

**State of Maine
Drought Task Force
Report on Current Hydrologic Conditions
November 21, 2024**

Drought conditions have worsened across southern, central, and downeast portions of the state from August to November 2024. This report serves to inform Drought Task Force members and the public of current drought conditions, reservoir levels, precipitation, temperature forecasts, drinking water impacts, wildfire risk, agricultural impacts, and the online resources used to monitor these conditions.

Overview

- The [U.S. Drought Monitor](#) reports that 29.3% of the state is Abnormally Dry (5 of 16 northwest counties), 70.6% is in Moderate Drought (16 of 16 counties), and 0.1% is in Severe Drought (York County) by area.
- Conditions may slightly improve in the short term with 1-2 inches of forecasted rainfall.
- An estimated 87.1% of Maine's population resides in drought-stricken regions.
- Several groundwater monitoring wells are the lowest they've been in November for the period of record (30-40 years)
- Late onset drought spared most agriculture from drought impacts, however the Drinking Water Program has seen a large increase in dry well complaints
- Public water suppliers have so far reported minimal impacts.
- The total count of wildfires is slightly above average, Maine Forest Service notes that some of the most destructive wildfires in Maine have occurred in fall.

Maine

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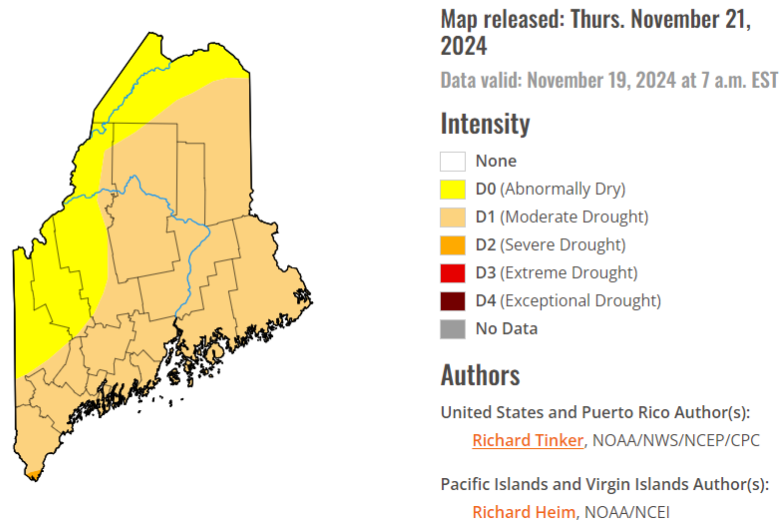


Figure 1: U.S. Drought Monitor: <https://droughtmonitor.unl.edu>;

Access Drought Task Force reports here: www.maine.gov/mema/hazards/drought-task-force. This report summarizes information presented by Task Force members on current hydrologic and drought conditions as of this date. Task Force partners will report any drought-related impacts for which they are notified.

U.S. Drought Monitor Brief

The US Drought Monitor is a tool sustained by the National Weather Service with the data/modeling support services of the Environmental Prediction Center and the Climate Prediction Center (all housed under NOAA). The US Drought Monitor is a tool that offers an overview of broad scale conditions across every state and territory in the US, with categories of drought and their corresponding

historically impacts laid out from D0 (abnormally dry) to D4 (exceptional drought). This map is updated weekly, every Thursday morning with the latest conditions exemplified on the screen. This map and the associated statistics are what USGS and the state of Maine reference in determining if thresholds for the activation of the Drought Task Force have been met.

MEMA/USGS started conversing about drought conditions back in mid-September when the US Drought Monitor started showing an extension of Abnormally Dry conditions across the coast and parts of Central Maine. By the end of September, 60% of the state's area was in at least a D0 (abnormally dry classification) triggering the Advisory" trigger level of the Drought Task Force per the state's Incident Annex for drought. This is when virtual communications started occurring across DTF partners to notify all that conditions were being monitored with the potential to worsen.

With the release of the 11/8 Drought Monitor Update we knew convening of the Drought Task Force was imminent due to the continued degradation of conditions, and the need to ensure unified situational awareness and messaging across all members. Since 11/8, the Drought Task Force has officially moved to the "Warning" trigger level of per the state's Incident Annex to trigger increased communications across areas not limited to the reporting of dry wells, wildfire risk, and effects to the agricultural sector.

Current Hydrologic Conditions

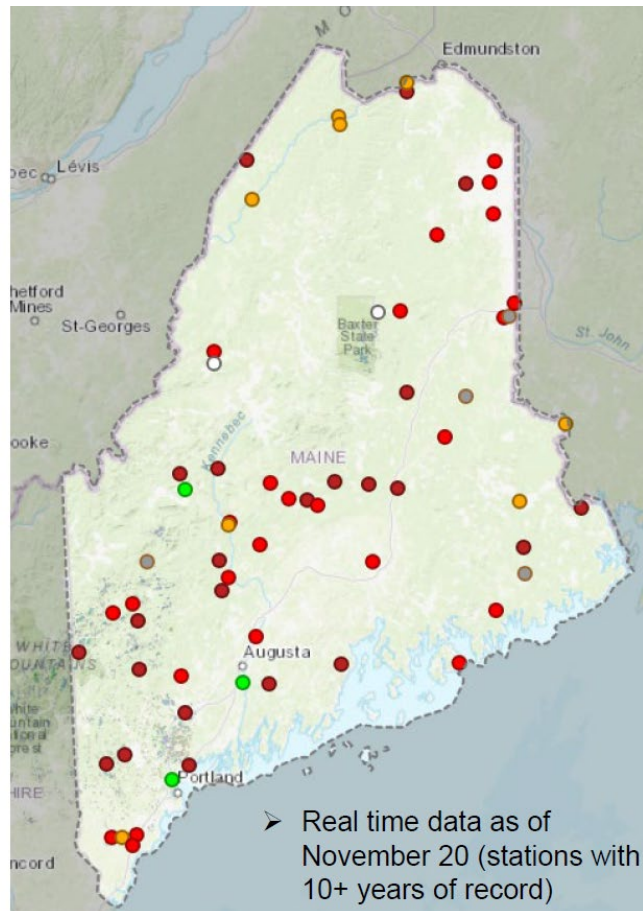
Stream Flows

Most sites started showing impacts from the current drought in mid-August. There was a small period of below normal conditions in the spring, as well. Many sites benefited from intermittent summer storms (excluding downeast/central basins). As of this week, about 1/3 of our network is at the lowest flows for that given day.

Real-Time Streamflow

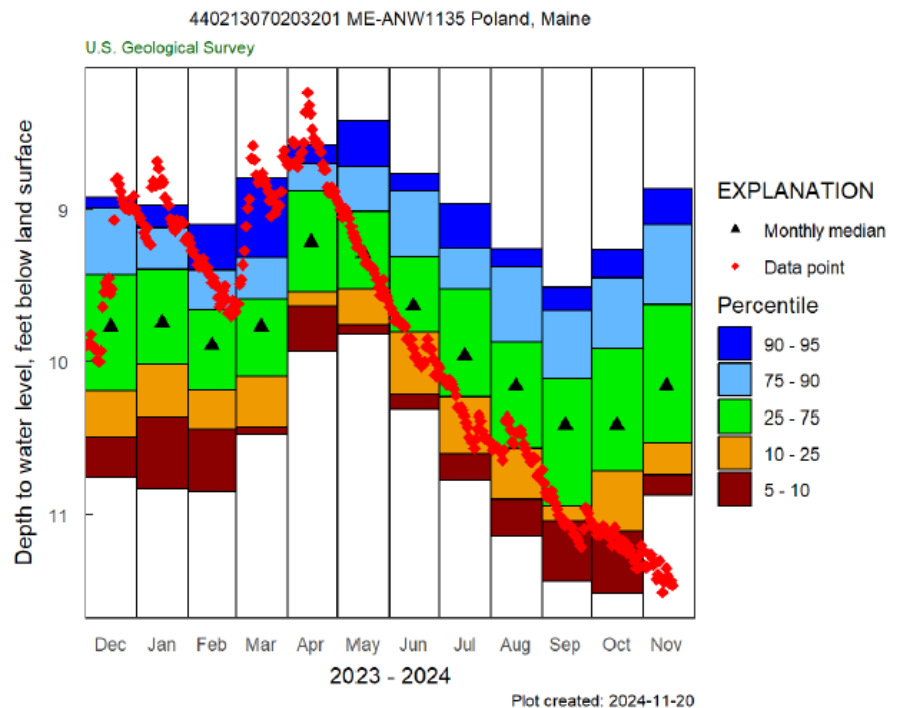
Normal for this day-of-year	3	4.6%	■
Below normal for this day-of-year	8	12.3%	■
Much below normal for this day-of-year	23	35.4%	■
All-time low for this day-of-year	25	38.5%	■

Explanation - Percentile classes					
●	●	●	●	●	●
Low	<10	10-24	25-75	76-90	>90
	Much below normal	Below normal	Normal	Above normal	Much above normal
					High



Ground Water

Record high water levels over the winter helped our current position. Most wells have not shown recharge since spring, and some are the lowest they've been for November in their respective period of record. We typically expect small recharge events going into winter and haven't seen that in 2024.



Weather Review and Outlook

One of the driest falls on record for Maine with rainfall deficits averaging 6 to 10 inches between September 1 and November 20. Rainfall totals were observed between 3 and 4 inches for the season-to-date (since Sept 1st), marking only 25-50% of normal. Temperatures during this same period were well above normal, leading to increased evaporation. During the summer months precipitation was a mixed bag due to the hit or miss nature of convection, with precipitation deficits developing across southern Maine.

One week outlook: A large pattern change is coming with a slow moving low pressure system that will begin tonight and last into Saturday night, bringing substantial rainfall to the state. Scattered mountain snow showers could linger into Sunday with cold gusty winds. Near seasonable temperatures are then likely early next week, with light precipitation possible around Tuesday.

Two week outlook: A progressive pattern is forecast to develop with the potential for active weather by the end of Thanksgiving week. Colder temperatures by the end of the month will favor more opportunities for snow. The pattern does not support a return to prolonged periods of unseasonable dry and warm weather.

Winter 2024 Outlook: Weak La Nina is favored for this winter. The overall influence of La Nina on New England winter is limited, however past seasons favored above normal temperatures and above normal precipitation. A weak La Nina does not give high confidence in seasonal snowfall forecast across Maine. An analog seasonal pattern could be the winter of 2016-2017, which resulted in an average to severe winter with above normal snowfall and a persistent snowpack for the season. The last 5 winters have been mild to moderate for most of Maine due to longer term trends of baseline warming. However every winter is different and a few major storms can still occur in "Mild" winters.

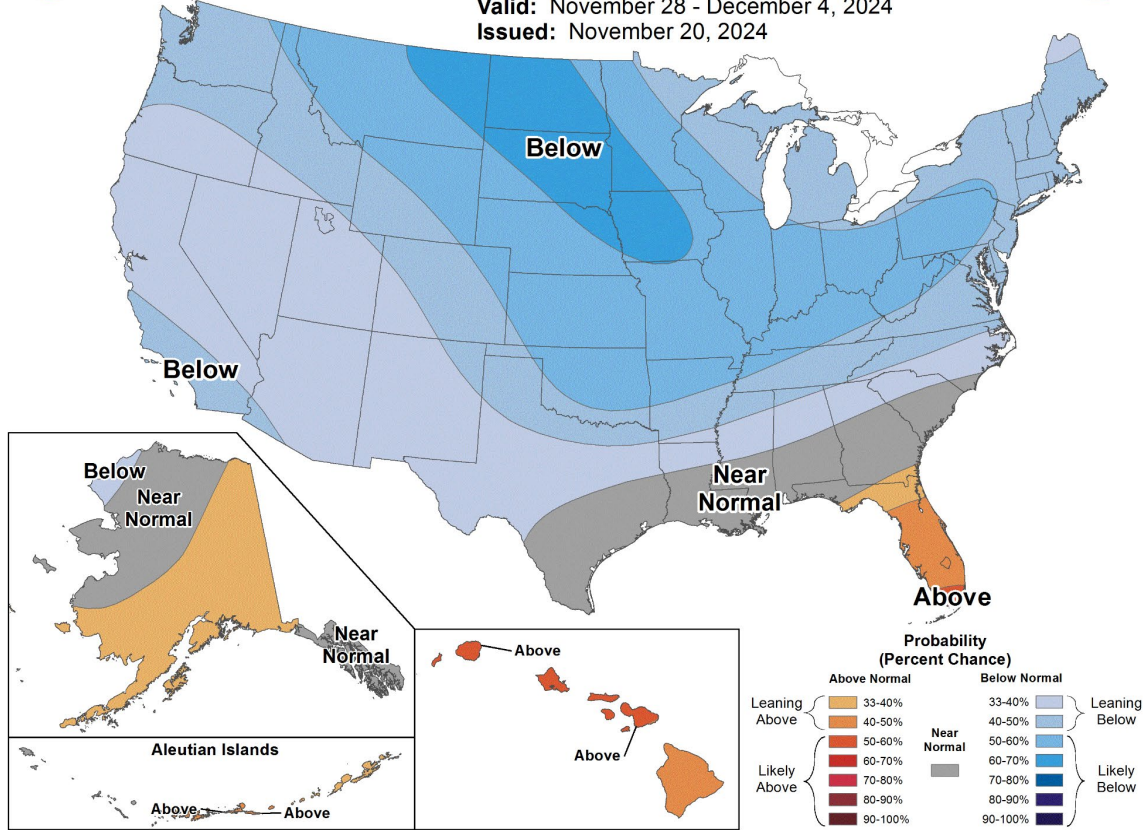
Climate Station	November <i>(thru Nov 20)</i>	October	September	Fall <i>(Sep 1- Nov 20)</i>		Year to Date
	Precipitation and Departure <i>(Inches)</i>	Precipitation and Departure <i>(Inches)</i>	Precipitation and Departure <i>(Inches)</i>	Precipitation and Departure <i>(Inches)</i>	Driest Ranking	Total (Inches)
Caribou Period 1939-Today	1.17 -0.90	1.48 -2.51	0.93 -2.51	3.58 -5.9	1st	29.71 -6.00
Houlton Period 1939-Today	1.43 -0.90	1.65 -2.39	0.99 -2.41	4.07 -5.70	1st	25.87 -8.80
Millinocket Period 1944-Today	0.40 -2.00	1.25 -3.30	0.94 -2.67	2.59 -8.00	2nd	29.10 -8.40
Bangor Period 1925-Today	0.14 -2.20	1.32 -3.26	1.33 -2.43	2.79 -7.80	1st	34.21 -2.20
Augusta Period 1948-Today	0.06 -2.30	1.65 -3.04	1.57 -2.33	3.28 -7.70	1st	30.43 -6.40
Portland Period 1871-Today	0.12 -2.40	1.68 -3.57	1.93 -1.87	3.73 -7.80	3rd	38.07 -3.90



8-14 Day Temperature Outlook



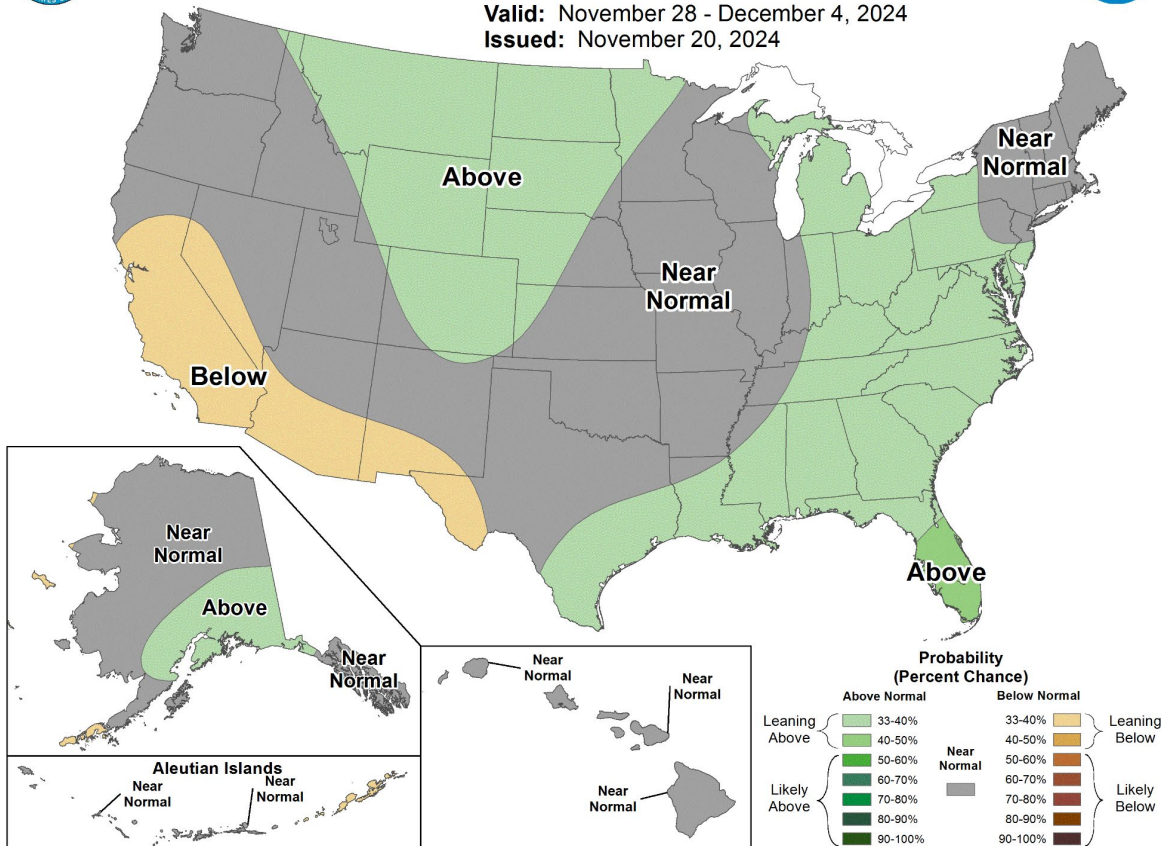
Valid: November 28 - December 4, 2024
Issued: November 20, 2024



8-14 Day Precipitation Outlook



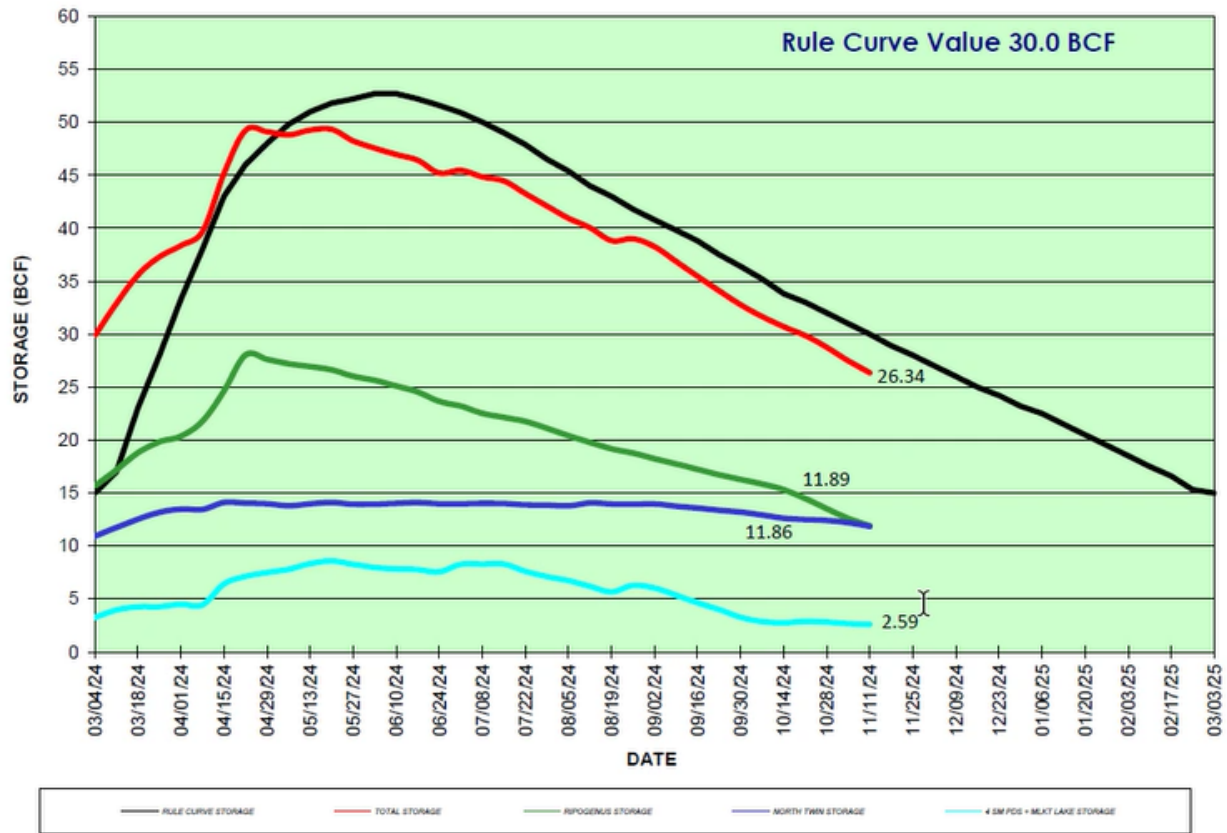
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Headwater Storage Levels

- **Presumpscot River** – Sebago Lake’s Water Quality Certification requires a target water level range of 262.0-266.65 feet, and the lake currently reads at 263.89 feet (NGVD 1929). The goal flows at Eel Weir will be increased from 1,000 cfs to 1,167 cfs to allow for 300 cfs allocation to the bypass reach and 867 cfs through the powerhouse and powerhouse waste gate.
- **Androscoggin River** – storage is 64.1% full, 0.3% above the long-term average. Rangeley Lake is down 1.87 feet with an outflow of 50 cfs; Mooselookmeguntic is down 5 feet with an outflow of 500 cfs; Richardson is down 5.59 feet with an outflow of 500 cfs; Azizcohos is down 10.62 feet with an outflow of 340 cfs; and Errol is down 3.22 feet with an outflow of 1000 cfs. River flows remain stable while discharging 1,200 cfs at Gorham, 1,500 cfs at Rumford, and 2,000 cfs at Auburn.
- **Kennebec River** – Storage is 61.9% full, 2.7% below the long-term average. Brassua Lake levels are down 8.06 feet, Moosehead Lake levels are down 2.92 feet, and Flagstaff Lake levels are down 5.14 feet. River flow at Solon is set at 1,800 cfs; Madison at 1,900 cfs, and Weston is at 2,00 cfs.
- **Penobscot River** – The Penobscot River Storage is 46.9% full, 6.5% below the long-term average and is a D1-Moderate Drought rating. Natural inflows at Ripogenus and North Twin are trending below average for the year. Storage for the West Branch of the Penobscot is 26.34 BCF, slightly below average for this time of year.
- **Union River** – The Union River storage is 22.7% full, 24.5% below the long-term average and is a D1-Moderate Drought rating. Graham Lake is measuring 2.65 feet below the long term average.
- **St. Croix River** – East Grand Lake is 44.85% full, outflow is 87.6 cfs; West Grand is 41.37% full, outflow is 106 cfs; Grand Falls is 36.8% full, outflow is 800 cfs; Vanceboro is 53.98% full and outflow is 262 cfs; and Woodland is 35.84% full and outflow is 757 cfs. Total storage for the St.Croix River Basin is 44.17% full. Fall drawdowns are being met.

Penobscot Storage (West Branch) Rule Curve - 2024/2025



Drought Impact Sectors

Public Water Suppliers

The Maine CDC Drinking Water Program (DWP) notes relatively few reported drought-related water quantity and quality issues given that most of the state is in Moderate Drought, including in highly populated areas. Public Water Systems (PWSs) have made capital improvements over time to improve drought resilience, so can more easily ride out drought conditions. The DWP was notified of the following two issues during the late summer and early fall of 2024:

- The DWP was notified of apparent drought-related water chemistry changes in Aroostook County.
- The DWP was notified that a PWS in York County temporarily hauled water to meet water quantity demand until a new well was brought online.

Private Well Owners

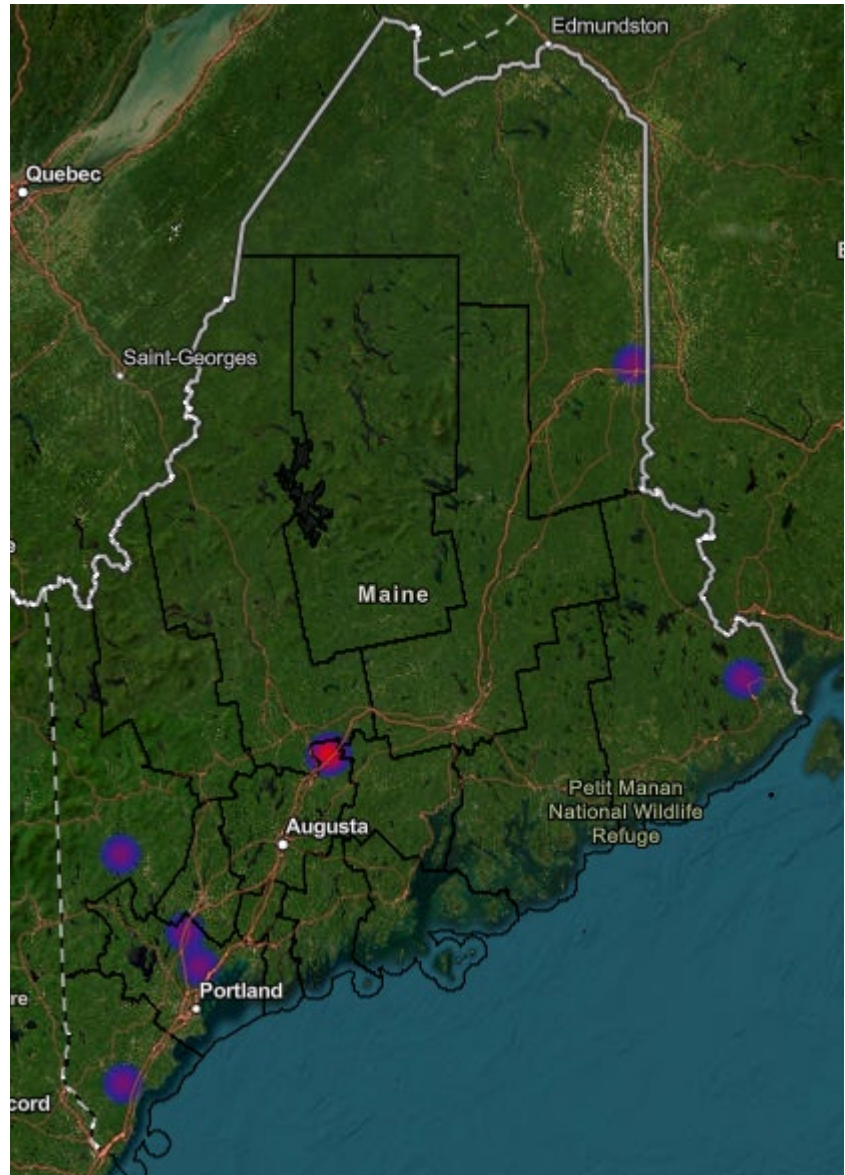
The Drinking Water Program's Private Well Coordinator has been very busy fielding calls from private well owners whose wells have gone dry. He offers technical assistance and refers them to MEMA's Dry Well Survey.

12 privately owned wells have reportedly run dry during this year. Of these, ten were reported since September 2024. Most reports submitted are for "sputtering tap water."

Maine homeowners with dry wells are encouraged to report this information to the Dry Well Survey and review assistance programs: <https://maine-dry-well-survey-maine.hub.arcgis.com/>.

MEMA did not stand up 211 Maine to assist with capturing dry well information until November 14th. Mainers can dial 211 or 1-877-463-6207, or they can text a Maine zip code to 898-211 for assistance with filling out this survey.

For low income homeowners requiring assistance with dry private wells (including drilling a well deeper, drilling a new well, laying pipes to the home, associated labor costs, etc.) please refer to the [USDA Single Family Housing Repair Program](#) or the [Maine State Housing Authority Home Repair Program](#).



Agricultural and Environmental Conditions

Harvest activities were largely completed before severe drought occurred. Potato, wild blueberry, and vegetable crops appear to be excellent. Dry conditions generally help with harvest operations.

A survey of Maine's 16 Soil & Water Conservation Districts indicates that most areas are expressing concerns over low farm ponds, wells, and streams. Normal precipitation levels will be needed to restore agricultural water supplies for the 2025 growing season.

The Maine Department of Agriculture, Conservation & Forestry (DACF) encourages all farmers to think about their water use and needs for future water source development. The Department will be offering \$ 1.3 million in grant funds through the Maine Farmers' Drought Relief Program for developing agricultural water management plans, wells, and water storage ponds.

DACF will be publishing proposed rules for the Farmers' Drought Relief Program in December. Potential applicants can stay informed on the development of the funding opportunity by

signing up for the ARD's Agricultural Grants email list (<https://www.maine.gov/dacf/about/grants/>). Farmers seeking alternative funding options for irrigation and water access are encouraged to contact Tom Gordon, Soil & Water Conservation Program Coordinator, at (207) 592-3584 or tom.gordon@maine.gov to discuss potential funding.

The Department is also releasing an updated version of the Maine Irrigation Guide, a handbook for irrigation planning originally published in 2004. The Guide has updated information on permitting for agricultural water use, as well as information on crop water needs and irrigation methods. An on-line copy of the Maine Irrigation Guide is available at <https://www.maine.gov/dacf/ard/resources/water-management/docs/maine-irrigation-guide-2024.pdf>

Farmers should also contact their local USDA Farm Service Center to review possible federal sources of technical and financial assistance.

Comments from Soil & Water Conservation Districts:

Central Aroostook: Since all crops are out of the ground, crop damage is not an issue. It is interesting to point out that all growers have their rocks picked and fall plowing done. It is unfortunate to see close to 50,000 acres of bare soil with no protection. Atlantic Salmon for Northern Maine has a salmon hatchery in Sheridan and the water that supplies the hatchery comes from Dug Brook. Dug Brook is running so low that 24" salmon are dying due to lack of oxygen in the water. Similarly, in the Ashland area, my technician's spring that feeds his house with water has gone dry and they are hauling water from a spring at Portage Lake. All rivers and streams in Central Aroostook are flowing at very low levels and the few sprinkles that we have been getting are not doing much to increase the flow. This situation could become dire if we don't receive substantial rain before it freezes up before winter. If that is the case, many wells will go dry.

Southern Aroostook: definitely has low farm ponds and very low stream flows. With prediction of milder winter temps but more precipitation, we'll see where we are next spring! At my home just outside of Houlton, we recorded just over 3" rain for September and October combined.

Washington County: Washington County has severe drought conditions! No reports of dry wells yet. Many farm ponds including irrigation ponds [are low]. Crop damage was reported in high tunnels and next year's blueberry bud formation where irrigation is not available. Severe low stream flows are many, preventing trout spawning except within arch stream culverts.

Hancock County: we had an elderly woman from Sullivan call in August saying her dug well (20 ft deep) was providing only muddy water with sediment for the first time in her recollection. Her sons were referring her to a well driller, but she called us to ask if there was any way we could help. I referred her to her local town office to apply for emergency funds if expense was an issue.

Penobscot County: Farm ponds look lower than their typical levels for this time of year.

Waldo County: NRCS staff in the Belfast office said some pasture grazing ended early due to lack of regrowth and have observed some low farm ponds.

Kennebec County: The reported impacts in Kennebec County seem minimal for this year. However, the concern about next spring is fairly high. If anything, the dry fall which did not

affect cropping or late pasture and allowed for later manure spreading. Streams and ponds have been at low water which has had an impact on lake flushing but not impacted agriculture much here.

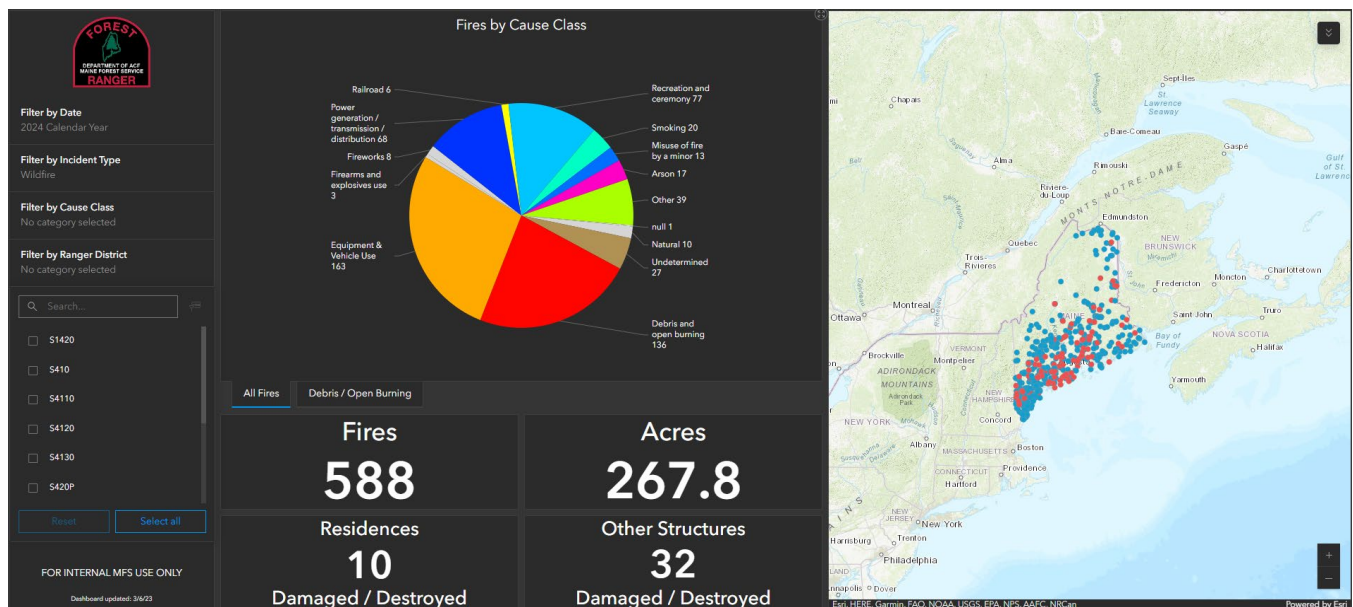
Somerset County: USDA employees report low stream flows have been observed and there is much concern about next spring's water supply if the lack of rainfall continues.

Androscoggin Valley: Our NRCS staff in the Lewiston service center have observed low/dry farm ponds, extremely low and dry stream channels. Water table levels appear extremely low in upland sites.

Wildfire Conditions

Comparison to previous years:

- **2024: 588 fires have occurred as of November 21, 2024.** In the past 30 days there have been 196 wildfires burning 91.6 acres
- **2023:** 496 wildfires for the year.
- **2022:** 624 wildfires for the year.
- **2021:** 650 wildfires for the year.
- **2020:** 1,154 wildfires for the year. Record high wildfire occurrence. Maine experienced drought conditions during this year. More people were at home due to COVID utilizing wildland fire to work around the home.



Please visit the Maine Forest Service Wildfire Danger Report <https://mainefireweather.org/> Posted everyday during the fire season after 0900 hours. The Maine Forest Service works with the National Weather Service in posting Elevated Wildfire Danger and Red Flag Day Watch/Warnings

Please visit the Maine Forest Service Maine Burn Permit System for burning permit <https://apps1.web.maine.gov/burnpermit/public/index.html> or contact your Town Warden/Fire Chief for current burning conditions.

Please contact your local ranger for wildfire conditions. https://www.maine.gov/dacf/mfs/forest_protection/offices.html.

Hazard Mitigation Grants

There are currently six (soon to be five) open HMGP grant opportunities described here:

<https://www.maine.gov/mema/grants/mitigation-grants>. FEMA supports a wide variety of drought hazard mitigation projects to build resilience. Some of the categories that may qualify for HMA assistance:

- Nature-based Solutions
- Early Warning Systems
- Stabilization
- Floodplain and Stream Restoration
- Flood Diversion and Storage
- Aquifer recharge, storage and recovery
- Hazard Mitigation Planning initiatives

Hazard Mitigation grant questions can be directed to the Acting State Hazard Mitigation Officer at HMAgrant@maine.gov.

Drought News

- Maine's drought conditions persist but much-needed rain is on the way: <https://wgme.com/news/local/maines-drought-conditions-persist-but-much-needed-rain-is-on-the-way-remains-abnormally-dry-raining-weather-7-21-2024>
- Town of Ellsworth among many communities in Maine to ban fires amid drought issues: <https://www.msn.com/en-us/weather/topstories/town-of-ellsworth-among-many-communities-in-maine-to-ban-fires-amid-drought-issues/ar-AA1uiW5c?ocid=BingNewsVerp>
- Fire destroys home in Harrison; crews face water challenges: <https://www.msn.com/en-us/news/us/fire-destroys-home-in-harrison-crews-face-water-challenges/ar-AA1uvYtf?ocid=BingNewsVerp>

About this Report

Current information represents a “snapshot” of conditions throughout the state for the date of reporting. This report provides information on the preliminary effects of the drought and more monitoring must be done to assess potential impacts if the situation worsens. These conditions will be monitored, and the Drought Task Force will monitor the situation until warning indicators subside.

The Maine Drought Task Force is composed of representatives from major river basin management operations, utility operators as well as state agencies and federal agencies. The Task Force is convened when necessary based on drought threat, and members will stay in close communication until the dry conditions subside.

Information Resources

Please refer to these sources for more information on current water conditions:

- Maine Drought Task Force website, with links to other reports and drought monitoring resources: <https://www.maine.gov/mema/hazards/drought-task-force>
- Drought.gov site for the State of Maine: <https://www.drought.gov/states/maine>
- Northeast DEWS: <http://nedews.nrcc.cornell.edu/>
- National Integrated Drought Information System: <https://www.drought.gov/current-conditions>
- U.S. Drought Monitor: <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?ME>
- Well monitor data: <https://groundwaterwatch.usgs.gov/StateMap.asp?sa=ME&sc=23>
- Streamflow data: <https://waterwatch.usgs.gov/?m=real&r=me>
- Streamflow data aggregated by watershed: <https://waterwatch.usgs.gov/index.php?m=dryw&r=me>
- Maine Cooperative Snow Survey: https://www.maine.gov/dacf/mgs/hazards/snow_survey/
- NWS Gray short- and long-term forecasts: <https://forecast.weather.gov/product.php?site=NWS&issuedby=GYX&product=AFD&format=CI&version=1&glossary=1&highlight=off>
- NWS Caribou short- and long-term forecasts: <https://forecast.weather.gov/product.php?site=NWS&issuedby=CAR&product=AFD&format=CI&version=1&glossary=1&highlight=off>
- USDA farm assistance and loan programs: <https://www.farmers.gov/protection-recovery/drought>
- CoCoRaHS local volunteer weather condition monitoring: <https://www.cocorahs.org/maps/conditionmonitoring/index.html>

For additional information on specific aspects of this report, please contact:

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