



Maine Tree Fruit Newsletter

Saturday, August 29, 2020 Vol 27:12

Maturity Report

Fruit maturity at Highmoor Farm on Friday August 28

Plums - No plums to harvest this week, but Castleton is beginning to soften. Superior is also nearing harvest.

Peaches – Highmoor Farm picked Saturn, Harken, Salish and Harrow 272 this week. Our late-ripening peaches have no fruit so our peach harvest is ending.

Fall Apples - Honeycrisp trees have lost quite a bit of apples which could be due to the extremely dry weather. In previous years, Honeycrisp has had a heavy initial drop followed by weeks of no drop, so maybe this heavy drop will not continue.

In unirrigated orchards, ReTain may not work. Pay close attention to preharvest drop where late harvest is planned.

Apple maggot, Codling moth, Obliquebanded LR

Apple maggot (AM) trap captures in blocks monitored by the Extension – Pomological Society Scouting Co-op were much lower in the past week than the week before. Some of this may be due to waning odor-bait and trap-capture efficiency, but it fits with the expected decline in AM catches as the emergence period nears its end in early September.

As always, there were some exceptions with high captures on individual traps. In addition to having traps in your own orchard, past damage history is essential for gauging the need for insecticide protection against AM egg-laying and larval tunneling. AM got off to an early start this summer. Comparing subsequent AM trap captures is complicated this year because we used odor-baits that increase trap capture by about 4X compared to unbaited traps. With that ratio in mind, total AM trap captures this year seem about average.

Trap captures of codling moth and Obliquebanded leafroller were also much lower over the past week.

Apple disease situation

While the dry spring reduced apple scab problems in most orchards, scab outbreaks where fungicide protection was inadequate show that scab infection was still able to occur. Fire blight strikes continued to appear in a couple of locations over the past week. At this point the risk of further spread is minimal so it is not so important to remove those strikes as soon as possible. That said, when time allows, removal of fire blight infected branches before winter will reduce the number of sources for bacterial inoculum. A few spot appearances of powdery mildew during the dry early summer seem to have been brought under control by summer fungicide applications and summer rains.

A remaining disease threat is growth of sooty blotch and flyspeck (SBFS) fungi on the waxy cuticle of apples in the weeks leading up to harvest. The dry conditions in early summer presumably slowed development the slow growing fungi that cause dark stains on apple skin. But field observations found that SBFS on low spray apples not only showed up “on-time” i.e. at the normal date, but were earlier than usual. Warm nights in July favored growth of these fungi.

Pristine at full dose provides the most durable protection against these fungi – up to 21 days or 2.5 inches of rain. Captan + Topsin M, Inspire Super, and Flint (and related fungicides) at full dose provide protection for up to 21 days and 2.0 inches of rain. Captan alone is not as effective, providing protection for about 14 days or 1.5 inches of rain.

Yellow-skinned apples are much more at risk simply because SBFS is so much more visible on a light colored background. There does not appear to be much difference in cultivars for growth of SBFS. Once fungicide protection is depleted, it usually takes about 30 days of “normal” weather for the fungi to develop far enough along to become visible. This presumes that fungicide protection during June – August was adequate to prevent the fungi from getting a head start.

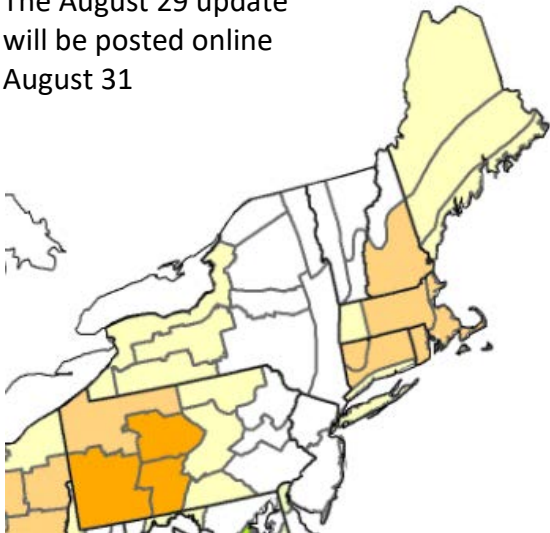
That 30-day window varies with the weather. A warm, wet September can accelerate SBFS growth, whereas a cool or dry September slows it down. By early October, falling temperatures reduce the growth rate of SBFS fungi and the risk of new colonies appearing diminishes. Thus, the safest bet is to apply Pristine near the end of August. However, a mid-August final application of Pristine has proven to be late enough for most orchards in most years. Site-specific risk depends on harvest date, tree canopy thickness, air drainage, and orchard history.

Selecting Plants to Support Bees in Maine

UMaine researchers recently published a bulletin (<https://tinyurl.com/MaineBeeModule>) on which plants can provide a continuous food source for honey bees, bumble bees, sweat bees and other important native bee pollinators. The website provides a list of which particular cultivars of plants were most attractive to bees over four years of observations, and how to combine plants with sequential flowering dates to support bee populations. By providing such food sources, growers can improve pollination around the farm.

Soil Moisture Status

The August 29 update will be posted online August 31



https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitorin

Crop Moisture Index by Division Weekly Value for Period Ending Aug 22, 2020 Short Term Need vs. Available Water in a Shallow Soil Profile



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

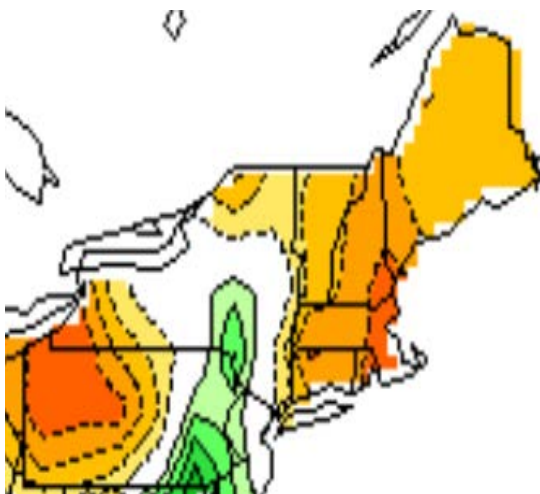
LIMITATIONS... MAY NOT BE APPLICABLE TO GERMINATING AND SHALLOW ROOTED CROPS WHICH ARE UNABLE TO EXTRACT THE DEEP OR SUBSOIL MOISTURE FROM A SHALLOW SOIL PROFILE, OR FOR COOL SEASON CROPS GROWING WHEN TEMPERATURES ARE AVERAGING BELOW ABOUT 55F. IT IS NOT GENERALLY INDICATIVE OF THE LONG-TERM (MONTHS,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

-1 to -1.9 = Moderate drought.

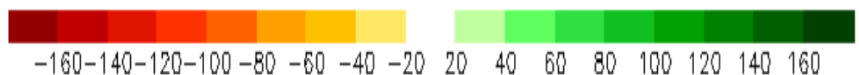
Crop prospects threatened with further drying.

-2 to -2.9. Severe drought. Excessively dry.

Yield prospects for shallow rooted crops reduced.



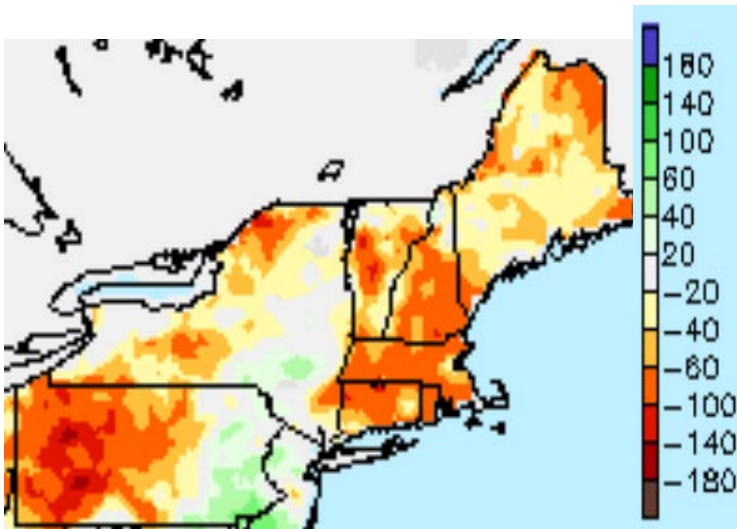
Soil Moisture Anomaly August 28, 2020



Millimeters above or below 1916 – 2004 average.

-40 to -60 mm = -1.6 to -2.4 inches below normal

https://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Soilmst/



North American Ensemble total soil moisture anomaly

August 18 - 25, 2020.

Millimeters above or below 1979 – 2010 avg.

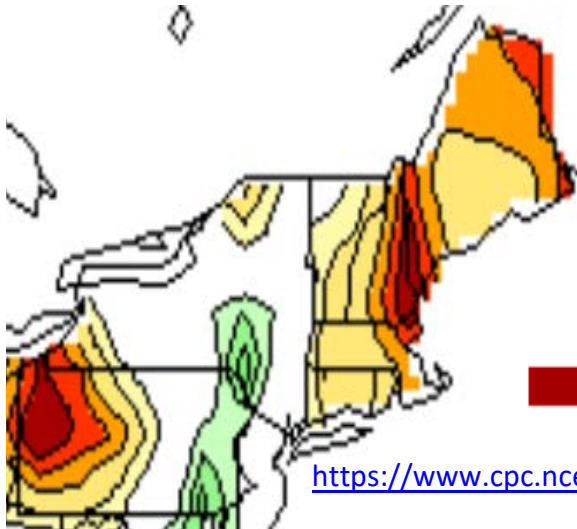
-20 mm = -0.8 inch,

-40 mm = -1.6 inch

-60 mm = -2.4 inch

-100 mm = -4.0 inch

<https://www.cpc.ncep.noaa.gov/products/Drought/Monitoring/weekly-total-SM-anom.shtml>



Soil moisture percentile August 28, 2020

compared to 1916-2004.

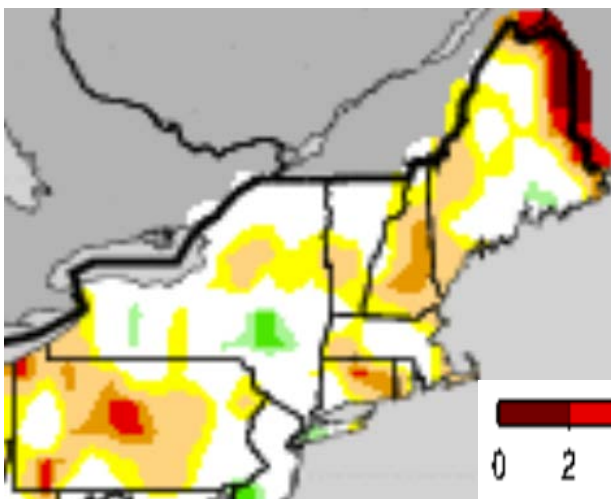
50% = median year

0% -driest year vs. record.

100% = wettest year



https://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Soilmst/



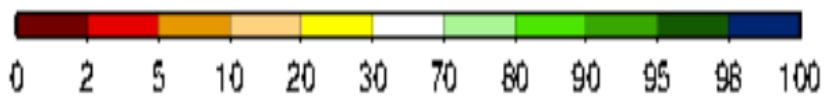
Experimental Surface water percentile August 28, 2020

compared to 1916-2004.

50% = median year

0% -driest year

100% = wettest year



<http://www.hydro.ucla.edu/SurfaceWaterGroup/forecast/monitor/index.shtml>

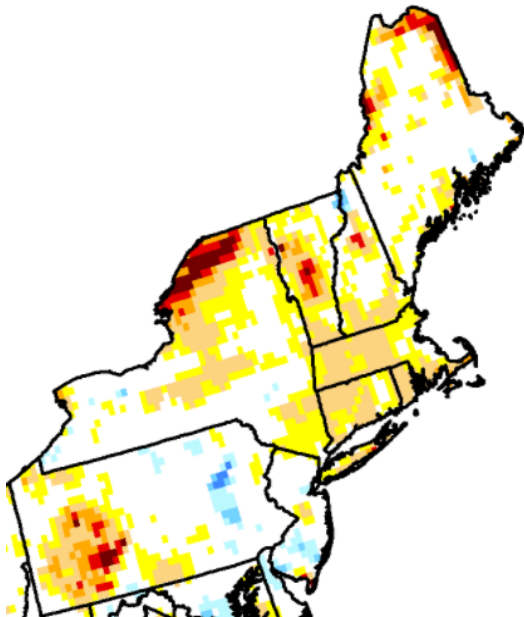
GRACE top meter of soil moisture percentile

August 24, 2020 compared to 1948-2012.

50% = median year

0% = driest year

100% = wettest year










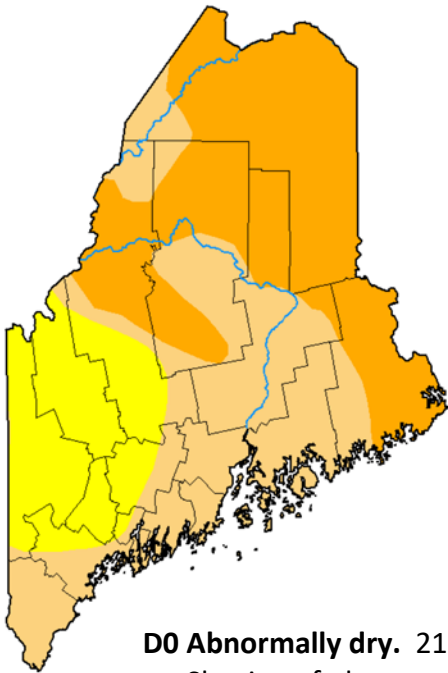
<https://nasagrace.unl.edu/>

The **Palmer Drought Severity Index** tracks moisture deficit over many months and therefore is not as sensitive to recent conditions. But it is frequently used as the standard reference and is useful as context for the shorter-range estimates shown above.

Map for August 25, 2020.

Intensity:

-  None
-  D0 (Abnormally Dry)
-  D1 (Moderate Drought)
-  D2 (Severe Drought)
-  D3 (Extreme Drought)
-  D4 (Exceptional Drought)
-  No Data



<https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?ME>

- D0 Abnormally dry.** 21-30th percentile Expected frequency on this date is once every 3-5 years. Slowing of plant growth.
- D1 Moderate drought.** 11-20th percentile Expected frequency on this date is once every 5-10 years. Possibly crop damage. Lower stream and pond levels. Possible local water use restrictions.
- D2 Severe drought.** 6-10th percentile Expected frequency on this date is once every 10-20 years. Significant chance of damage to crops or pastures. Water shortages expected. Water restrictions likely.
- D3 Extreme drought.** 3-5th percentile Expected frequency on this date is once in 20-50 years. Major crop and pasture losses imminent. Water shortages and restrictions widespread.
- D4 Exceptional drought.** 0-2nd percentile Expected frequency on this date is less than once in 50 years. Water shortages at emergency levels. Low, empty, or depleting streams, ponds, reservoirs and aquifers.

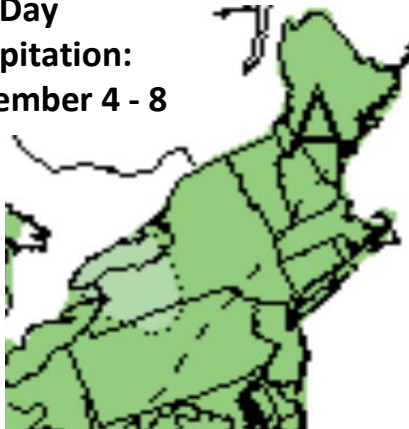
Category	Impact
D0	Crop growth is stunted; planting is delayed
	Fire danger is elevated; spring fire season starts early
	Lawns brown early; gardens begin to wilt
	Surface water levels decline
D1	Irrigation use increases; hay and grain yields are lower than normal
	Honey production declines
	Wildfires and ground fires increase
	Trees and landscaping are stressed; fish are stressed
	Voluntary water conservation is requested; reservoir and lake levels are below normal capacity
D2	Specialty crops are impacted in both yield and fruit size
	Producers begin feeding cattle; hay prices are high
	Warnings are issued on outdoor burns; air quality is poor
	Golf courses conserve water
	Trees are brittle and susceptible to insects
	Fish kills occur; wildlife move to farms for food
	Water quality is poor; groundwater is declining; irrigation ponds are dry; outdoor water restrictions are implemented
D3	Crop loss is widespread; Christmas tree farms are stressed; dairy farmers are struggling financially
	Well drillers and bulk water haulers see increased business
	Water recreation and hunting are modified; wildlife disease outbreak is observed
	Extremely reduced flow to ceased flow of water is observed; river temperatures are warm; wells are running dry; people are digging more and deeper wells
D4	Maine has had little or no experience in D4 so no impacts have been recorded at that level in the Drought Impact Reporter

Long-term Weather Outlooks

PRECIPITATION OUTLOOKS. Precip outlooks out to about 1 month have predictive skill.

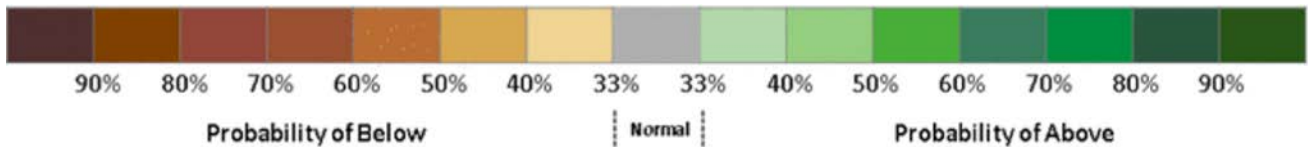
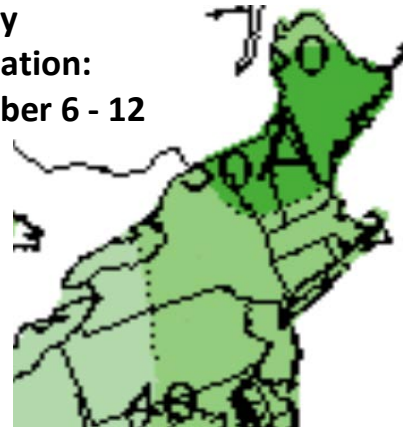
6-10 Day

**Precipitation:
September 4 - 8**



8-14 Day

**Precipitation:
September 6 - 12**



<https://www.cpc.ncep.noaa.gov/products/predictions/610day/610prcp.new.gif>

<https://www.cpc.ncep.noaa.gov/products/predictions/814day/814prcp.new.gif>

15-28 Day

**Precipitation:
September 12 - 25**

<https://www.cpc.ncep.noaa.gov/products/predictions/WK34/gifs/WK34prcp.gif>

**EC MEANS 50/50 CHANCES
FOR ABOVE OR BELOW
A MEANS ABOVE NORMAL
B MEANS BELOW NORMAL**

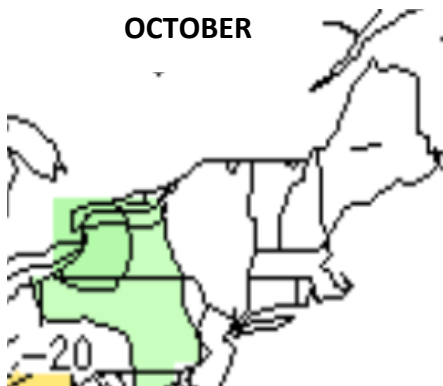


Monthly precipitation outlooks.

SEPTEMBER



OCTOBER



NOVEMBER



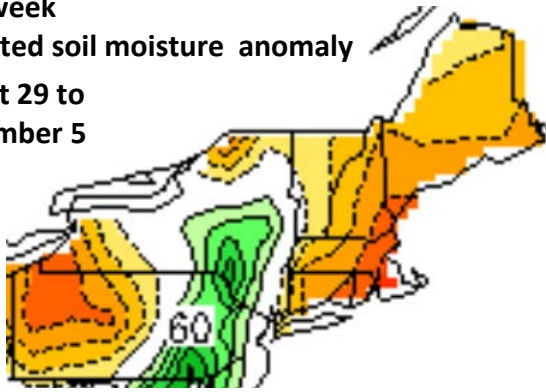
Millimeters difference from 1916-2004 average. 20 mm = 0.8 inch, 40 mm = 1.6 inches etc.



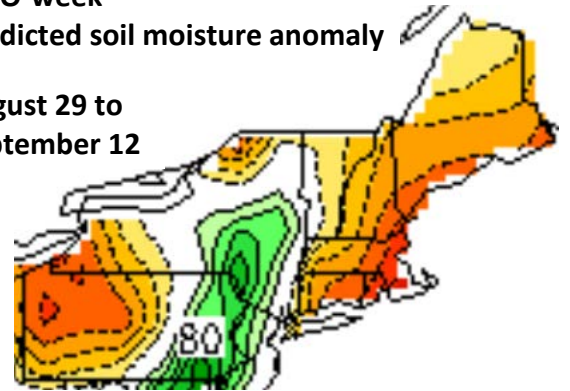
https://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Outlook/CAS/monthly_pt.shtml

SOIL MOISTURE outlooks.

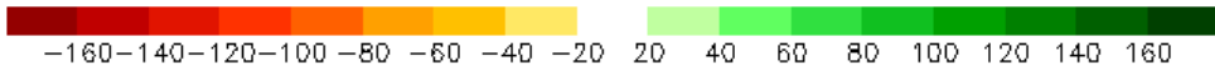
**ONE-week
predicted soil moisture anomaly
August 29 to
September 5**



**TWO-week
predicted soil moisture anomaly
August 29 to
September 12**



Millimeters difference from 1916-2004 average. 20 mm = 0.8 inch, 40 mm = 1.6 inches etc.



https://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Outlook/GFS/SM_anom.shtml#

Soil Moisture Anomaly Outlooks for end of September, October, November 2020 (as of August 28)

SEPTEMBER



OCTOBER



NOVEMBER



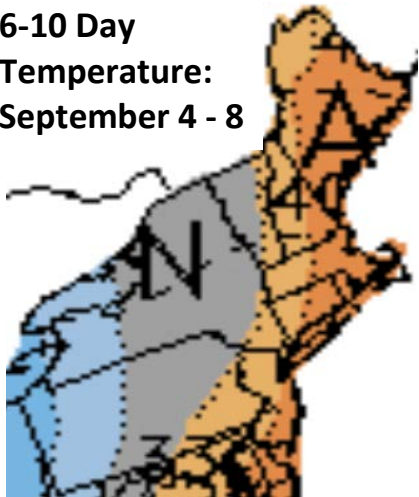
Millimeters difference from 1916-2004 average



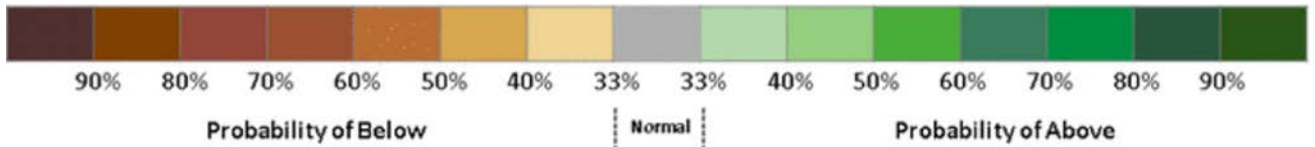
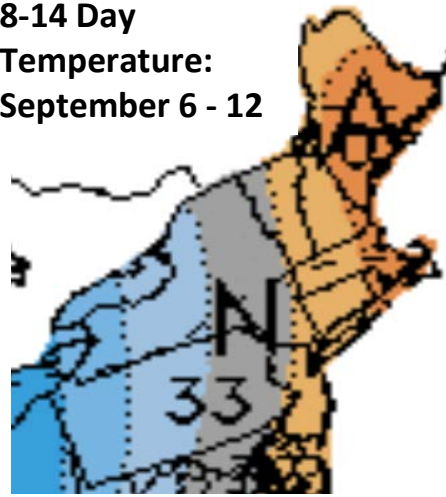
https://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Outlook/CAS/SM.shtml

TEMPERATURE outlooks.

**6-10 Day
Temperature:
September 4 - 8**



**8-14 Day
Temperature:
September 6 - 12**



<https://www.cpc.ncep.noaa.gov/products/predictions/610day/610temp.new.gif>
<https://www.cpc.ncep.noaa.gov/products/predictions/814day/814temp.new.gif>

**15-28 Day
Temperature:
September 12 - 25**

**EC MEANS 50/50 CHANCES
FOR ABOVE OR BELOW
A MEANS ABOVE NORMAL
B MEANS BELOW NORMAL**

<https://www.cpc.ncep.noaa.gov/products/predictions/WK34/gifs/WK34temp.gif>

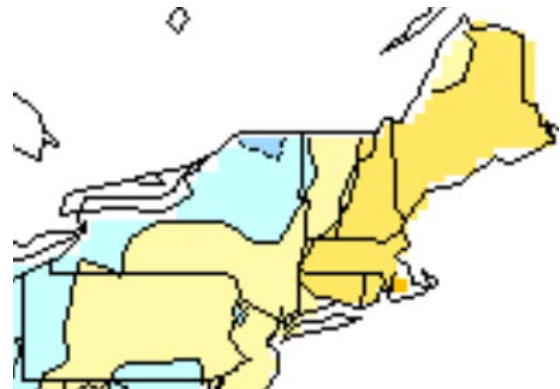


Temperature Anomaly Forecasts

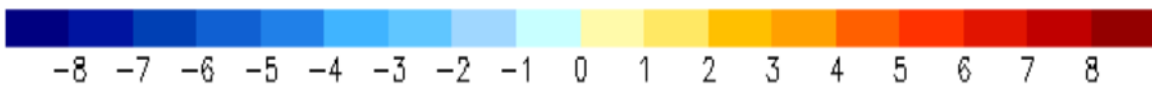
Predicted Temperature anomaly
August 29 to September 5



Predicted Temperature anomaly
September 5 to 12

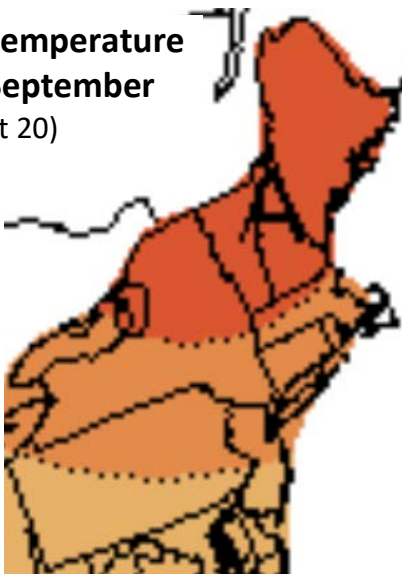


Degrees C difference from 1981-2010 average for same dates

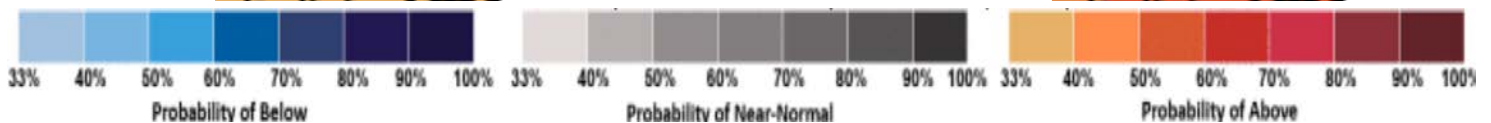
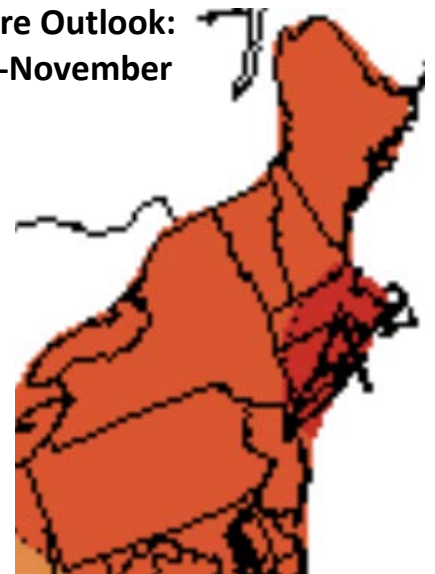


https://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Outlook/GFS/temp.shtml#

1 Month Temperature Outlook: September
(as of August 20)



3 month Temperature Outlook: September-October-November
(as of August 20)



https://www.cpc.ncep.noaa.gov/products/predictions/30day/off14_temp.gif

https://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1

Closing Words

"I had hoped to be three weeks ahead of where I am now a month ago"
- Colleague on phone who chose to remain anonymous

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