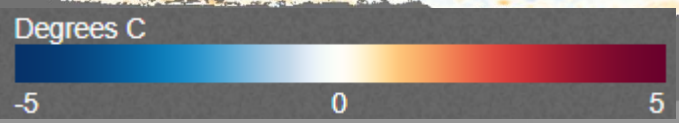
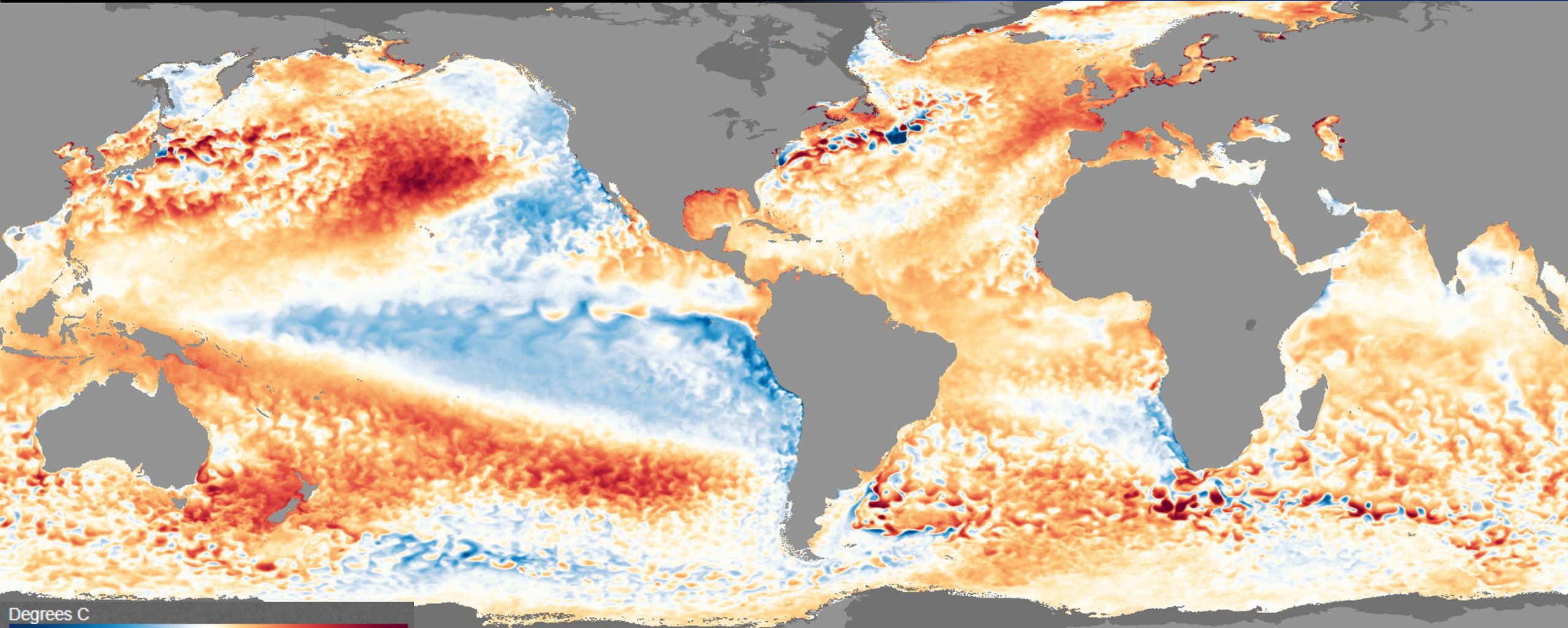


2022 Summer Outlook for Southeast Michigan

Weather Forecast Office
Detroit, MI



90 Day Outlook Valid June 1 to August 31, 2022



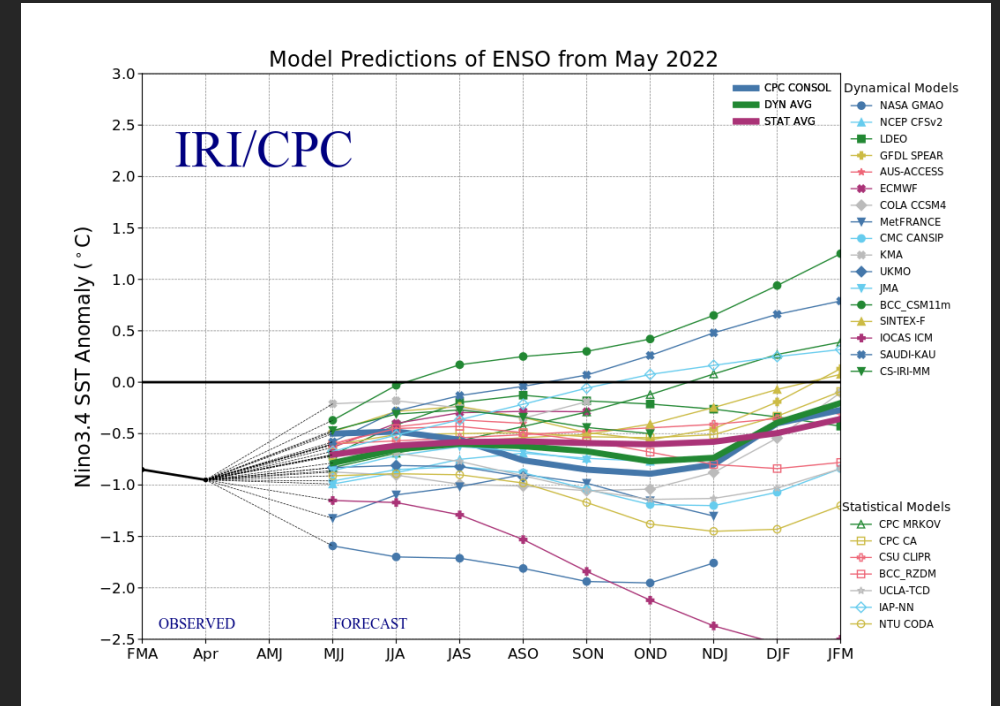
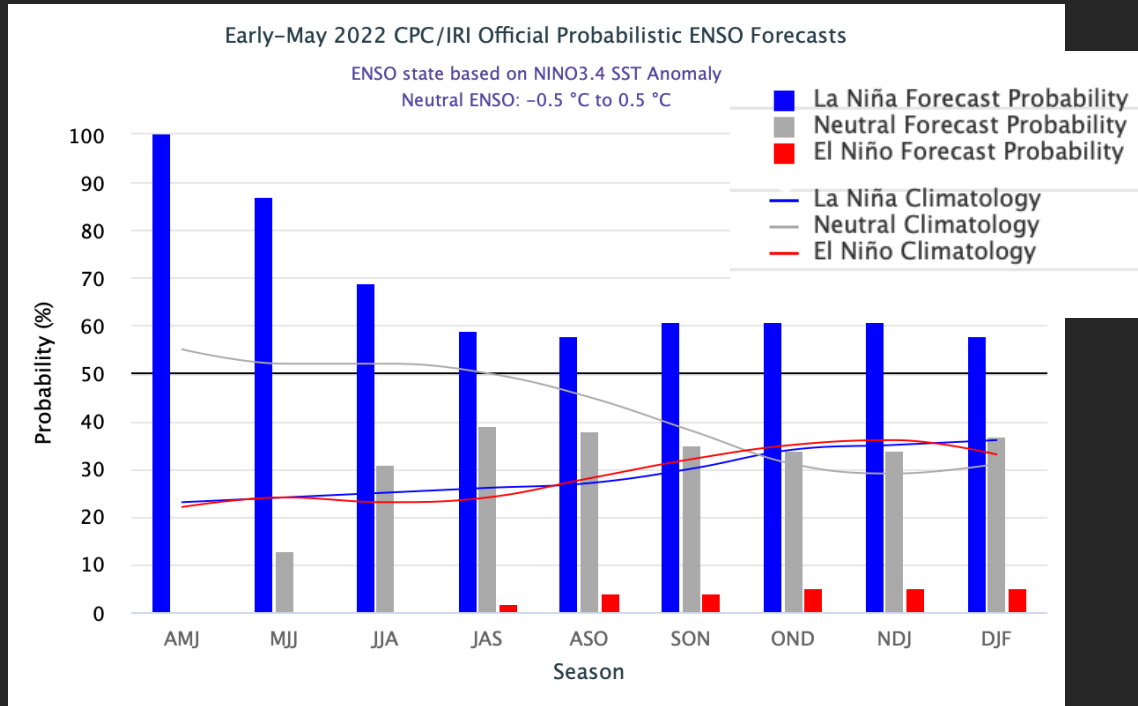
Sea Surface Temperature Anomaly - May 9-15, 2022

Image Courtesy NOAA View



CPC/IRI Probabilistic ENSO Forecast

CPC/IRI ENSO Predictions Plume



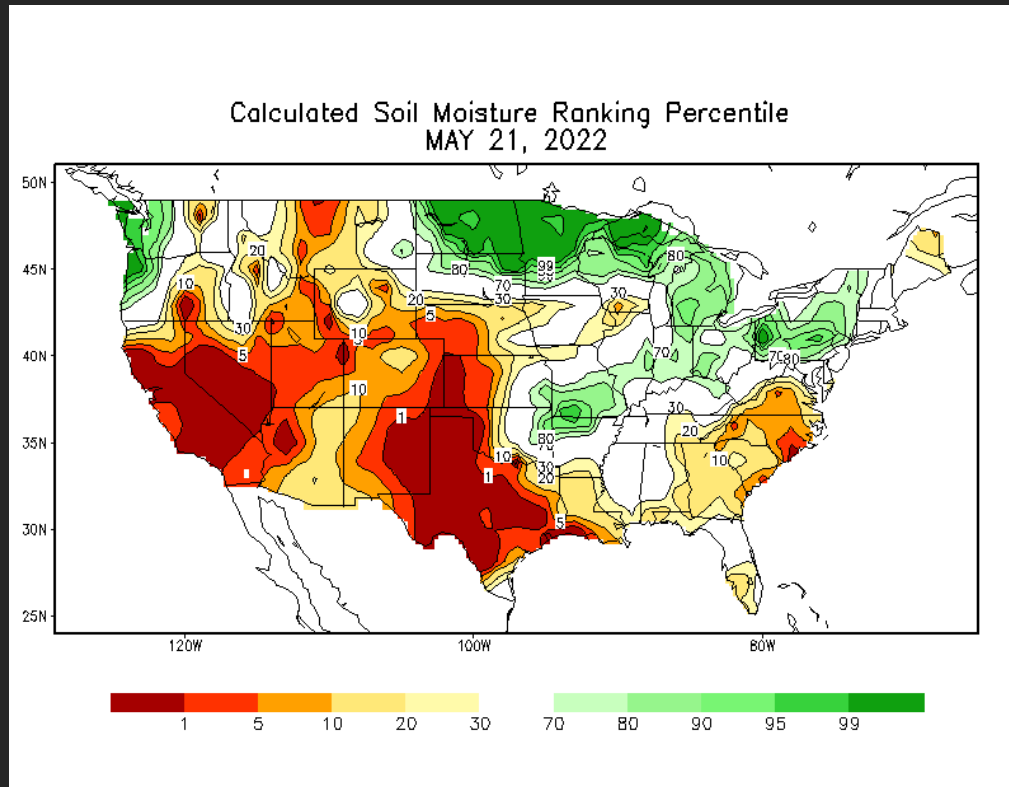
<https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/>

<https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/>

The La Nina from winter 2021-2022 has persisted this spring and is favored to continue through summer 2022. ENSO typically doesn't have as strong of an influence on local conditions during the warm season like it does in the cool season, but it still provides a background forcing for upper air patterns across the northern hemisphere.

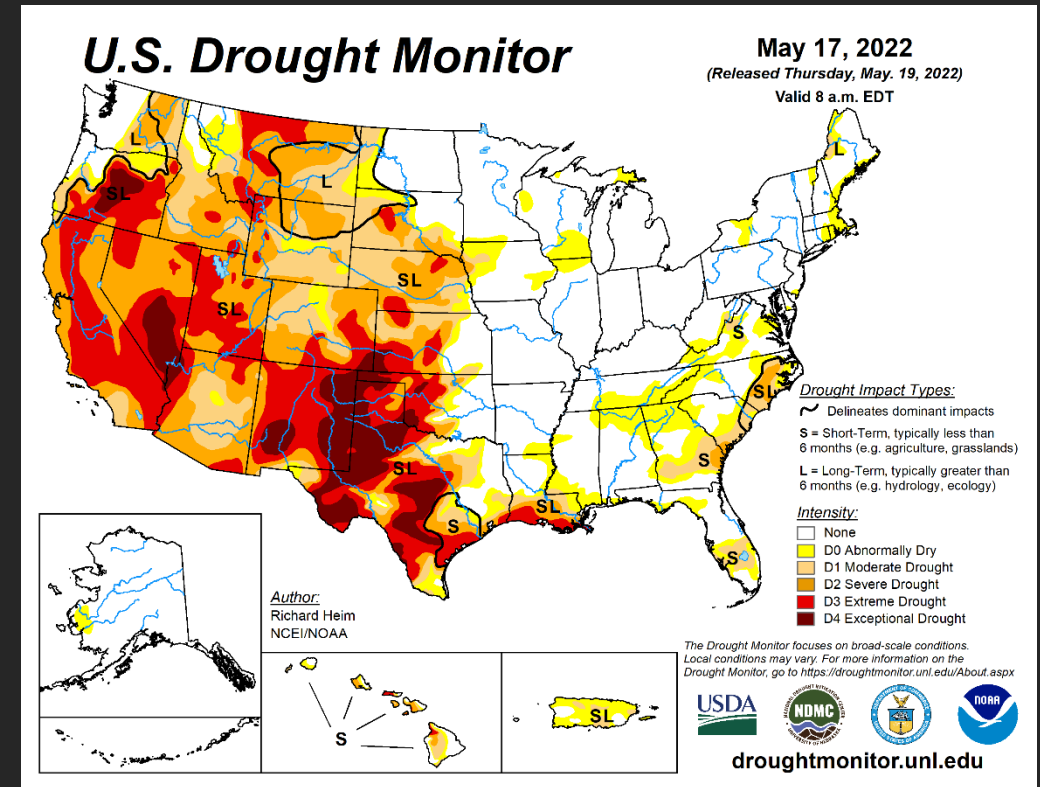


Soil Moisture



https://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/Figures/daily/curr.w.rank.daily.gif

Drought



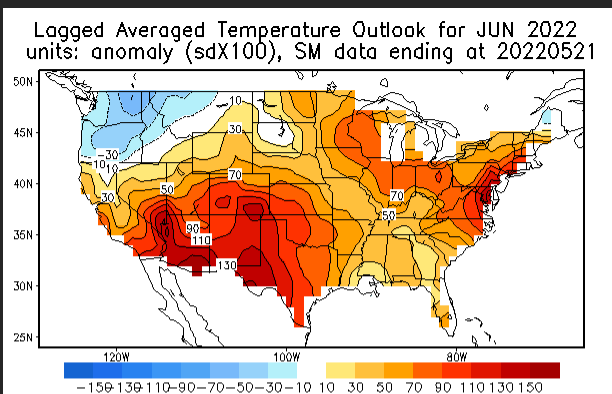
https://droughtmonitor.unl.edu/data/png/current/current_usdm.png

Since January 1, southeast MI has received rainfall amounts ranging from near normal to 3 inches below normal, and meaningful drought is not evident across the area. Some parts of the Great Lakes are however experiencing abnormally dry (D0) conditions. Soil moisture is calculated to be above normal for much of the region – especially the upper Midwest. Widespread drought is observed across the western CONUS.

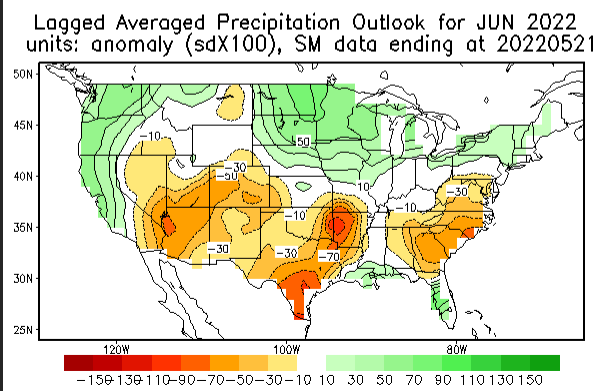


June

Temperature



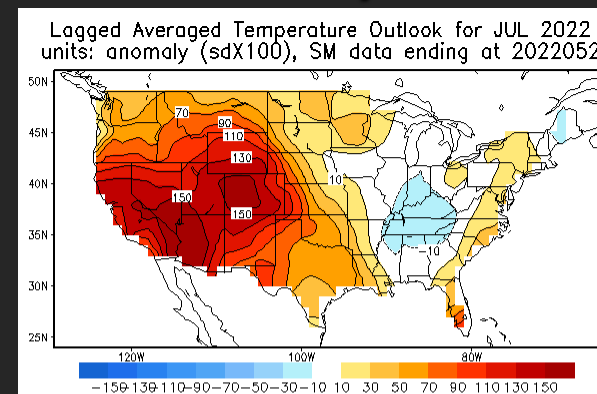
Precipitation



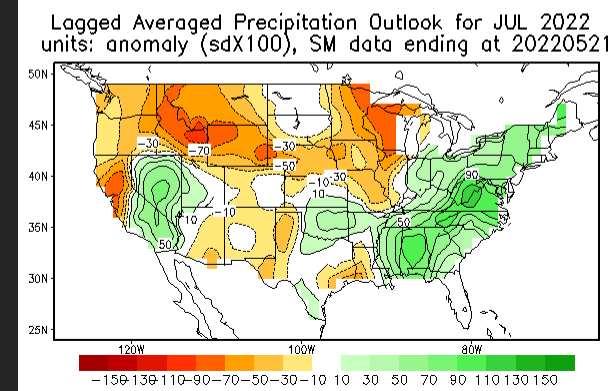
https://www.cpc.ncep.noaa.gov/soilmst/img/cas_pt_mon.lead1.gif

July

Temperature



Precipitation

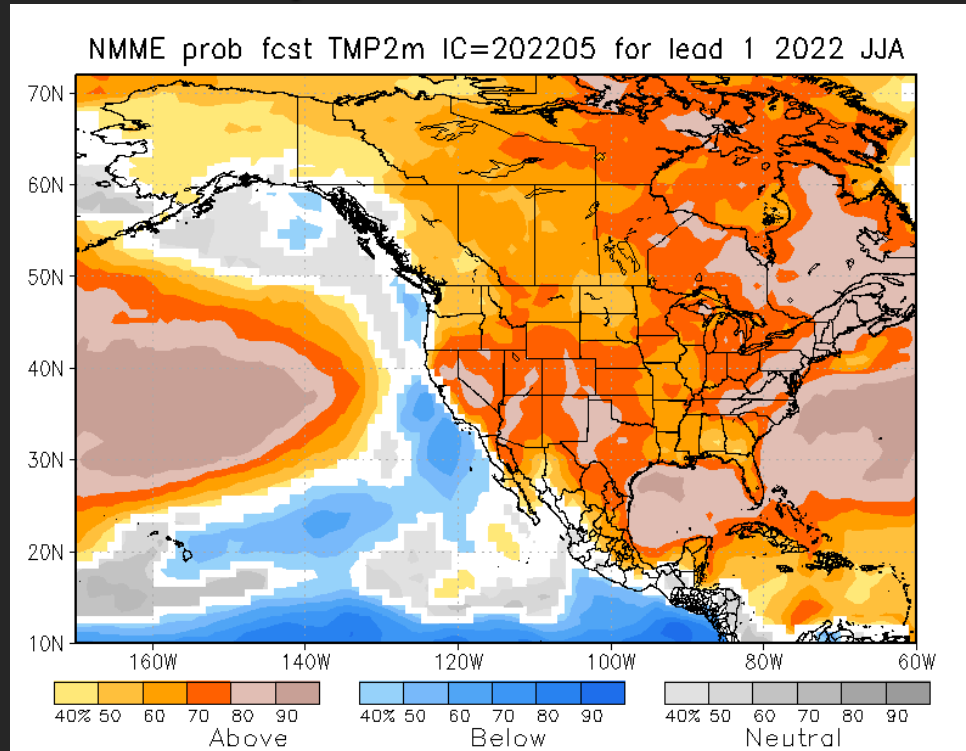


https://www.cpc.ncep.noaa.gov/soilmst/img/cas_pt_mon.lead2.gif

Soil moisture and drought have predictive value leading into the summer, and CPC soil moisture analogs provide a depiction of how summers with similar antecedent conditions evolved. Analogs (above) with similar soil moisture conditions to this year generally showed warmer and wetter than normal conditions across the Great Lakes and Midwest for early summer. Temperature has less signal in either direction by mid-summer while precipitation patterns place southeast Michigan between wet conditions to the east and dry conditions to the west.

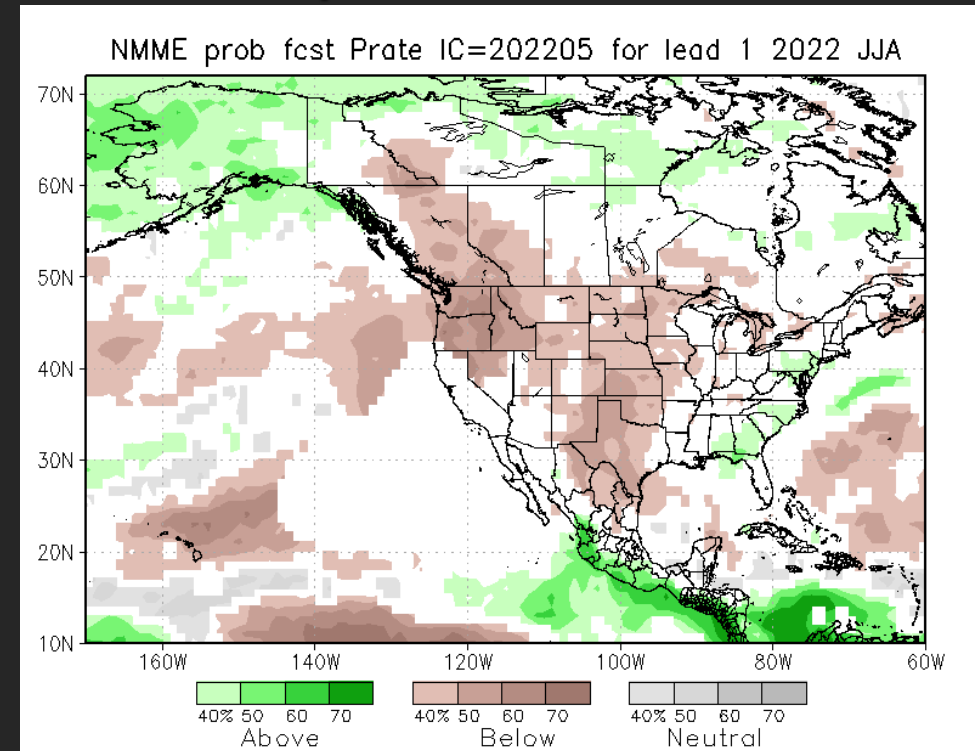


Summer 2022 Temperature Probabilities



https://www.cpc.ncep.noaa.gov/products/NMME/prob/images/prob_ensemble_tmp2m_us_season1.png

Summer 2022 Precipitation Probabilities



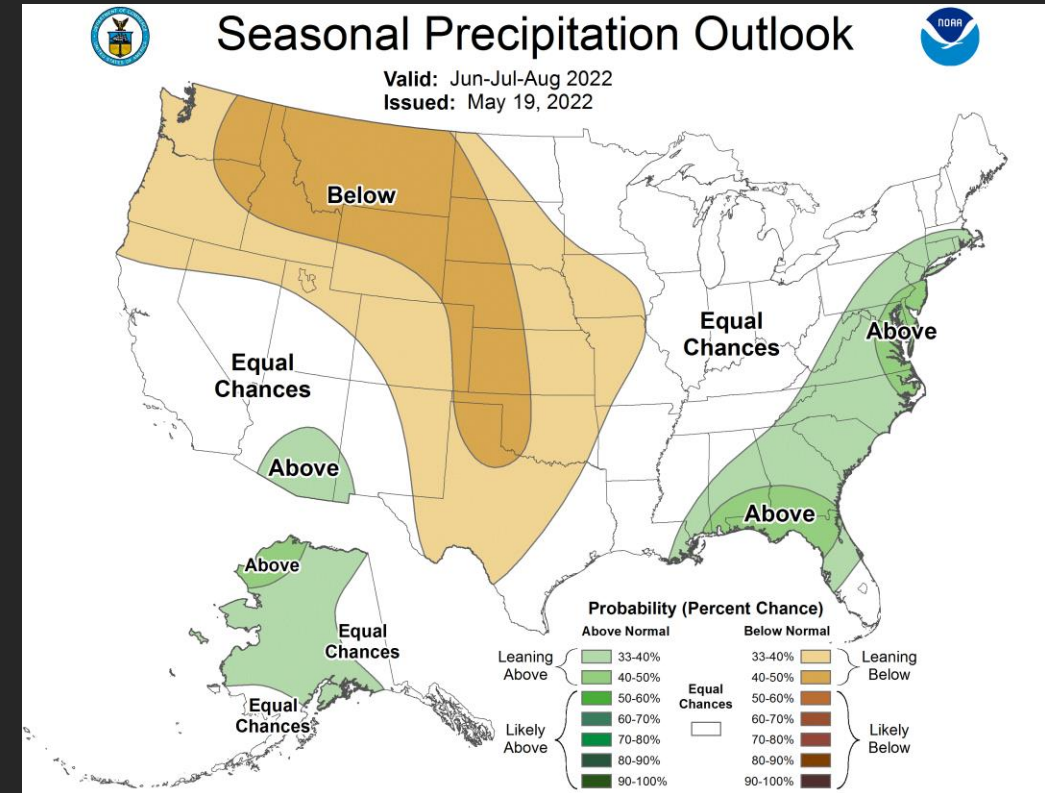
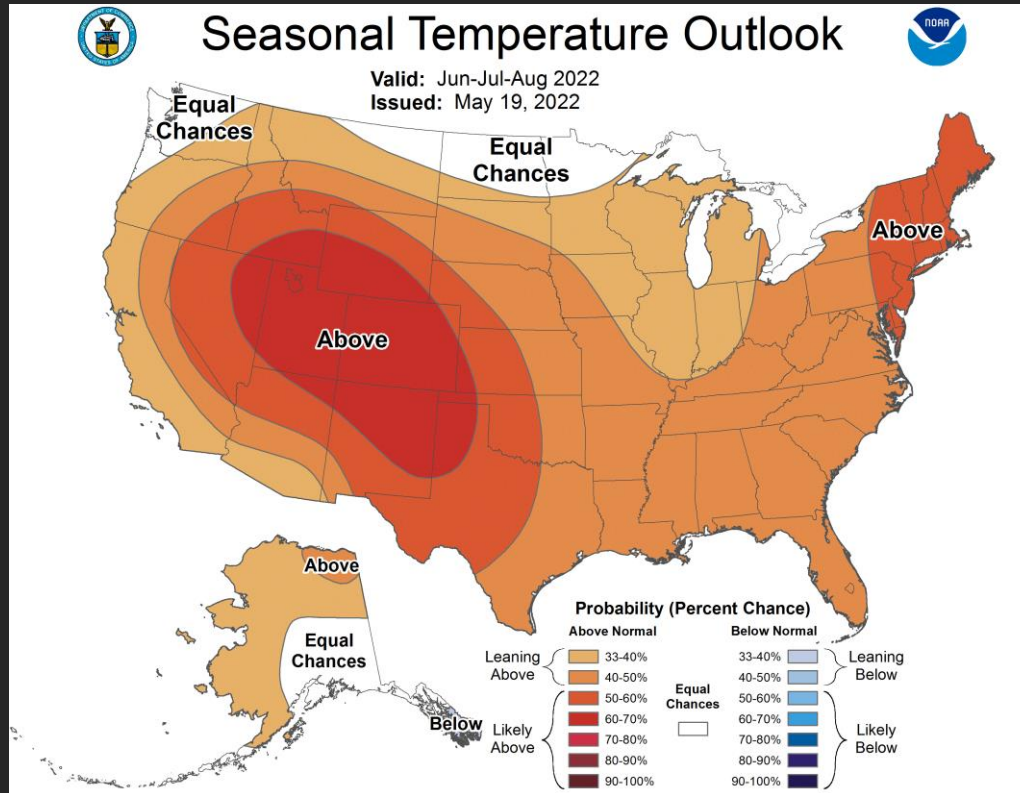
https://www.cpc.ncep.noaa.gov/products/NMME/prob/images/prob_ensemble_prate_us_season1.png

The NMME is the averaged output of several climate models and is another tool to make seasonal-scale predictions. Recent output (above) generally agrees with the soil moisture analogs that suggest warmer than normal conditions for much of the CONUS and drier than normal conditions over the western CONUS this summer. Temperature output from the NMME generally has higher skill than that for precip for this period.



Temperature

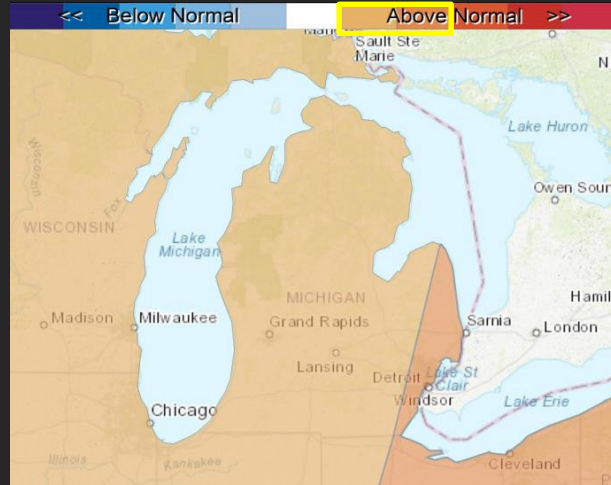
Precipitation



In the official summer outlook, the Climate Prediction Center highlights southeast MI within higher chances for **above normal temperatures**. Meanwhile, we have equal chances for above, near, or below normal **precipitation**. This outlook accounts for many factors including ENSO, dynamical guidance such as the NMME, statistical tools, soil moisture conditions, and trends in recent years. As a reminder, the new [1991-2020 climate normals](#) are now factored into the outlooks.

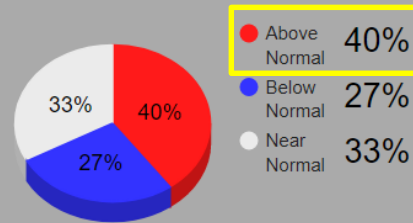


Temperature



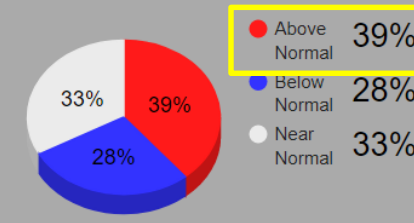
Detroit

Three Category Temperature Outlook
Normal Maximum Temperature: **81**
Normal Minimum Temperature: **61**



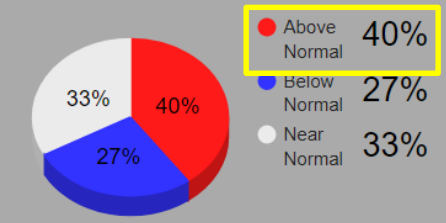
Flint

Three Category Temperature Outlook
Normal Maximum Temperature: **80**
Normal Minimum Temperature: **58**



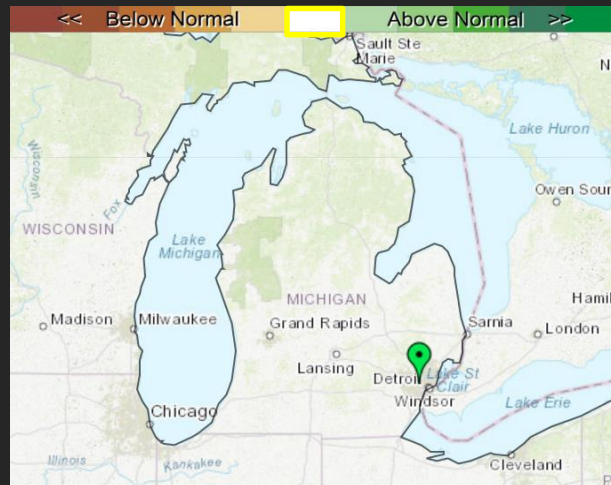
Saginaw

Three Category Temperature Outlook
Normal Maximum Temperature: **80**
Normal Minimum Temperature: **58**



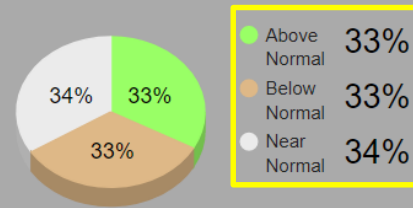
Leaning Toward Above Normal Temperatures

Precipitation



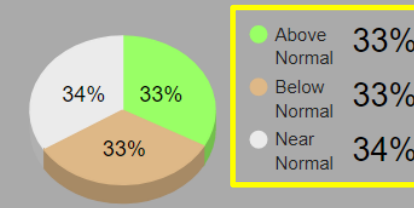
Detroit

Three Category Precipitation Outlook
Normal Precipitation: **9.91**



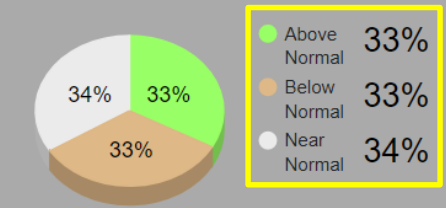
Flint

Three Category Precipitation Outlook
Normal Precipitation: **9.26**



Saginaw

Three Category Precipitation Outlook
Normal Precipitation: **9.59**



Equal Chances for Above, Below, or Near Normal Precipitation

2022 Summer Outlook for Southeast Michigan

Weather Forecast Office
Detroit, MI



Summer Records and Trivia

Normal High/Low	June	July	August
Detroit	79.7 / 60.2	83.7 / 64.4	81.4 / 63.2
Flint	78.2 / 55.9	82.1 / 59.7	79.9 / 58.3
Saginaw	78.5 / 57.7	82.2 / 61.2	80.0 / 59.4

Normal Precip	June	July	August
Detroit	3.26"	3.51"	3.26"
Flint	3.12"	3.41"	3.16"
Saginaw	3.28"	2.83"	3.85"

Warmest...	Temperature	Month	Summer
Detroit	105 (Jul. 24, 1934)	79.3 (Jul. 2011)	74.9 (2016)
Flint	108 (Jul. 13, 1936)	78.0 (Jul. 1921)	74.2 (1933)
Saginaw	111 (Jul. 13, 1936)	77.5 (Jul. 1936)	73.0 (1931)

Wettest...	Month	Summer
Detroit	8.76" (Jul. 1878)	16.96" (1896)
Flint	11.18" (Aug. 1937)	18.39" (1937)
Saginaw	10.76" (Jun. 2017)	16.28" (1928)

Coollest...	Temperature	Month	Summer
Detroit	36 (Jun. 11, 1972)	62.8 (Jun. 1985)	66.5 (1915)
Flint	33 (Jun. 4, 1998)	60.1 (Jun. 1969)	65.4 (1992)
Saginaw	33 (Jun. 8, 1949)	60.6 (Jun. 1982)	64.8 (1915)

Driest...	Month	Summer
Detroit	0.16" (Aug. 1894)	3.58" (1911)
Flint	0.16" (Jul. 1939)	3.76" (1930)
Saginaw	0.27" (Aug. 1927)	3.54" (1927)

Normal # of 90+ degree days per summer... Detroit: 11.2; Flint: 9.7; Saginaw: 7.7

All temps in °F; normals reflect 1991-2020 period