State of Maine
River Flow Advisory Commission
Report on Current Hydrologic Conditions
March 6, 2025

Overview:

The Maine River Flow Advisory Commission has identified below-normal risk for spring flooding due to below-average streamflow and low snow water content. Ice jam risk is slightly above normal due to thick river ice across the interior. However, no major concerns have been reported.

The spring meeting of the River Flow Advisory Commission (RFAC) took place Thursday, March 6, 2025. The Commission meets annually in late winter to share information, examine potential for spring flooding and to renew operational protocols. Such factors as streamflow, long-term weather forecasts, snowpack, river ice conditions, and reservoir levels are reviewed. This report summarizes the information presented on current hydrologic conditions as of this date.

At the end of the report, additional sources are provided for further information. This report and reports from previous years will remain available for reference at the RFAC website, along with a list of useful online monitoring resources: https://www.maine.gov/mema/hazards/river-flow-advisory-commission

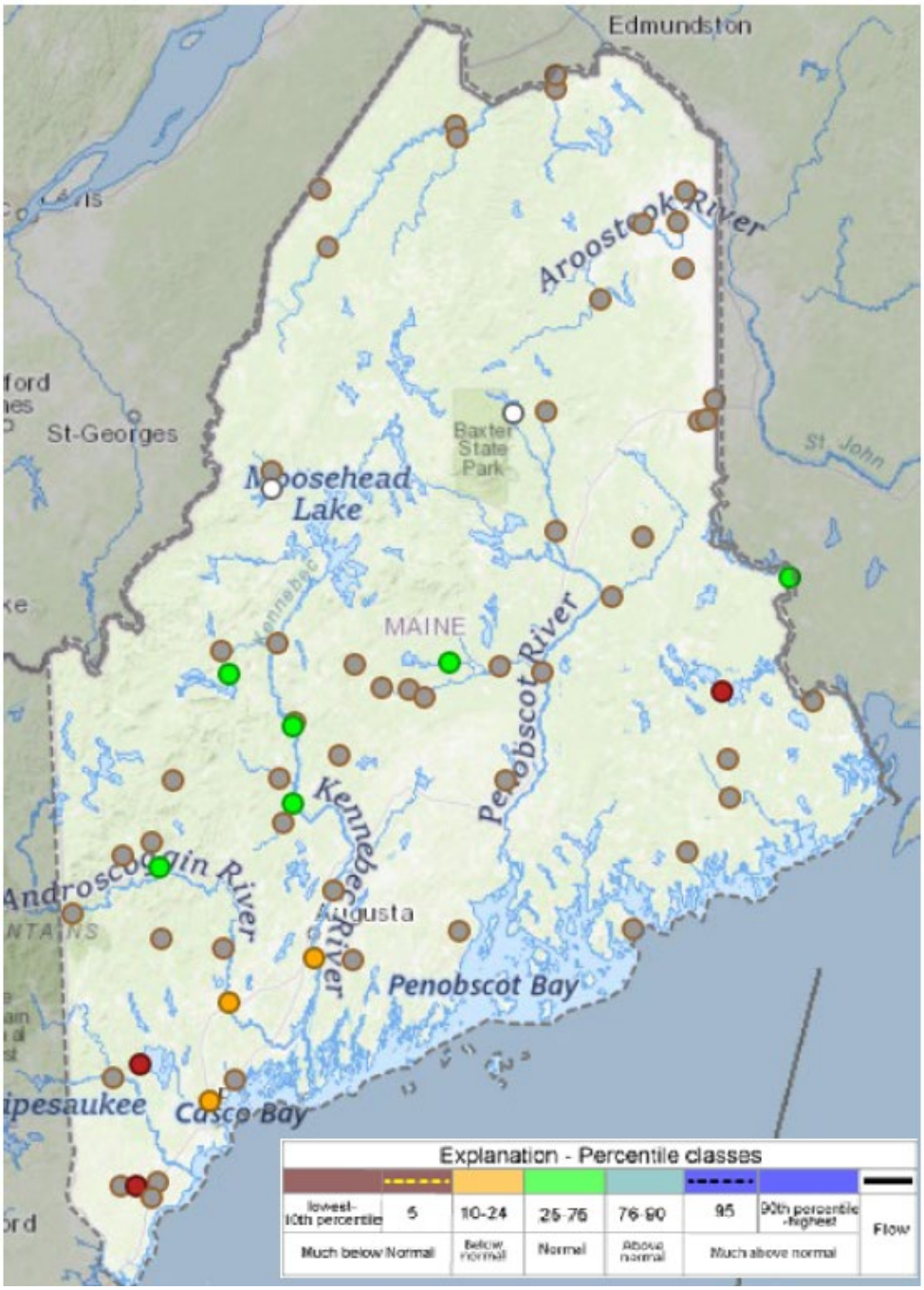
Current Conditions and Flood Potential:

Streamflow
In 2024, a lack of precipitation in late summer and fall impacted streamflow conditions across Maine. By mid-November, over 80% of long-term streamflow monitoring stations in Maine were in a below normal condition. Eastern, coastal, and southern basins were most impacted.

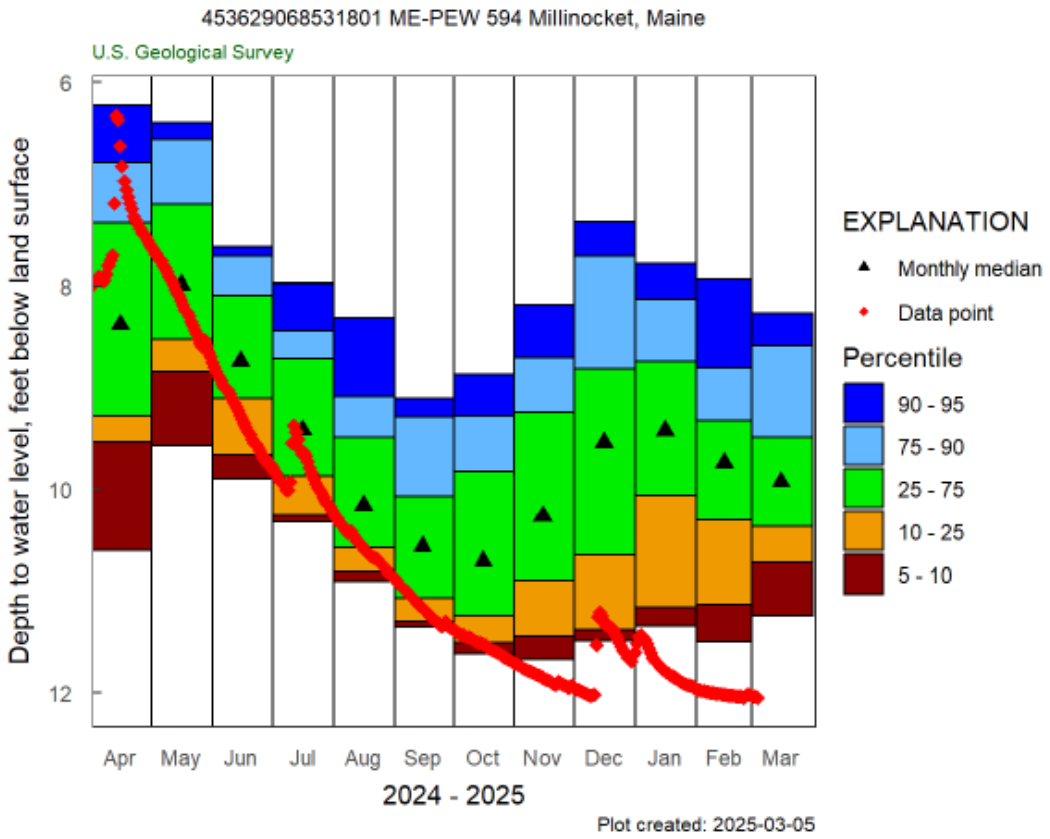
Currently many stations were not available for statistics due to ice cover, and those that were available were mostly below normal. This week's rain and snowmelt will likely improve streamflow conditions and begin to erode river ice. Regulated stations remain clear of ice and are split between normal or below normal flows.

Groundwater
In contrast to levels during the 2024 River Flow Advisory Commission meeting, nearly all wells are below normal. Some stations showed a small recharge event in December 2024, but several have had no recharge since last spring. This has caused some wells to reach a record low for the month of March. It is expected that snowmelt and rain will provide another recharge for groundwater, but it may not be enough for wells to fully recover.

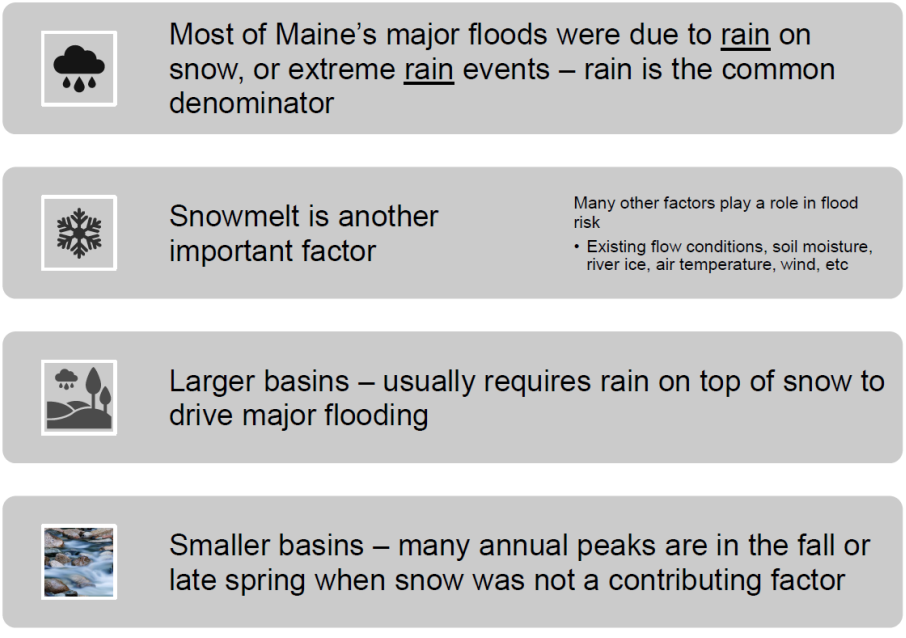
Ice Conditions
Due to below normal streamflows, cold temperatures and a lack of snow, there has been substantial ice buildup through January and into February in northern and western rivers. Ice thicknesses in northern Maine are expected to be significant. In southern and coastal rivers, ice that built through January and February is expected to degrade, or even clear, this week due to moderate river rises.



Map of current streamflow conditions.



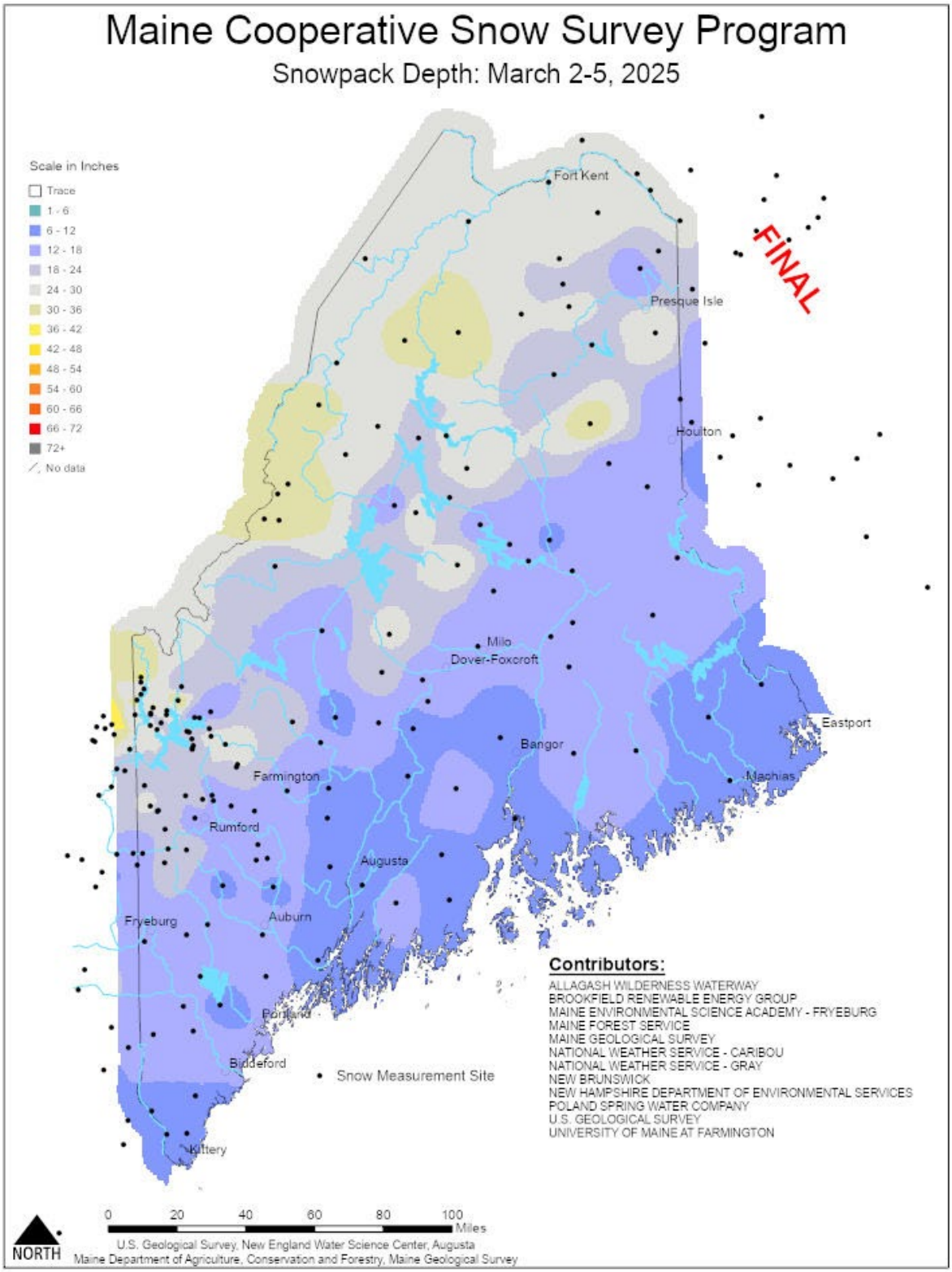
Timeseries of groundwater level (red) relative to monthly percentiles (colored bars). In this example from Millinocket there has been very little recharge since spring 2024.



Primary factors of flooding.

Snow Survey Data

A total of 187 observations were collected during March 3-5. Of these, 133 observations were collected in Maine with an additional 54 collected in New Hampshire and New Brunswick. Prior to the March 5-6 heavy rainfall event, Snow cover ranged from 8 to 36.6 inches across the state with the greatest amounts in the north and western mountain regions. The snowpack is unusually light for the time of year, with densities ranging from 10-36%. The densest snowpack areas occur along the southern coastal tip of Maine. Snow water equivalent is low for this time of year, ranging from 1.1 to 8.9 inches as a result of the light snowpack.


Maine Cooperative Snow Survey Program
Snowpack Depth: March 2-5, 2025
Scale in Inches
Trace
1 - 6
6 - 12
12 - 18
18 - 24
24 - 30
30 - 36
36 - 42
42 - 48
48 - 54
54 - 60
60 - 66
66 - 72
72+
No data
FINAL
Fort Kent
Presque Isle
Houlton
Milo
Dover-Foxcroft
Eastport
Bangor
Machias
Farmington
Rumford
Augusta
Fryeburg
Auburn
Portland
Biddeford
Kittery
Snow Measurement Site
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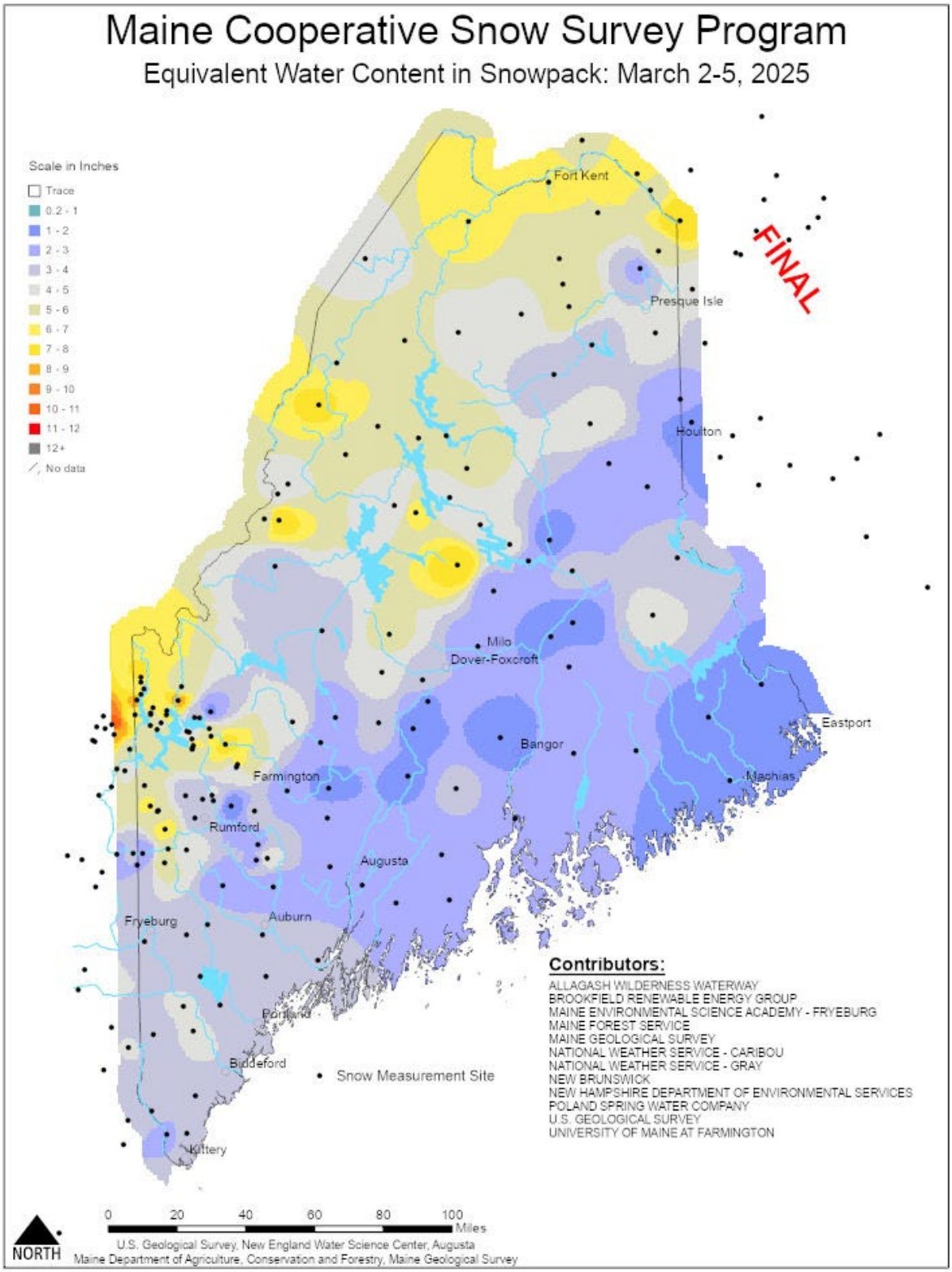
NATIONAL WEATHER SERVICE - GRAY
NEW BRUNSWICK
NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES
POLAND SPRING WATER COMPANY
U.S. GEOLOGICAL SURVEY
UNIVERSITY OF MAINE AT FARMINGTON
0 20 40 60 80 100
Miles
NORTH
U.S. Geological Survey, New England Water Science Center, Augusta
Maine Department of Agriculture, Conservation and Forestry, Maine Geological Survey


Maine Cooperative Snow Survey Program
Equivalent Water Content in Snowpack: March 2-5, 2025
Scale in Inches
Trace
0.2 - 1
1 - 2
2 - 3
3 - 4
4 - 5
5 - 6
6 - 7
7 - 8
8 - 9
9 - 10
10 - 11
11 - 12
12+
No data
FINAL
Fort Kent
Presque Isle
Houlton
Milo
Dover-Foxcroft
Eastport
Bangor
Machias
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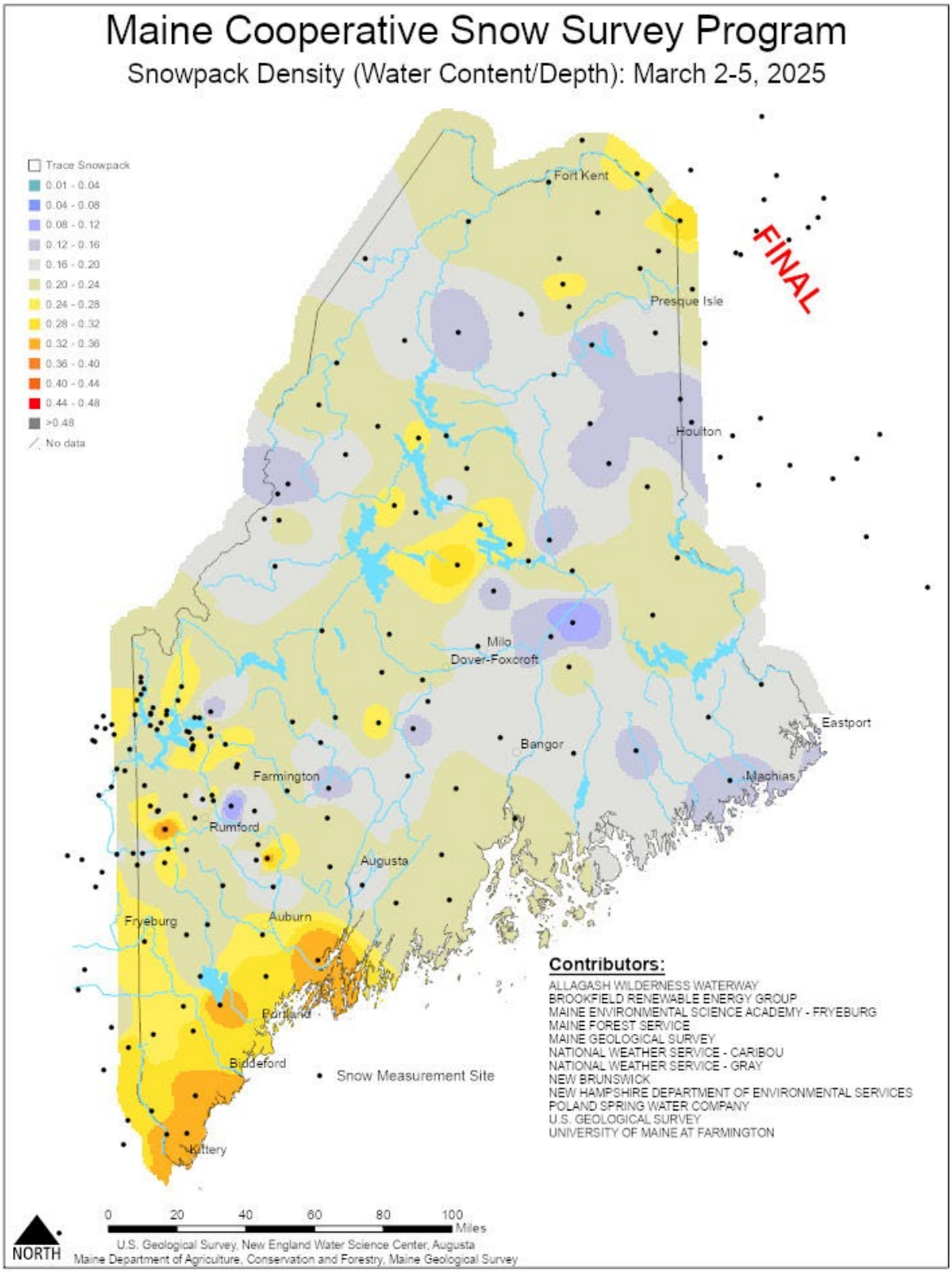
Maine Cooperative Snow Survey Program
Snowpack Density (Water Content/Depth): March 2-5, 2025
Trace Snowpack
0.01 - 0.04
0.04 - 0.08
0.08 - 0.12
0.12 - 0.16
0.16 - 0.20
0.20 - 0.24
0.24 - 0.28
0.28 - 0.32
0.32 - 0.36
0.36 - 0.40
0.40 - 0.44
0.44 - 0.48
>0.48
No data
FINAL
Fort Kent
Presque Isle
Houlton
Milo
Dover-Foxcroft
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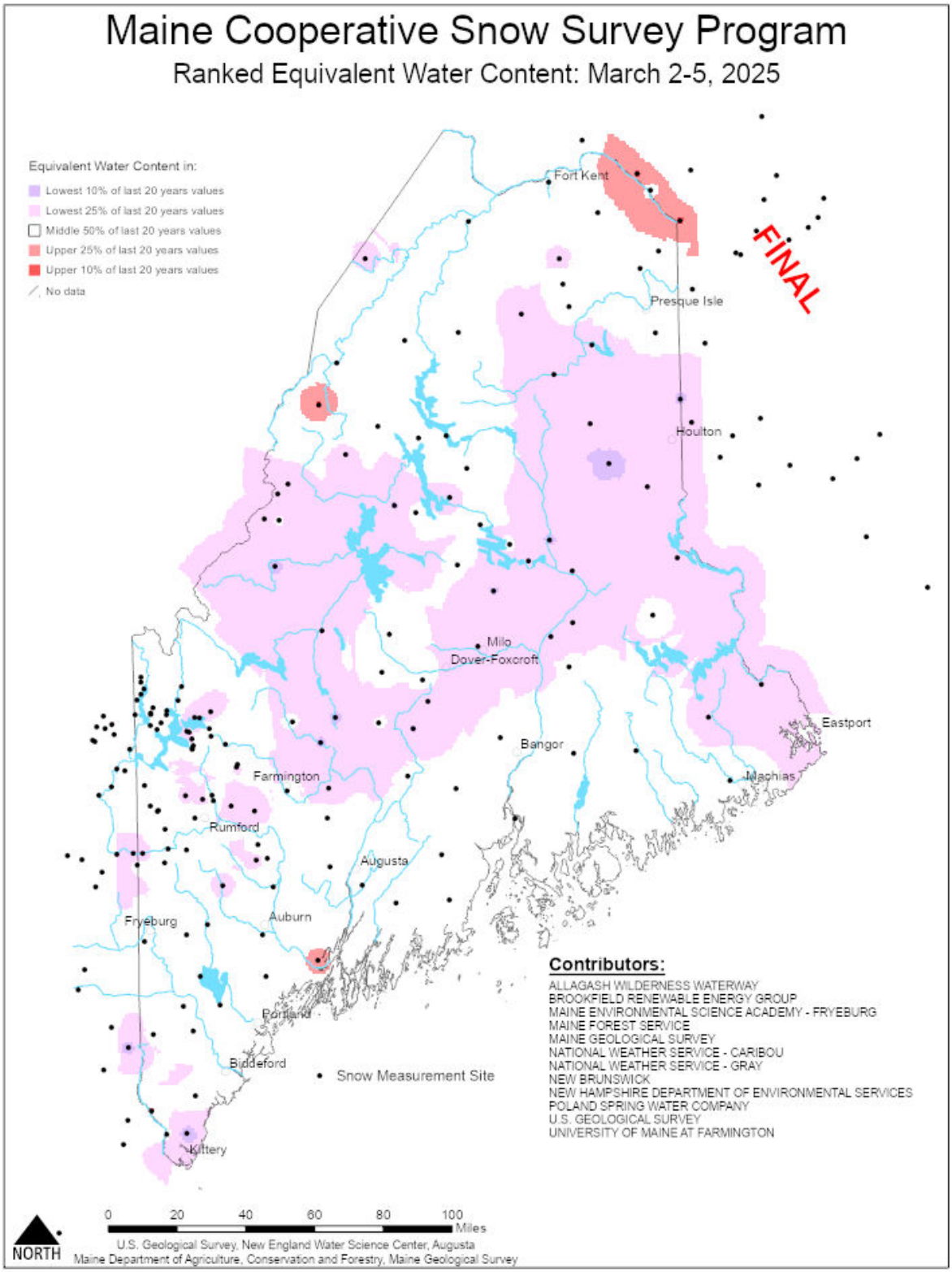


Basin Storage Conditions

Generally, water basin storage is above the long-term average for water levels this time of year. Water levels are generally reported as gage height in feet and discharge is reported as cubic feet per second (cfs). River basin managers may draw down storage levels at this time of year to make room for spring rains and snowmelt. This allows them to "catch" excess runoff in regulated basins during spring flooding events, somewhat moderating river levels.

River basin storage information is reported to the Department on a regular basis by dam operators on the following rivers:

Watershed	% Reservoir Filled	% Long Term Average
Androscoggin	50.6 %	13.3 %
Kennebec	56.3 %	33.3 %
Penobscot	43.6 %	16.9 %
Union	59.4 %	30.7 %
St. Croix (East Branch)	54.2%	-
St. Croix (West Branch)	49.6 %	-

Reservoir storage levels are above average for this time of year.

Presumpscot River:
Sebago Lake's Water Quality Certification requires a target level range of 262.0-266.65 feet. The latest water level gauge reading at Sebago Lake was 262.3 feet. The total outflow is 315 cfs with 250 cfs allocated to the bypass reach and 75 cfs through the powerhouse and powerhouse waste gate. Sebago Lake's water level has dropped almost a foot since December and has decreased flow into the Presumpscot River.

Androscoggin River:
Storage in the upper Androscoggin River basin is currently 50.6% full, 13.3% above the long-term average for this time of the year. Downriver flows at Gorham, Rumford, and Auburn are stable.

Kennebec River:
Storage in the upper Kennebec River basin is 56.3% full, 33.3% above the long-term average for this time of the year. Although this is 14.1 points above the long-term average it is still trending with the drawdown curve.

Penobscot River:
Storage in the Penobscot River is 43.6% full, 16.9% above the long-term average. Natural inflows at Ripogenus and North Twin are trending slightly below average this year as the area is still experiencing abnormally dry conditions. Available water at Ripogenus is in the "Normal" range for this season and trending to stay there. Total storage in the West Branch of the Penobscot River is trending slightly less than last year.

Union River:

The Union River storage basin is 59.4% full, which is 30.7% above the long-term average. This river is in an area with persistent moderate drought. Graham Lake is measuring 3.32 feet above the long-term average.

St. Croix River:
The East Branch of the St. Croix River totals 54.16 % Full, flowing at 653 cfs. The West Branch of the St. Croix River totals 49.6 % Full, flowing at 125 cfs.

Small river basins in the state, such as the Mousam and Salmon Falls in York County, have little to no storage, and therefore little capability to manage flows. There is also less stream gaging on small basins than in the larger basins. In York County, for example, close coordination among county, river towns, and the State of New Hampshire and dam owners has helped with information sharing, but it is still necessary to pay close attention to weather forecasts and local conditions to anticipate flooding problems.

Weather Summary and Outlook
The winter of 2024-25 can be summarized as near to slightly below normal for temperatures across Central and Southern areas with it being the coldest winter since 2018-19. The exception is Northern Maine where temperatures have run above normal with the greatest warmth across the Crown.

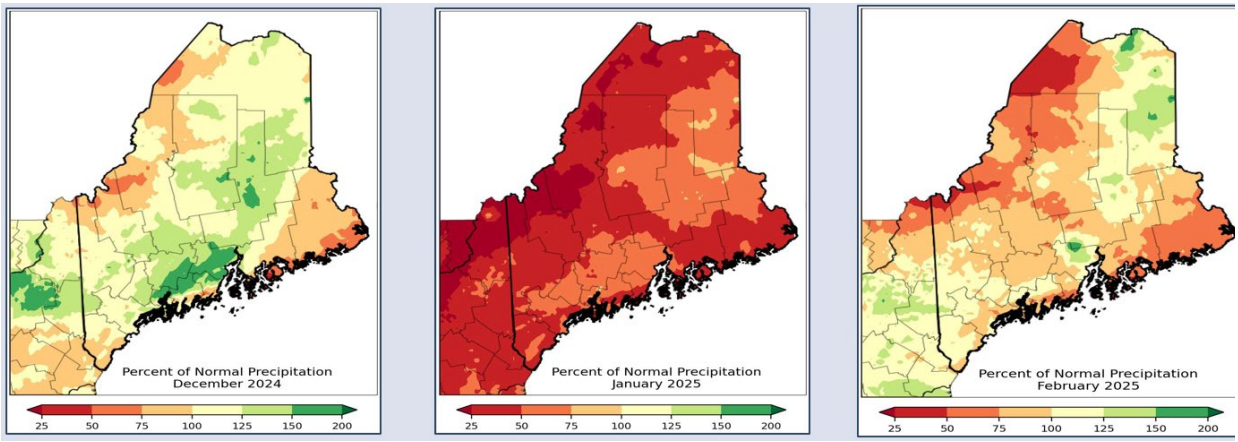
Snowfall has been below normal for most areas, with Southern Maine being near normal. Precipitation overall was near to slightly below normal for the state. A near record dry fall and no surplus in winter precipitation has maintained lingering drought conditions.

The cold and dry January has led to significant frost depths that could increase surface water run-off this melt season. This period also allowed for significant river ice growth.

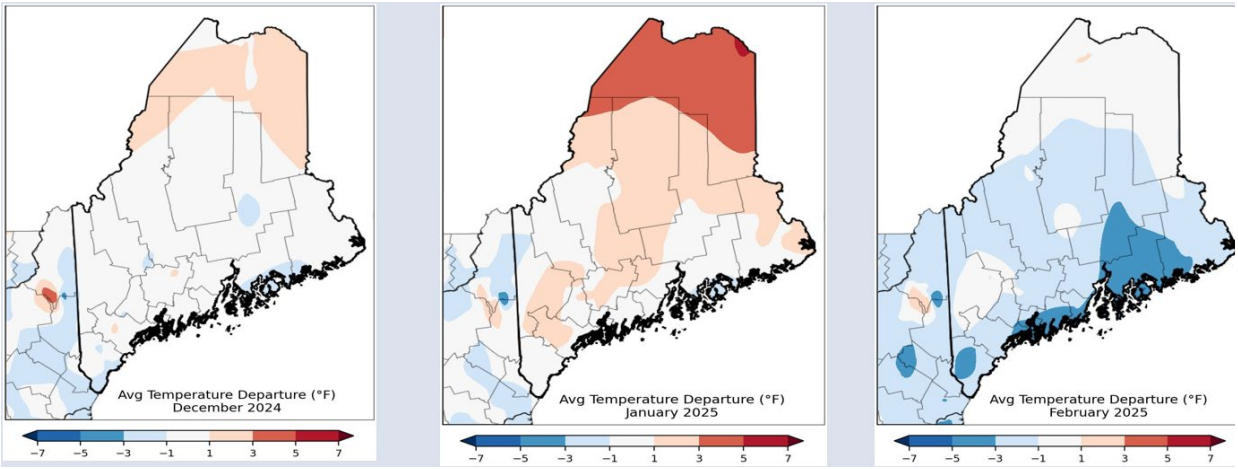
The spring flood outlook for open water flooding is below normal due to lingering drought and near to slightly below normal snowpack conditions. The spring ice-jam threat outlook is above normal due to thick and strong river ice across the interior.

The thaw pattern quickly ends today with a sharp drop in temperatures back to below normal ending any melting. River rises will crest later today with minor flood issues and ice movement on coastal rivers. Sharp trend downward will freeze rainwater into the snowpack across interior areas of the state, leading to a net water content gain. River rises of 2 to 4 feet on coastal watersheds will cause ice to flush out in most areas. Ice is not expected to move away from coastal areas.

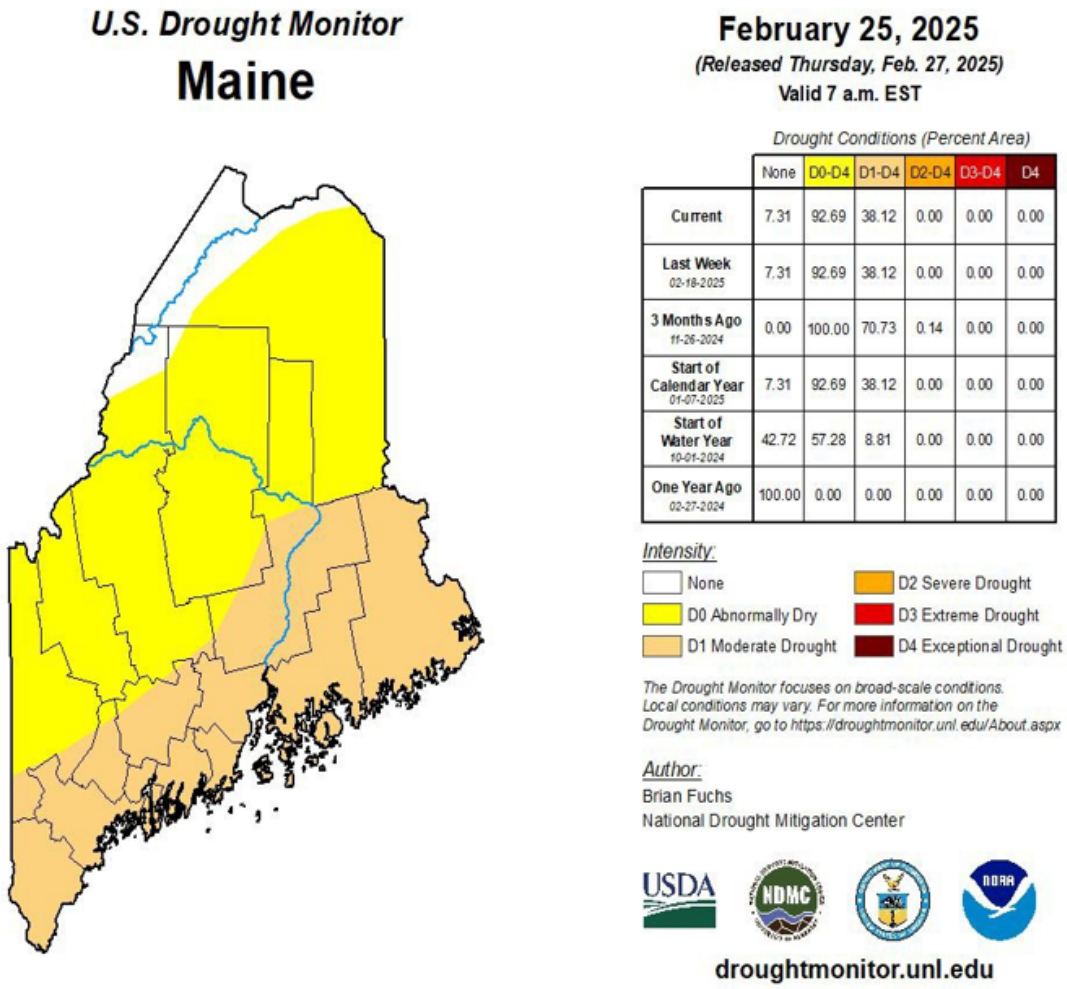
Expect cold and dry conditions through the beginning of next week before a warming trend in the week 2 outlook. The long range outlook for March is leaning towards above normal temperatures and precipitation.



Variable precipitation amounts through the winter, with one consistency being a very dry January.



Northern Maine was mostly above normal through most of the winter with February being the coldest month.



A record to near record dry fall has resulted in lingering drought conditions throughout the winter months.

Location	Average Temp (Dec – Feb)	Temp Departure	Season Snowfall (through 3/1)	Snowfall Departure (through 3/1)	Snow Depth (Dec-Feb)	Snow Depth Departure (Dec-Feb)
Jackman	14.5F	0.0F	68.8”	-10.3”	8”	-6.6”
Rangeley	13.9F	-0.9F	71.2”	-16.9”	8.4”	-5.1”
Augusta*	23.6F	0.0F	32.2”	-7.7”	4.5”	-1.5”
Portland	24.9F	-1.9F	48.6”	-1.2”	5.3”	+1.1”

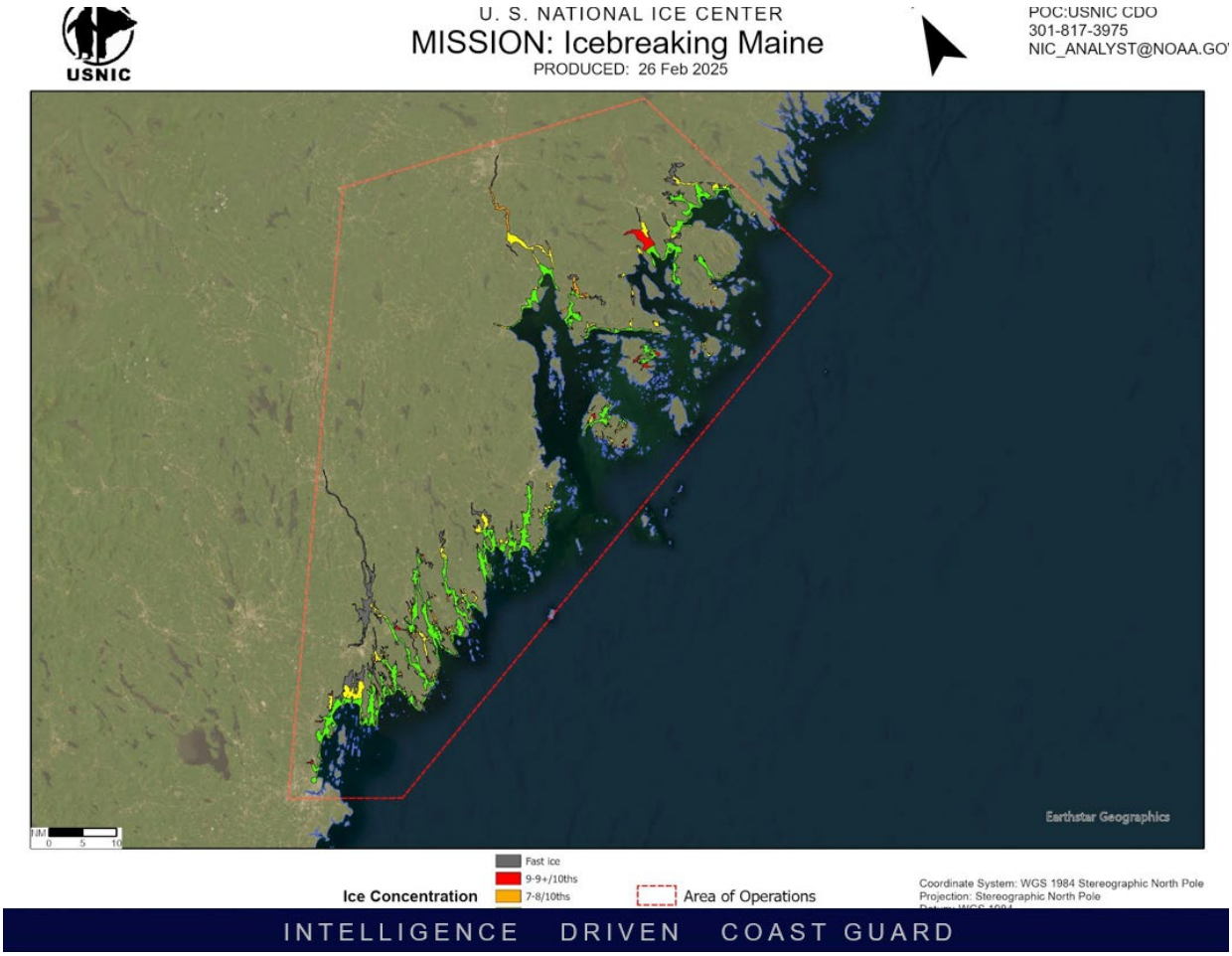
Location	Average Temp (Dec – Feb)	Temp Departure	Season Snowfall (through 3/1)	Snowfall Departure (through 3/1)	Snow Depth (Dec-Feb)	Snow Depth Departure (Dec-Feb)
Caribou	16.9F	+1.6F	69”	-19.6”	5.6”	-6.8”
Houlton	16.8F	+0.7F	M	M	M	M
Millinocket	19.2F	+0.7F	M	M	M	M
Bangor	20.7F	-1.1F	46.3”	-9.4”	2.1”	-3.8”

Ice Breaking Operations

The Coast Guard Reliable Energy Northeast Winters (RENEW) Operation maintains public health and safety for states within District One through domestic ice breaking. Primary objectives include SAR/PWCS Support, Urgent Vessel Response, Exigent Community Services, Facilitation of Commerce and Safe Navigation, and other mission support. The North East uses more than 85% of the nation’s home heating oil, of which 90% is delivered by barge and dependent on Operation RENEW. The District One Ice Season is 18 Dec 2024 -31 Mar 2025. The US Coast Guard is equipped with three 65 foot harbor tugs (WYTLs *Shackle, Tackle, Bridle*) and one 140 foot Bay-Class tug boat (WTGB *CGC Thunder Bay*).

Ice buildup is greatest in the Penobscot and Kennebec Rivers. Penobscot ice breaking will be conducted on March 10-11, where there is 1.5 feet of ice with 6 inches of snow on top. The big cutter will need to be used for ice breaking with the smaller boats used to clear the rest of the broken ice.

Gradual warming and ice degradation/breakup is expected for the Kennebec so there is currently no plan to break up ice there, though that will depend on requests by partners.



Map of current ice concentrations in coastal Maine.

State Floodplain Coordinator

The Maine Floodplain Management Program provided the following reminders about flood insurance coverage:

- Home/business insurance does NOT cover flood losses.
- Flood insurance is available to most all building owners and renters (contents coverage) within an NFIP participating community.
- Disaster Assistance is only available if Presidentially declared disaster.
- Disaster Assistance is not going to make someone "whole" again.
- For more information, visit www.floodsmart.gov

Since 2009 there has been a 55% decrease in Federal Flood Insurance Policy holders. There may be a number of causes to this, but it is concerning if there are fewer policy holders who actually may benefit from flood insurance. LD2035, An Act Requiring Disclosure of Flood Risk by Sellers of Real Estate was enacted and made effective on August 9, 2024 to have sellers disclose the following:

- Whether the property is wholly or partially within a mapped SFHA (residential & commercial)
- Tied to a digital FIRM dated 3/4/02 or later.
- During the time the current seller ONLY has owned the building:
    - Have any flood events affected the property or the building?
    - Has there been any flood damage to the building? If so, what date?

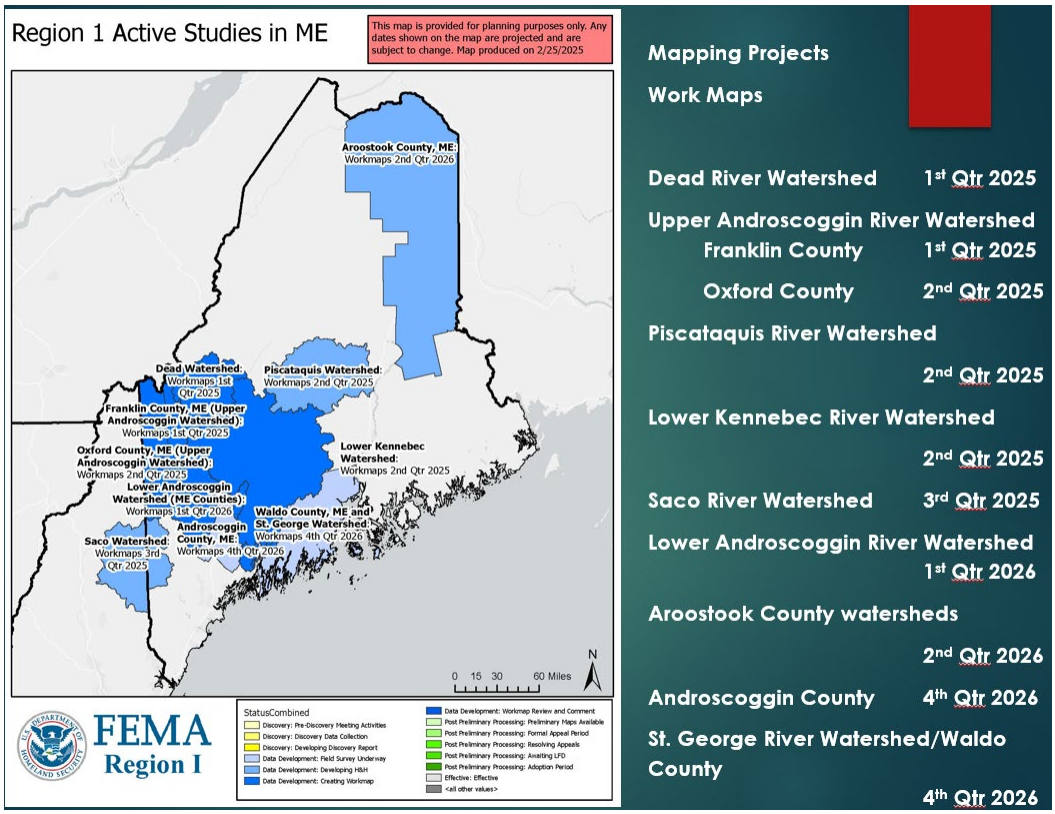
- Have there been any insurance claims? If so, what date?
- Has there been any disaster assistance? If so, what date?

This flood disclosure rule is important because a prospective buyer should be aware of whether or not it's in a mapped flood hazard area. Also, federally backed lenders require flood insurance as a condition of financing.

The Maine Floodplain Management Program stresses that flooding is always a threat to properties located within a floodplain, but even more so during winter's river ice and spring rains. Most homeowners and business owners' insurance policies DO NOT cover flood related damages.

In order to receive insurance protection related to flood damage, property owners and renters are urged to purchase flood insurance. For more details on the policies available, contact your insurance agent. There is a 30- day waiting period before the policy goes into effect.

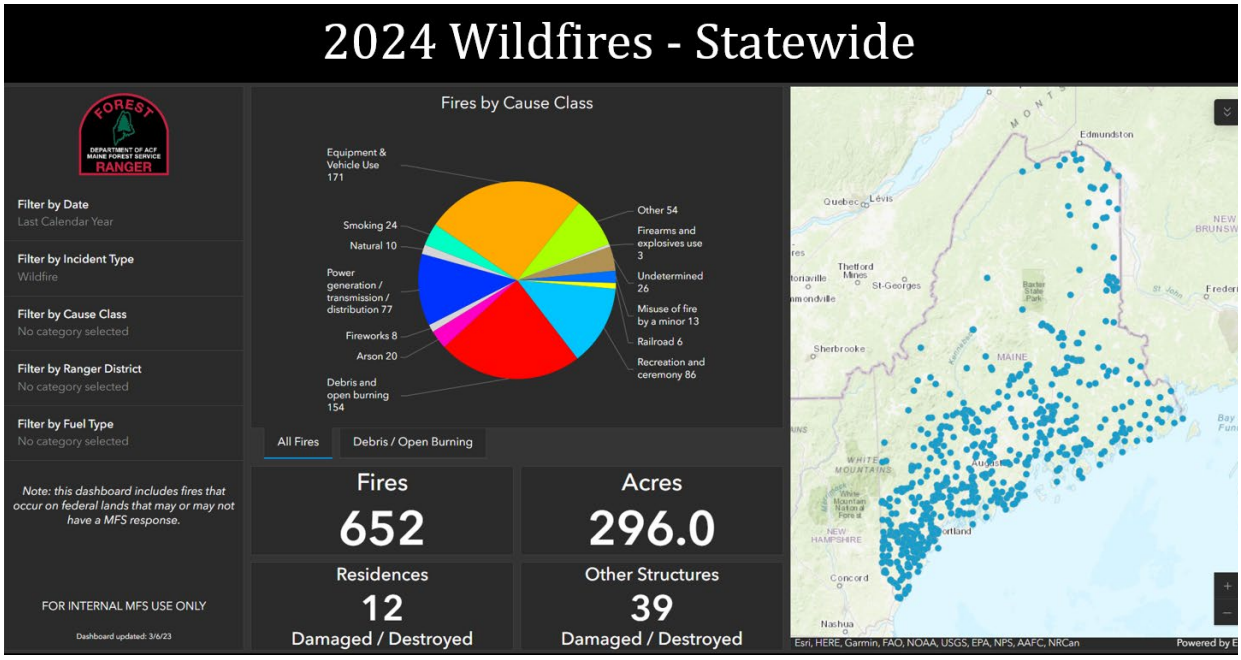
As long as a community participates in the National Flood Insurance Program, residents, renters and business owners can buy flood insurance no matter where in the community they are located. Additional assistance is available through the Maine Floodplain Management Program at the Department of Agriculture, Conservation and Forestry. In addition, FEMA maintains an excellent website for consumers at http://www.floodsmart.gov.



The following areas of Maine have active flood mapping studies.

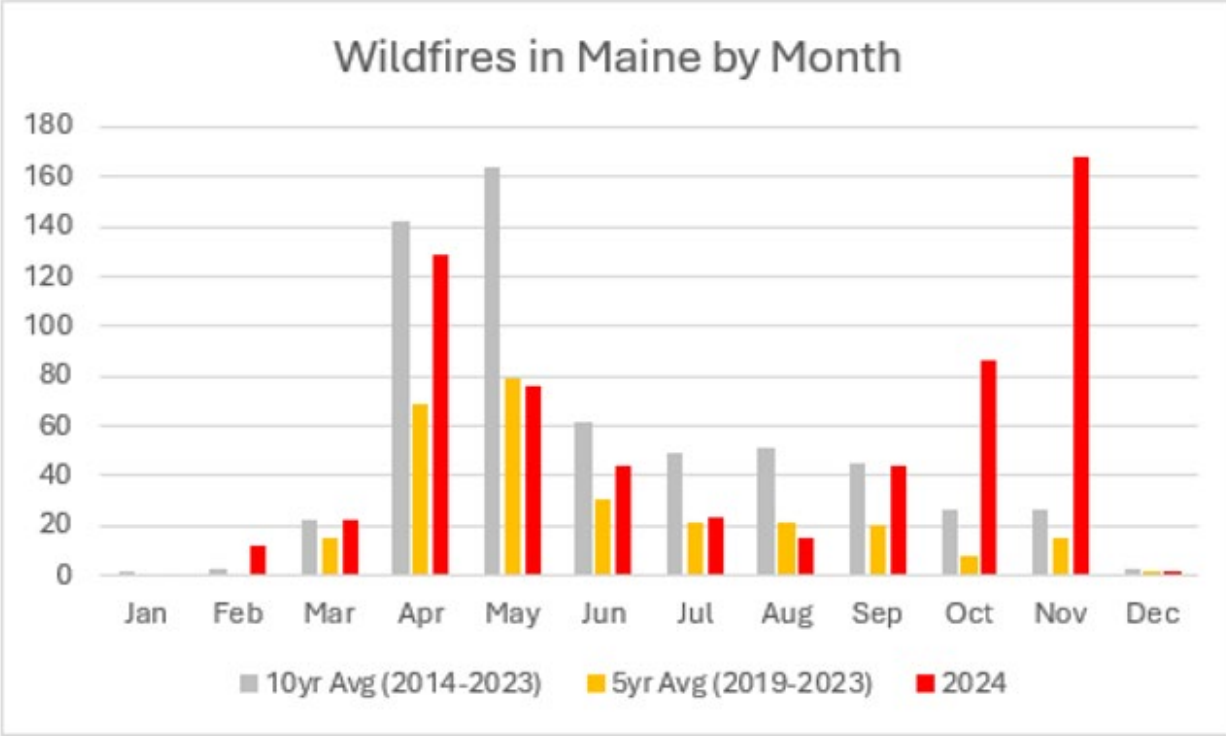
Wildfire Outlook

The Maine Forest Service reports that last year was an average year for the number of wildfires (652 individual fires) and acres burned (296 acres). The vast majority of these fires are human-caused and therefore are generally clustered near populated areas.



MFS wildfire dashboard:
https://maine.maps.arcgis.com/apps/dashboards/9ea6f34c72224481a1a22e5451854c8c

Last year saw an anomalous spike in wildfires during October and November, concurrent with worsening drought conditions through fall 2024.



Wildfires in Maine by month – note peak wildfires in November 2024 in red.

Mitigation

The Maine Floodplain Management Program and the Maine Emergency Management Agency (MEMA), in partnership with FEMA have ongoing programs promoting sustained "mitigation", or the reduction of risk from disasters. Flood mitigation can be as simple as elevating a furnace or improving drainage for a road that consistently floods. It can be as far-reaching as moving entire neighborhoods out of the floodplain.

Flooding is Maine's most costly hazard, sometimes with disastrous results as many Maine communities experienced this last year. Mitigation measures save repair dollars in the long term and may even make a community more attractive to development and business investment.

For more information on floodplain management and mitigation, visit the following:

Maine Floodplain Management Program, Department of Agriculture, Conservation and Forestry	https://www.maine.gov/dacf/flood
FEMA"s "Floodsmart" website	http://www.floodsmart.gov
Mitigation planning and grant availability	https://www.maine.gov/mema/hazards/mitigation

Preparedness and Safety

Preparedness is the key to minimizing the impact of flooding or any emergency. Individuals and families, businesses, schools and communities benefit from reviewing their vulnerability to flooding and ensuring that they have workable plans for dealing with the event. Everyone should stay aware of National Weather Service forecasts as the Spring progresses and talk to local officials and County Emergency Management Agencies if they have questions about flood preparedness in their communities, or how to build an emergency plan for family, business or school.

It is also critical during a flood event that all residents heed official warnings. The primary public safety concern during flood events is people driving through flooded roadways. During a flood no one should drive on submerged roads, as the stability of the road may have been severely damaged by flood waters. Highway crews will place signs and barricades to warn of flooded sections of road. Motorists who ignore these warnings and drive through flooded areas are gambling with their own safety and that of their passengers.

Nationwide, most flooding deaths occur when vehicles are caught in flood water. According to the National Weather Service, even 6 inches of fast-moving flood water can knock a person off their feet, and a depth of two feet will float a car. Tragically, Maine experienced two deaths as a result of a vehicle being swept away by flood waters during the December 17th-21st severe storm and flood event.

The National Weather Service Forecast Offices in Caribou and Gray will incorporate this information, along with other preparedness tips, in statements issued during the New England flood safety awareness week later in March.

The current conditions information in this report represents a “snapshot” of conditions throughout the state as of March 6th, 2025. Many new factors will influence the flood potential in Maine as the spring progresses. These factors will be monitored. Currently, flood potential is below normal. However, even with below normal conditions, flooding can still occur.

If current conditions continue without major changes, the River Flow Advisory Commission will not need to convene again until 2026. Members of the Commission will continue to monitor conditions and keep connected over the coming weeks. Snow surveys will be conducted each week from now until the snow cover is gone. National Weather Service and emergency management reports should be watched throughout the spring, and local officials should monitor the flood-prone areas for each community.

NOTE: Property owners, business owners and renters in flood-prone areas should check their insurance coverage to be sure that they are protected against flooding damages.

The Maine River Flow Advisory Commission is composed of representatives from major river basin management operations, state agencies, federal agencies and the University of Maine. The Commission was originally formed after the spring floods of 1983 to improve the exchange of hydrologic information collected by the members, to review the data, and to provide information to emergency action agencies and the public. It was created in statute by the Legislature in 1997.

The River Flow Advisory Commission comprises the core membership of the Maine Drought Task Force. Members will continue to monitor meteorological and hydrological conditions throughout the spring and the Drought Task Force will reconvene in 2025 if necessary.

Flood Reference Guide for Municipalities (Maine Department of Environmental Protection) - This guide is designed to assist municipalities in preparing for, and responding to, flooding events. This is intended as short-term guidance for municipal officials to provide action items that can be implemented in the last days before a flood or in the days after a flood to respond and recovery from damages. For some activities outreach, technical assistance and permitting is necessary, but well before or well after an incident. Please use this as a reference for basic answers to flood event needs, and as a place to find further assistance. DEP phone numbers for technical assistance (on-the-ground, by phone, email, or other) are listed at the end of the document.

Maine Flood Resources and Assistance Hub | Flood – This website contains state and federal resources to help Maine people and businesses recover from flooding and damage caused by the severe storms of December 2023 and January 2024. It will be updated with new information as available.

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