



EXETER PUBLIC WORKS DEPARTMENT

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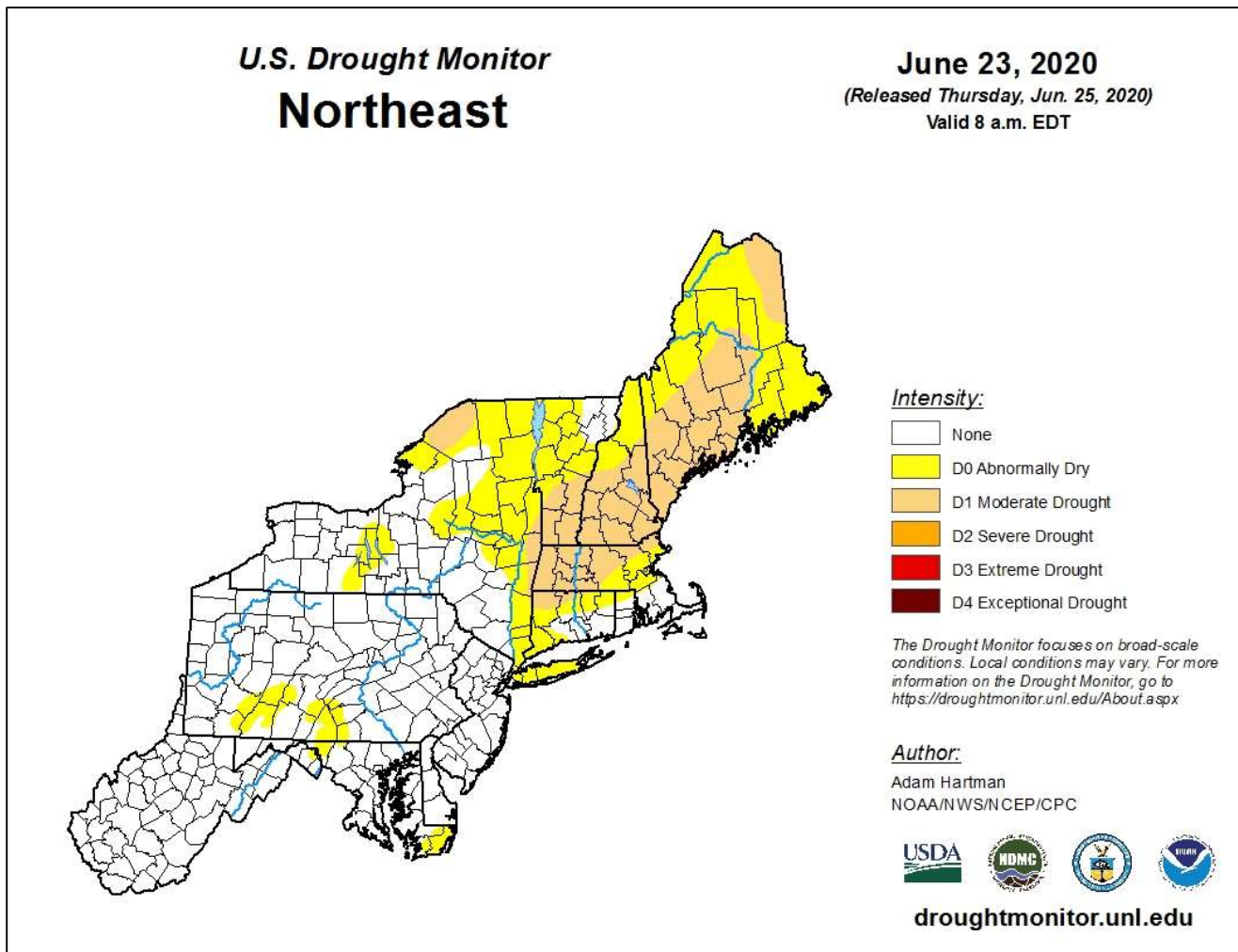
www.exeternh.gov

MEMO

DATE: June 25, 2020
TO: Russell Dean, Town Manager
FROM: Jennifer R. Perry, P.E., Public Works Director
RE: Water Resources Status Update & Recommended Water Use Restrictions

New Hampshire Drought Conditions

The U.S. Drought Monitor dated June 23, 2020, has elevated drought conditions from abnormally dry (D0) to **moderate drought (D1)**. Southeastern New Hampshire has been rated abnormally dry (D0) since May 26, 2020. Due to these conditions the State is implementing the Drought Management Plan, advising public water systems to implement outdoor water use restrictions where needed, and encouraging private well owners to conserve water.

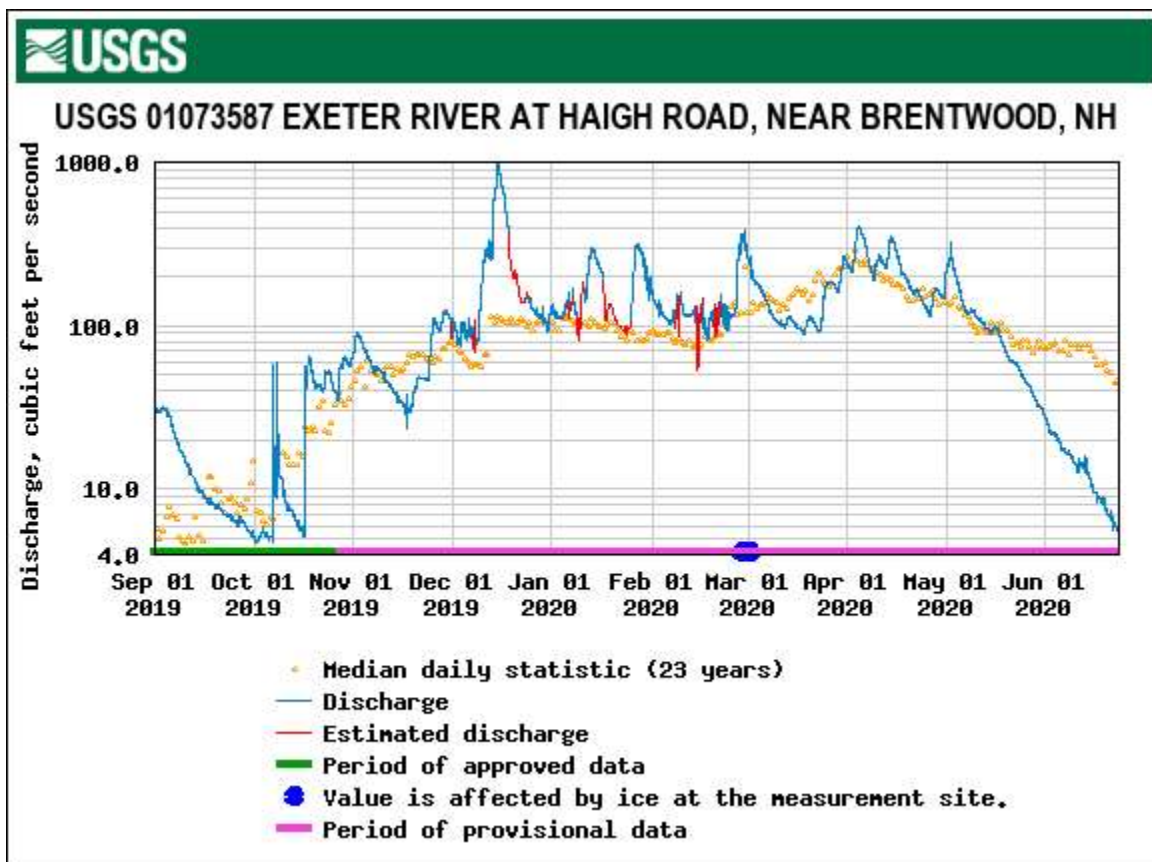


The U.S. Drought Monitor is jointly produced by the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration. Map courtesy of NDMC.

River Flow

June is typically the beginning period of declining flows in summer after spring runoff, however that period started in May this year due to lack of precipitation. The USGS stream flow gauge on the Exeter River at Haigh Road in Brentwood (drainage area 63.5 square miles) indicates current instantaneous discharge is 5.91 cubic feet per second (cfs) (at 12:15 pm on 6/23/2020). The water supply intake for the Town of Exeter is located several miles downstream, with a contributing watershed of 107 square miles. The flow rates at the intake location are estimated to be 1.69 times higher than at Haigh Road, or approximately 10 cfs.

Exeter River flow rates are considered **much below normal** for this time of year.



Groundwater Levels

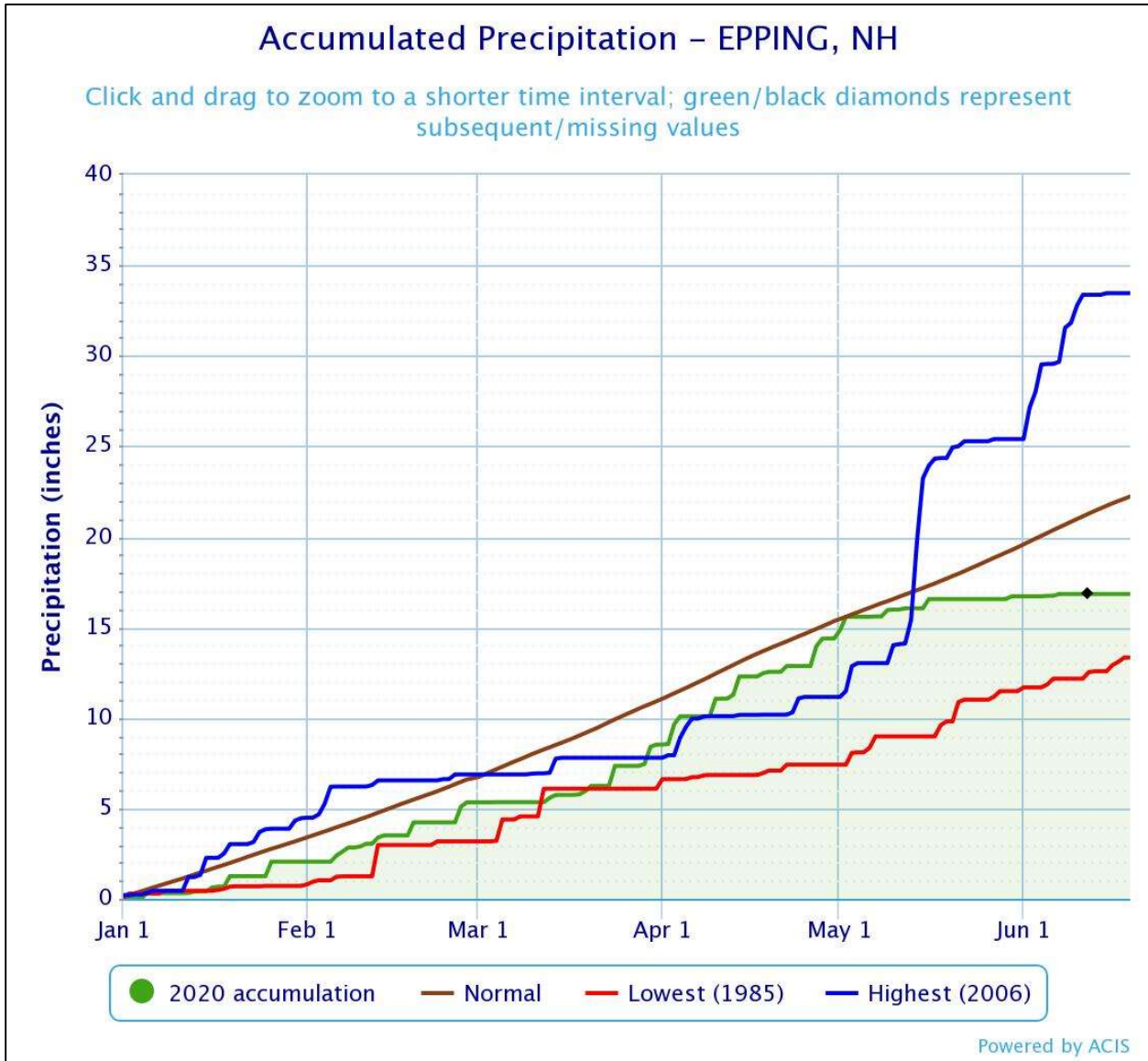
Groundwater levels for long-term monitoring wells in the region are declining. The USGS wells in Epping, Deerfield and Concord are below the 10th percentile mean for the month of June.

Current groundwater levels are considered **much below normal** for this time of year.

Precipitation

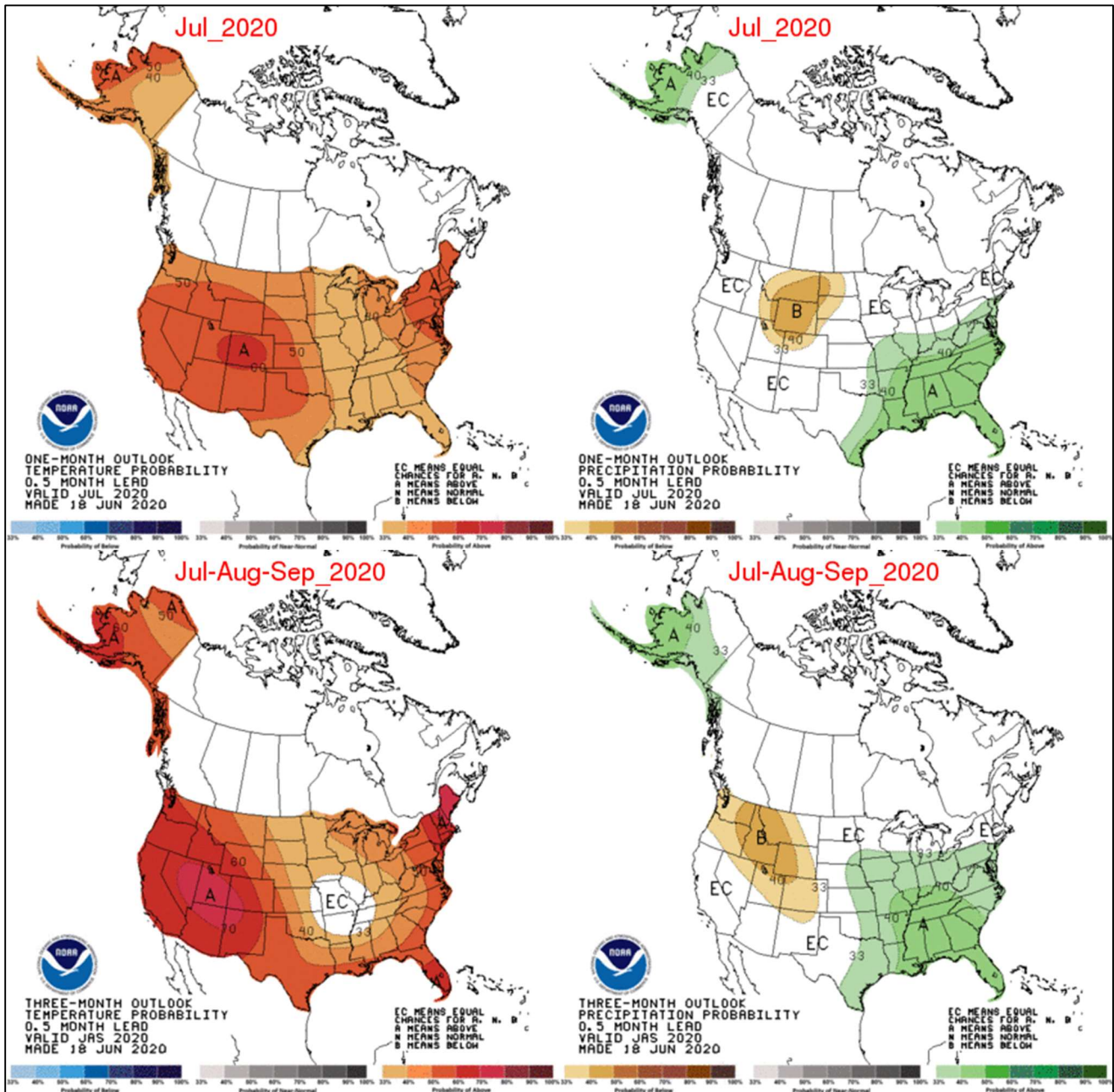
Total precipitation received since January 1 is 16.84 inches which is 5.26 inches below the normal of 22.10 inches (Source: National Weather Service NOWData for Epping, NH). Total annual precipitation averages 45.09 inches for this site (55 years of record). The last significant precipitation event occurred on May 16 (0.51 inches).

Precipitation is considered **much below normal** for the year and month.



Temperature and Precipitation Forecast

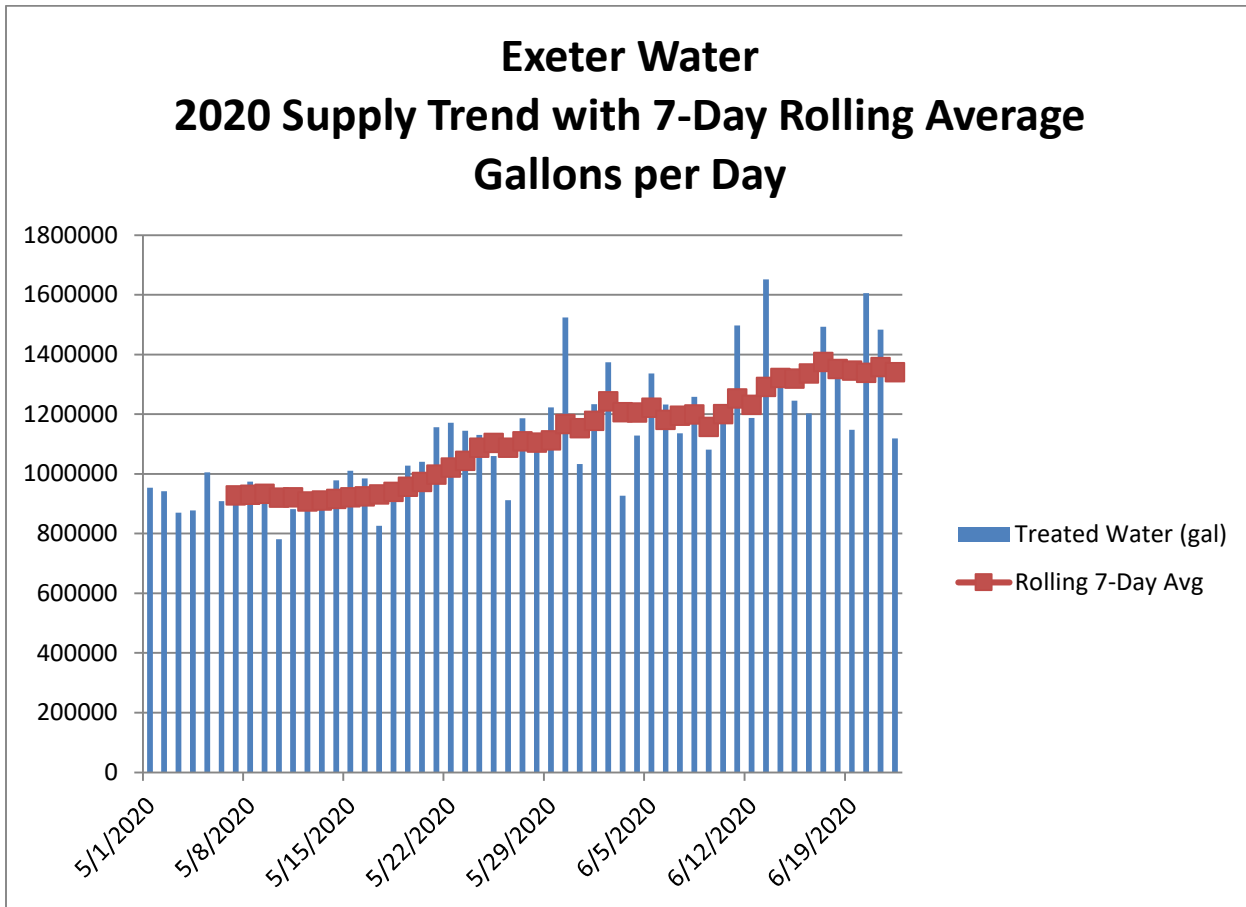
July and the 3 month outlook (July through September) temperatures are predicted to be above normal. The three month outlook from NOAA indicates equal chances for above, normal or below normal precipitation for July through September for the New England region.



http://www.cpc.ncep.noaa.gov/products/predictions/multi_season/13_seasonal_outlooks/color/churchill.php

Exeter Water Supply

Overall, water usage or demand in the Exeter public water system is **up 44% since May 1, primarily due to outdoor water use**. The seven day average in early May was 928,000 gallons per day; on June 23 it was 1,340,000 gallons per day. During this period the surface water treatment plant (SWTP) produced 40,979,642 gallons, supplying 69% of demand. The groundwater treatment plant (GWTP) produced 18,673,677 gallons, supplying 31% of demand.



Summary

Late spring temperatures have been above average; summer temperatures are predicted to be above average. Precipitation is well below normal. Surface waters and groundwater levels are declining and much below normal. The southern half of New Hampshire is in moderate drought (D1). Water usage is up 44% primarily due to outdoor water use.

Recommendation

In accordance with Exeter Town Ordinance 1610, Water Use Restrictions, the Public Works Department recommends the Select Board issue a Level 2 water restriction to conserve and maintain adequate reserves of the public water supply. Level 2 restriction limits landscape watering by odd numbered addresses on odd numbered days, even numbered addresses on even numbered days, and only allows landscape watering between 7 pm and 8 am. Water users are encouraged to practice effective water conservation. For helpful tips on water use and conservation go to <https://www.epa.gov/watersense>.