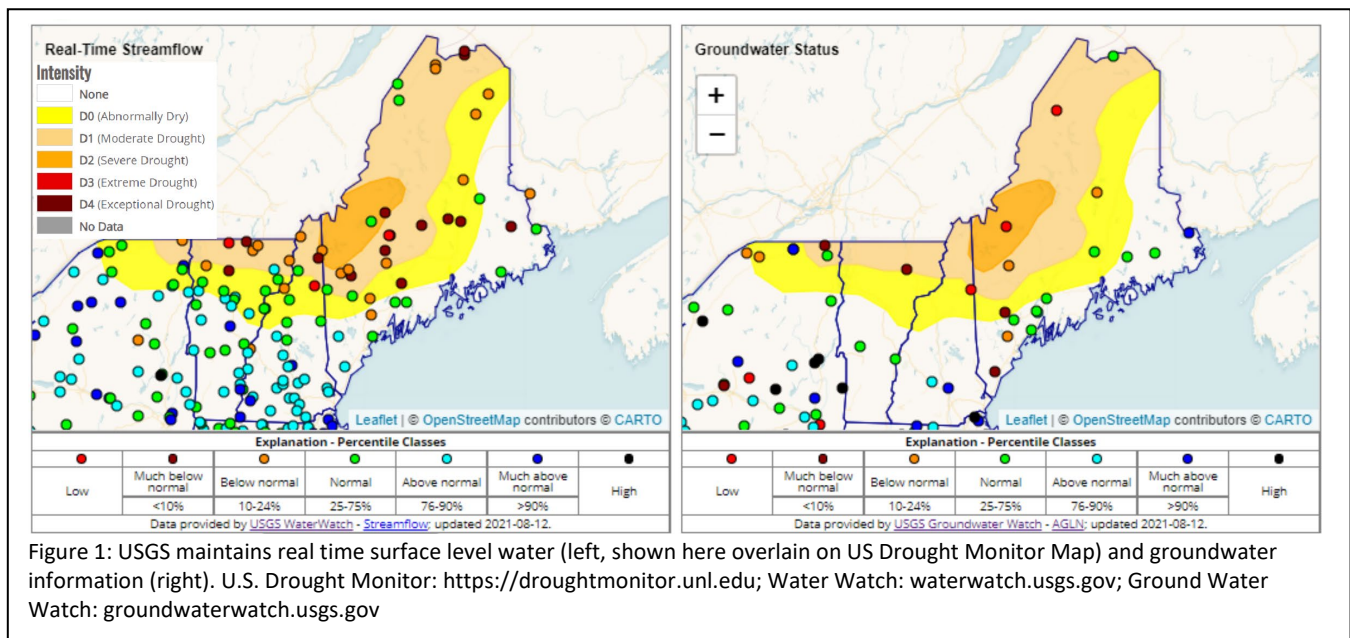


State of Maine Drought Task Force Report on Current Hydrologic Conditions August 12, 2021

Overview:

- Drought persists in Maine: 67.88% of the state is Abnormally Dry (11 counties), 43.77% in Moderate Drought (6 counties), 9.15% in severe drought (4 counties).
- While streamflows in coastal Maine remain in the normal range, most long term stations are reporting below normal conditions for the time of year in the rest of the state.
- Weather outlooks suggest a pattern favoring below normal rainfall and above normal temperatures through late August.
- A USDA [Secretarial Disaster Designation](#) is forthcoming for Oxford, Franklin, Somerset, and Piscataquis counties after eight weeks of severe drought.
- Please direct private well owners facing drought-related issues to the Dry Well Survey: bit.ly/3iU6hvu. Mainers can either dial 211 or 1-877-463-6207, or they can text a Maine zip code to 898-211 for assistance with filling out the survey.



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.**

Current Hydrologic Conditions:

Stream Flows

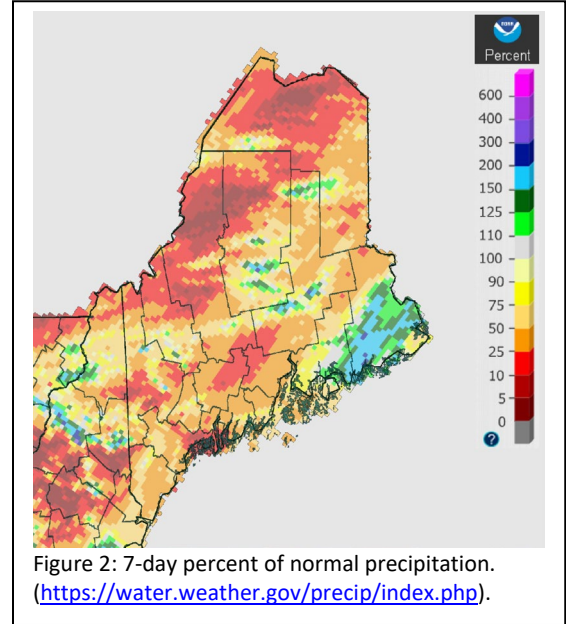
While streamflows in coastal Maine remain in the normal range, most long term stations are reporting below normal conditions for the time of year in the rest of the state (Figure 1). This is particularly true in the area from the western mountains to Calais. The Fish River in northern Maine continues to be a record low for the time of year based on the station’s 90 years of record. Since mid to late July, the number of long term stations reporting below normal conditions is growing.

Ground Water

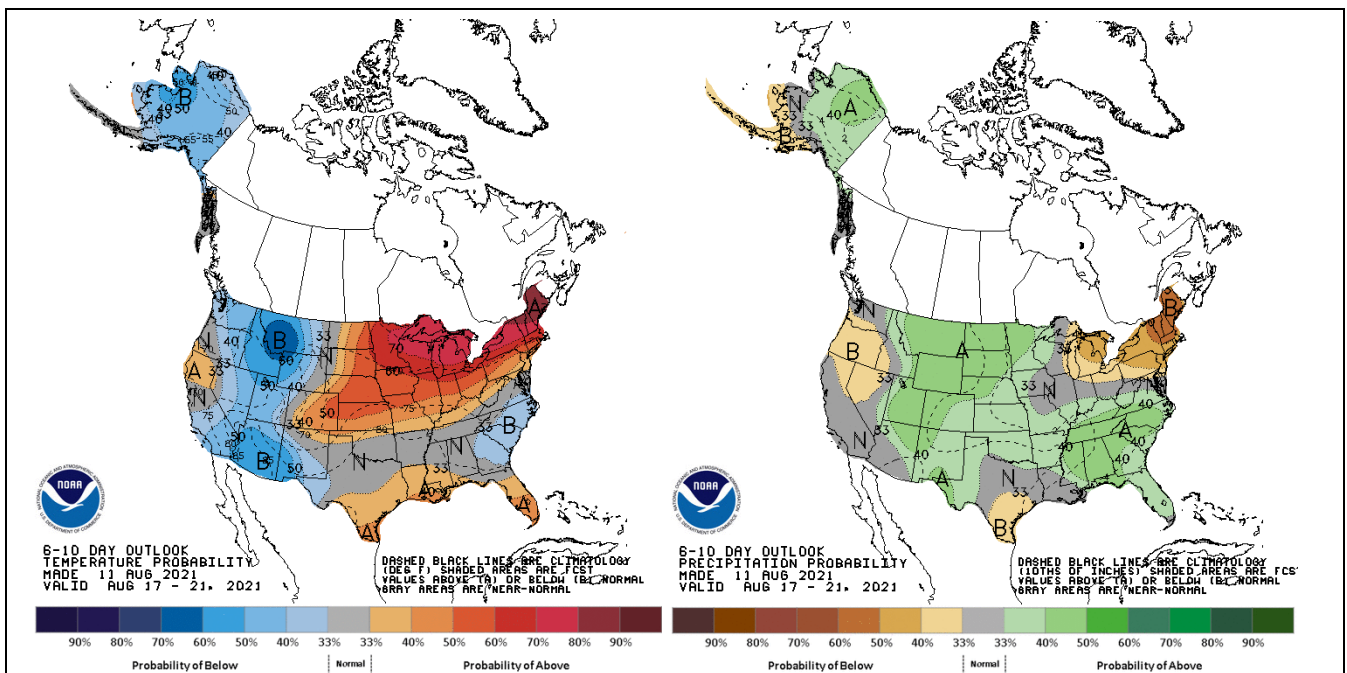
While July brought much needed recharge to several wells south of Augusta and in downeast Maine, wells in western, far southern, and northern Maine did not benefit (Figure 1). Monitoring wells in Clayton Lake and Eustis are reporting record lows for the month of August, with record extending back to the late-70s and early 80s. In contrast, the monitoring well in Calais is Much Above Normal, benefiting the most from July’s rain.

Weather Outlook:

Forecast for the next week looks to be hot and humid through the end of the week with isolated to scattered showers and storms developing in the afternoon and evening. A cold front coming through Saturday will bring the next chance for widespread rainfall to the area. The outlooks suggest a pattern favoring below normal rainfall and above normal temperatures through late August (Figure 3). Attention should also be paid to the tropical Atlantic where storms are currently developing and conditions favor above normal activity through the season. Year-to-date precipitation



| Location | Departure, July 2021 | Departure, year-to-date |
|-------------|----------------------|-------------------------|
| Caribou | -1.63" | -3.58" |
| Bangor | +4.51" | -3.84" |
| Millinocket | +0.56" | -6.12" |
| Houlton | +0.33" | -1.99" |
| Portland | +6.01" | -1.74" |
| Augusta | +3.2" | -4.87" |
| Rangeley | -1.19" | -5.94" |



deficits continue across the state, though many locations experienced higher than normal rainfall amounts through July.

The precipitation outlook can change rapidly during late summer, especially during an active tropical season. Currently increased levels of Saharan Dust in the Atlantic are keeping the tropical activity in check as it limits the amount of moisture available for storm development. All interests should monitor both weather forecasts and hydrologic factors as conditions progress. Meanwhile models in the Pacific Ocean are identifying a developing La Nina, and the Climate Prediction Center has issued a La Nina watch. This could influence winter and spring precipitation if La Nina develops this fall.

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 264.79 feet, a decrease of 1” for the week. Rains in July have kept water temperatures cool and, as a result, dissolved oxygen in the Presumpscot River remains at or above the required water quality standard of 7 parts per million. Thus, in consultation with the resource agencies, flow from Sebago Lake remains at 270 cfs.
- **Androscoggin River** – Storage in the upper Androscoggin River basin are reported to be 65.1% full this week, which is 15.5% below the long-term average for this time of the year. This represents a slight improvement in stored water levels over the last reporting period, as flows remain stable. Flow reductions made in June in the upper impoundments remain in place and whitewater flows remain curtailed at Richardson Lake.
- **Kennebec River** – Storage conditions in the upper Kennebec River basin are reported to be 77.0% full, just 8% 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 but 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 below storage conditions reported last year at this time (2020 was also a drought year) as water stored there is flowed downstream to North Twin, which remains stable. Water storage continues to decline in the four small storage reservoirs, and outflow
- **Union River** – Storage conditions in the Union River basin are improved as a result of significant coastal rain in July. That rain, coupled with a modification in operating conditions to maintain a higher impounded water level, has resulted in storage conditions nearly 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 75.34% full and the east branch is reportedly 75.69% full. Grand Falls Flowage is reportedly 87.8% full and is flowing 1,293 cfs this week. Wet conditions in July benefited the storage conditions in the St. Croix basin.

Drought Impacts

Public Water Systems

The Maine CDC Drinking Water Program (DWP) is receiving requests for assistance from public water systems (PWSs) statewide on drought preparedness and response. Many PWSs are preparing for continued drought conditions by tracking source water levels, updating their emergency response plans, and communicating with response partners. Some PWSs have issued voluntary water conservation orders. The South Berwick Water District has issued emergency mandatory water use

restrictions. Most of the reported water quantity issues are from southern, western mountain, and coastal areas.

Dry Wells

Sixteen dry private wells have been reported in eight counties (Figure 4). At this time most reports are for dug wells, however one quarter of respondents do now know their well type. 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](#).

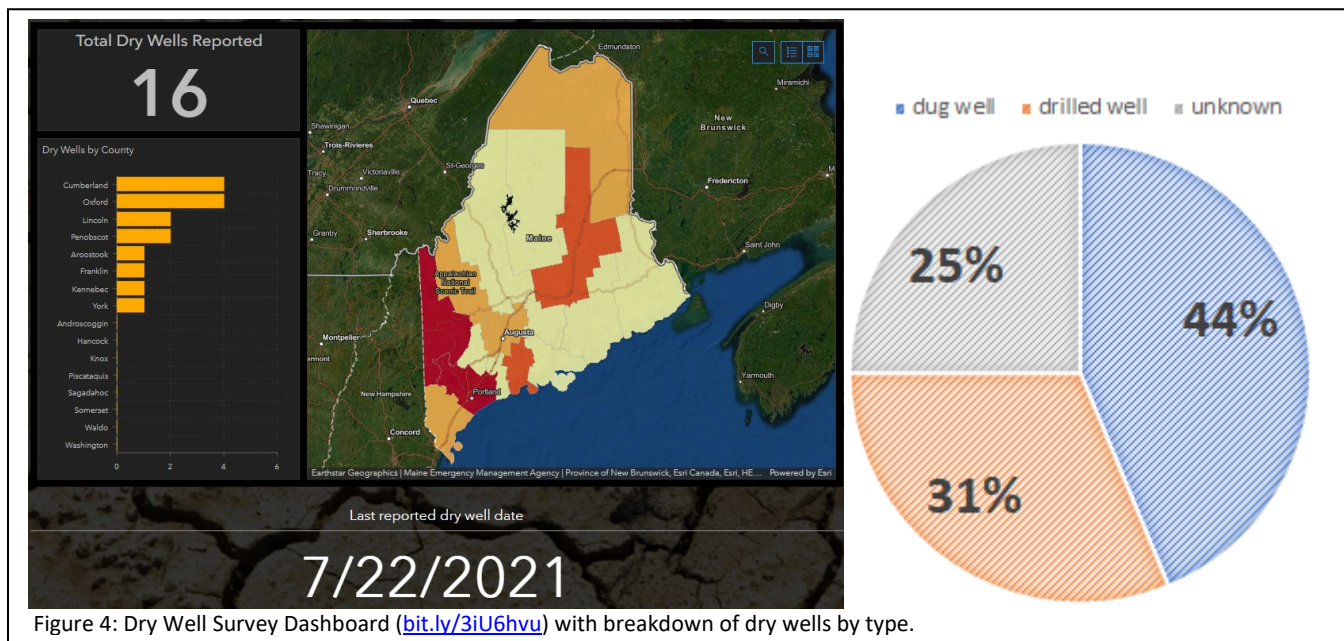


Figure 4: Dry Well Survey Dashboard (bit.ly/3iU6hvu) with breakdown of dry wells by type.

Wildfire conditions

Continued rains have helped the fire danger in many parts of the state. Since January 1st, we have had 587 wildfires in Maine. That number drops to just 17 fires in the last 30 days, with just 2 fires in the last week. Most or all of our 12 fire weather zones have been calculating fire indices hovering around low with an occasional moderate. We should expect a rise in fire activity if we start into another prolonged drying trend.

Agricultural and Forest Conditions

Severe drought conditions have persisted for eight weeks in Oxford, Franklin, Somerset, and Piscataquis counties, making these counties eligible for a [Secretarial Disaster Designation](#) by the USDA Farm Service Agency Office. In addition, the [Livestock Forage Disaster Program](#) will now become available for producers with grazed livestock in these counties. This forthcoming designation is automatically triggered and run through a fast-track process at the National level.

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 is affecting the growth of hay and corn.

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.

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 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>

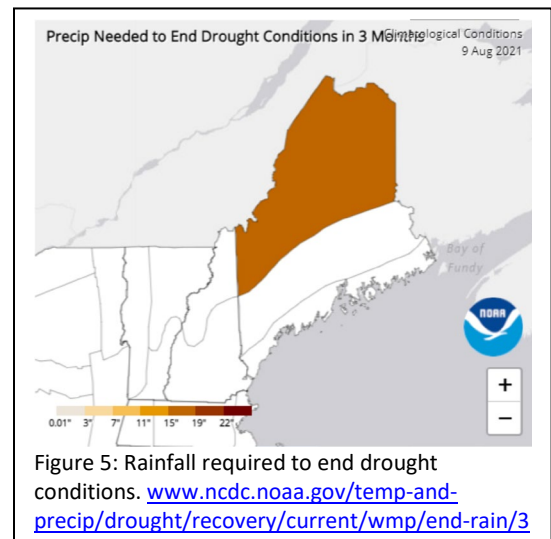
Drought Outlook

A substantial amount of precipitation is needed to end current dry conditions (Figure 5). In northwestern Maine, 15.33 inches of rainfall, or 128.49% of normal summer/fall precipitation, is required within the next three months to return to normal conditions. However, all drought conditions in Maine are expected to improve within the next three months 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>
- 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>

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