State of Maine
Drought Task Force
Report on Current Hydrologic Conditions
May 6, 2021

Overview:

On Thursday, May 6, 2021, the US Drought Monitor classified 54.69% of the State of Maine as D0 (Abnormally Dry) status (Figure 1), a reduction of 1% since last week. **Recent rainfall has temporarily paused the growth of abnormally dry conditions in the state, however there remains a substantial deficit in precipitation for this time of the year.** These conditions exceed the threshold required for activating the Drought Task Force (Task Force), as stated in MEMA's Emergency Operations Plan Drought Annex.

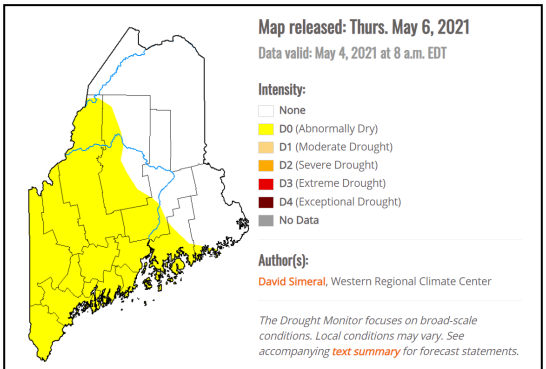

Figure 1: US Drought Monitor map released for the State of Maine, May 6, 2021. (https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?ME)

This report summarizes the information presented 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. We are proceeding with weekly communication between MEMA, USGS, NWS, DWP, and other drought monitoring partners to compile a weekly report on the status of drought in Maine. **Task Force partners will report any drought-related impacts for which they are notified.** This preliminary approach will continue until a more comprehensive activation is needed in response to specific drought-related impacts around the state.

Current Hydrologic Conditions:

Stream Flows

Current stream flows vary statewide from normal to much below normal (Figure 2). Recent rainfall in western and southern Maine has led to normal stream flows. Stream flows in central and northern Maine are largely below to much below normal, due in part to a lighter than average snowpack and earlier than average snowmelt in northern and mountainous regions. Stream flows in eastern Maine range from normal to below normal.

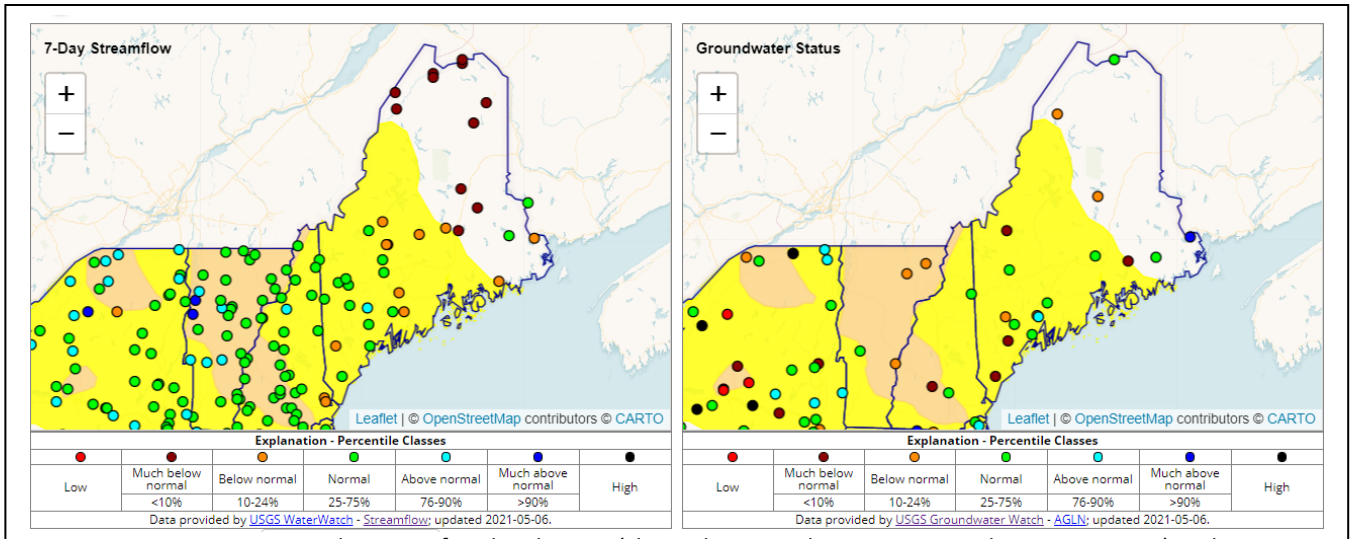

Figure 2: USGS maintains real time surface level water (shown here overlain on US Drought Monitor Map) and groundwater information. Water Watch: waterwatch.usgs.gov; Ground Water Watch: groundwaterwatch.usgs.gov

Ground Water

Groundwater levels vary statewide relative to historic springtime averages, from much above normal in Calais to much below normal for sites scattered across central, western, and southern Maine. Groundwater levels in northern and central Maine trend above normal to below normal, and ground water levels along coastal Maine trend normal to low.

There are currently no water quality issues reported to the Drinking Water Program from Maine public water suppliers. Any future drought-related impacts will be reported to the Task Force.

Headwater Storage Levels:

At present, hydro operators are aware of developing dry conditions and the upper storage impoundments are holding a little more water than the average for this time of the year where they can. The **Androscoggin River** storage reservoirs are 75.9% full, 3/9% above the long-term average. Flow is slowing in the upper reaches of the Androscoggin River, but flow at Auburn is stable. The **Kennebec River** storage reservoirs are 86.8% full, approximately 7.2% above the long-term average. The **Union River** storage is holding a water level of 102.7 feet, -0.6 feet below the long-term average and beginning to trend downward. Storage in the **West Branch Penobscot River** is less than rule curve and less than the long-term average for this time of year, Ripogenus storage remains on the low side of normal and less than this time last year. For the **Presumpscot River**, water levels at Sebago Lake is 264.98 feet, increasing 3.8 inches this week, but this remains below the long-term average. Outflow remains below the minimum flow (270 cfs). **St. Croix River** storage at Grand Falls Flowage is 90.8% full; Spednik Lake is 80% full, the West Branch is 85.5% full, and West Grand Lake is 83% full.

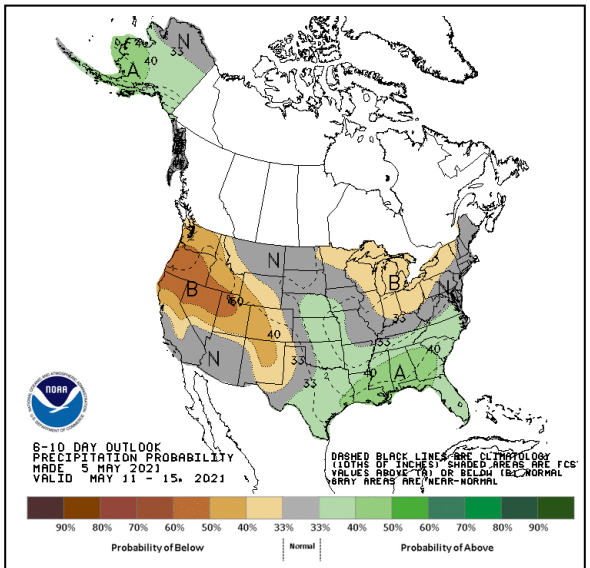

Figure 3: 6-10 day outlook, precipitation probability. For up to date information on the drought status and outlook check out the National Weather Service's Climate Prediction Center: www.cpc.ncep.noaa.gov

<u>Weather Outlook</u>:

According to the National Weather Service's Climate Prediction Center, probabilities slightly favor normal precipitation over the next 6-10 days (Figure 3). In addition, probabilities favor seasonally cooler temperatures over the next 6-10 days. Clearing, light winds, and cooler temperatures are expected through Friday. There will be a chance of peripheral showers Saturday to Sunday from an upper level low pressure system developing well east of Maine. Another area of low pressure is projected to cross southern New England, causing more showers and chilly conditions across the region from Monday to Wednesday. As this system departs further into next week, there is a higher chance for precipitation in the mountains.

As of May 6, yearly precipitation departure is -4.25 inches in Portland, -2.48 inches in Augusta, -2.71 inches in Rangeley. As of April 29, yearly precipitation departure is -5.13 inches in Bangor, -0.31 inches in Caribou, -4.85 inches in Houlton, and -3.6 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.

<u>Drought Outlook</u>:

Currently 15 counties in Maine are partially or completely classified as abnormally dry. Dry conditions are expected to improve in New England from now to August, according to the National Weather Service's Climate Prediction Center US Seasonal Drought Outlook. Dry conditions are expected to stabilize for Maine through the next month (Figure 4). **The Task Force will continue to monitor abnormally dry conditions in the state until conditions broadly improve across Maine.**

Conclusion:

The current information in this report represents a "snapshot" of conditions throughout the state as of May 6, 2021. 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 convene monthly to monitor the situation until warning indicators subside.

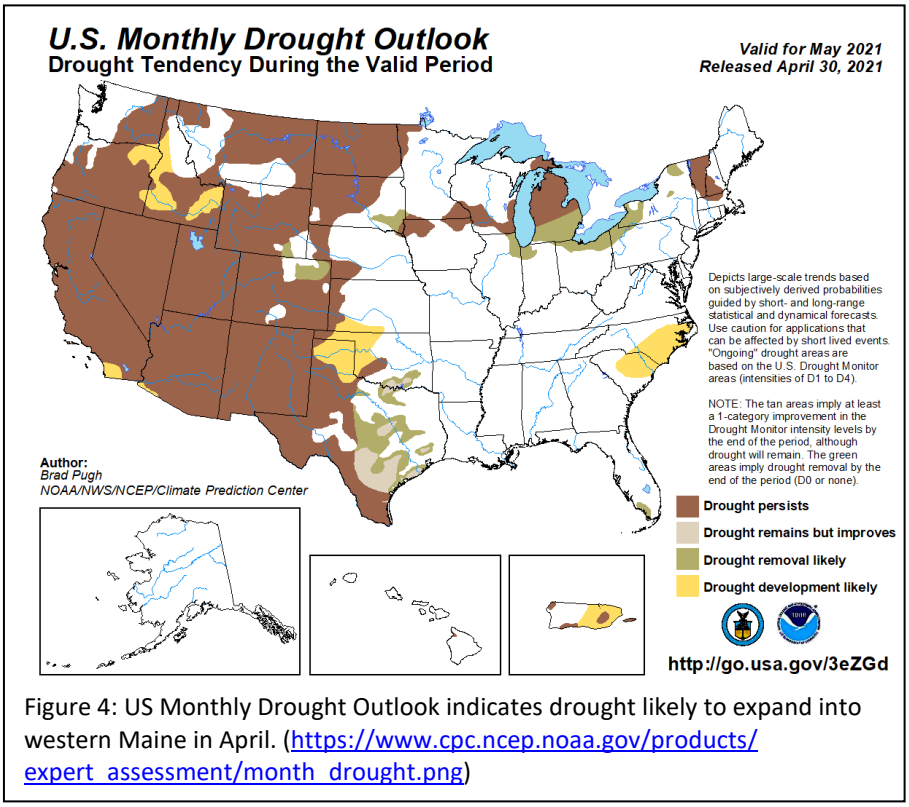

Figure 4: US Monthly Drought Outlook indicates drought likely to expand into western Maine in April. (https://www.cpc.ncep.noaa.gov/products/expert_assessment/month_drought.png)

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:

- 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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