, provide shelter, warm bedding and a water source that is not frozen. Proper hydration helps pets regulate their body temperature.
- Check your pet's paw pads after walks. Ice crystals can quickly form in paws and ears damaging the tissue, and you won't see signs of the resulting frostbite until days later.
- Wipe paw pads with a wet cloth to remove any antifreeze and salt residues after a walk. Pets will lick this and possibly be poisoned or damage their delicate digestive tissues.
- Learn and watch for the signs of hypothermia or cold injuries. Shivering, whining, limping, slowing down, lying down or burrowing are signals that your pet cannot regulate their body temperature.
- Always honk before turning on engines and moving your car in the winter to scare off any huddled animals from under your car.

Treatment

- Be careful with any frozen tissue and don't rub. Instead, simply soak in warm (not hot) water to try to restore circulation.
- Wrap your pet in a warm blanket to help ease discomfort.
- Take to a veterinarian if you suspect hypothermia, frostbite, injury or illness

Appendix F: Glossary

A **cooling center** is a facility that has been opened for short term operations due to a specific emergency or event. They are normally opened when hot temperatures may become dangerous.

An **extreme temperature center** refers generally to either a cooling or warming center.

An **extreme heat event** is defined as a series of unusually hot days as compared to the seasonal norms of the local climate in a given geographic area.

An **extreme cold event** is defined as a series of unusually cold days as compared to the seasonal norms of the local climate in a given geographic area.

Frostbite is an injury to the body that is caused by freezing. Frostbite causes a loss of feeling and color in the affected areas. It most often affects the nose, ears, cheeks, chin, fingers, or toes. Frostbite can permanently damage body tissues, and severe cases can lead to amputation.

A **general population shelter** (aka emergency shelter) is a place for people to live temporarily when they cannot live in their current residence. The main difference between a warming center and emergency shelter is that an emergency shelter typically specializes in people fleeing a specific type of situation, such as natural or man-made disasters. Another difference from a warming center is that people staying in emergency shelters are provided places to sleep and/or eat for an extended period. If the shelter is run by the Red Cross facilities are ADA compliant and non-acute medical care and disaster mental health services are available.

Heat cramps are painful, involuntary muscle spasms that usually occur during heavy exercise in hot environments.

Heat exhaustion is the body's response to an excessive loss of water and salt, usually through excessive sweating.

The **heat index**, also known as the apparent temperature, is what the temperature feels like to the human body when relative humidity is combined with the air temperature.

A **heat related fatality** is a death in which exposure to high ambient temperature either caused the death or significantly contributed to it.

A **heat stress related illness** is an illness caused by high temperatures and humidity.

Heat stroke is the most serious heat-related illness. It occurs when the body can no longer control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down.

Hypothermia is an abnormally low body temperature due to prolonged exposure to cold. A body temperature that is too low affects the brain, making the victim unable to think clearly or move well.

A **threshold for action** is a certain temperature or number of days (or nights) above a specific

temperature or humidity that “triggers” aspects of a heat response plan. There are many factors that can be used to determine the threshold for action based on local climate, vulnerability, capacity, and adaptations already in place.

A **warming center** is a facility that has been opened for short term operations due to a specific emergency or event. They are normally opened when temperatures or a combination of precipitation, wind chill, wind and temperatures have or may become dangerous. Their paramount purpose is the prevention of death and injury related to exposure to the elements. Warming centers can help stranded motorists, or residents that have lost critical services. Some warming centers may provide limited food, showers, charging stations and places to rest.

Wind chill is a term used to describe what the air temperature feels like to the human skin due to the combination of cold temperature sand winds blowing on exposed skin.

Appendix G: Piscataquis County Emergency Management Agency Survey Brief

Piscataquis County Emergency Management Agency Survey Brief

Background

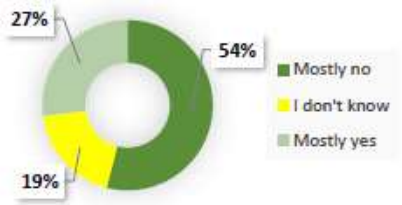
- In 2023, Piscataquis County Emergency Management Agency, in partnership with Maine CDC conducted a survey with 16 participants.
- The purpose of the survey was to identify the needs of groups who may be vulnerable to extreme heat or cold.
- The results of the survey are being used to help design the county's Extreme Temperature Response Plan.

Participants

Respondents support the following groups:

- Older adults
- Those with chronic health conditions
- Those with disabilities
- Those experiencing homelessness
- Those experiencing other resource insecurities
- School-age children
- Young children

When asked whether the groups they support have adequate heating and cooling at home, only 27% of respondents reported that most of their service population was protected at home.



- It is hard to reach everyone to tell them.
- More awareness is needed.
- We could definitely use more.

Results

Respondents agree that:

- Extreme hot and cold weather significantly affect the health of the groups they serve.
- There is a need for warming and cooling centers.
- Barriers to accessing centers include lack of transportation, lack of knowledge that centers exist and are being opened, and location.
- Aside from centers, additional protections are needed, such as additional food and energy support; air conditioning and back-up generator requirements for communal housing; and increased reliable transportation.

38% of respondents were not aware that warming or cooling centers are available in hot or cold weather.

90% of respondents report the groups they serve were not aware of the warming or cooling centers.

50% of respondents highlighted that transportation challenges would be the biggest hurdle for groups they serve to utilize the warming or cooling centers during extreme temperatures.

Barriers to using centers:

Transportation | Lack of knowledge about centers | Individualism / Pride | Location

Recommendations

- Warming and cooling centers have great potential for protecting the health of Piscataquis County residents.
- Using the same sites as consistently as possible will allow residents to have familiarity and comfort, leading to better use of the centers.
- In addition to trusted messengers, proactive communication through flyers at food banks, primary care offices, and other high-traffic locations may increase awareness and utilization of centers.

Appendix H: Shelter List

Facilities

	Recommended		Encouraged
☐	Air-conditioned/ Heated	☐	Activities available for guests
☐	Accessible to the public	☐	Separate room for families and children
☐	American Disabilities Act compliant	☐	Public transit / other transportation
☐	Access to restrooms	☐	Provisions for pets
☐	Access to running water	☐	Extended hours as needed
☐	Seating available for all guests	☐	On-site health and social services
☐	Cots if anticipated to stay open overnight	☐	Phone chargers
☐	Widely advertised throughout	☐	Back-up generator available
☐	Toilet paper/personal hygiene supplies	☐	Snacks and bottled water
☐	First Aid supplies	☐	

Personnel

☐	Minimum of two people available to staff upon opening.
☐	Plan for a minimum of two additional personnel if shelter is anticipated to operate more than one shift.