State of Maine
Drought Task Force
Report on Current Hydrologic Conditions
October 21, 2021

Overview:

- This is the final scheduled Drought Task Force Update for 2021 due to reduced drought impacts in the state.
- According to the U.S. Drought Monitor: 19.74% of the state is Abnormally Dry (7 counties), 8.94% in Moderate Drought (5 counties), 6.56% in severe drought (3 counties).
- Though 35.24% of the state is experiencing abnormally dry or drought conditions by area, approximately only 5.6% of Maine's population resides in the impacted area.
- Stream gages and reservoirs in the Androscoggin and Kennebec River basins continue to show below normal to much below normal conditions. Other basins remain in a normal to above normal condition.
- Year to date precipitation deficits continue for most of the state. Seasonal temperature outlooks favor a warmer than normal winter.

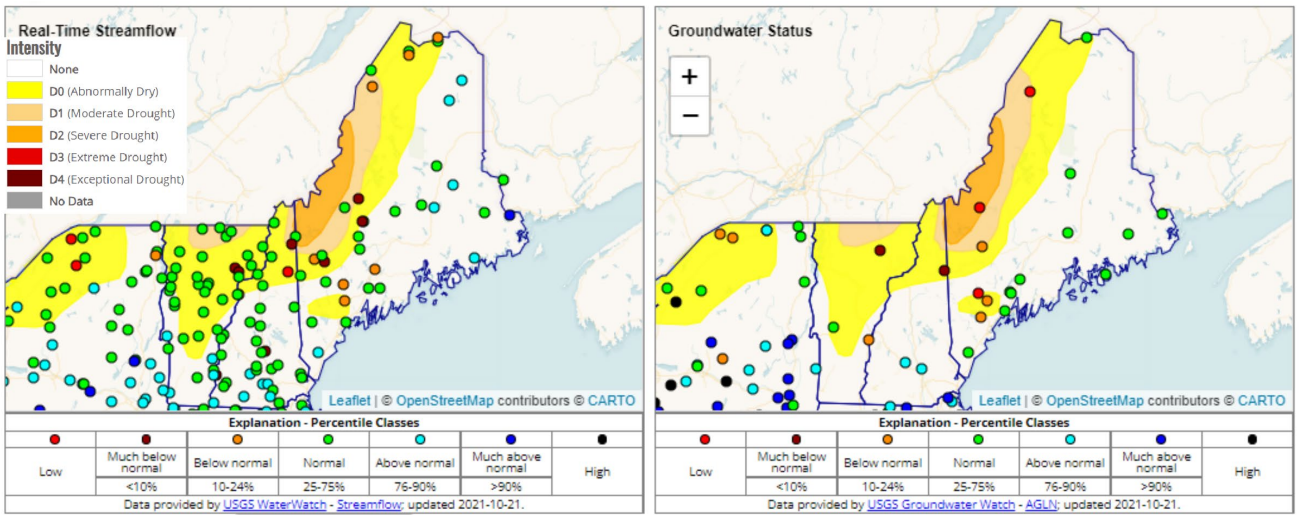

Figure 1: USGS maintains real time surface level water (left, shown here overlain on US Drought Monitor Map) and groundwater information (right). U.S. Drought Monitor: https://droughtmonitor.unl.edu; Water Watch: waterwatch.usgs.gov; Ground Water Watch: groundwaterwatch.usgs.gov, Northeast DEWS Dashboard: http://nedews.nrcc.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 Androscoggin and Kennebec River basins continue to show conditions in the Below Normal and Much Below Normal categories. This is similar to the conditions that have been reported in the last two reports. The St. John River basin has some gages showing Below Normal conditions as well, which is change from the last report. Eastern Maine and parts of the upper Penobscot basin are trending above normal. Long term stations (30+ years) showed overall worsening conditions in Main in mid-October, with 50% of those stations in a Below Normal category as of October 15, but recent rains have improved conditions.

Ground Water

As reported two weeks ago, groundwater levels along the New Hampshire border- up to the border with Canada in western/northwestern Maine- remain below normal. Monitoring wells in Oxford, Eustis and Clayton Lake are reporting record lows for the month of October based on historical data (20-40 years).Conditions have slightly worsened in this region, but otherwise, groundwater levels are in the normal range and unchanged from the last report.

Weather Outlook:

Much needed rain fell across the state mid October, however it wasn't enough to overcome the deficits of the recent dry spell. Rain showers will be prevalent Thursday night into Friday with a cold frontal passage, with very light accumulations. Conditions will turn cooler this weekend and through early next week due to troughing over the region. A quick warming trend is forecast by the end of the forecast as the upstream ridging shifts further to the east. The forecast calls for minimal widespread rainfall through the end of the month, so little to no improvements expected for area drought conditions.

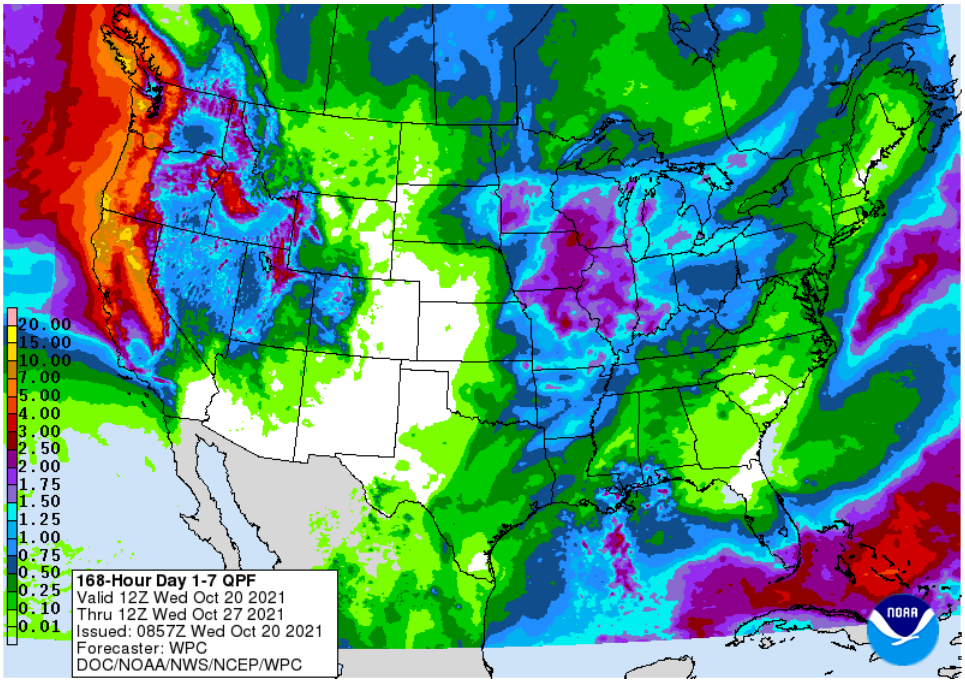

Figure 2: NOAA Day 1-7 Quantitative Precipitation Forecast
https://www.wpc.ncep.noaa.gov/index.shtml#

Table 1: Precipitation departures thru 10/20

Location	Departure for October	Departure, year-to-date
Caribou	-0.68	-1.91
Bangor	-1.79	-0.93
Millinocket	-1.08	-3.94
Portland	-1.64	-5.23
Rangeley	-1.77	-12.83

Looking further out in time, influences from potential tropical disturbances are decreasing and La Niña influences are increasing as we progress deeper into the fall and early winter. What does La Niña mean for Maine? A weak La Niña usually means it's a little snowier than normal; but a strong La Niña can mean it's less snowy than

normal. Currently a weak La Niña is projected which slightly favors a snowier winter. Temperature outlooks favor a warmer than normal winter.

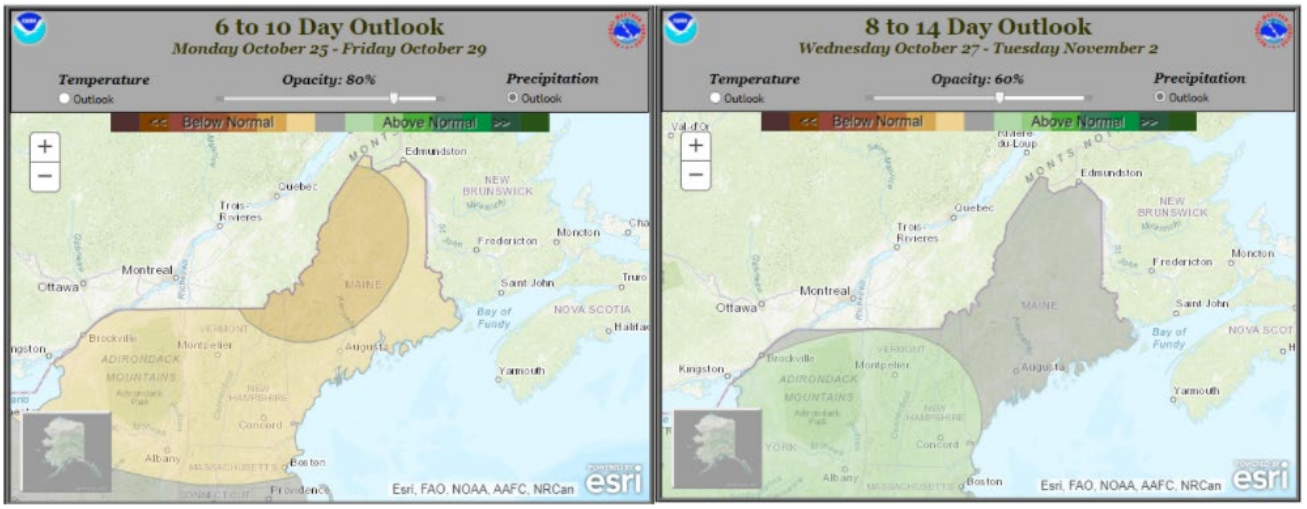

Figure 3: NOAA Climate Prediction Center Temperature and Precipitation forecasts https://www.cpc.ncep.noaa.gov/

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 263.4 feet, a decrease of 0.5" for the last two weeks. Flow from Sebago Lake is 408 cfs and improvement from previous flows at 270 cfs. Sappi continues to closely monitor conditions. Flows have been increased to meet minimum flows for this time of year.

- **Androscoggin River** – The Androscoggin River basin is 54.6% full which is 9.6% below the long term average which is a result of continued dry conditions. Rangely Lake is down 1.18 feet, Mooselookmeguntic is down 5.98 feet, Richardson Lake is down 7.18 feet, Aziscohos is down 16.24 feet and Errol is down 3.98 feet. Discharge is stable on the Lower Kennebec.

- **Kennebec River** – The Kennebec River basin is 66% full, 2.3% above the long term average for this time of the year. However, lake storage continues to decrease, Brassua is down 12.35 ft, Moosehead Lake is down 2.05 feet and Flagstaff Lake is down 4.98 feet. On the Lower Kennebec flows are stable, Solon is discharging 1500 cfs, Madison is discharging 1880 cfs and Weston is discharging 1755 cfs.

- **Penobscot River** – Total storage in the west branch of the Penobscot River remains 20% below the long-term average for this time of the year and natural inflows remain below average. 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, where water levels remain stable. Water levels in the four small storage reservoirs continue to decline.

- **Union River** – Storage conditions continue to improve in the Union River basin (at Graham Lake) and are 3.77 feet higher than the long term average for this time of the year as a result of changed operating conditions.

- **St. Croix River** –River managers are working to flow water out of the impoundments to achieve minimum lake elevations at East Grand Lake and West Grand Lake in order to protect Lake

Trout spawning habitat and egg incubation. East Grand is at 432.6 feet, Spednic is at 383.1 and West Grand is at 298.7 feet.

Drought Impact Sectors

Public Water Systems

The Maine CDC Drinking Water Program (DWP) has not received any new reports of water quantity issues from public water systems (PWSs) since mid-August. There are no reports of mandatory water use restrictions currently in effect.

Dry Wells

Twenty dry private wells have been reported in ten counties (Figure 4). At this time most reports are for dug wells, and the majority 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.

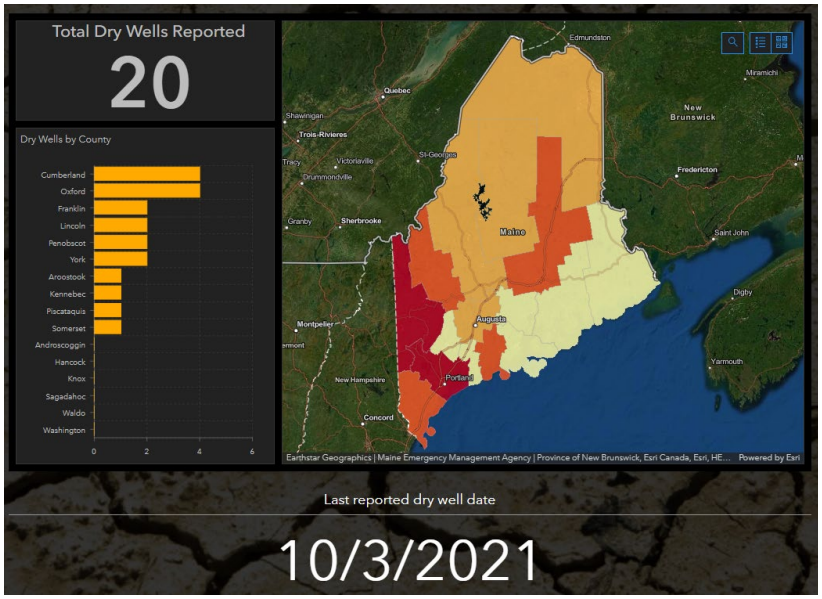

Figure 4: Dry Well Survey Dashboard (bit.ly/3iU6hvu).

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.

Wildfire conditions

Since January 1st, we have had 627 wildfires in Maine covering 372.4 acres. In the last two weeks, 2 fires have burned 3.2 acres. As we move through early fall, it is important to understand that fires, and sometimes large damaging fires, are still a threat. Fall brings leaf litter, reopened canopies for solar heating, drier fuels through lower relative humidity, as well as higher winds. 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

Agricultural conditions are reasonably good as we approach the end of the growing season. Potato harvest looks good for quality and quantity, with no major water use conflicts noted. Other crops are looking good, with the diminishing drought reducing the irrigation workload on producers

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 Oxford. Franklin, Somerset, and Piscataquis. Additionally, Aroostook, Penobscot, Androscoggin, Cumberland, York, Kennebec, and Waldo Counties are included under the disaster designation as “contiguous counties.” Secretarial Disaster Designations immediately trigger

the availability of low-interest FSA Emergency (EM) loans to eligible producers in all primary and contiguous counties. Applications for an EM loan will be accepted for 8 months from the date of the disaster designation.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.

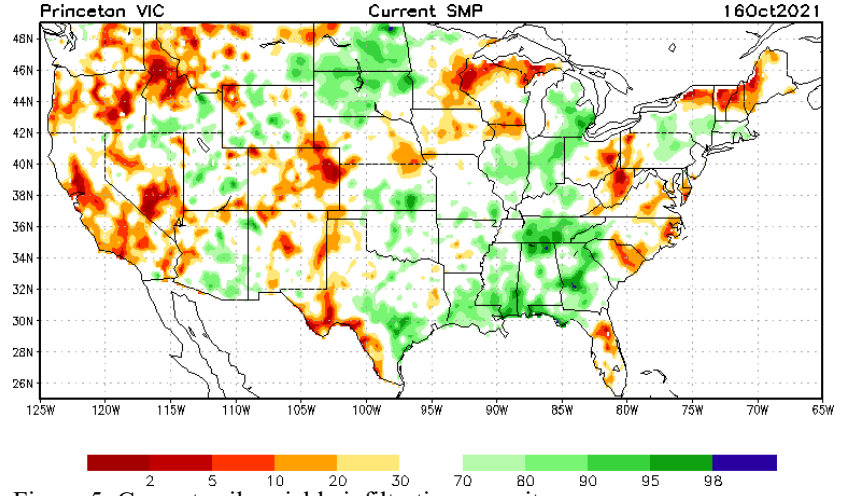

Figure 5: Current soil variable infiltration capacity: https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/smp.shtml#

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.

Drought Outlook

A substantial amount of precipitation is needed to end current dry conditions (Figure 6). In northern and western Maine, 14.31 inches of rainfall, or 139.14% of normal fall precipitation, is required within the next three months to return to normal conditions. *These drought conditions are now expected to improve in 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.**

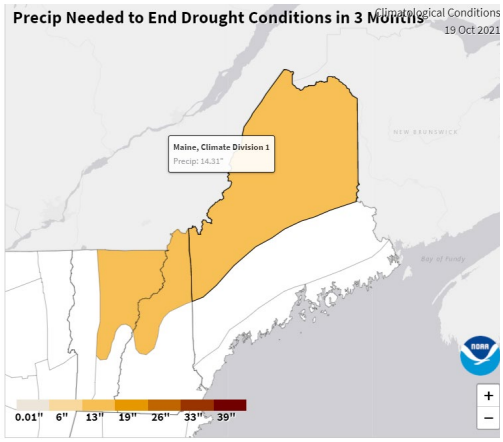

Figure 6: Rainfall required to end drought conditions. www.ncdc.noaa.gov/temp-and-precip/drought/recovery/current/wmp/end-rain/3

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.nrcc.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 local volunteer weather condition monitoring: https://www.cocorahs.org/maps/conditionmonitoring/index.html

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