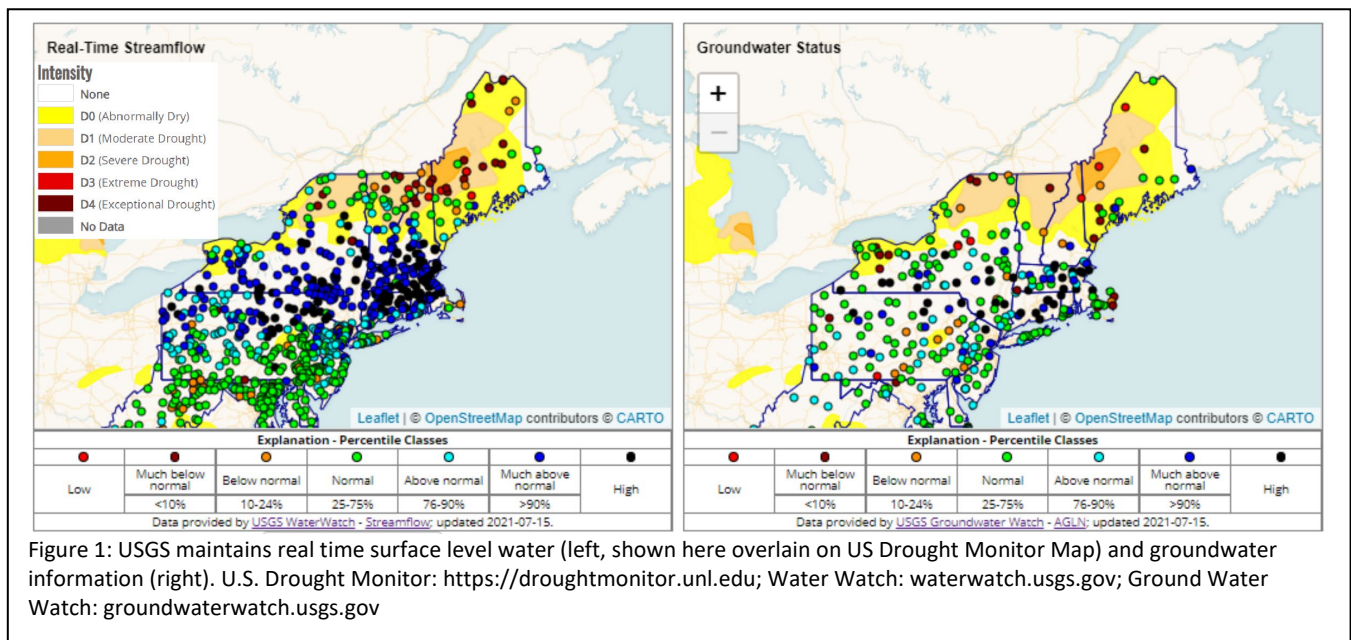


## State of Maine Drought Task Force Report on Current Hydrologic Conditions July 15, 2021

**Overview:**

- Conditions in Maine have improved somewhat since June: 88.23% of the state is Abnormally Dry with 33.86% in Moderate Drought and 8.06% in severe drought.
- Extra-tropical rain at the end of last week improved storage conditions somewhat in the Union River and the St. Croix but did little good in the headwater storages of the Penobscot, Kennebec and Androscoggin Rivers.
- Rainfall from Elsa brought increases in streamflow, but only for stations within 50-75 miles of the Maine coast.
- Persistent showers have reduced the need for supplemental irrigation of crops in many areas.
- Please direct private well owners facing drought-related issues to the Dry Well Survey: <https://maine-dry-well-survey-maine.hub.arcgis.com/>. 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.



The US Drought Monitor has classified 88.23% of the State of Maine as D0 (Abnormally Dry) status (Figure 1), with 33.86% of this area elevated to Moderate Drought (D1) status and 8.06% of this area in severe drought. **Drought conditions have rapidly intensified in the last two weeks and this trend is expected to continue into summer. In response to escalated drought, the Maine Emergency Management Agency has published an online survey for home owners to report private wells running dry and opportunities for assistance:** <https://maine-dry-well-survey-maine.hub.arcgis.com/>.

The Maine Drought Task Force convened with a virtual meeting on June 30 and will continue meeting on a monthly schedule until there is persistent evidence that drought is no longer a risk. 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***

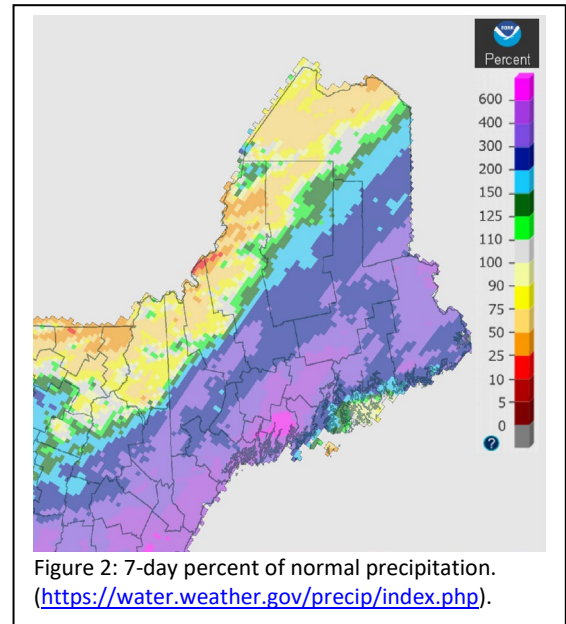
Rainfall from Elsa brought increases in streamflow, but only for stations within 50-75 miles of the Maine coast. Stations in the western mountains remain below normal, in an area that was showing the worst of Maine's drought conditions. Coastal stations showed significant increases in streamflow due to Elsa's rain and most are above normal, but have started to recede into the normal range. Conditions in northern Maine are variable, with the Allagash and Fish River basins showing below normal conditions.

### ***Ground Water***

Varying amounts of recharge were observed in most of the wells along the coast due to rainfall from Elsa. Fast-responding wells in Litchfield and Calais showed significant amounts of recharge, while wells in Sanford, North Windham and Amherst showed smaller amounts of recharge. This recharge brought many wells into the normal range, while inland wells remain below normal.

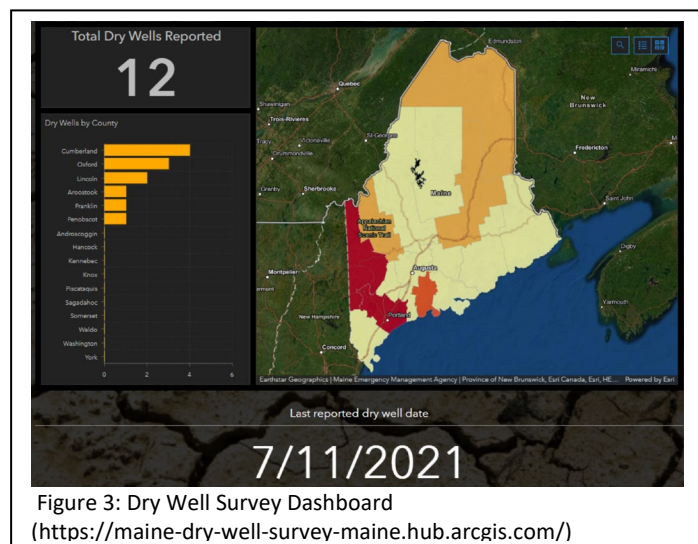
### ***Public Water Systems***

The Maine CDC Drinking Water Program (DWP) is receiving requests for assistance from public water systems (PWSs) statewide on drought preparedness and response including bulk water delivery. 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 and coastal areas.



### ***Dry Wells***

Twelve dry private wells have been reported in Aroostook, Cumberland, Oxford, Lincoln, Franklin, and Penobscot counties (Figure 3). At this time, Maine homeowners with dry wells are encouraged to report this information to the Dry Well Survey: <https://maine-dry-well-survey-maine.hub.arcgis.com/>. 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](#).



### ***Headwater Storage Levels:***

At present, hydro operators are aware of continued dry conditions:

- **Androscoggin River** – Storage conditions in the upper Androscoggin River basin are reported to be 70.1% full this week, which is 18.7% below the long-term average. Flow reductions at the upper reservoirs remain in place until mid-month, in support of the loon nesting season. July 11 recreational flows were curtailed due to the ongoing drought; flows down river remain stable.
- **Presumpscot River** – The Sebago Lake region reports 2.7” rainfall at the end of last week, and the water level in Sebago Lake responded with a slight increase to 264.83 feet. Flow remains at 270 cfs until July 15 in support of anadromous fish migration.

- **Penobscot River** – Total storage in the West Branch Penobscot remain below the long-term average for this time of the year. Ripogenus storage is below levels measured in 2020 and continues to drop as water is allocated to the North Twin impoundment. The four small storage reservoirs continue to show a slight downward trend. Water level requirements in the small storage reservoirs are still not met, however impounded water levels will continue to be managed lower than license requirements in order to protect downstream river habitats to the extent possible.
- **Union River** – Storage in the Union River is slightly improved with the water level in Graham Lake currently 0.78 feet below the long-term average for this time of the year, an improvement over the last reporting period.
- **Kennebec River** – Storage conditions in the upper Kennebec River basin are reported to be 82.4% full, which is 10.3% below the long-term average for this time of the year. Water levels remain low in the three major reservoirs for this drainage and some recreational flows are curtailed so water can be reserved to support habitats.
- **St. Croix River** – The East Branch St. Croix is reportedly 86% full and the West Branch is 80% full, with total river flow below Woodland at 2700cfs. Woodland saw 3.5 inches and Vanceboro saw 4 inches of rain last week.

Extra-tropical rain at the end of last week improved storage conditions somewhat in the Union River and the St. Croix but did little good in the headwater storages of the Penobscot, Kennebec and Androscoggin Rivers.

While not headwater storage conditions, DEP is reporting low flow conditions in a number of northern Aroostook County rivers, including the Aroostook River in Washburn, the Little Mad River, and the Fish River in Fort Kent. The Meduxnekeag River, located southern Aroostook County is reported at just about average flow.

#### **Weather Outlook:**

The first two weeks of July have put a dent into the precipitation deficits seen across southern Maine where locations observed 1 to 2 months worth of rainfall from July 1 through 13<sup>th</sup> (Figure 4). Unfortunately, the rainfall from Tropical Storm Elsa was concentrated along the coastal counties, limiting recharge in the headwaters of Maine's primary watersheds. Northern and mountain regions did observe near to below normal rainfall during this period, therefore annual rainfall deficits remain unchanged.

According to the National Weather Service's Climate Prediction Center, probabilities slightly favor below normal precipitation across Maine over the next 6-10 days (Figure 5). In addition, probabilities slightly favor seasonally warmer temperatures over the next 6-10 days, potentially increasing evapotranspiration and subsequent drying.

The weather pattern will be more active over the next week, with several periods of rainfall interspersed with sunny breaks. The first storm will move through from the north over the weekend, with a second forecast to move through southern Maine early next week. The next chance for widespread rainfall across the state will be Wednesday or Thursday of next week. Right now, the exact timing and location of these weather systems is not well-defined, but it looks like the southern portion of the state will receive more rainfall, in particular from the system expected to move through early next week. Overall, most of the state is expected to receive around an inch of rain through next Thursday, with northeast Aroostook County expecting a little less, around half an inch. Temperatures during this period will be around normal for the most part, with the sunny breaks possibly rising just above normal.

As of this week, yearly precipitation departure is -5.42 inches in Portland, -4.45 inches in Augusta, -7.76 inches in Rangeley, -3.80 inches in Bangor, -2.24 inches in Caribou, -3.82 inches in Houlton, and -5.96 inches in Millinocket.

The precipitation outlook can change rapidly during late summer, especially during an active tropical season. All interests should monitor both weather forecasts and hydrologic factors as conditions progress.

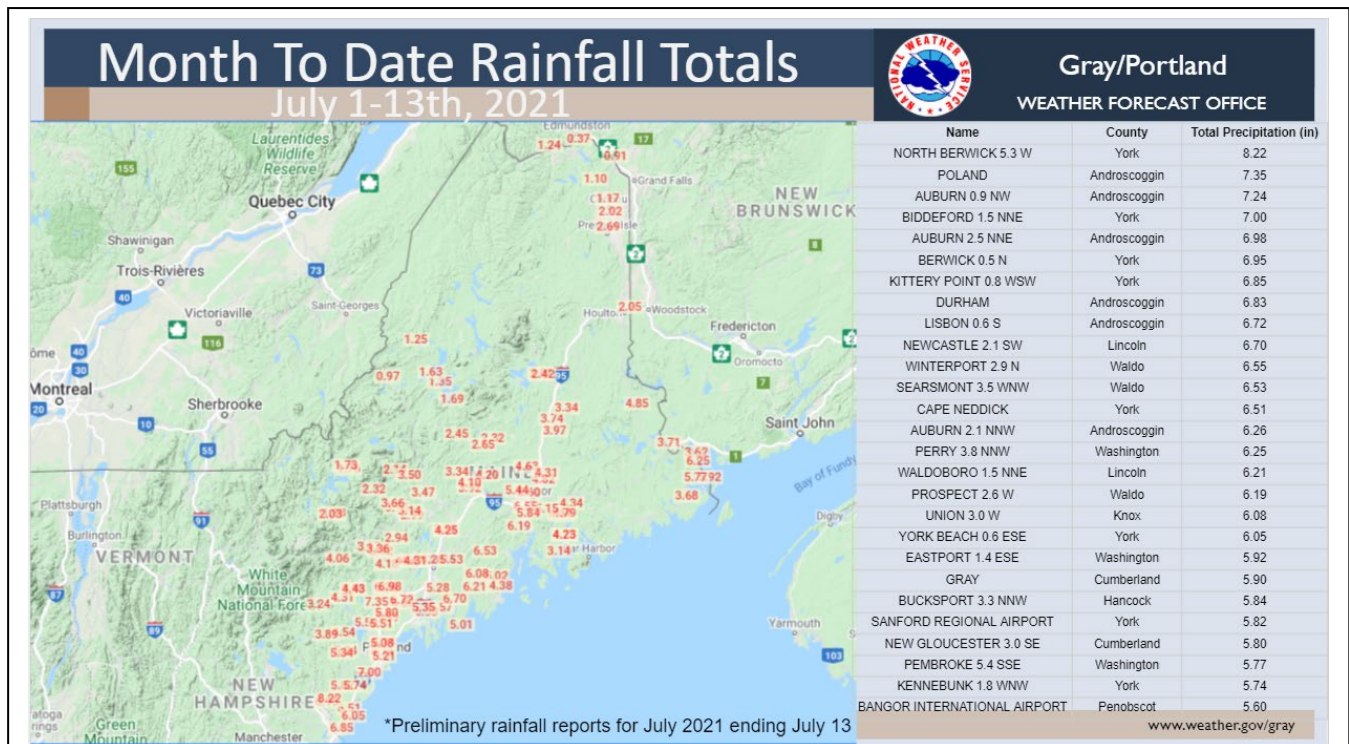


Figure 4: Month-to-date rainfall totals.

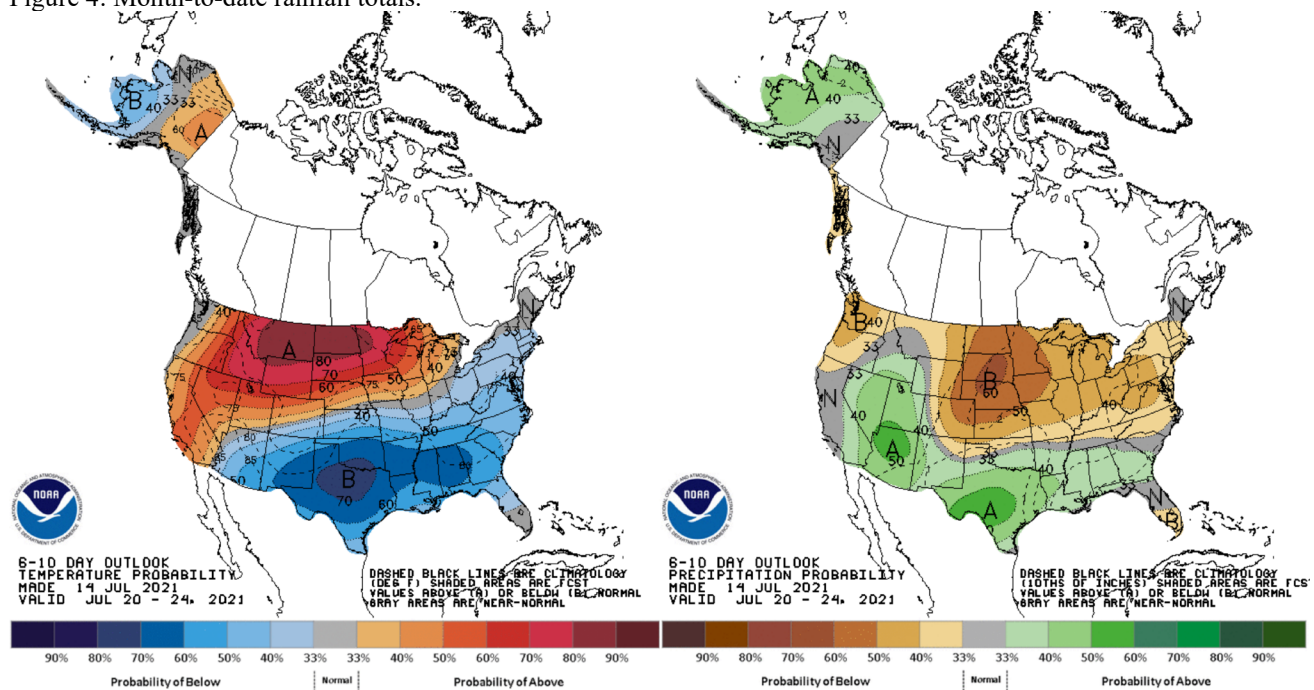


Figure 5: 6-10 day outlook, temperature (left) and precipitation (right) probabilities relative to climate normals. Visit National Weather Service’s Climate Prediction Center for updated drought status and outlook: [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)

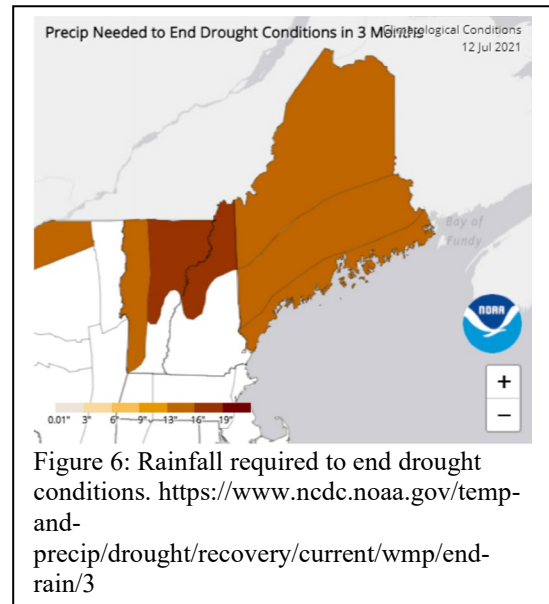
**Drought Outlook:**  
**Wildfire conditions**

Trends in wildfires are currently paralleling events during last year’s drought. Maine Forest Service will continue to watch for lightning strikes in preparation for any further events during this season.

**Agricultural Conditions**

Persistent showers have reduced the need for supplemental irrigation of crops in many areas. Recent lack of rain was worrisome for apple and vegetable growers until soil moisture conditions improved with substantial rainfall over the Fourth of July weekend.

Currently all 16 counties in Maine are partially or completely classified as Abnormally Dry (D0), 7 of these are experiencing Moderate Drought (D1), and 3 are experiencing Severe Drought (D2). A substantial amount of precipitation is needed to end current dry conditions (Figure 6). In northern Maine, more than 15 inches of rainfall, or 127% of normal spring/summer precipitation, is required within the next three months to return to normal conditions. **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/](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>

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

<b>Samuel Roy</b> , Maine Emergency Management Agency	Drought preparedness and mitigation	Samuel.roy@maine.gov
<b>Nick Stasulis</b> , USGS	Streamflow, groundwater levels	nstasuli@usgs.gov
<b>Sarah Jamison/Donald Dumont</b> , National Weather Service, Gray, Maine	Weather forecasting for southern and western Maine	gyx.hydro@noaa.gov

<b>Louise Fode/Joseph Hewitt</b> , National Weather Service, Caribou, Maine	Weather forecasting for northern and eastern Maine	<a href="mailto:Louise.fode@noaa.gov">Louise.fode@noaa.gov</a> <a href="mailto:joseph.hewitt@noaa.gov">joseph.hewitt@noaa.gov</a>
<b>Kathy Howatt/Nathan Robbins/Christopher Sferra</b> , Maine Dept. of Environmental Protection, Bureau of Land Resources	Dams/hydropower facilities and river basin management	<a href="mailto:Kathy.howatt@maine.gov">Kathy.howatt@maine.gov</a> , <a href="mailto:Nathan.p.robbins@maine.gov">Nathan.p.robbins@maine.gov</a> <a href="mailto:Christopher.Sferra@maine.gov">Christopher.Sferra@maine.gov</a>
<b>Susan Breau</b> , Maine Drinking Water Program	Public Water Utilities	<a href="mailto:Susan.breau@maine.gov">Susan.breau@maine.gov</a>