

## State of Maine Drought Task Force Report on Current Hydrologic Conditions June 17, 2021

### Overview:

- Conditions in Maine have degraded substantially, 100% of the state is Abnormally Dry with 40.38% experiencing Moderate Drought
- More than half of the streamflow gage stations in Maine with 30+ years of record are the lowest they've ever been for this time of year.
- The Maine Emergency Management Agency has published an online dry well survey, please distribute the following link to private well owners facing drought-related issues: <https://maine-dry-well-survey-maine.hub.arcgis.com/>. Also, 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.
- Low income homeowners with dry wells may be eligible to apply for assistance through the [USDA Single Housing Repair Program](#) or the [MaineHousing Home Repair Program](#).

On Thursday, June 17, 2021, the US Drought Monitor classified 100% of the State of Maine as D0 (Abnormally Dry) status (Figure 1), with 40.38% of this area elevated to Moderate Drought (D1) status. The area affected by dry conditions has increased by 34.65% from two weeks ago and the Moderate Drought condition has entered the state for the first time this year. **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 will proceed with a virtual conference beginning on June 30 and continue monthly 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. Factors such as stream flow, groundwater levels, reservoir levels, soil moisture, and weather forecasts are being monitored closely. **Task Force partners will report any drought-related impacts for which they are notified.**

### Current Hydrologic Conditions:

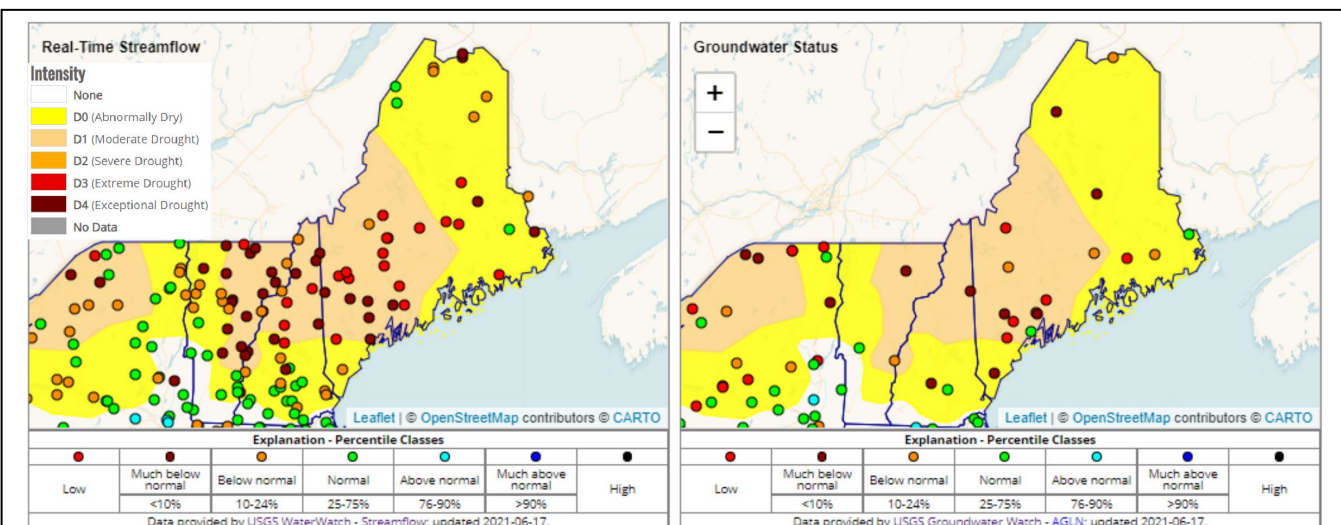


Figure 1: USGS maintains real time surface level water (left, shown here overlain on US Drought Monitor Map) and groundwater information (right). U.S. Drought Monitor: <https://droughtmonitor.unl.edu>; Water Watch: [waterwatch.usgs.gov](http://waterwatch.usgs.gov); Ground Water Watch: [groundwaterwatch.usgs.gov](http://groundwaterwatch.usgs.gov)

### Stream Flows

Real-time stream flows vary statewide from normal to low, with the majority much below normal to low (Figure 1). As of June 15, more than half of the streamflow gage stations in Maine with 30+ years of record are the lowest they've ever been for that day. Many are lower than they were during the drought last June. Stream flows in northern Maine are normal to much below normal, in eastern Maine stream flows range from normal to low, in western Maine stream flows are below normal to low, and in southern Maine stream flows are below normal to low. Streamflow conditions have degraded in many of these locations due to less than normal precipitation across most of the state within the past week (Figure 2). Precipitation deficits are greatest on the coast and in southern Maine.

### Ground Water

Groundwater recharge has been variable statewide relative to historic springtime averages, but overall conditions continue to degrade. Water levels trend normal to much below normal across the state, but the majority of these are much below normal to low (Figure 1).

There are currently no water quantity issues reported to the Drinking Water Program from Maine public water suppliers. There are, however, reports of increased drought preparedness activities in the southern part of the state.

Dry private wells have been reported in Aroostook and Cumberland Counties. 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](#).

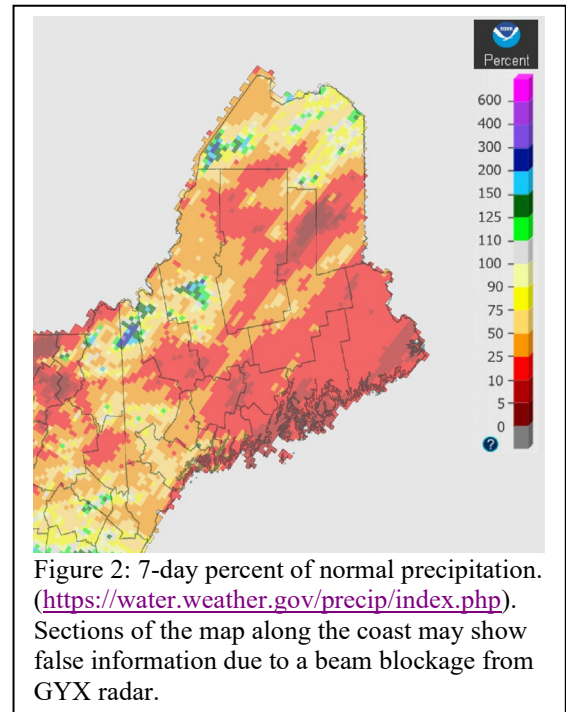


Figure 2: 7-day percent of normal precipitation. (<https://water.weather.gov/precip/index.php>). Sections of the map along the coast may show false information due to a beam blockage from GYX radar.

### Headwater Storage Levels:

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

- **Androscoggin River** – Upper basin storage conditions are reported as 75.4% full, which is 17.6% below the long-term average and continuing to fall. Flow at the upper storage reservoirs was reduced last week to preserve lake water levels in support of environmental resources including loon nesting and tributary access for fish. River flow is reported as stable.
- **Presumpscot River** – The water level in Sebago Lake is currently 265.09 feet, which is 1 foot 7 inches below the spillway crest and a decrease of 2 inches since Sunday 13 June. Downstream flow remains at 270 cfs.
- **Penobscot River** – Total storage conditions in the West Branch Penobscot continue to be lower than the long-term average for this time of the year and lower than storage conditions measured in the basin in 2018. Storage conditions at Ripogenus are lower than measured storage last year at this time and continue to trend downward. Storage conditions at North Twin appear stable. Flow at the downstream hydroelectric projects are being managed to protect migrating fish and provide flow sufficient to continue operation of the fish passage facilities on the Stillwater Branch as well as the main stem.
- **Union River** – Storage in the Union River reservoir at Graham Lake is 1.73 feet below the long-term average for this time of the year.

- **Kennebec River** – Storage in the Kennebec River is reportedly 88.8% full, which is 7.3% below the long-term average for this time of the year. Water levels in the major storage reservoirs are down a little more than a foot.
- **St. Croix River** – Reservoirs on the east side of the St. Croix River are currently 84.3% full and those on the west branch are 80% full. Flow last week was increased to 953 cfs in response to locally heavy rain but are now being cut back again.

**Weather Outlook:**

According to the National Weather Service’s Climate Prediction Center, probabilities slightly favor normal precipitation across Maine over the next 6-10 days (Figure 3). In addition, probabilities slightly favor seasonally warmer temperatures over the next 6-10 days, potentially increasing evapotranspiration and subsequent drying.

Some showers and thunderstorms are expected to bring about 0.5" of precipitation to northern Maine through June 16. A drying trend follows and will last until the weekend. The next chance for precipitation occurs next weekend but precipitation amounts are uncertain at this time.

Last week’s heavy precipitation in Hancock and Washington counties did not improve the drought for two reasons: the localized nature of the storms, and the duration over which the heavy rain fell. The heavy rainfall accumulated so quickly that the ground did not have time to absorb it, so most of the precipitation ran off, causing flash flooding. To end a drought, precipitation across a broad area is needed to return groundwater to normal levels. The storms that brought rainfall to the Downeast were highly localized over Winter Harbor, Machias and Bar Harbor and precipitation did not affect most of the region.

As of this week, yearly precipitation departure is -7.40 inches in Portland, -5.93 inches in Augusta, -5.86 inches in Rangeley, -6.66 inches in Bangor, -2.37 inches in Caribou, -3.42 inches in Houlton, and -4.91 inches in Millinocket.

There are no strong indicators of weather trends beyond this time frame. All interests should monitor both weather forecasts and hydrologic factors as conditions progress.

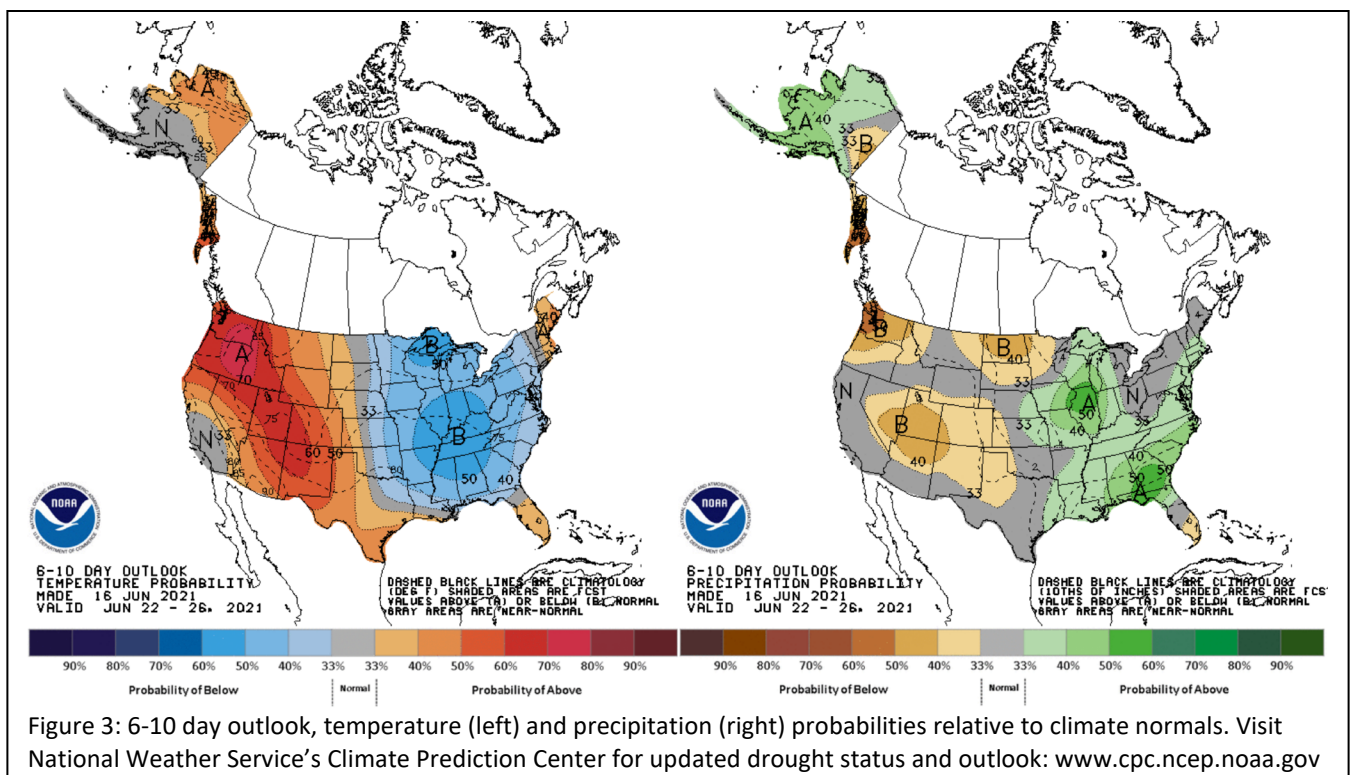


Figure 3: 6-10 day outlook, temperature (left) and precipitation (right) probabilities relative to climate normals. Visit National Weather Service’s Climate Prediction Center for updated drought status and outlook: [www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov)

**Drought Outlook:**

Currently all 16 counties in Maine are partially or completely classified as Abnormally Dry, with 12 of these experiencing Moderate Drought. A substantial amount of precipitation is needed to end current dry conditions (Figure 4). In northern Maine, more than 15 inches of rainfall, or 128% of normal spring/summer precipitation, is required within the next three months to return to normal conditions. Dry conditions are expected to linger given relatively dry conditions projected by NOAA for the next 6-10 days.

**The Task Force will continue to monitor abnormally dry conditions in the state until conditions broadly improve across Maine.**

**Conclusion:**

**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.

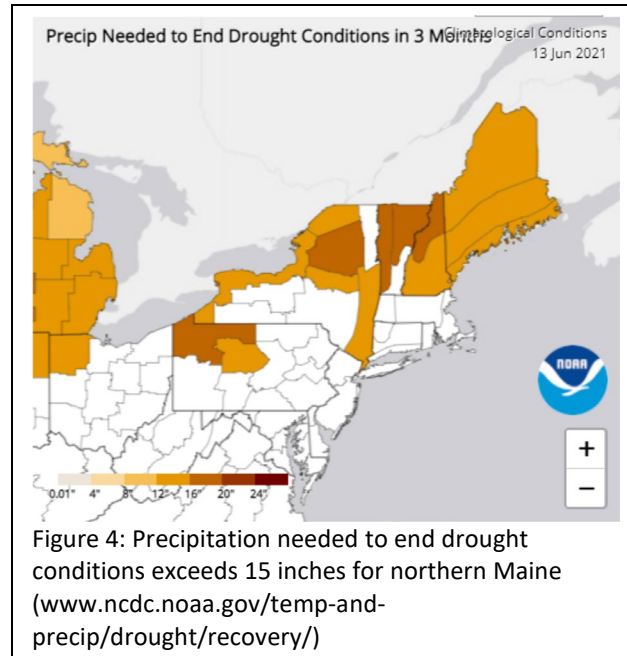
The Maine Drought Task Force is composed of representatives from major river basin management operations, utility operators as well as state agencies and federal agencies. The Task Force is convened when necessary based on drought threat.

Drought Task Force members will stay in close communication until the dry conditions subside. The United States Geological Survey (USGS) provides real time ground and surface water level data and the U.S. Drought Monitor Program provides weekly drought outlooks.

**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>



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