

State of Maine Drought Task Force Report on Current Hydrologic Conditions August 26, 2021

Overview:

- Drought persists in Maine: 73.83% of the state is Abnormally Dry (12 counties), 43.77% in Moderate Drought (6 counties), 9.15% in severe drought (4 counties). Though a large area of the state is experiencing abnormally dry or drought conditions, the majority of Maine's population resides outside of the impacted area.
- Streamflows in southern and coastal areas are in the normal range or above, and the upper parts of the Androscoggin, Kennebec, Penobscot, and Aroostook basins are below normal.
- Precipitation deficits continue across much of central and northern Maine. Outlooks suggest a pattern favoring above normal rainfall and above normal temperatures through the first week of September.
- The USDA Farm Service Agency has received a Secretarial Disaster Designation dated 8/13/2021 due to the drought situation, which opens [a number of farm assistance and loan programs](#) for agricultural producers in Franklin and Somerset counties.
- Governor Janet Mills is encouraging small businesses in several Maine counties to apply for [newly available Economic Injury Disaster Loans](#) through the U.S. Small Business Administration
- A Drought Task Force subcommittee has convened to discuss future updates to emergency bulk water hauling guidelines, the certified water haulers list, and to gage state and local capacities for emergency bottled water distribution.
- Please direct private well owners facing drought-related issues to the [Dry Well Survey](#)

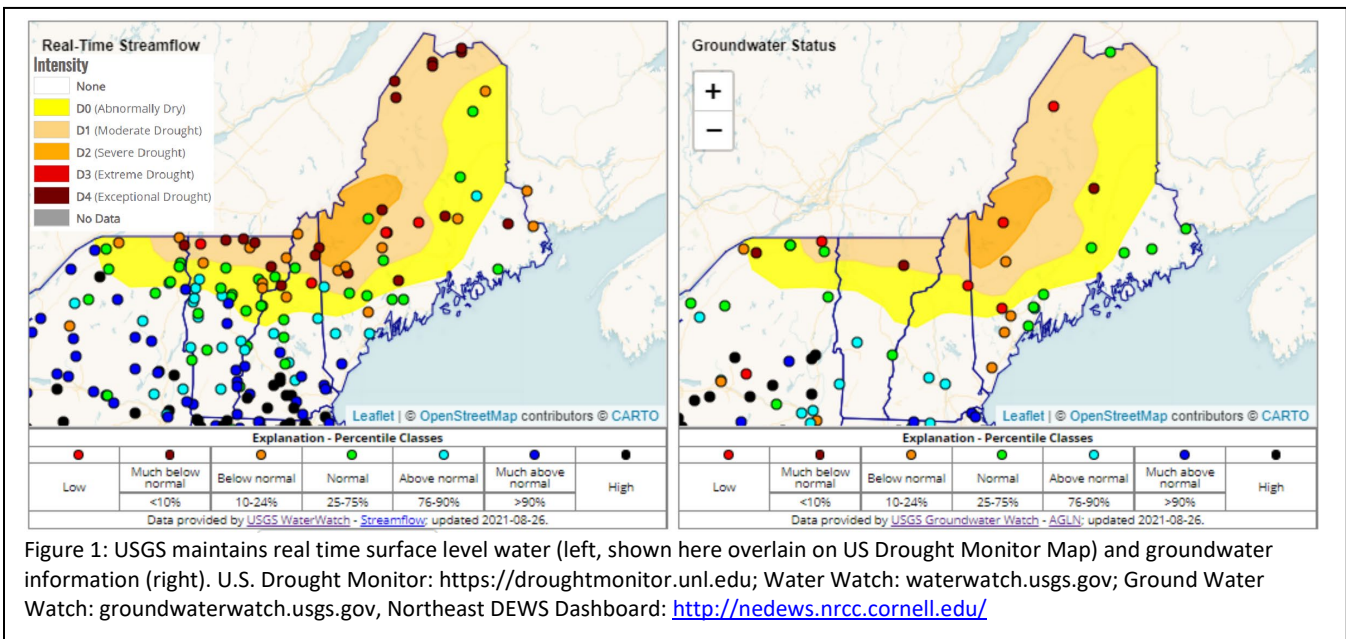


Figure 1: USGS maintains real time surface level water (left, shown here overlain on US Drought Monitor Map) and groundwater information (right). U.S. Drought Monitor: <https://droughtmonitor.unl.edu>; Water Watch: waterwatch.usgs.gov; Ground Water Watch: groundwaterwatch.usgs.gov, Northeast DEWS Dashboard: <http://nedews.nrcr.cornell.edu/>

In response to persistent drought, the Maine Emergency Management Agency publishes these biweekly Drought Reports. Previous reports are available here: <https://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. **Drought can occur over many different scales and timelines. The Maine Drought Task Force reports primarily on long term dry weather and drought conditions as indicated by the U.S. drought monitor, with the recognition that many drought-related impacts to specific sectors may be more sensitive to shorter-term fluctuations in dry and wet weather. No single measure can adequately address all manifestations and sensitivities to drought, so please refer to our sector-specific monitoring information below.**

Current Hydrologic Conditions:

Stream Flows

The pattern for streamflows across Maine is similar to what we've seen with past briefings. Southern and coastal areas are in the normal range or above, and the upper parts of the Androscoggin, Kennebec and Penobscot basins are below normal. Aroostook County rivers are below normal, as well. Some streams are the lowest they have been for this particular day (August 26) over the entire period of record. This includes the Piscataquis River in Dover-Foxcroft, which has 118 years of record, and the Kennebec River at Bingham, which has 92 years of record. Rain from Henri did bring some scattered gages above normal, but additional rain will be needed to maintain those levels.

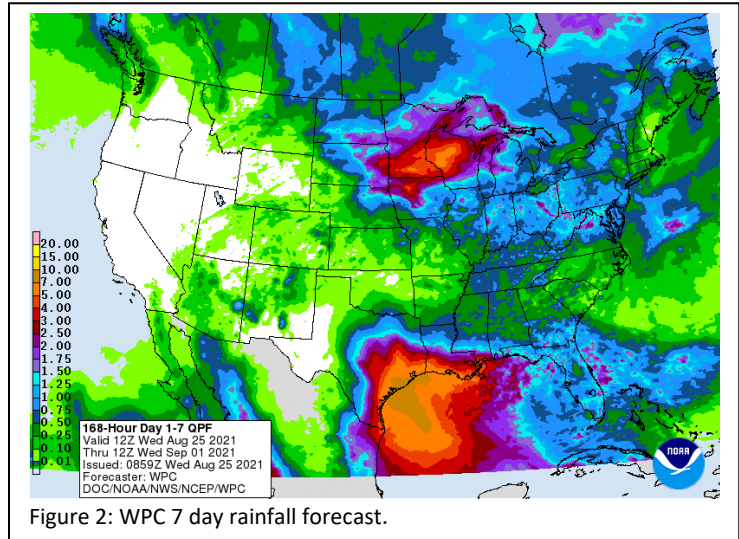


Figure 2: WPC 7 day rainfall forecast.

Ground Water

Monitoring wells in Maine show normal conditions along the I-95 corridor into eastern Maine, with wells west of I-95 into the mountains and northern Maine showing below normal conditions. Wells in Oxford, Millinocket, Eustis, and Clayton Lake are registering record lows for the month of August based on periods of record that go back 30-40 years. Recharge from recent rains has been limited in southern Maine.

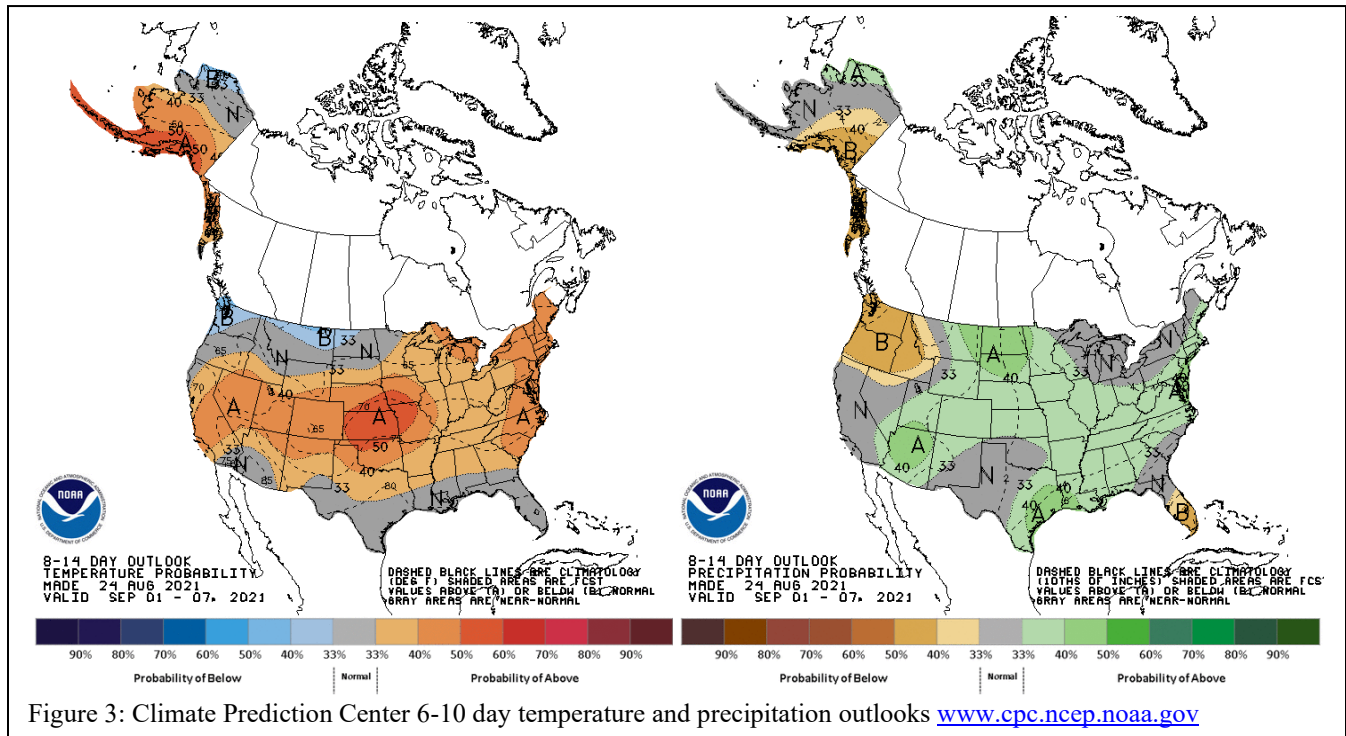


Figure 3: Climate Prediction Center 6-10 day temperature and precipitation outlooks www.cpc.ncep.noaa.gov

Weather Outlook:

Heat will break Thursday night as a cold front comes through the region. A cooler pattern will set up for the weekend into early next week. The current 7 day rainfall forecast shows <0.5" for the state (Figure 2), but there is some uncertainty with a front moving through early next week. This would be the first chance for widespread precipitation across the state, with the greatest chances for precipitation above 0.5" in Northern and Central Maine. Precipitation deficits continue across much of central and northern

Maine. The 6-10 day outlooks suggest a pattern favoring above normal rainfall and above normal temperatures through the first week of September (Figure 3). The above normal precipitation outlook is influenced by the increase in tropical activity that is projected to influence precipitation over the eastern U.S. However, the influence of tropical activity is a low confidence forecast and adds more uncertainty to the outlook forecast in general. Attention should continue to be paid to the tropical Atlantic where storms are currently developing and conditions favor above normal activity through the season.

Location	Departure, July 2021	Departure, year-to-date
Caribou	-1.63"	-3.53"
Bangor	+4.51"	-4.15"
Millinocket	+0.56"	-5.78"
Portland	+6.01"	-3.33"
Rangeley	-1.19"	-8.04"

Headwater Storage Levels

Storage conditions in the major river basins as reported by the hydropower companies this week are as follows:

- **Presumpscot River** – The water level at Sebago Lake is currently 264.47 feet, a decrease of 2" for the week. Water temperatures in the Presumpscot River remain cool enough to keep dissolved oxygen in the Presumpscot River remains at or above the required Class B water quality standard of 7 parts per million, and so flow from Sebago Lake remains at 270 cfs. Sappi continues to closely monitor conditions and consult with the resource agencies.
- **Androscoggin River** – Storage conditions in the upper Androscoggin River basin are reported to be 61.8% full this week, which is 14.6% below the long-term average for this time of the year, a slight improvement in stored water levels over the last reporting period. Flows in the upper drainage remain stable.
- **Kennebec River** – Storage conditions in the upper Kennebec River basin are reported to be 74.0% full, just 6.3% below the long-term average for this time of the year and a slight improvement compared to storage conditions reported two weeks ago.
- **Penobscot River** – Total storage in the west branch of the Penobscot River remains below the long-term average for this time of the year and natural inflows remain below average and below the lowest inflows recorded (in 2001). Storage conditions at Ripogenus remain well below the long-term average and continue to drop as water stored there is flowed downstream to North Twin, which remains stable. Water levels in the four small storage reservoirs continue to decline even as flow at Canada Falls is reduced to 50 cfs (50 cfs is less than inflow at this point in time) and boating flows curtailed after the August 7 release.
- **Union River** – Storage conditions in the Union River basin continue to be slightly better than in other areas of the state. Recent precipitation and a change in operating conditions to maintain a higher impounded water level has resulted in storage conditions about a foot higher than the long-term average water level in Graham Lake.
- **St. Croix River** – The west branch of the St. Croix River is reported to be 72.9% full and flowing 145 cfs at West Grand Lake, and the east branch is reportedly 73.2% full and flowing 95 cfs. The combined river flow is measured at 937 cfs at Baring.

Drought Impact Sectors

Public Water Systems

The Maine CDC Drinking Water Program (DWP) has not received a new report of a water quantity issue from a public water system (PWS) for a few weeks. Some PWSs have standing voluntary water conservation orders. The South Berwick Water District has issued emergency mandatory water use restrictions through late fall. The Stonington Water Company has also issued mandatory water use restrictions, and is currently augmenting its supply with tankered water.

The Maine Emergency Management Agency, Maine Rural Water Association, Maine Water Utilities Association, and Maine CDC DWP met on 18 August to discuss future updates to the list of certified potable water haulers; establish standard guidelines for emergency water sourcing, hauling, storage, and distribution; coordinate outreach on planning resources and resource request guidance for public water suppliers; and close communication gaps between the emergency management community and water utilities. Potential outreach initiatives anticipated for next year include posting of new policy updates and guidance to EMAs and public water suppliers, hosting an educational seminar on emergency potable water hauling, and partnering on outreach at professional conferences.

The bulk water haulers team also met to discuss the MOU between the Maine Emergency Management Agency and Nestle Waters™ to establish best practices for bottled water MOU activation. First steps in this effort will include a continuation of the discussion with county EMAs and identifying capacities for handling distribution points for bottled drinking water.

Dry Wells

Seventeen dry private wells have been reported in eight counties (Figure 4). At this time most reports are for dug wells, and 88% of all reported wells are for residential use. Maine homeowners with dry wells are encouraged to report this information to the Dry Well Survey: bit.ly/3iU6hvu.

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](#).

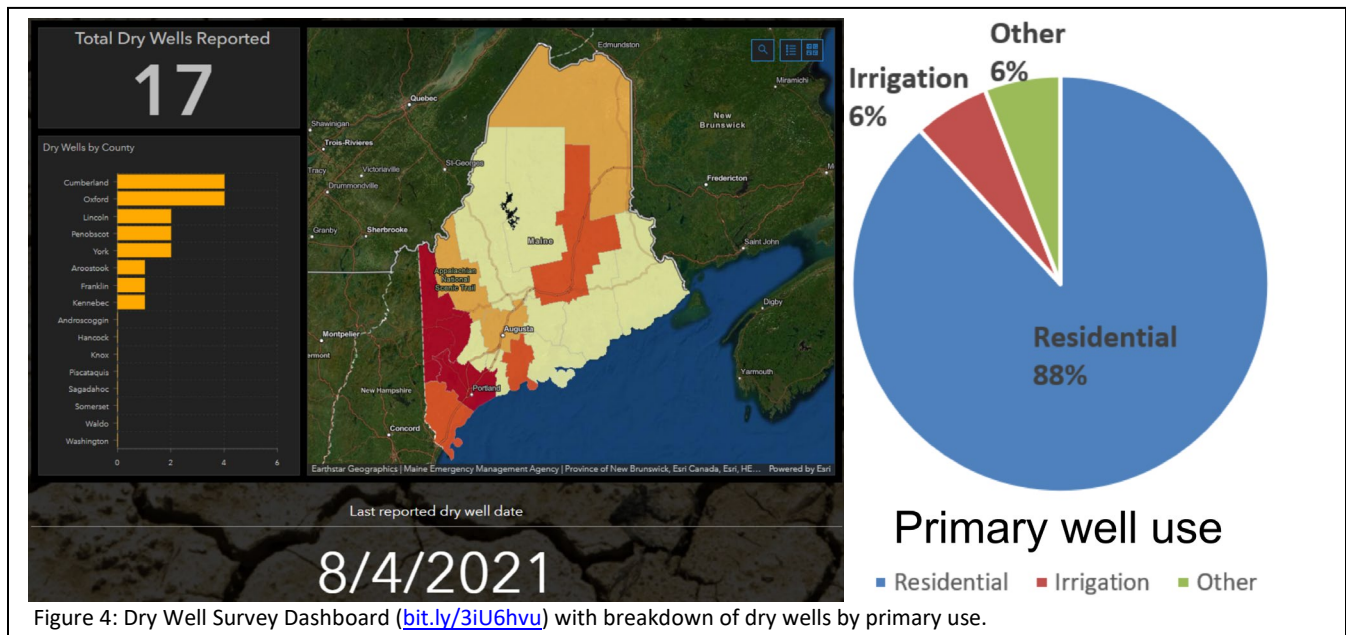


Figure 4: Dry Well Survey Dashboard (bit.ly/3iU6hvu) with breakdown of dry wells by primary use.

Wildfire conditions

Since January 1st, we have had 602 wildfires in Maine. That number drops to 21 fires in the last 30 days, with just 4 fires in the last week. Recent rains have raised our fuel moisture which has mitigated our fire danger for the time being. All of our 12 fire weather zones continue to calculate fire indices in

the low range with a very occasional moderate. When viewing our [Daily Wildfire Danger Report](#), remember that it is a one day forecast which is calculated using minimal data from the previous weather. As always, we should expect a rise in fire activity when we progress through another prolonged drying trend and the fuels become more available for ignition.

Agricultural and Forest Conditions

The USDA Farm Service Agency has received a Secretarial Disaster Designation dated 8/13/2021 due to the drought situation. This designation opens up the Livestock Forage Disaster Program (LFP) and Emergency Assistance for Livestock, Honeybees, and Farm-Raised Fish Program (ELAP) for the designated counties of Franklin and Somerset. In addition the Emergency Loan Program and Disaster Set-Aside Loan Program are now available for the designated counties as well as the contiguous counties. Refer to www.farmers.gov/protection-recovery/drought for more information.

Governor Janet Mills is encouraging small businesses in several Maine counties to apply for [newly available Economic Injury Disaster Loans](#) (EIDL) through the U.S. Small Business

Administration (SBA). Farm-related entities in Androscoggin, Aroostook, Franklin, Kennebec, Oxford, Penobscot, Piscataquis, Somerset and Waldo counties that have suffered financial losses as a result of the drought that began in Maine on June 22nd are eligible for low-interest loans from the SBA.

Producers are reporting excellent crop growth and quality in areas where drought conditions have diminished. Persistent showers have reduced the need for supplemental irrigation of crops in many areas. Severe drought in northwestern Maine continues to affect the growth of hay and corn (Figure 5).

The Maine DEP has been meeting on river-sites with potato and broccoli farmers to discuss specific water withdrawal proposals and make recommendations to mitigate impacts on the water and riparian resources. The Department is working with farmers to encourage water conservation, off stream storage development, and soil health improvement, and to improve overall farm resiliency to dry conditions. Additionally, as a result the drought, stream and river flows in Aroostook County and Western Maine are particularly low with flows below the summer season August median level. Irrigation withdrawal during the current drought conditions could further lower stream and river levels and may result in dewatering of segments and fish kills. Any water withdrawals from streams and rivers that have flow below August median level requires site specific DEP [approval](#).

Woodlot owners in western and northern Maine are beginning to voice concerns about increasing drought stress in trees. Pines located on well-drained sand or gravel soil are most at risk in these areas. Drought stress weakens trees, making them more susceptible to fungal infections and certain

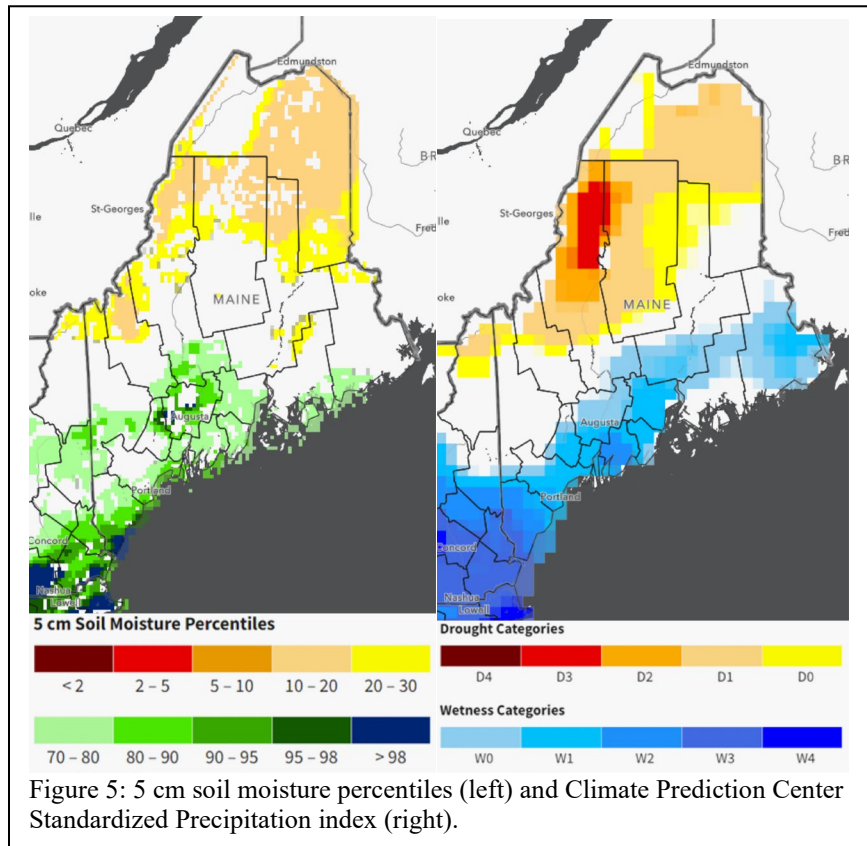


Figure 5: 5 cm soil moisture percentiles (left) and Climate Prediction Center Standardized Precipitation index (right).

pests. Refer to this Maine Public article for more information: <https://www.mainepublic.org/environment-and-outdoors/2021-08-06/inland-and-western-maine-still-experiencing-drought-as-storms-hit-coast>

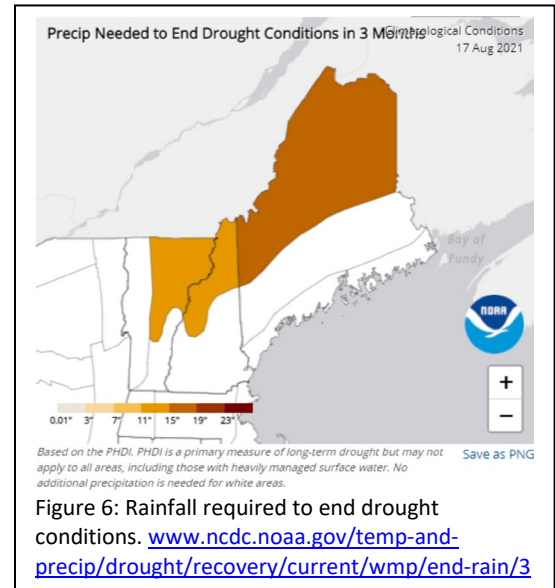
Drought Outlook

A substantial amount of precipitation is needed to end current dry conditions (Figure 6). In northern and western Maine, 15.8 inches of rainfall, or 132.4% of normal summer/fall precipitation, is required within the next three months to return to normal conditions. *These drought conditions are now expected to persist into fall based on NOAA NCEP Climate Prediction Center models* (go.usa.gov/3eZ73). **The Task Force will continue to monitor abnormally dry conditions in the state until conditions broadly improve across Maine.**

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. Many new factors will influence drought potential in Maine as the season progresses. These factors 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.nrcr.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 on-the-ground weather condition monitoring: <https://www.cocorahs.org/maps/conditionmonitoring/index.html>

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