

RI Drought Steering Committee Meeting NWS Update

National Weather Service Boston/Norton MA
August 13th 2020



Drought Indices From *Rhode Island Water 2030* Document

Table 2, Rhode Island Drought Indices and Phases

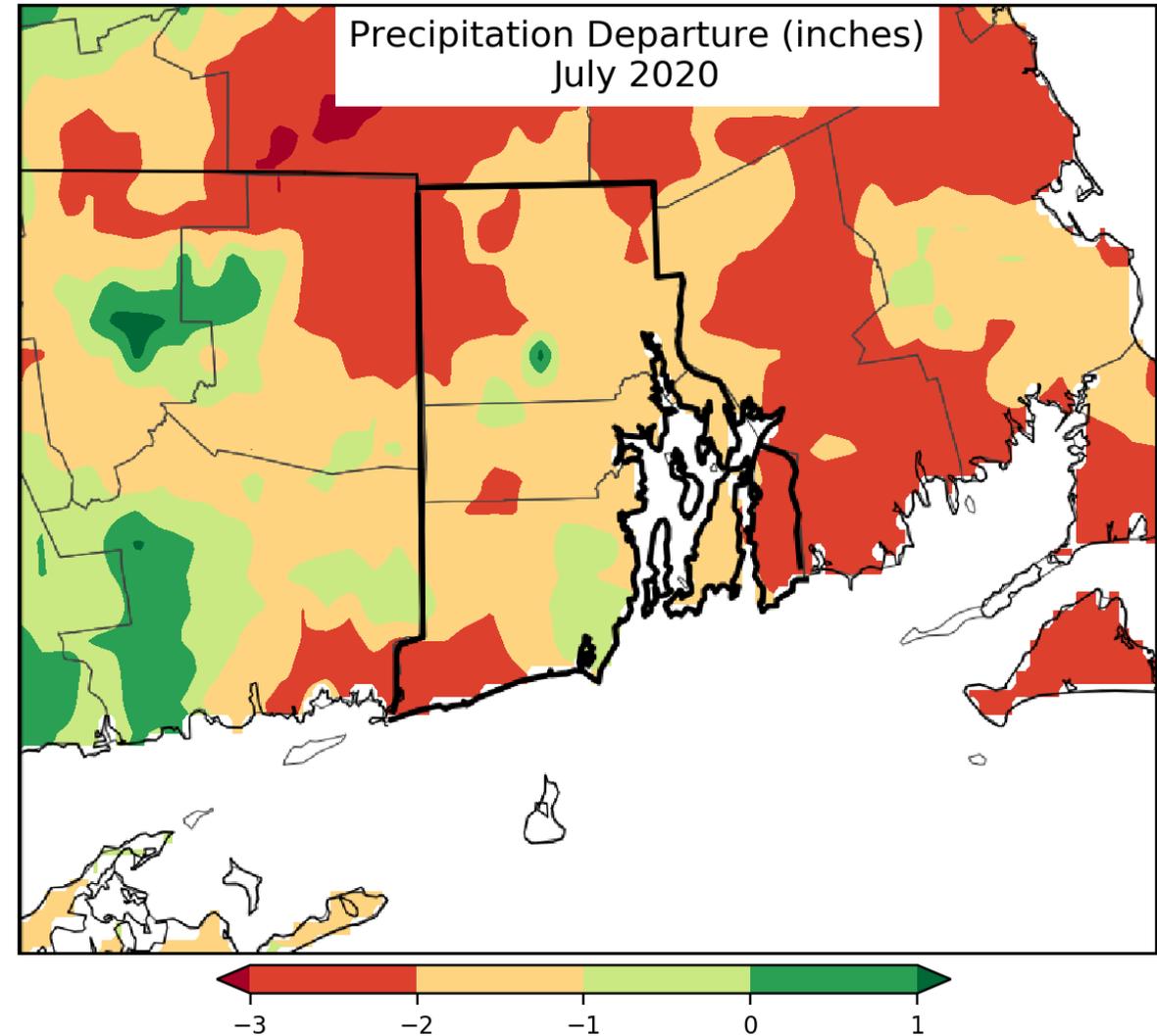
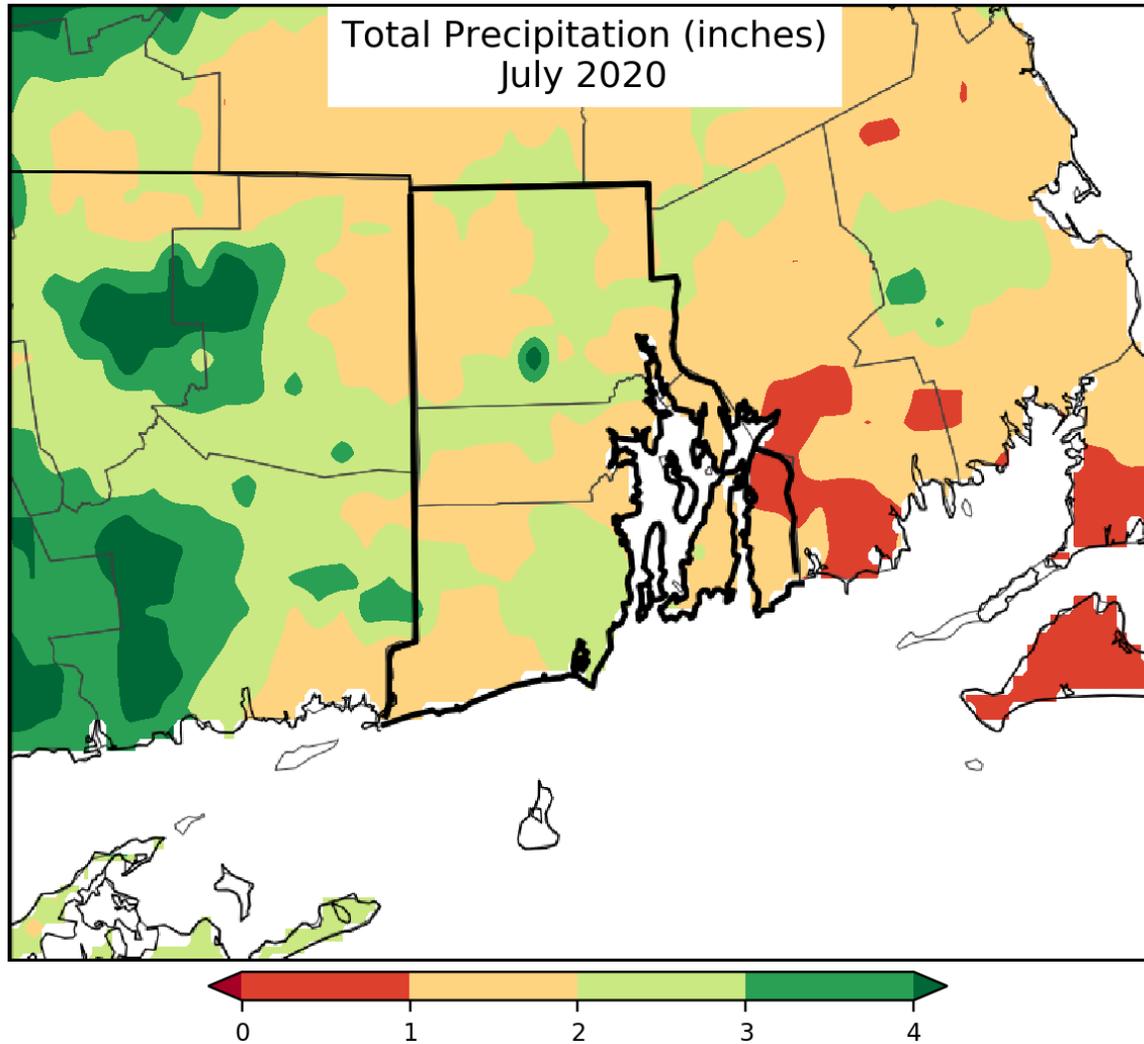
Drought Phase	Palmer Drought Index +	Crop Moisture Index	Precipitation +	Ground Water** +	Stream flow +	Reservoirs**
Normal	-1.0 to -1.99	0.0 to -1.0	Slightly Dry	1 month below normal 1 month below normal	2 consecutive months below normal	Reservoir levels at or near normal for the time of year
Advisory	-2.0 to -2.99	-1.0 to -1.9 Abnormally Dry	2 month cumulative below 65% of normal	At least 2 out of 3 months below normal	3 consecutive months below normal	Small index Reservoirs below normal
Watch	-3.0 to -3.99	-2.0 to -2.9 Excessively Dry	1 of the following criteria met: 3 month cum. <65% or 6 month cum. <70% or 12 month cum. <70%	4-5 consecutive months below normal	At least 4 out of 5 consecutive months below normal	Medium index Reservoirs below normal
Warning	-4.0 and below	> -2.9 Severely Dry	2 out of 3 of the above criteria met: 3 month cum. <65% and 6 month cum. <65% or 6 month cum. <65% and 12 month cum. <65% or 3 month cum. <65% and 12 month cum. <65%	6-7 consecutive months below normal observation wells recording monthly record lows	At least 6 out of 7 consecutive months below normal	Large index reservoirs below normal
Emergency	-4.0 and below	> -2.9 Severely dry	Same criteria as Warning and Previous month was Warning or Emergency	>7 months below normal Observation wells recording monthly record lows	>7 months below normal	Continuation of previous month's conditions

+ Major Hydrologic Indicators.

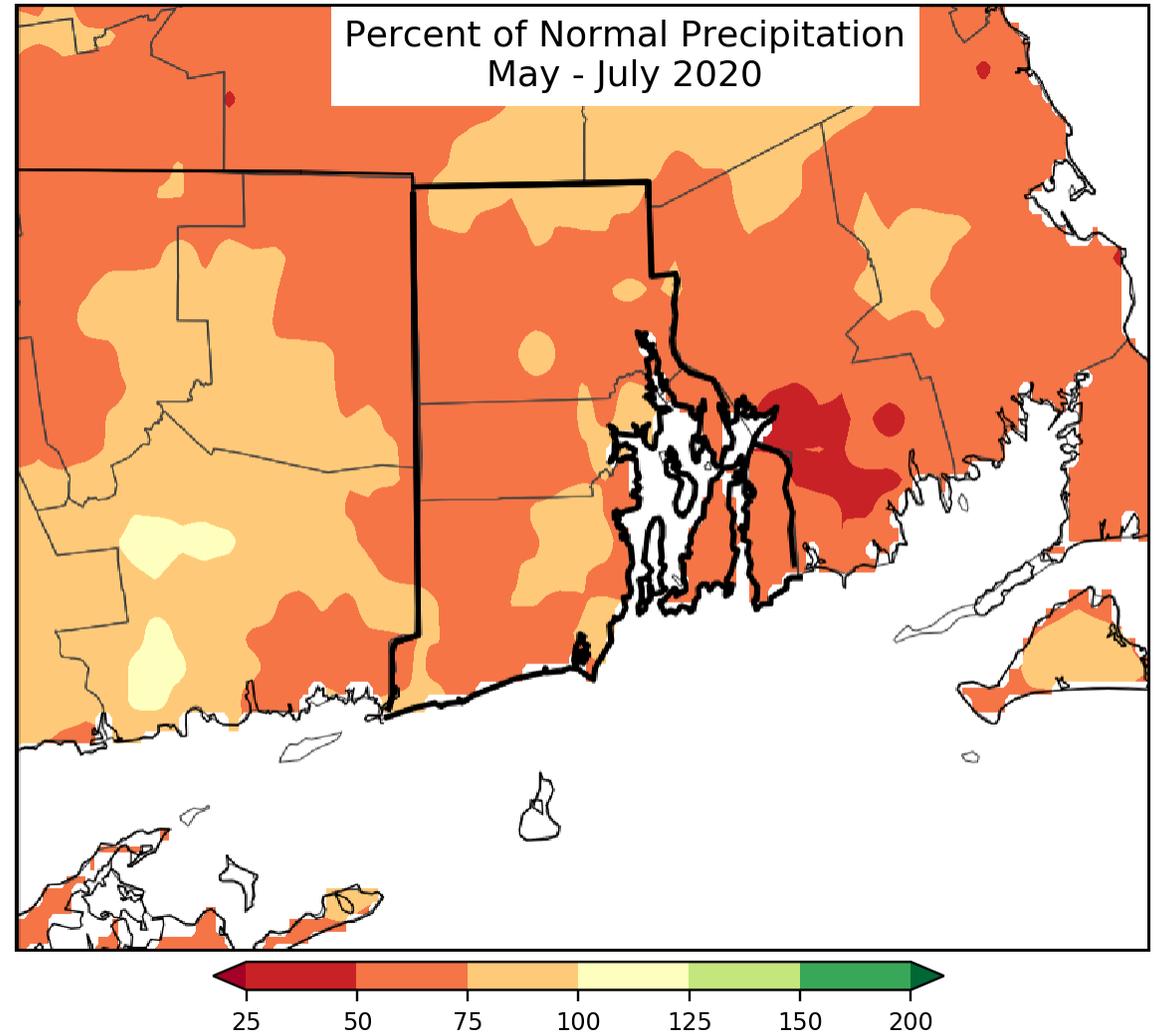
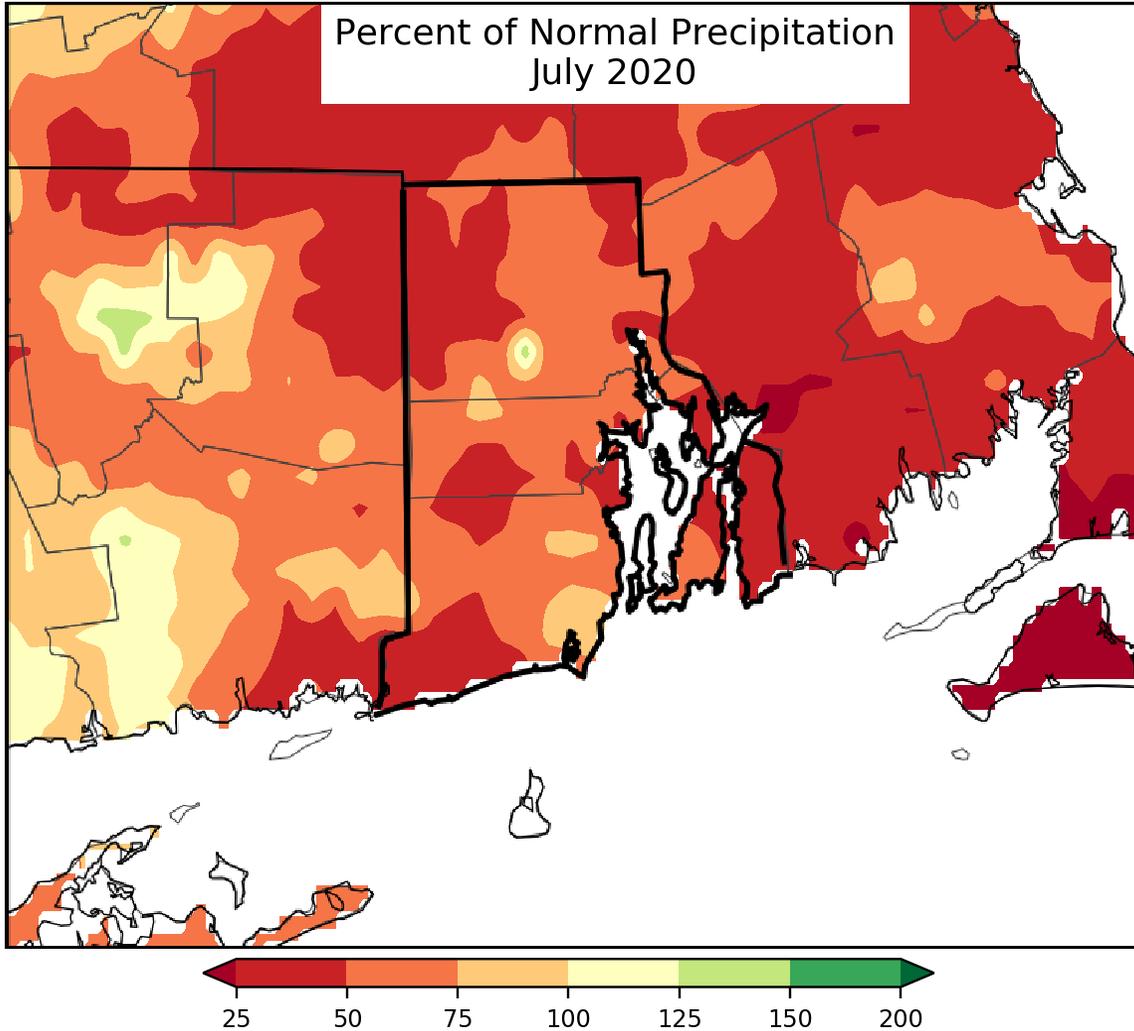
** Local triggers from the water system supply management plans will also be considered in assessing drought phases on a regional basis. The WRB staff will review local plans and work with suppliers to coordinate regarding drought phases and to collect, review and report surface reservoir and ground water data.

"Normal" is defined as the statistical average of the data for the period of record. Percentages for precipitation are relative to normal.

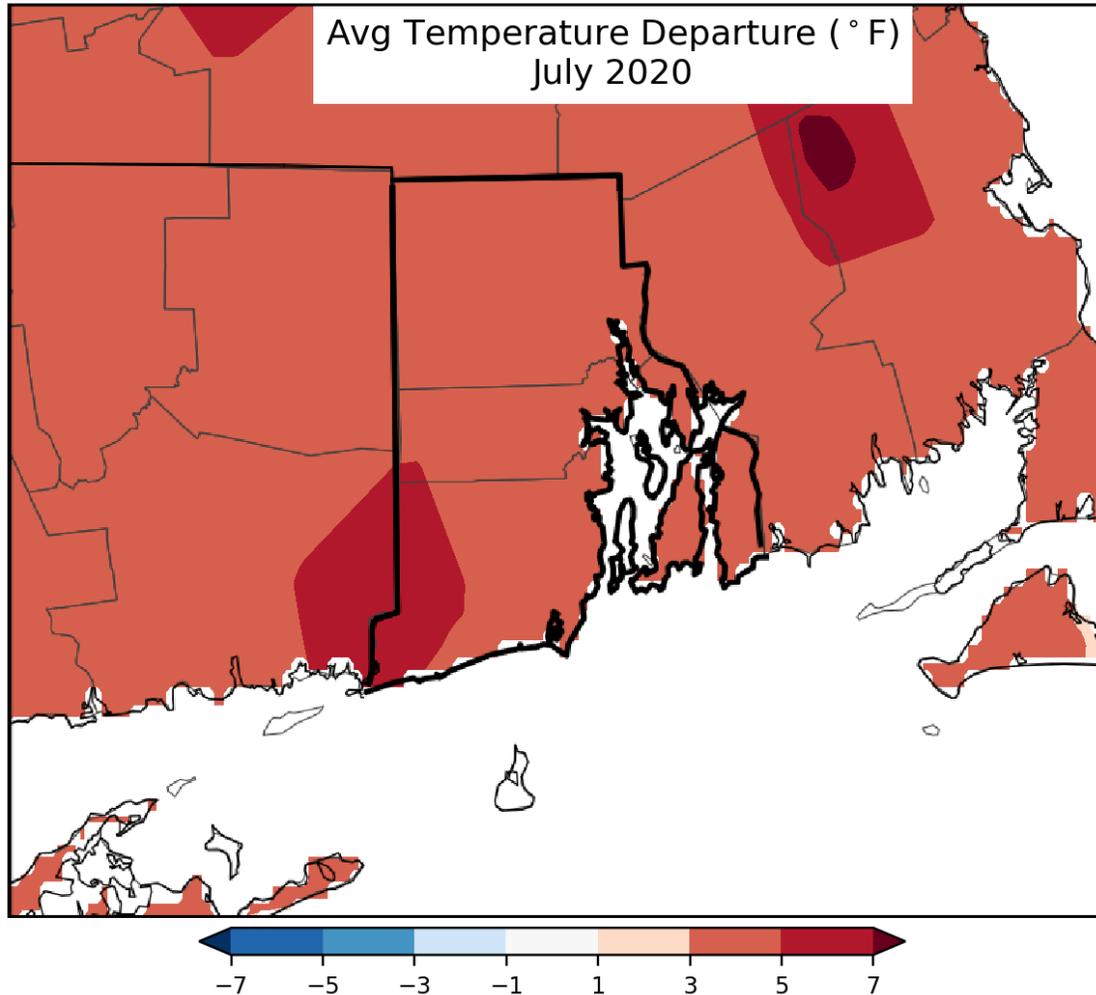
July 2020 Rainfall and Departure



July and May-July Percent of Normal



Temperature Departure from Normal



State-wide Specifics:

July 2020 Temperature Ranking from NRCC:

- Average daily temperature 75.5 deg F
- Departure from normal: +4.0 deg F
- Ranking: 2nd Hottest July on record
- Period of record: 1895 to 2020
- Record Hottest July: 76.4 deg F from 2013

July and June/July Rainfall by Region

RI 1 month July 2020	Rainfall	Departure	Percent	Normal
Northwest	1.50	-2.83	35	4.33
Northeast	2.09	-2.04	51	4.13
Central West	2.11	-1.91	52	4.02
Central East	1.88	-1.72	52	3.60
Eastern	1.29	-2.51	34	3.80
Southern	1.93	-2.43	44	4.36
New Shoreham	0.65	-3.71	15	4.36

RI 2 month Jun-Jul 20	Rainfall	Departure	Percent	Normal
Northwest	5.14	-3.77	58	8.91
Northeast	5.53	-2.81	66	8.34
Central West	3.55	-4.61	43	8.16
Central East	4.35	-2.89	60	7.24
Eastern	3.18	-4.50	41	7.68
Southern	4.53	-4.11	52	8.64
New Shoreham	3.07	-5.57	36	8.64

Corresponding Drought Phase for 2 months <65% of normal:

Drought Advisory

3 and 6-Month Rainfall by Region

RI 3 month May-Jul 20	Rainfall	Departure	Percent	Normal
Northwest	8.49	-4.34	66	12.83
Northeast	8.79	-3.33	73	12.12
Central West	7.18	-4.73	60	11.91
Central East	7.81	-2.98	72	10.79
Eastern	6.12	-5.20	54	11.32
Southern	8.25	-4.34	66	12.59
New Shoreham	6.05	-6.54	48	12.59

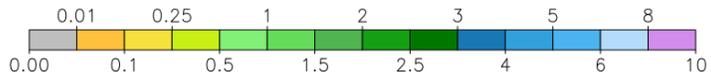
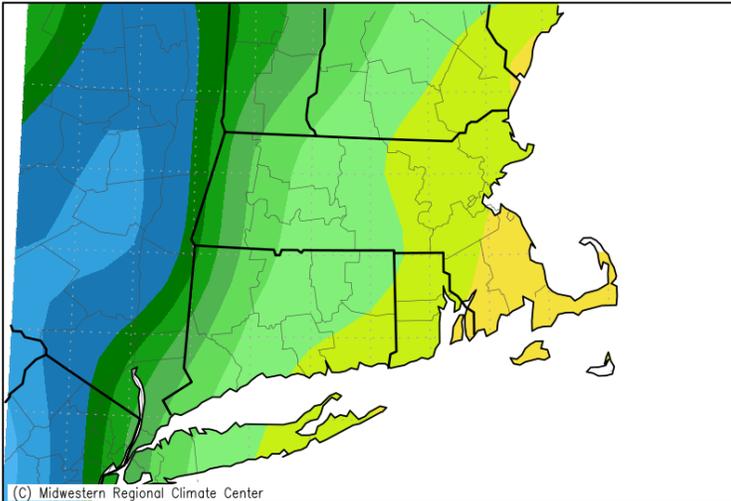
Corresponding Drought Phase for 3 months <65% of normal:

Drought Watch

RI 6 month Feb-Jul 20	Rainfall	Departure	Percent	Normal
Northwest	22.80	-4.14	85	26.94
Northeast	23.10	-2.32	91	25.42
Central West	21.56	-3.71	85	25.27
Central East	21.12	-2.33	90	23.45
Eastern	18.57	-7.02	73	25.59
Southern	21.83	-5.03	81	26.86
New Shoreham	18.70	-8.16	70	26.86

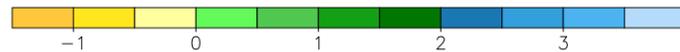
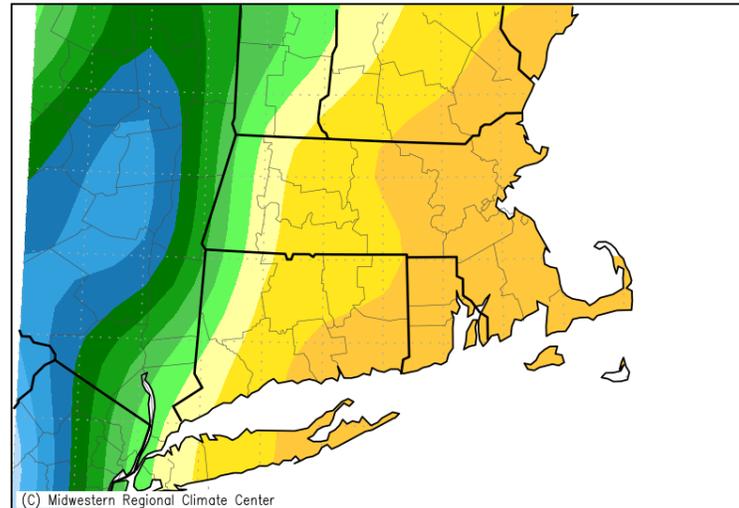
August 1-11 Month-to-date

Accumulated Precipitation (in)
August 1, 2020 to August 11, 2020



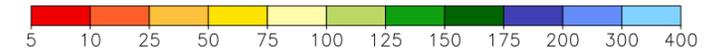
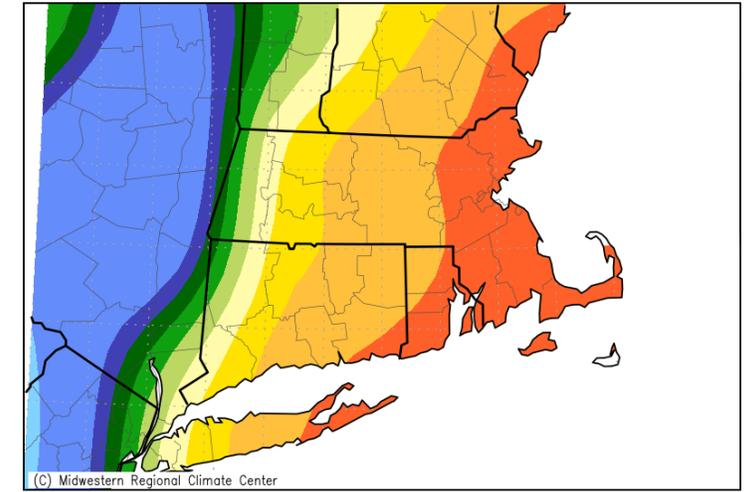
Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
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Accumulated Precipitation (in): Departure from Mean
August 1, 2020 to August 11, 2020



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
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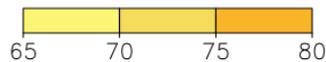
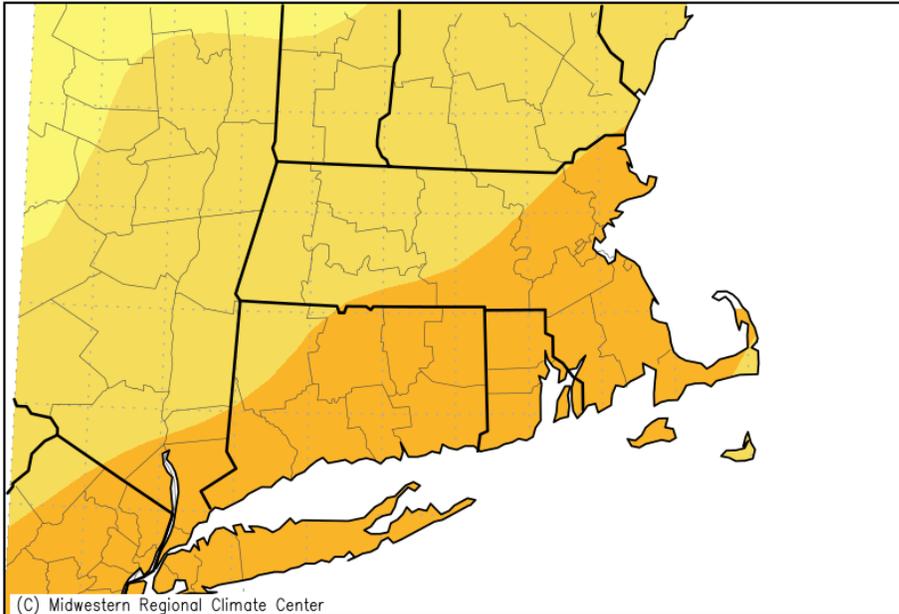
Accumulated Precipitation: Percent of Mean
August 1, 2020 to August 11, 2020



Midwestern Regional Climate Center
cli-MATE: MRCC Application Tools Environment
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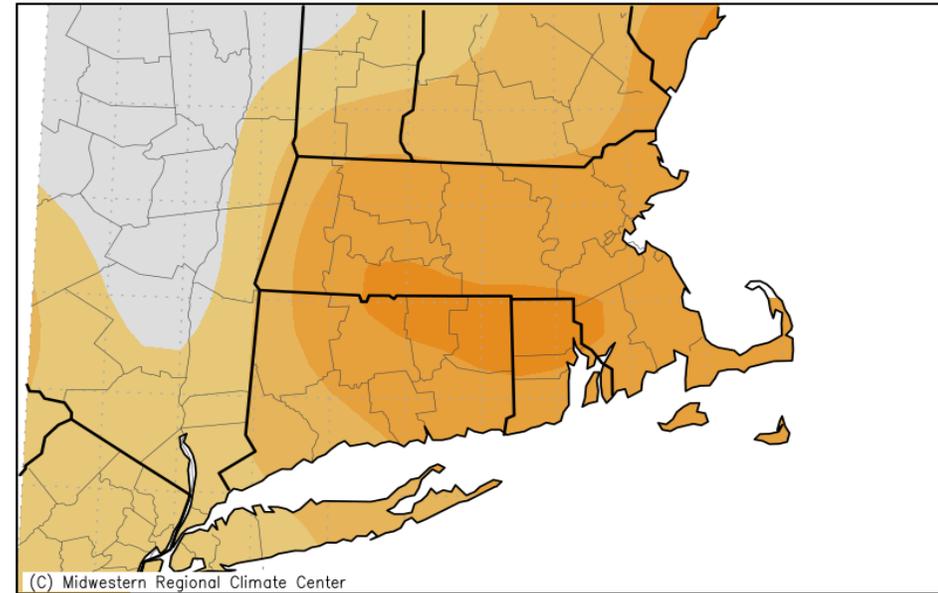
August 1-11 Temperatures

Average Temperature (°F)
August 1, 2020 to August 10, 2020



Midwestern Regional Climate Center
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Average Temperature (°F): Departure from Mean
August 1, 2020 to August 10, 2020



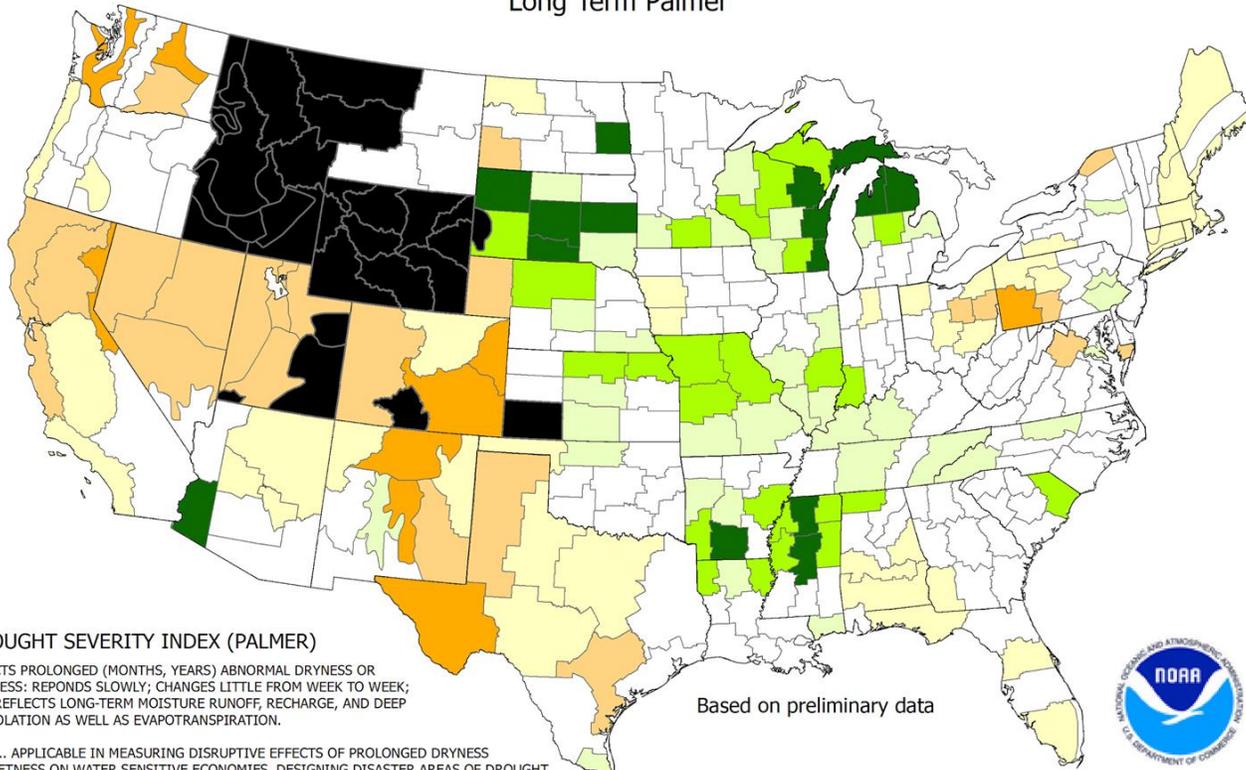
Mean period is 1981–2010.



Midwestern Regional Climate Center
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Palmer Drought Index

Drought Severity Index by Division
Weekly Value for Period Ending Aug 08, 2020
Long Term Palmer



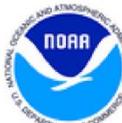
DROUGHT SEVERITY INDEX (PALMER)

DEPICTS PROLONGED (MONTHS, YEARS) ABNORMAL DRYNESS OR WETNESS; RESPONDS SLOWLY; CHANGES LITTLE FROM WEEK TO WEEK; AND REFLECTS LONG-TERM MOISTURE RUNOFF, RECHARGE, AND DEEP PERCOLATION AS WELL AS EVAPOTRANSPIRATION.

USES... APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED DRYNESS OR WETNESS ON WATER SENSITIVE ECONOMIES, DESIGNING DISASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL LONG-TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS AND STREAMS.

LIMITATIONS... IS NOT GENERALLY INDICATIVE OFFSHORT-TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).

Based on preliminary data



- 4.0 or less (Extreme Drought)
- 3.0 to -3.9 (Severe Drought)
- 2.0 to -2.9 (Moderate Drought)
- 1.9 to +1.9 (Near Normal)
- +2.0 to +2.9 (Unusual Moist Spell)
- +3.0 to +3.9 (Very Moist Spell)
- +4.0 and above (Extremely Moist)
- Missing/Incomplete

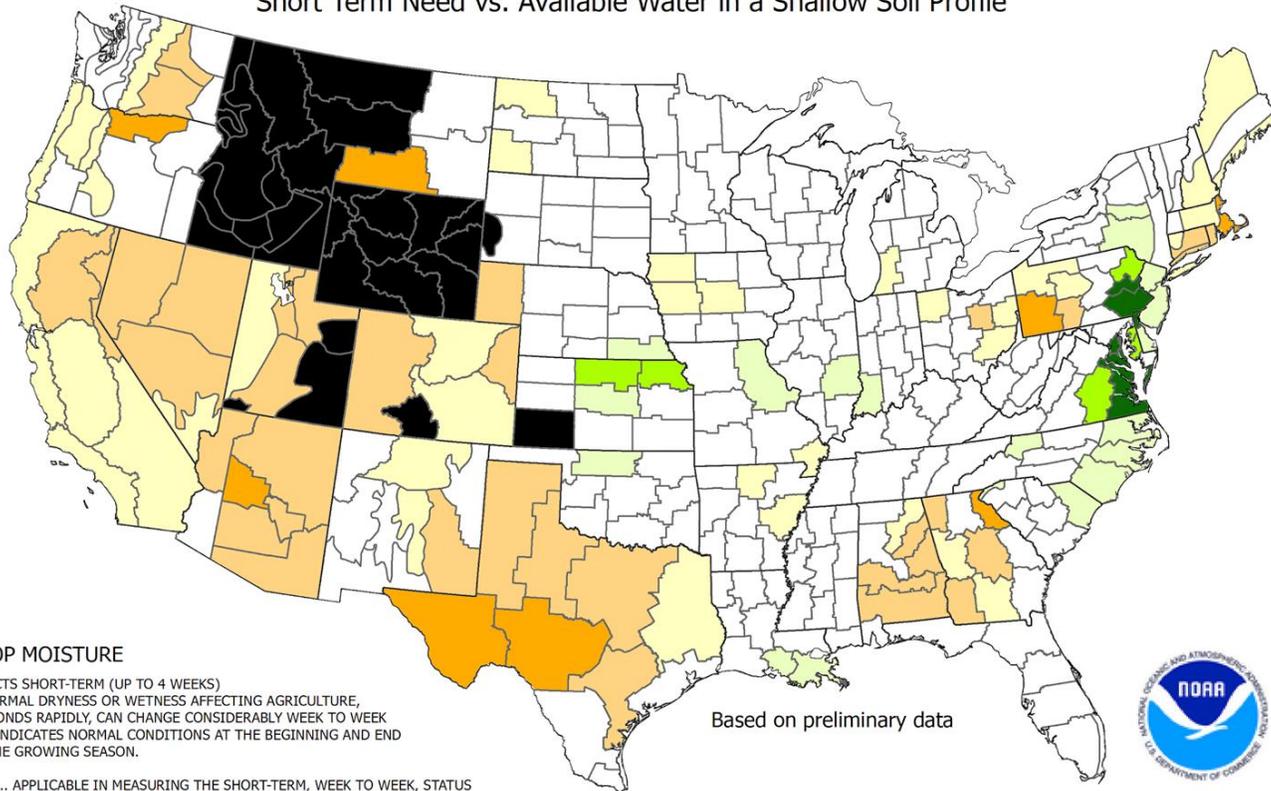
PDSI for RI: -2.51
Moderate Drought

Corresponding Drought Phase for this Index:

Drought Advisory

Crop Moisture Index

Crop Moisture Index by Division
 Weekly Value for Period Ending Aug 08, 2020
 Short Term Need vs. Available Water in a Shallow Soil Profile



CMI for RI: -2.82
 Excessively Dry

Corresponding Drought Phase for this Index:

Drought Watch

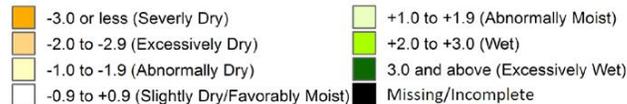
CROP MOISTURE

DEPICTS SHORT-TERM (UP TO 4 WEEKS) ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE, RESPONDS RAPIDLY, CAN CHANGE CONSIDERABLY WEEK TO WEEK AND INDICATES NORMAL CONDITIONS AT THE BEGINNING AND END OF THE GROWING SEASON.

USES... APPLICABLE IN MEASURING THE SHORT-TERM, WEEK TO WEEK, STATUS OF DRYNESS OR WETNESS AFFECTING WARM SEASON CROPS AND FIELD OPERATIONS

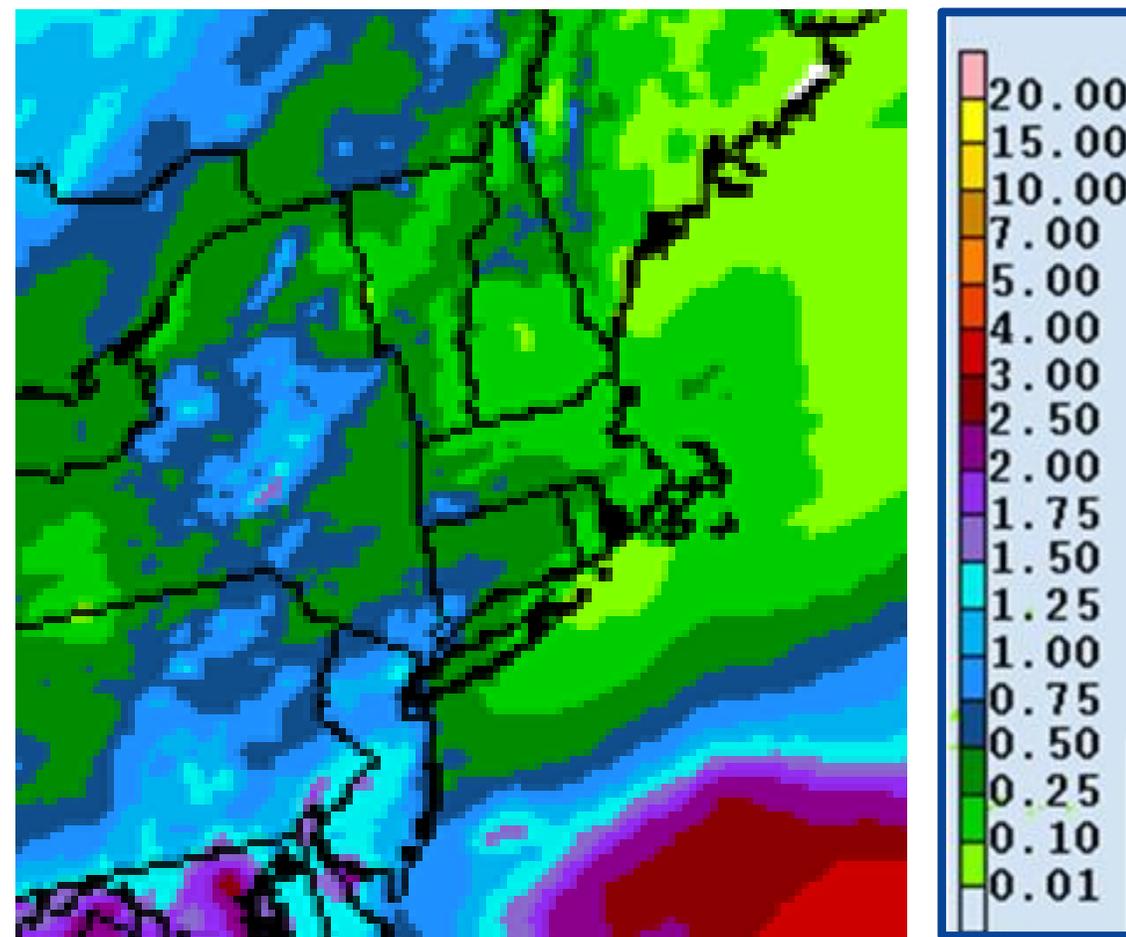
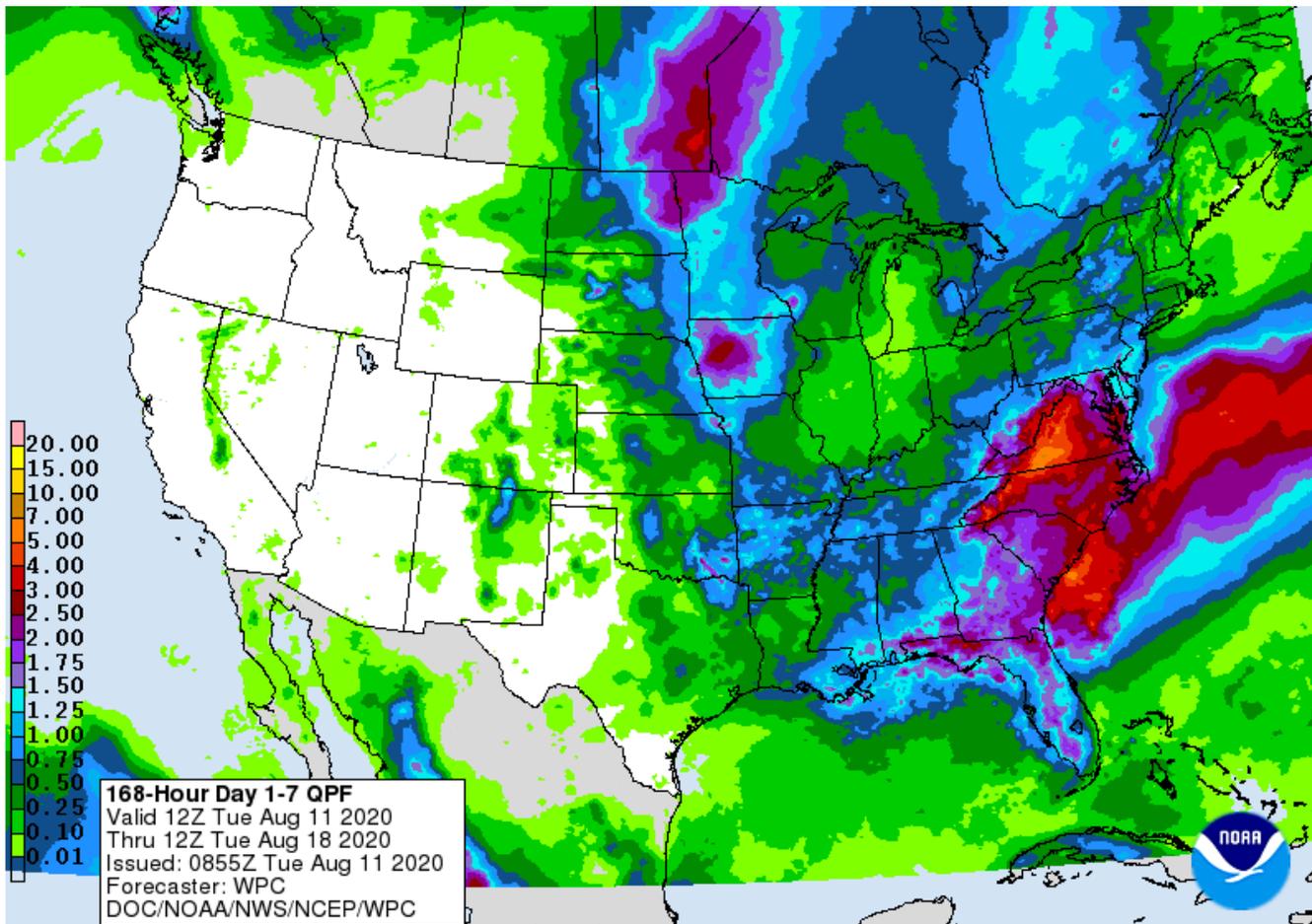
LIMITATIONS... MAY NOT BE APPLICABLE TO GERMINATING AND SHALLOW ROOTED CROPS WHICH ARE UNABLE TO EXTRACT THE DEEP OR SUBSOIL MOISTURE FROM A SHALLOW SOIL PROFILE, OR FOR COOL SEASON CROPS GROWING WHEN TEMPERATURES ARE AVERAGING BELOW ABOUT 55°F. IT IS NOT GENERALLY INDICATIVE OF THE LONG-TERM (MONTHS, YEARS) DROUGHT OR WET SPELLS WHICH ARE DEPICTED BY THE DROUGHT SEVERITY INDEX.

Based on preliminary data



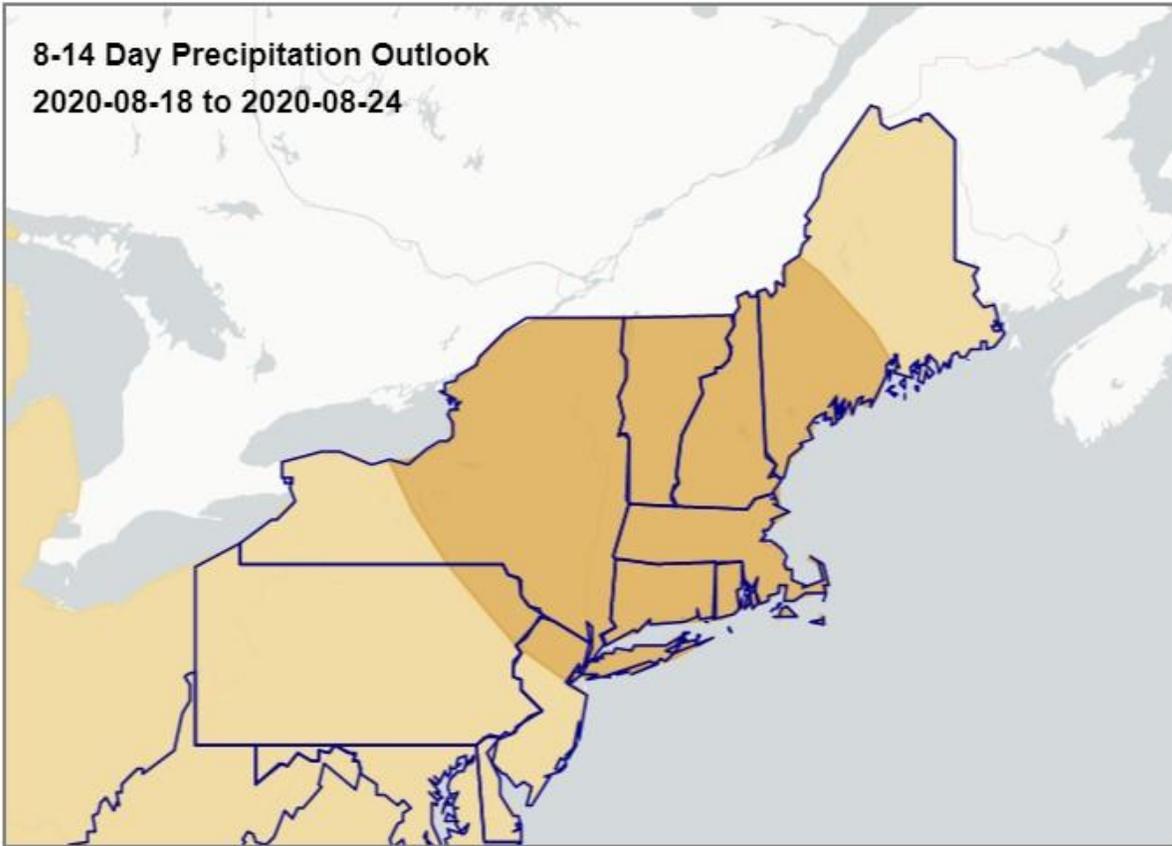
Rainfall Forecast through 8 am Tuesday Aug 18

***Temperatures average a few degrees above normal**



Outlook for August 18-24

8-14 Day Precipitation Outlook
2020-08-18 to 2020-08-24

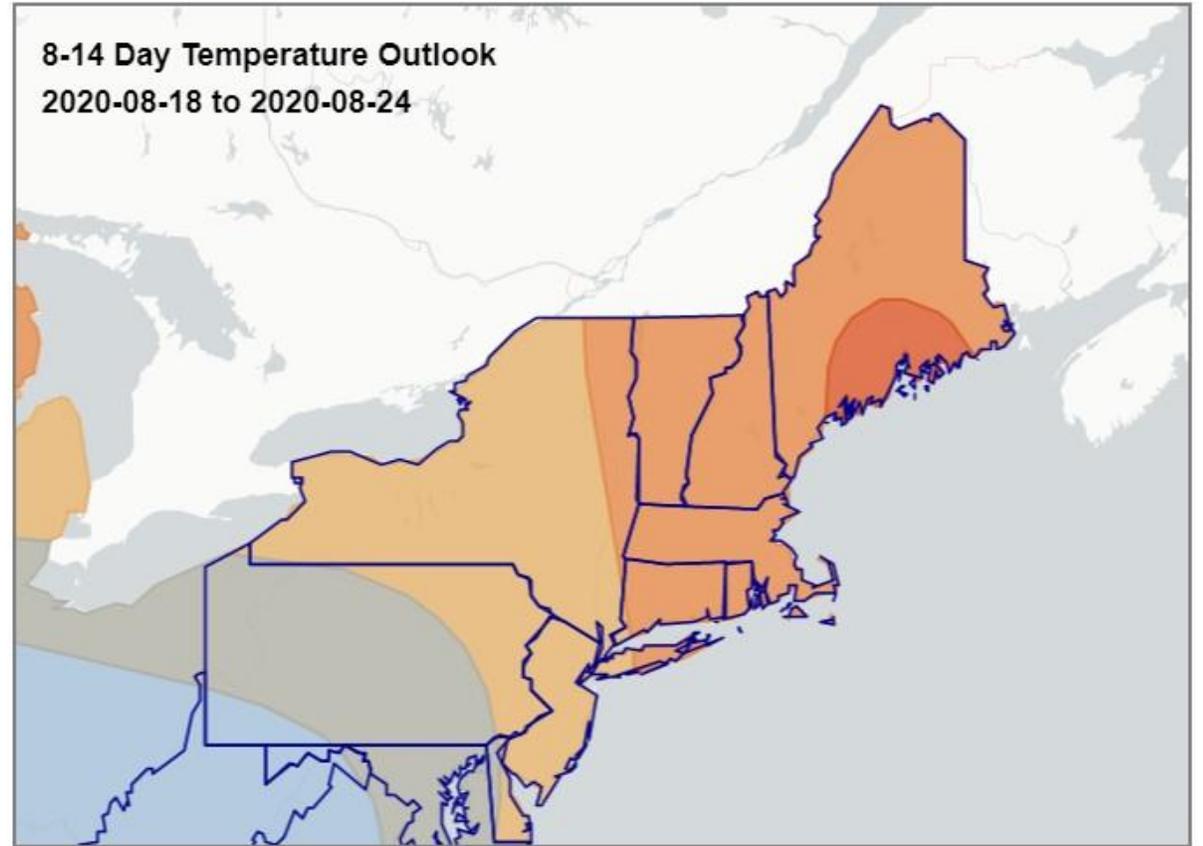


Explanation - Probabilities (percent)



Data provided by [DOC/NOAA/NWS/NCEP/CPC](#).

8-14 Day Temperature Outlook
2020-08-18 to 2020-08-24



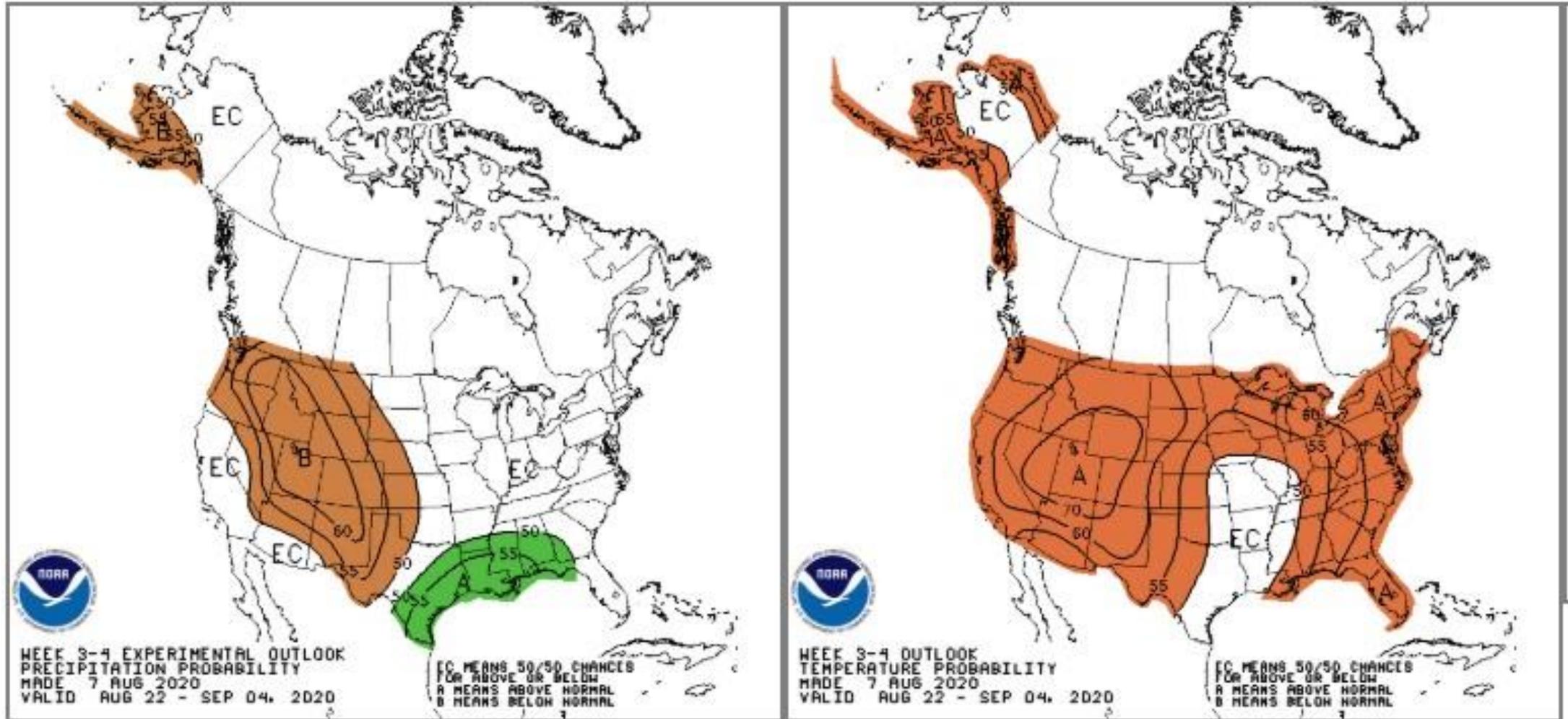
Explanation - Probabilities (percent)



Data provided by [DOC/NOAA/NWS/NCEP/CPC](#).

Week 3-4 Outlook*: August 22-Sept 4

*Outlook updated at 3 pm EDT Friday



3 Month Outlook- Sept/Oct/Nov

