Drought Early Warning Update for the Northeast

June 26, 2020

Drought Emerging, Expanding, and Strengthening

This Drought Early Warning Update is issued in partnership between the National Oceanic and Atmospheric Administration (NOAA), U.S. Geological Survey, and the U.S. Department of Agriculture (USDA) to communicate concern for drought expansion and intensification within the Northeast U.S. based on recent conditions and the forecasts and outlooks. NIDIS and its partners will issue future Drought Early Warning Updates as conditions evolve.

This covers the following states in the Northeast U.S.: Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, and New York.

For more details, see the Northeast Drought Early Warning System Dashboard.

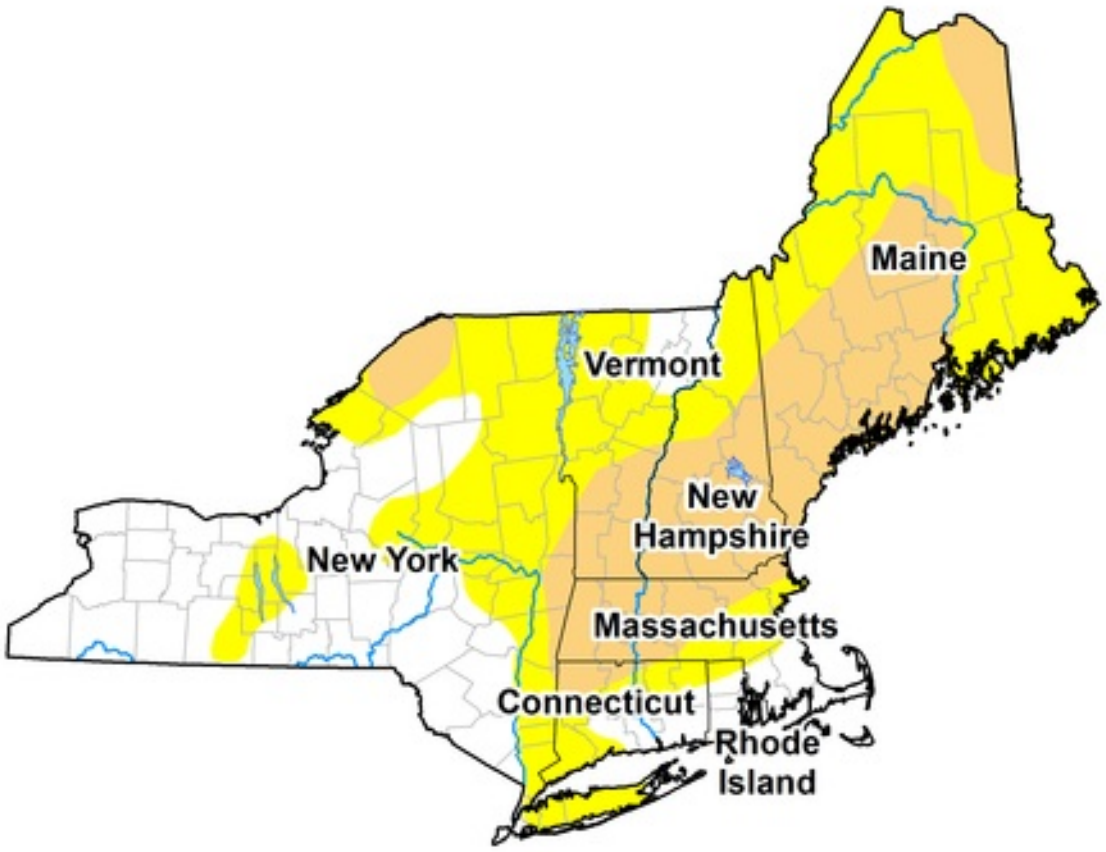
Key Points

- Moderate Drought (D1) has emerged throughout much of New England and the St. Lawrence Valley in New York, while Abnormally Dry (D0) conditions exist in eastern, northern, and central New York.
- Impacts include moisture stress on crops, low stream flows, soil moisture deficits, municipal water advisories/restrictions, fire danger, and burn bans.
- Weather forecasts indicate warm and dry conditions will persist. This may lead to intensifying drought conditions. Drought Task Forces and work groups are meeting to review their plans and monitor conditions/forecasts that may parallel the drought onset in the Northeast during the summer of 2016.

Current Conditions

U.S. Drought Monitor Conditions

- Moderate Drought (D1) has developed in 28.8% of the Northeast.
- Abnormally Dry (D0) conditions exist in 42.2% of the region.

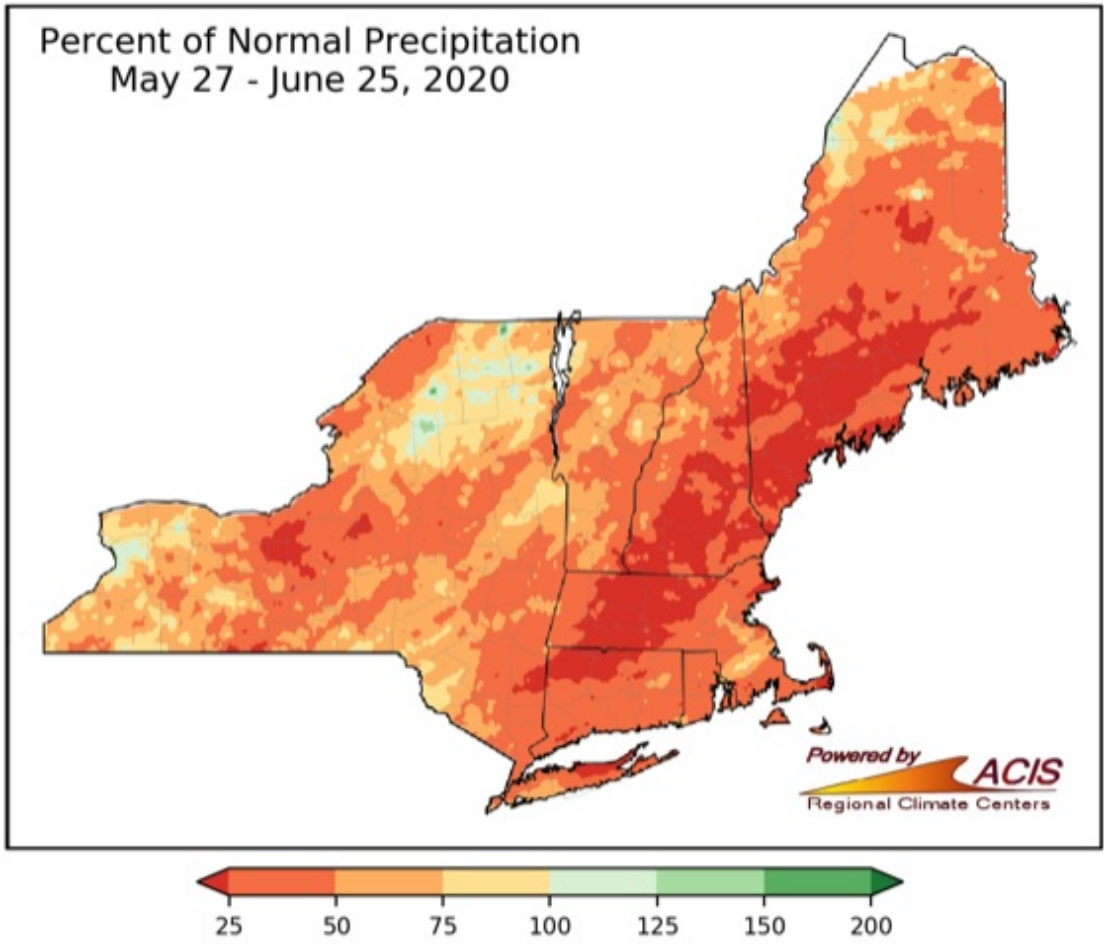


June 23, 2020 U.S. Drought Monitor Map: https://droughtmonitor.unl.edu/

30-Day Percent of Normal Rainfall

May 27-June 25, 2020

- Almost the entire region has had below-normal precipitation over the last 30 to 60 days. Worcester, MA, had its driest May 2-June 23 period on record, while Caribou, ME, had its driest June 1-23 period on record.
- Areas in dark red received less than a quarter of their normal precipitation for the past 30 days. Worcester, MA, recorded only two days with measurable precipitation from June 1-23, tying a record for the period.

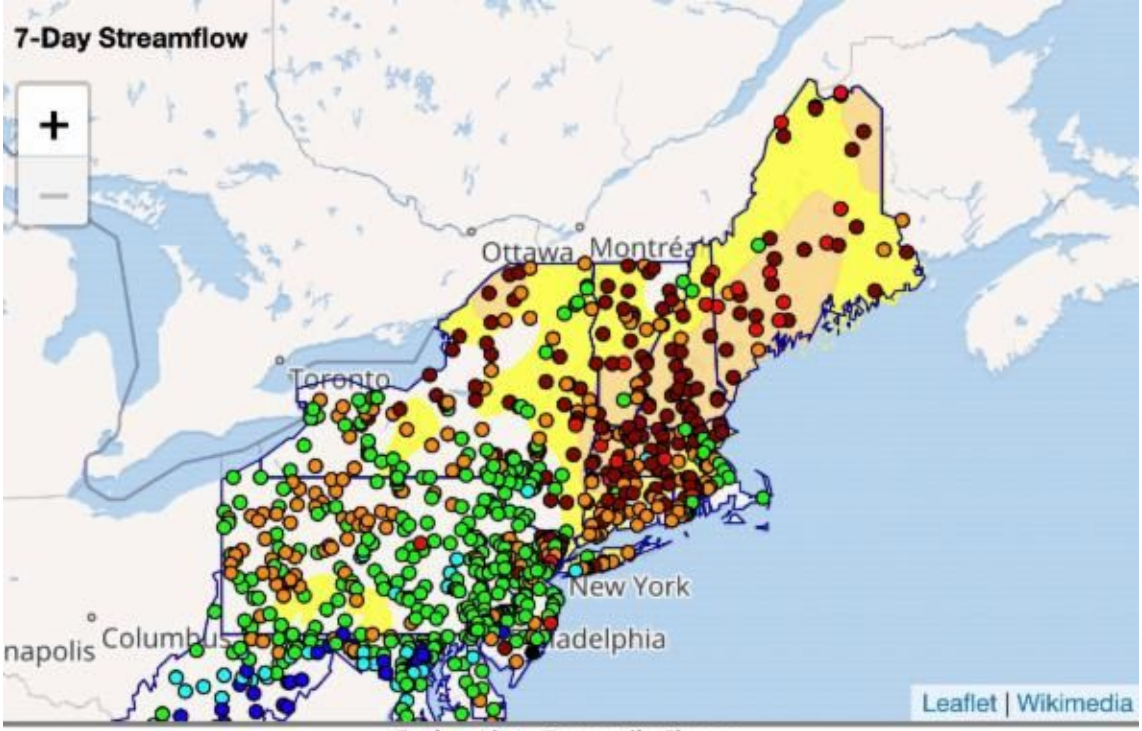


Northeast Regional Climate Center:
http://nedews.nrcc.cornell.edu/

USGS Streamflow and Groundwater

- Many streams have fallen into the low flow category (lowest 25% for this time of year). In the Northeast, such flows are more typical of low flows seen during late August through early October.

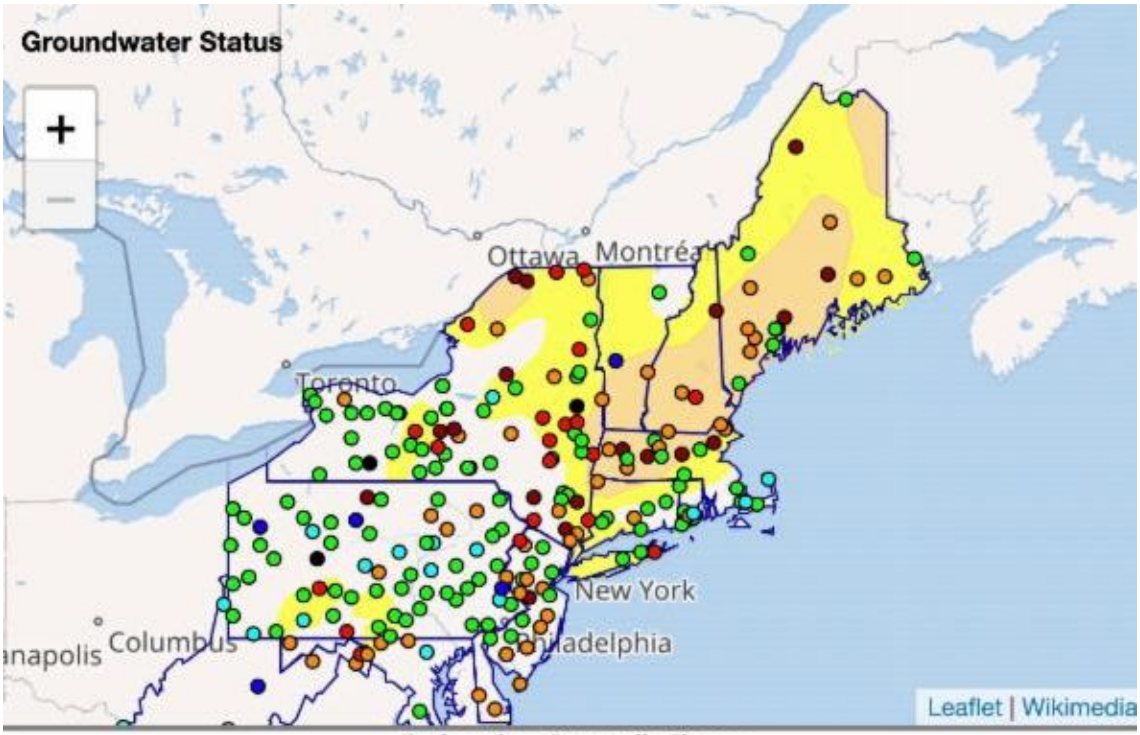
- Below normal groundwater levels are not as widespread as below normal streamflows, but levels are dropping quickly and typically lag behind streamflow in reaching their lowest levels.



Explanation - Percentile Classes

Low	Much below normal	Below normal	Normal	Above normal	Much above normal	High
	<10%	10-24%	25-75%	76-90%	>90%	

Data provided by USGS WaterWatch - Streamflow.



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Data provided by USGS Groundwater Watch - Climate Response Network.

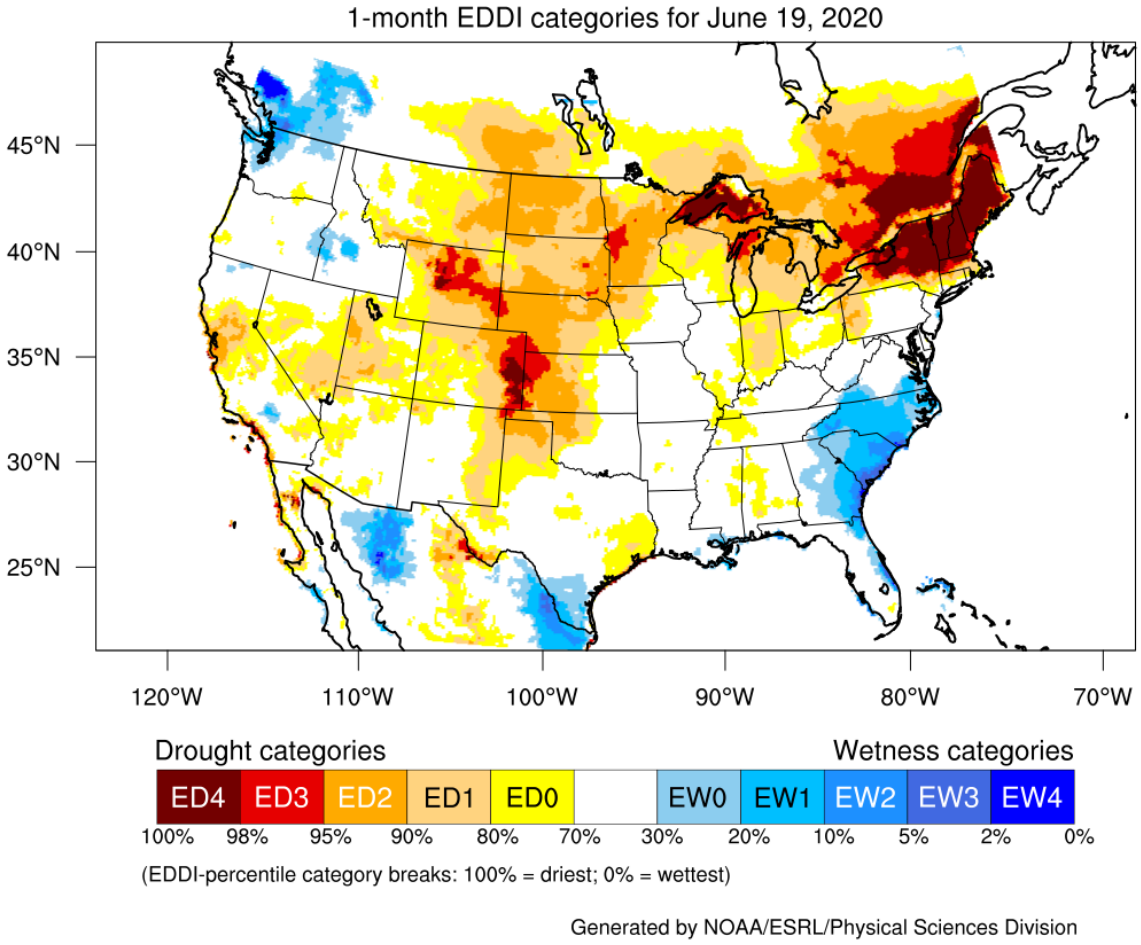
Evaporative Drought Demand Index (EDDI)

1-month EDDI for June 19, 2020

- In addition to a lack of precipitation, the amount of evaporation has been abnormally high. This combination has led to rapidly declining soil

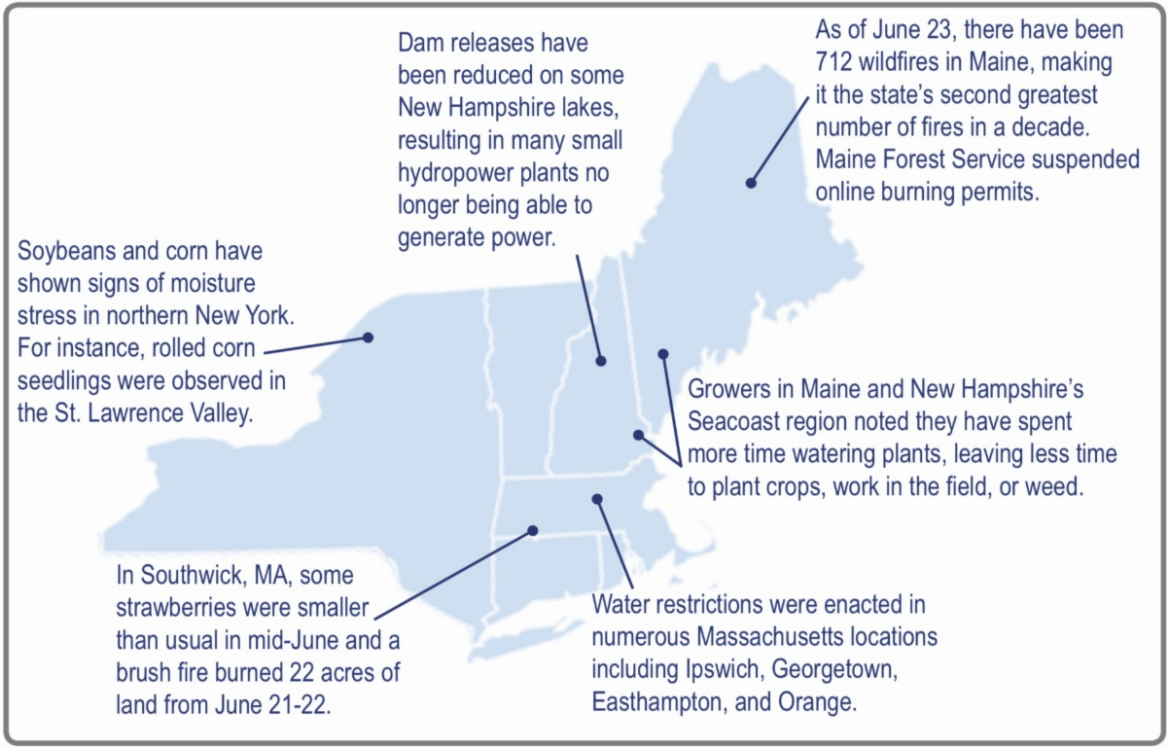
moisture and stressed crops.

- The Evaporative Demand Drought Index (EDDI) is an experimental tool that can serve as an indicator of rapidly evolving "flash" droughts. EDDI indicates that evaporation rates from mid-May to mid-June have been near the maximum possible in northern New York and New England.



EDDI Maps from NOAA ESRL: https://psl.noaa.gov/eddi/

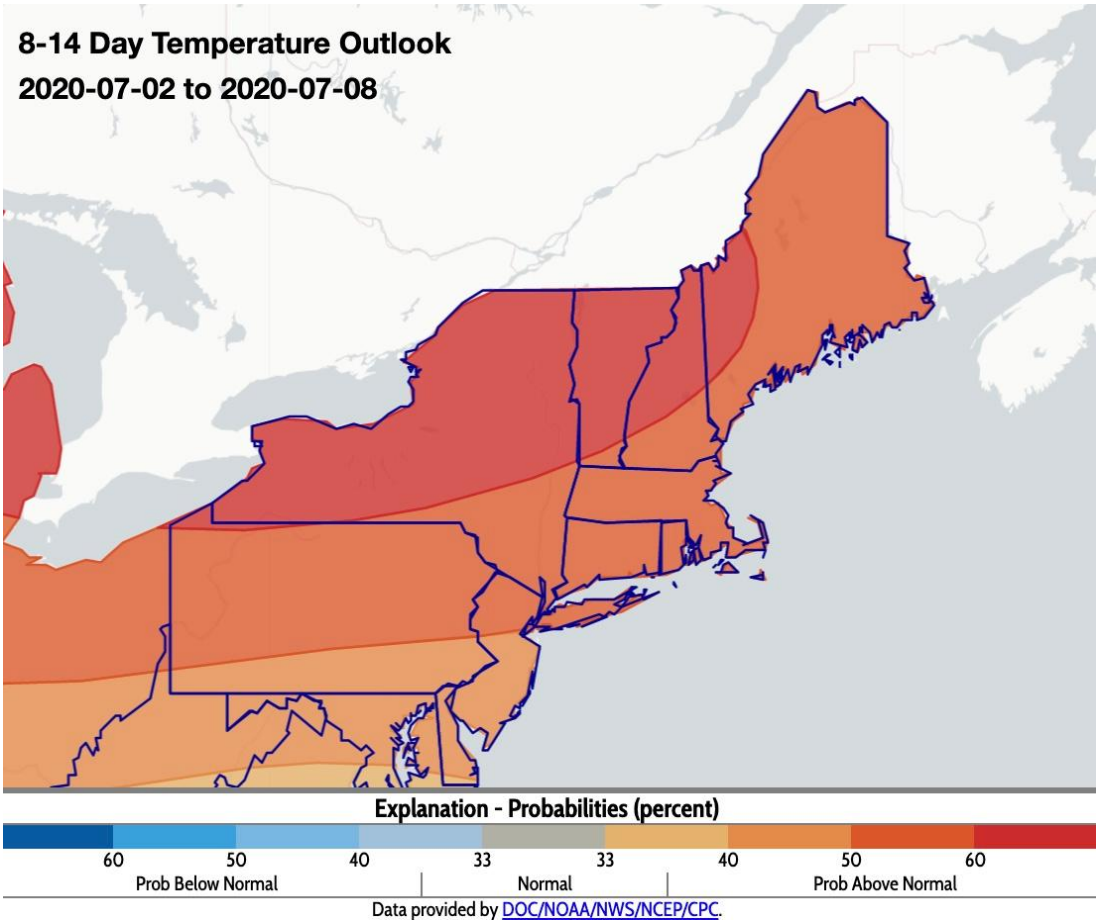
Reported Impacts



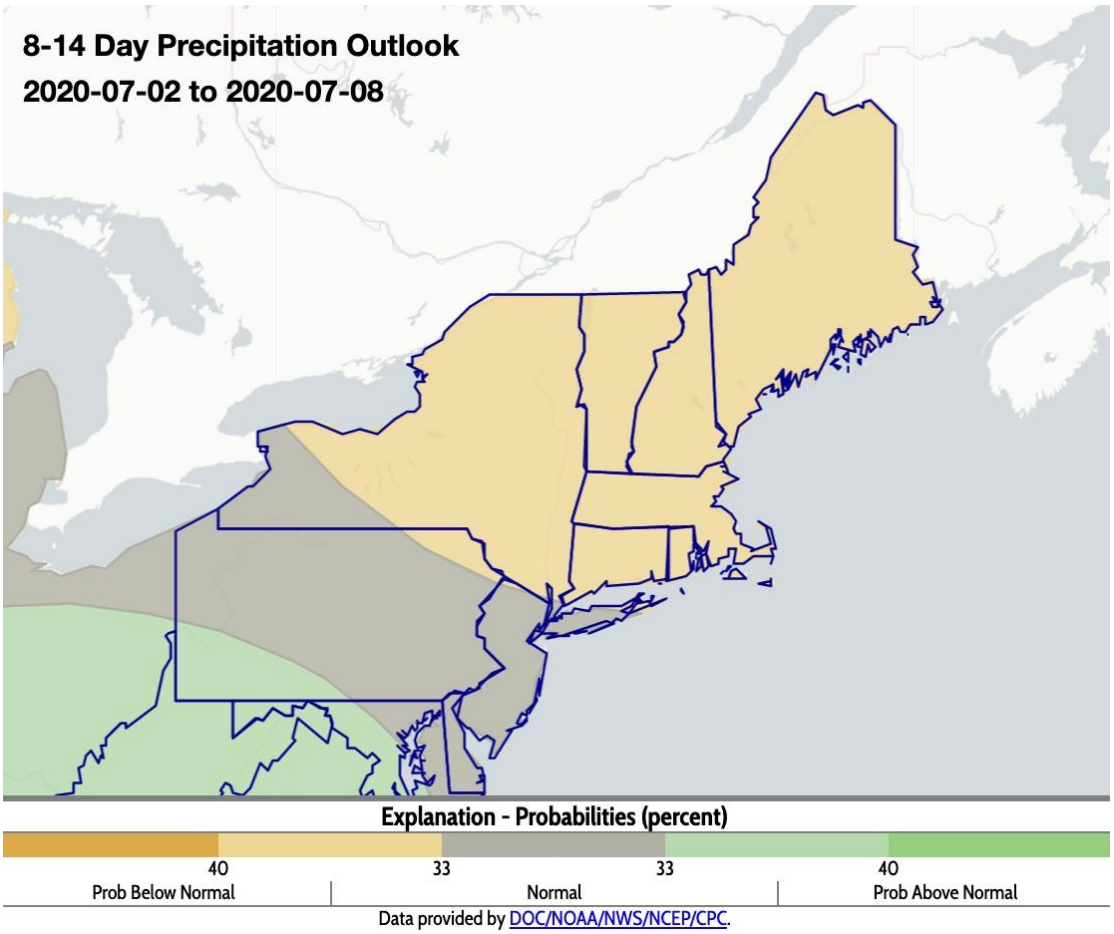
Outlooks

Temperature Outlook 8-14 Day

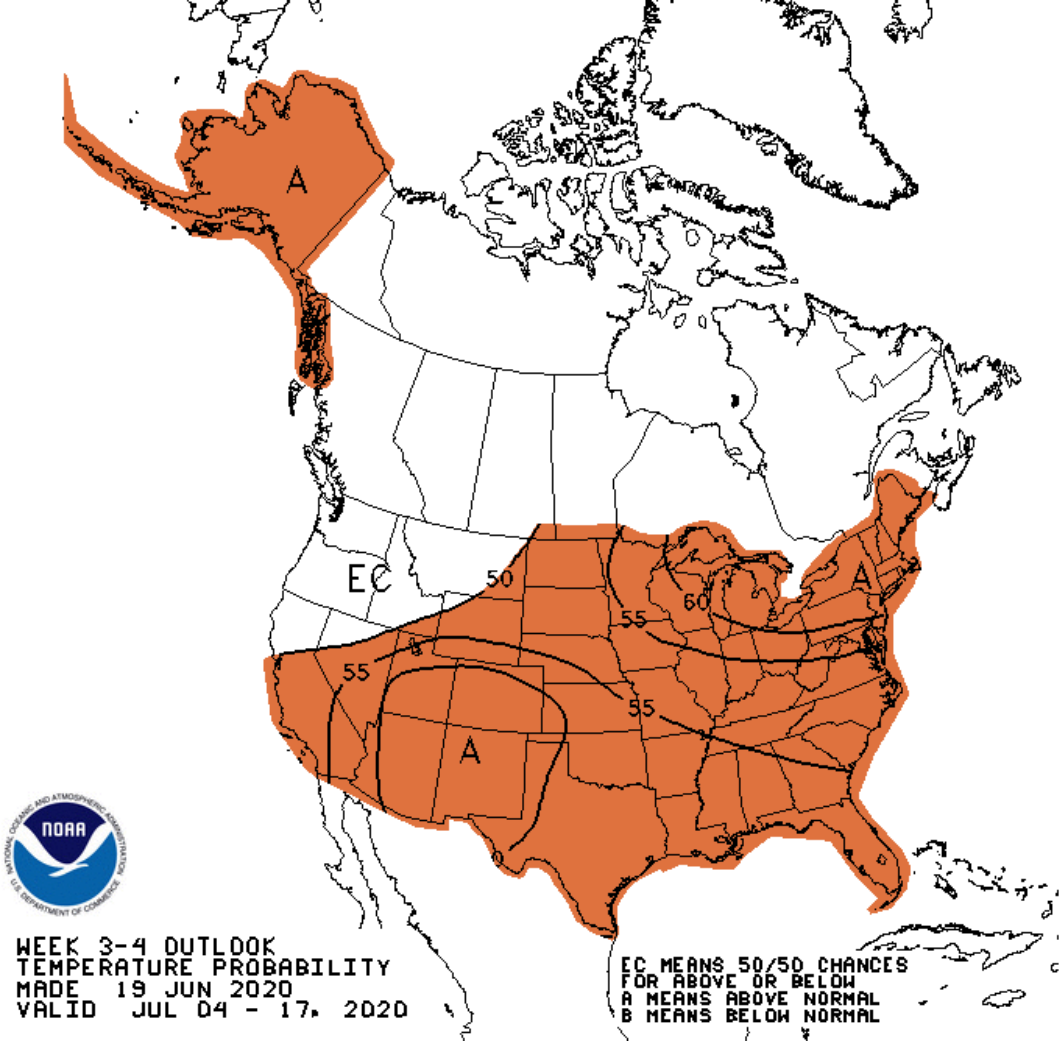
Both the 8-14 day and 3-4 week outlooks favor above-normal temperatures and below-normal precipitation which could exacerbate dry conditions.



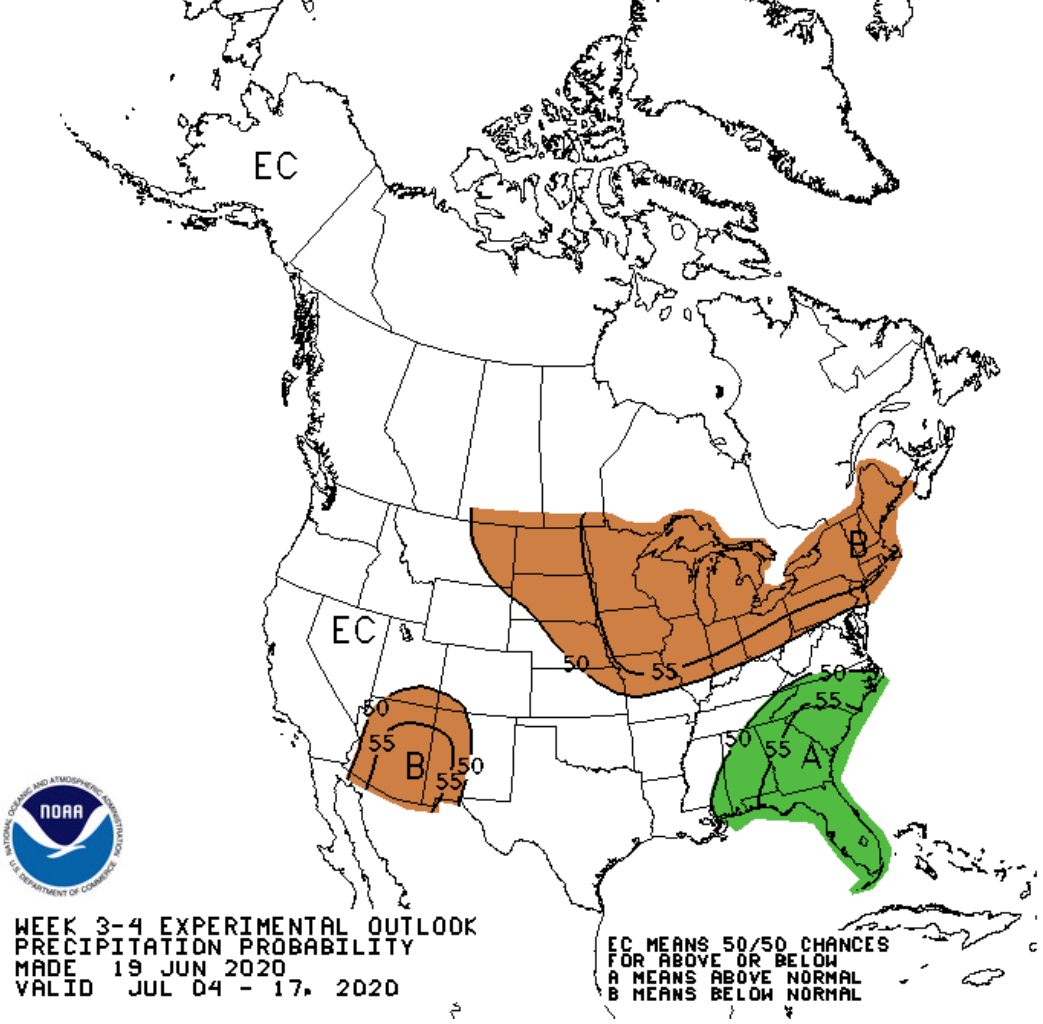
Precipitation Outlook 8-14 Day



Temperature Outlook Week 3-4



Precipitation Outlook Week 3-4



Current CPC Outlooks: https://www.cpc.ncep.noaa.gov/

Additional Resources

- Northeast DEWS Dashboard: http://nedews.nrcc.cornell.edu/
- Northeast Regional Climate Center: http://www.nrcc.cornell.edu/
- Your state climatologist: https://stateclimate.org/state_programs/
- Your local National Weather Service office: https://www.weather.gov/srh/nwsoffices
- There are also upcoming webinars that will offer more information:
    - NOAA Regional Climate Services Monthly Webinar Series (June 30 next webinar): http://www.nrcc.cornell.edu/workshops/webinars/2020/05/index.html
- USDA Northeast Climate Hub: https://www.climatehubs.usda.gov/hubs/northeast/drought-map
- USGS/New England Water Science Center: https://www.usgs.gov/centers/new-england-water and https://www.usgs.gov/centers/ny-water

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