VIRGINIA DROUGHT MONITORING TASK FORCE Drought Status Report July 01, 2024

Summary

On Monday July 1, 2024, the Virginia Drought Monitoring Task Force (DMTF) met to discuss the drought indicators identified by the Virginia Drought Assessment and Response Plan. Precipitation deficits in combination with increased temperatures have resulted in rapid intensification of drought throughout the majority of the Commonwealth. Significant declines in surface and groundwater indicators throughout the past thirty-day period have occurred, with much below normal observations within the Northern Virginia and Shenandoah drought evaluation regions. Soil moisture within the 0-100cm range show exceptional dryness occurring throughout the Shenandoah Valley and Northern Virginia regions. The 8-14 day outlook forecasts much above average temperatures and chances of normal to above average precipitation.

Due to below normal precipitation and continued declines of surface and groundwater indicators the Task Force recommends maintaining the Drought Watch for the following regions:

- Big Sandy
- Middle James
- New River
- Chowan
- Eastern Shore

York-James

- Northern Coastal Plain
- Northern Piedmont
 Southeast Virginia
- Roanoke River
- Upper James

Due to rapid declines in surface and groundwater indicators, reported impacts to agriculture, and above average temperatures forecasted the Task Force recommends maintaining the Drought Warning for the following regions:

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- Shenandoah
- Northern Virginia

The DMTF reviewed the status of drought monitoring and hydrologic conditions in the Commonwealth of Virginia. Precipitation over the past 7-14 day period show localized rainfall occurring throughout the state from scattered thunderstorms. Precipitation percent of normal over the 30-60 day period shows exceptional dryness within the Shenandoah Valley and Piedmont regions, with nearly all of Virginia much below normal. Area-average rainfall since the beginning of the current water year (October 1, 2023) has remained below long-term normal values for the Big Sandy and Eastern Shore drought evaluation regions (see <u>DEQ website</u> for more info on drought indicators). The Task Force will continue closely monitoring drought indicator and is scheduled to meet on July 16, 2024.

Streamflow over the past 14-day period has shown widespread declines throughout the Commonwealth. Flows are currently below the 25th percentile for 11 of the 13 drought evaluation regions (no surface water flow indicators are present due to tidal influence within the Eastern Shore and Southeast Virginia regions). Ten regions are currently below the 10th percentile including the Big

Sandy, Chowan, Middle James, New River, Northern Coastal Plain, Northern Piedmont, Roanoke, Shenandoah, Upper James, and York-James. Eight regions are currently below the 5th percentile including the Big Sandy, Chowan, Middle James, Northern Piedmont, Roanoke, Shenandoah, Upper James, and York-James.

Groundwater levels for monitoring wells in the Climate Response Network have shown continued declines within all portions of the state. All regions are currently below the 25th percentile excluding the Chowan and Middle James regions. Seven regions are currently below the 5th percentile including the Big Sandy, New River, Northern Coastal Plain, Northern Virginia, Roanoke, Shenandoah, and York-James. Continued lack of precipitation and above average temperatures continue to contribute to observed declines.

Storage at major water supply reservoirs throughout Virginia remain within normal ranges at this time.

The most recent weekly <u>U.S. Drought Monitor (USDM)</u> web page map for Virginia (<u>Appendix A</u>, released June 27, 2024) showed abnormally dry (D0) conditions mapped across approximately 98% of the Commonwealth, moderate drought (D1) conditions mapped across approximately 90% of the Commonwealth, and (D2) severe drought mapped across 2%. Appendix B includes a presentation from the National Weather Service.

Virginia Department of Agriculture and Consumer Services

Producers throughout all regions of the Commonwealth report that dry conditions have negatively impacted most crops. Producers expect reduced corn, soybean, and cotton yields. Producers who have the ability to do so are supplementing with irrigating. Additionally, many livestock producers are feeding hay due to dry pastures. Producers in the Northern, Southside, and Southwestern regions report decreasing water levels in streams, rivers, and ponds.

Some farmers' markets throughout the Commonwealth have fewer produce vendors participating each week due to low production because of the dry conditions. Farm supply firms throughout the Commonwealth report low fertilizer sales because producers are not applying fertilizer due to the lack of rain.

As widespread impacts to producers throughout the Commonwealth have been experienced information regards assistance programs was provided by VDACS.

Information regarding the U.S. Department of Agriculture's Disaster Assistance Programs is available here: <u>https://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/index.</u>

Information regarding the federal disaster declaration process is available here: <u>https://www.fsa.usda.gov/Assets/USDA-FSA-</u> <u>Public/usdafiles/FactSheets/emergency_disaster_designation_declaration_process-factsheet.pdf</u> Contact information for each locality's USDA Farm Service Agency office can be found by clicking-through the map available here: <u>https://offices.sc.egov.usda.gov/locator/ap</u>

Virginia Department of Environmental Quality

The DEQ report presents a map of current conditions of DEQ Drought Indicators, and summary of current conditions at the four large multi-purpose reservoirs listed as key reservoir storage indicators in the <u>Virginia Drought Assessment and Response Plan</u>. The U.S. Army Corps of Engineers (USACE) reported that Lake Moomaw, Philpott Lake, and J. H. Kerr Reservoir have received much below normal inflows over the past month. J. H. Kerr Reservoir and Philpott are currently below guide curve elevation.

<u>Smith Mountain Lake on the Staunton River in the Roanoke drought evaluation region was</u> observed at an adjusted elevation of 794.40 feet, which is 1.4 feet above Watch level (793 ft). The adjusted elevation is the level the lake would be if the water currently held in the lower Leesville Lake for reuse were pumped back into Smith Mountain Lake. Recent 7, 14, and 28-day inflows were much below normal for this time of year.

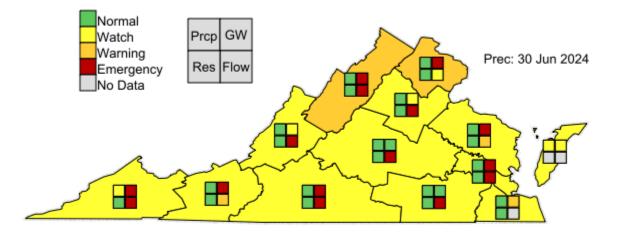
Lake Moomaw at Gathright Dam on the Jackson River in the Upper James drought evaluation region was observed at an elevation of 1577.59 feet, which is 14 feet above Watch level (1565 ft). Recent 7, 14, and 28-day average inflows were much below normal for this time of year.

Lake Anna on the North Anna River in the Northern Piedmont drought evaluation region was observed at an elevation of 249.5 feet, which is 1.5 feet above Watch level (248 ft). Recent 7, 14, and 28-day inflows were much below normal for this time of year.

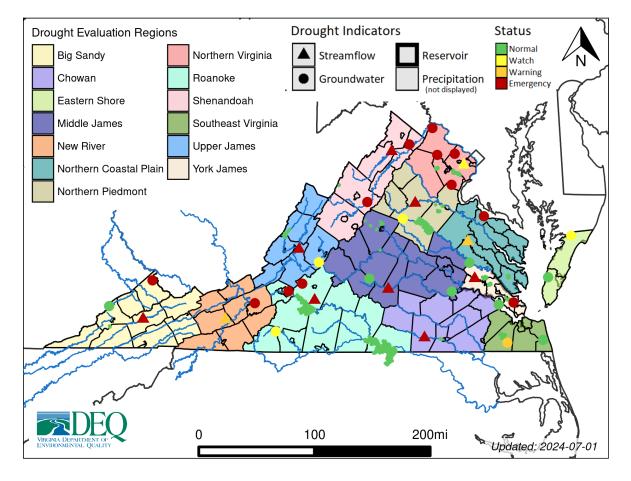
J. H. Kerr Reservoir on the Staunton River in the Roanoke drought evaluation region was observed at an elevation of 299.44ft, which is 2.0ft below the guide curve elevation for this time period (301.4 feet) and 1.0ft above the watch level (Watch level is 3 to 6 ft below guide curve). Recent 7, 14, and 28-day inflows were much below normal for this time of year.

DEQ Daily Drought Status Summary: 07/01/2024

Drought Summary Map:



Drought Indicator Map:



Regional Drought Response:

#	Region	Reduction Type	Target Reduction %
1	Eastern Shore	voluntary	none
2	Big Sandy	voluntary	none
3	Upper James	voluntary	none
4	Roanoke	voluntary	none
5	Southeast Virginia	voluntary	none
6	Northern Coastal Plain	voluntary	none
7	New River	voluntary	none
8	Middle James	voluntary	none
9	Chowan	voluntary	none
10	York James	voluntary	none
11	Northern Virginia	voluntary	none
12	Northern Piedmont	voluntary	none
13	Shenandoah	voluntary	none

Precipitation Indicators:

#	Region	Start Date	End Date	Water Year % of Normal	Status
1	Big Sandy	10/1/2023	6/30/2024	80.26	Watch
2	Eastern Shore	10/1/2023	6/30/2024	83.47	Watch
3	Roanoke	10/1/2023	6/30/2024	86.96	Normal
4	New River	10/1/2023	6/30/2024	87.48	Normal
5	Upper James	10/1/2023	6/30/2024	89.98	Normal
6	Middle James	10/1/2023	6/30/2024	93.83	Normal
7	Northern Piedmont	10/1/2023	6/30/2024	94.08	Normal
8	Shenandoah	10/1/2023	6/30/2024	96.63	Normal
9	Northern Virginia	10/1/2023	6/30/2024	101.3	Normal
10	Northern Coastal Plain	10/1/2023	6/30/2024	104.77	Normal
11	Southeast Virginia	10/1/2023	6/30/2024	104.81	Normal
12	York James	10/1/2023	6/30/2024	112.78	Normal
13	Chowan	10/1/2023	6/30/2024	115.07	Normal

Surface Water Indicators:

#	Region	Gage Name	Start Date	End Date	Percentile	Status
1	Upper James	COWPASTURE RIVER NEAR CLIFTON FORGE, VA	6/24/2024	6/30/2024	2.24	Emergend
2	York James	CHICKAHOMINY RIVER NEAR PROVIDENCE FORGE, VA	6/24/2024	6/30/2024	3.15	Emergenc
3	Shenandoah	N F SHENANDOAH RIVER NEAR STRASBURG, VA	6/24/2024	6/30/2024	3.2	Emergenc
4	Big Sandy	CLINCH RIVER AT CLEVELAND, VA	6/24/2024	6/30/2024	3.31	Emergenc
5	Northern Piedmont	RAPIDAN RIVER NEAR CULPEPER, VA	6/24/2024	6/30/2024	4.02	Emergenc
6	Roanoke	GOOSE CREEK NEAR HUDDLESTON, VA	6/24/2024	6/30/2024	4.44	Emergenc
7	Chowan	MEHERRIN RIVER NEAR LAWRENCEVILLE, VA	6/24/2024	6/30/2024	4.86	Emergenc
8	Middle James	APPOMATTOX RIVER AT FARMVILLE, VA	6/24/2024	6/30/2024	4.97	Emergenc
9	Northern Coastal Plain	MATTAPONI RIVER NEAR BEULAHVILLE, VA	6/24/2024	6/30/2024	5.18	Warning
10	New River	REED CREEK AT GRAHAMS FORGE, VA	6/24/2024	6/30/2024	9.73	Warning
11	Northern Virginia	ACCOTINK CREEK NEAR ANNANDALE, VA	6/24/2024	6/30/2024	17.83	Watch

Groundwater Indicators:

#	Region	Well Name	Start Date	End Date	Percentile	Status
1	Big Sandy	Buchanan County USGS Observation Well (15G 19 SOW 222)	6/24/2024	6/30/2024	0.0	Emergency
2	New River	Christiansburg DEQ Observation Well (27F 2 SOW 019)	6/24/2024	6/30/2024	0.0	Emergency
3	Northern Virginia	Prince William County USGS Observation Well (51S 7)	6/24/2024	6/30/2024	0.0	Emergency
4	Northern Virginia	Prince William County USGS Observation Well (49V 1)	6/24/2024	6/30/2024	0.0	Emergency
5	Roanoke	Roanoke-Nelson DEQ Observation Well (31G 1 SOW 008)	6/24/2024	6/30/2024	0.0	Emergency
6	York James	York County DEQ Observation Well (59F74 SOW 184C)	6/24/2024	6/30/2024	0.0	Emergency
7	Roanoke	Bedford County USGS Observation Well (33G 1 SOW 224)	6/24/2024	6/30/2024	1.56	Emergency
8	Northern Virginia	Fairfax County USGS Observation Well (52V 2D)	6/24/2024	6/30/2024	1.98	Emergency
9	Northern Coastal Plain	George Washington Birthplace USGS Observation Well (55P 9)	6/24/2024	6/30/2024	2.2	Emergency
10	Shenandoah	McGaheysville USGS Observation Well (41Q 1)	6/24/2024	6/30/2024	2.87	Emergency
11	Northern Virginia	Harper's Ferry DEQ Observation Well (49Y 1 SOW 022)	6/24/2024	6/30/2024	3.13	Emergency
12	Shenandoah	Blandy Farm USGS Observation Well (46W 175)	6/24/2024	6/30/2024	3.21	Emergency
13	Southeast Virginia	Brinkley USGS Observation Well (58B 13)	6/24/2024	6/30/2024	9.88	Warning
14	Upper James	Glasgow DEQ Observation Well (35K 1 SOW 063)	6/24/2024	6/30/2024	10.67	Watch
15	Eastern Shore	Withams DEQ Observation Well (66M 19 SOW 110S)	6/24/2024	6/30/2024	12.73	Watch
16	Roanoke	Fairystone State Park USGS Observation Well (30C 1 SOW 010)) 6/24/2024	6/30/2024	18.36	Watch
17	Northern Piedmont	Gordonsville DEQ Observation Well (45P 1 SOW 030)	6/24/2024	6/30/2024	18.4	Watch
18	Southeast Virginia	Pungo DEQ Observation Well (62B 1 SOW 098A)	6/24/2024	6/30/2024	41.9	Normal
19	Middle James	Buckingham USGS Observation Well (41H 3)	6/24/2024	6/30/2024	44.26	Normal
20	Chowan	Slade Farm DEQ Observation Well (57E 31 SOW 094C)	6/24/2024	6/30/2024	45.83	Normal
21	Eastern Shore	P. C. Kellam DEQ Observation Well (63H 6 SOW 103A)	6/24/2024	6/30/2024	53.85	Normal
22	York James	Hanover County DEQ Observation Well (53K 19 SOW 080)	6/24/2024	6/30/2024	56.25	Normal
23	Middle James	Colonial Heights USGS Observation Well (51G 1)	6/24/2024	6/30/2024	58.5	Normal
24	Big Sandy	U.S. Forest Service - SOW 223 Cane Patch Well	6/24/2024	6/30/2024	95.71	Normal

Reservoir Indicators:

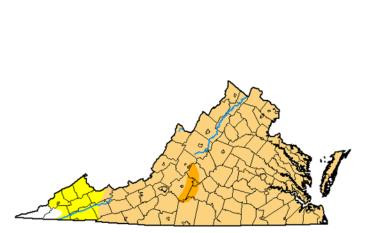
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#	Region	Reservoir	Date	Status
1	Big Sandy	Big Cherry Reservoir	07/01/2024	Normal
2	Chowan	Emporia Reservoir	07/01/2024	Normal
3	Middle James	Beaver Creek Reservoir	07/01/2024	Normal
4	Middle James	Totier Creek Reservoir	07/01/2024	Normal
5	Middle James	Ragged Mountain	07/01/2024	Normal
6	Middle James	Sugar Hollow	07/01/2024	Normal
7	Middle James	Lake Moomaw	07/01/2024	Normal
8	Middle James	South Fork Rivanna River Reservoir	07/01/2024	Normal
9	Northern Coastal Plain	Beverdam Reservoir	07/01/2024	Normal
10	Northern Piedmont	Hunting Run Reservoir	07/01/2024	Normal
11	Northern Piedmont	Motts Run Reservoir	07/01/2024	Normal
12	Northern Piedmont	Lake Anna	07/01/2024	Normal
13	Northern Piedmont	Ni River Reservoir	07/01/2024	Normal
14	Northern Virginia	Lake Manassas	07/01/2024	Normal
15	Northern Virginia	Occoquan Reservoir	07/01/2024	Normal
16	Roanoke	Smith Mountain Lake	07/01/2024	Normal
17	Roanoke	Kerr Reservoir	07/01/2024	Normal
18	Shenandoah	Skidmore Fork Lake (Switzer Lake)	07/01/2024	Normal
19	Southeast Virginia	Lake Cohoon	07/01/2024	Normal
20	Southeast Virginia	Lake Kilby	07/01/2024	Normal
21	Southeast Virginia	Speights Run Reservoir	07/01/2024	Normal
22	Southeast Virginia	Lake Meade	07/01/2024	Normal
23	Southeast Virginia	Kerr Reservoir	07/01/2024	Normal
24	Upper James	Lake Moomaw	07/01/2024	Normal
25	York James	Diascund Creek Reservoir	07/01/2024	Normal
26	York James	Lee Hall - City Reservoir	07/01/2024	Normal
27	York James	Harwoods Mill Reservoir	07/01/2024	Normal
28	York James	Little Creek Reservoir	07/01/2024	Normal
29	York James	Skiffes Creek Reservoir	07/01/2024	Normal

Appendix A

U.S. Drought Monitor Virginia

June 25, 2024

(Released Thursday, Jun. 27, 2024) Valid 8 a.m. EDT



	Drought Conditions (Percent Area)									
	None D0-D4 D1-D4 D2-D4 D3-D4 D4									
Current	1.73	98.27	90.60	2.25	0.00	0.00				
Last Week 06-18-2024	4.46	95.54	24.57	0.00	0.00	0.00				
3 Month s Ago 03-26-2024	100.00	0.00	0.00	0.00	0.00	0.00				
Start of Calendar Year 01-02-2024	31.65	68.35	34.77	4.07	0.00	0.00				
Start of Water Year 09-26-2023	51.40	48.60	24.99	6.12	0.00	0.00				
One Year Ago 06-27-2023	61.37	38.63	7.17	0.41	0.00	0.00				

Intensity:

None D0 Abnormally Dry

D2 Severe Drought D3 Extreme Drought D1 Moderate Drought D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author: Adam Hartman NOAA/NWS/NCEP/CPC



droughtmonitor.unl.edu

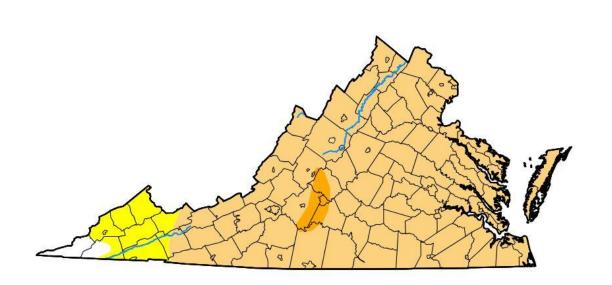
Appendix B

VA Drought Monitoring Task Force

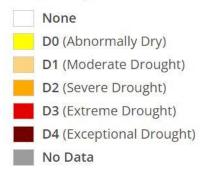
Erik Taylor, Jon McGee, & Nick Fillo National Weather Service – Baltimore/Washington DC/Blacksburg,VA, Wakefield, VA July 1, 2024



U.S. Drought Monitor



Intensity



Authors

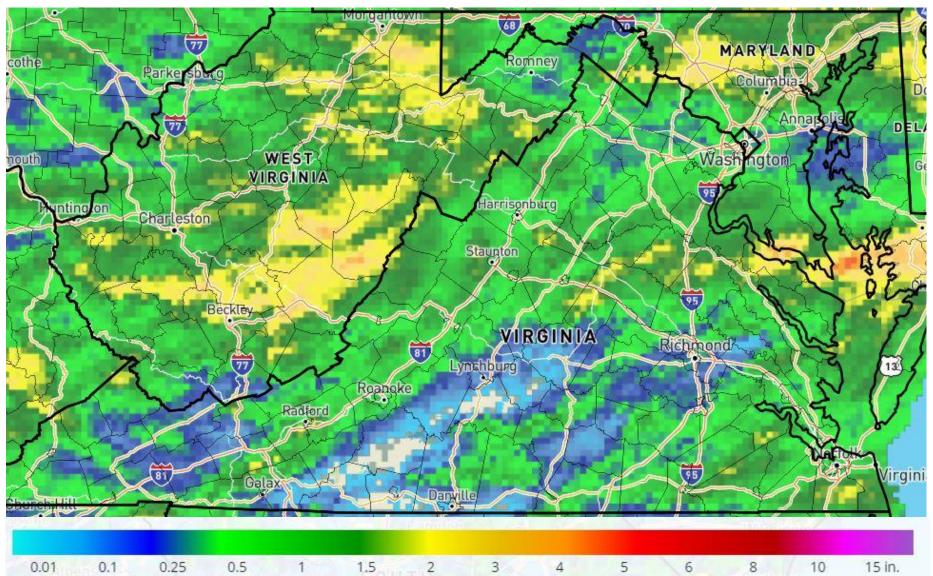
United States and Puerto Rico Author(s): Adam Hartman, NOAA/NWS/NCEP/CPC

Pacific Islands and Virgin Islands Author(s): <u>Rocky Bilotta</u>, NOAA/NCEI

Map released: Thurs. June 27, 2024 Data valid: June 25, 2024 at 8 a.m. EDT

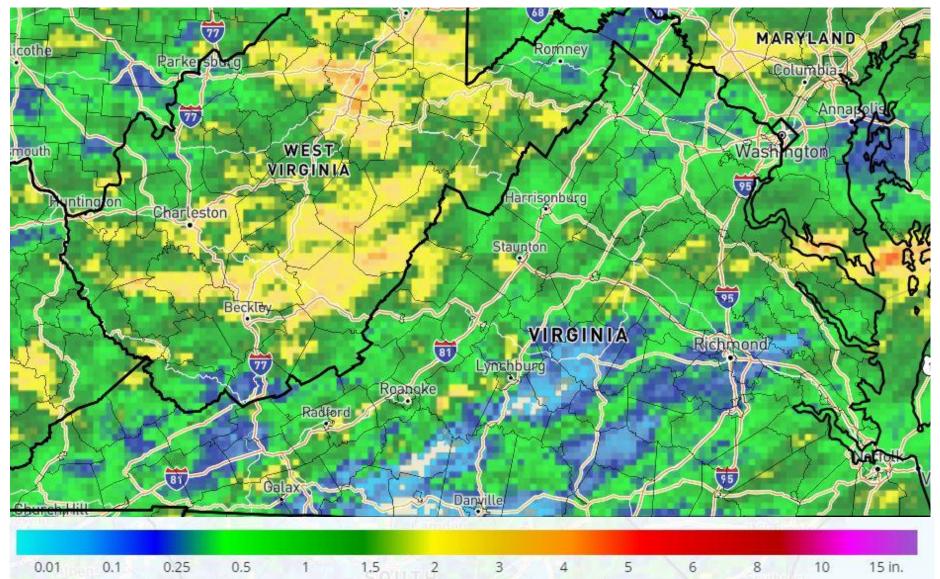


7-Day Observed Precipitation

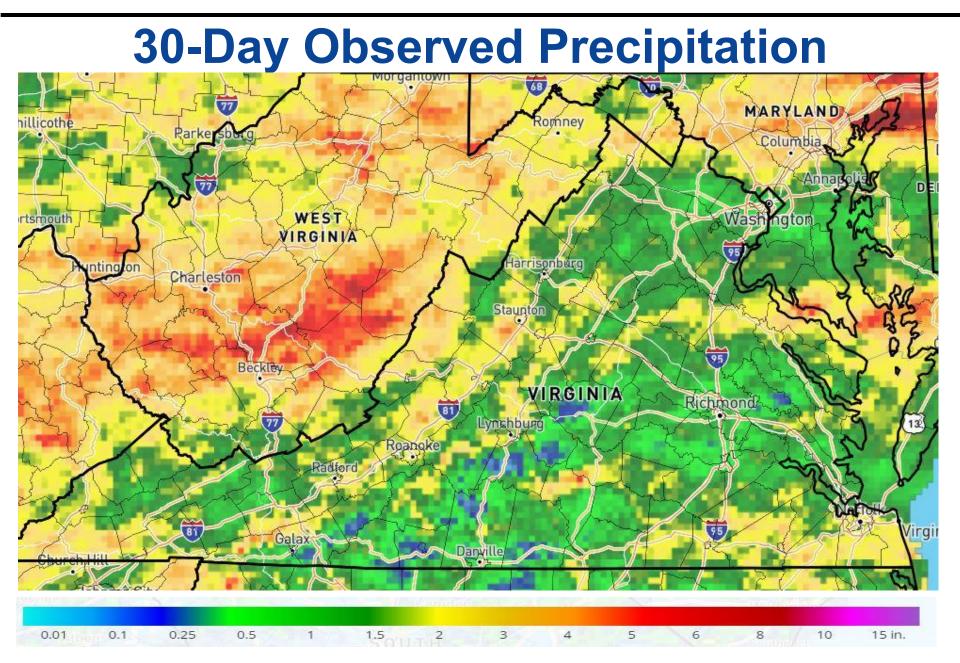




14-Day Observed Precipitation

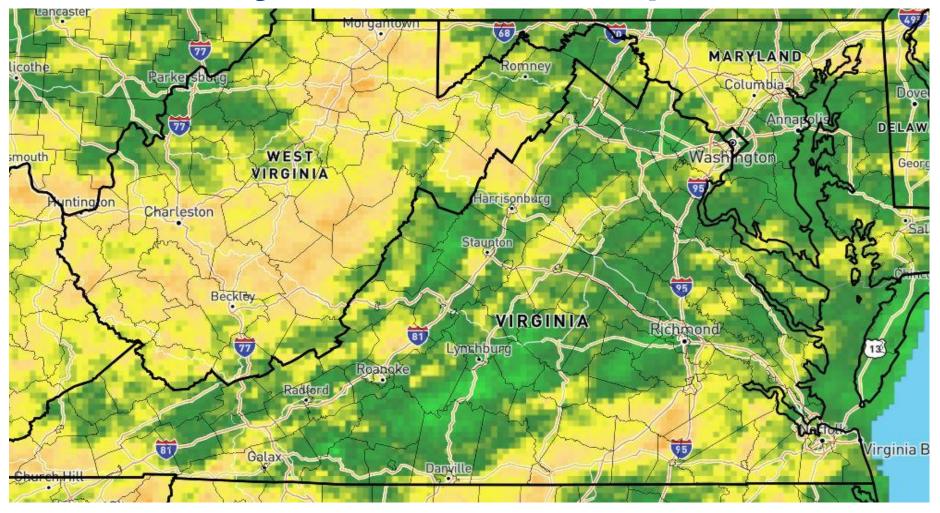






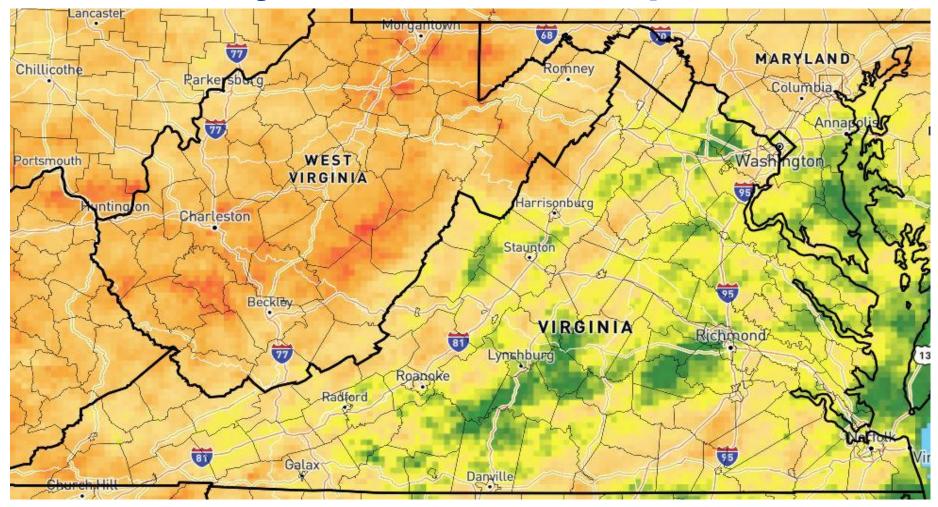


60-Day Observed Precipitation





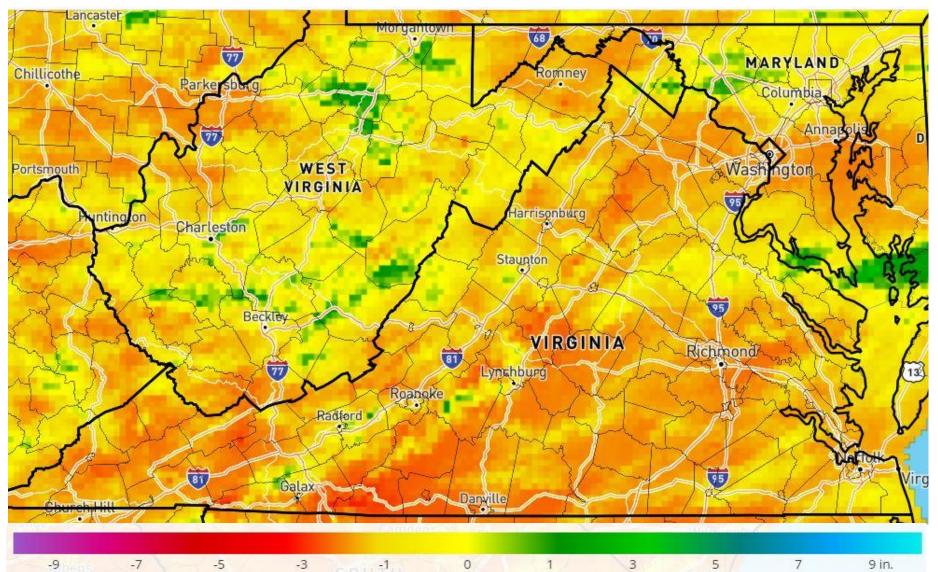
90-Day Observed Precipitation



0.01 0.1 0.25 0.5 1 1.5 2 3 4 5 6 8 10 15 in.

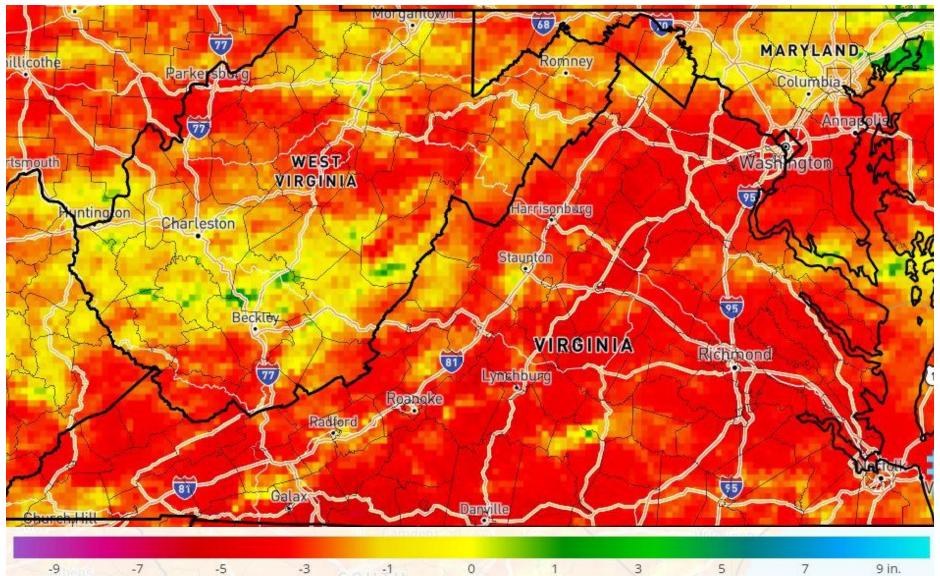


14-Day Percent of Normal Precipitation





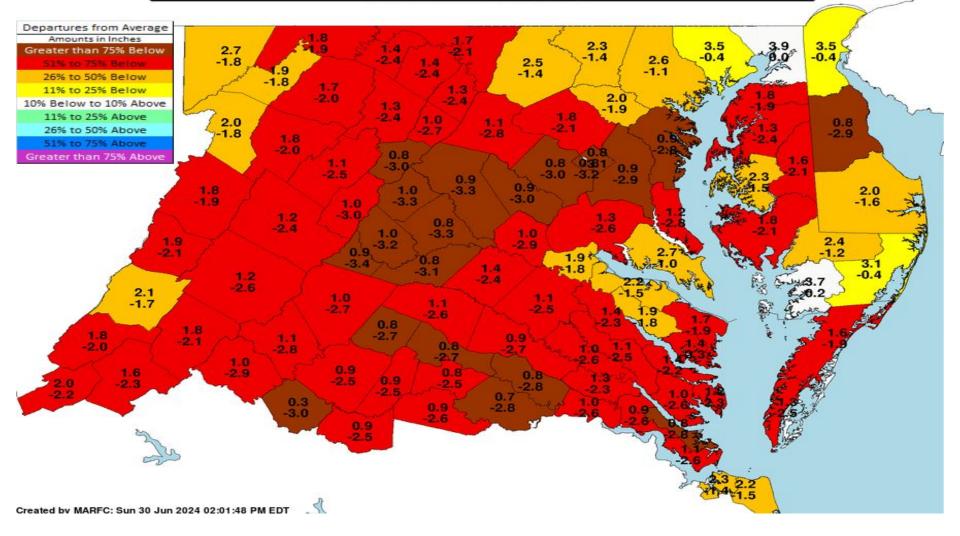
30-Day Percent of Normal Precipitation





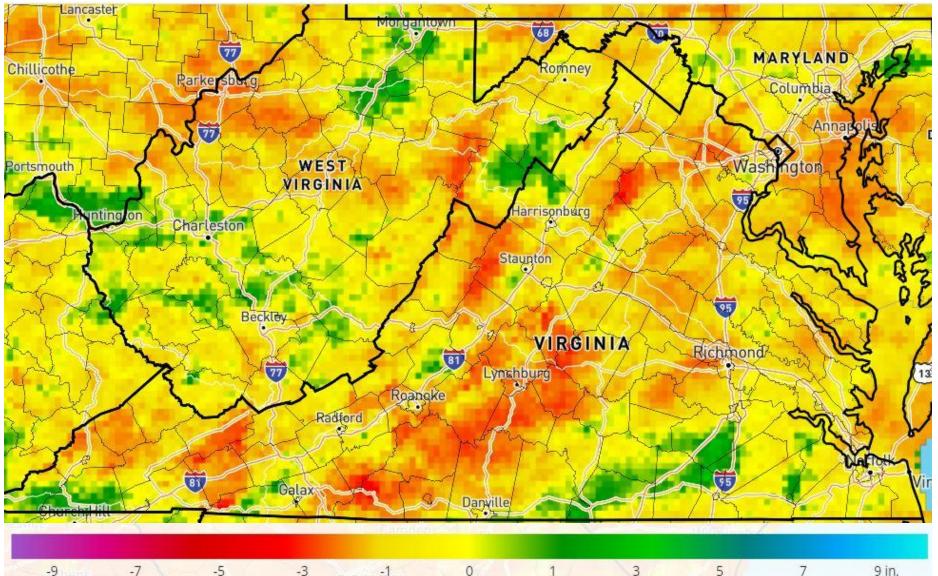
30-Day Departure Of Precipitation





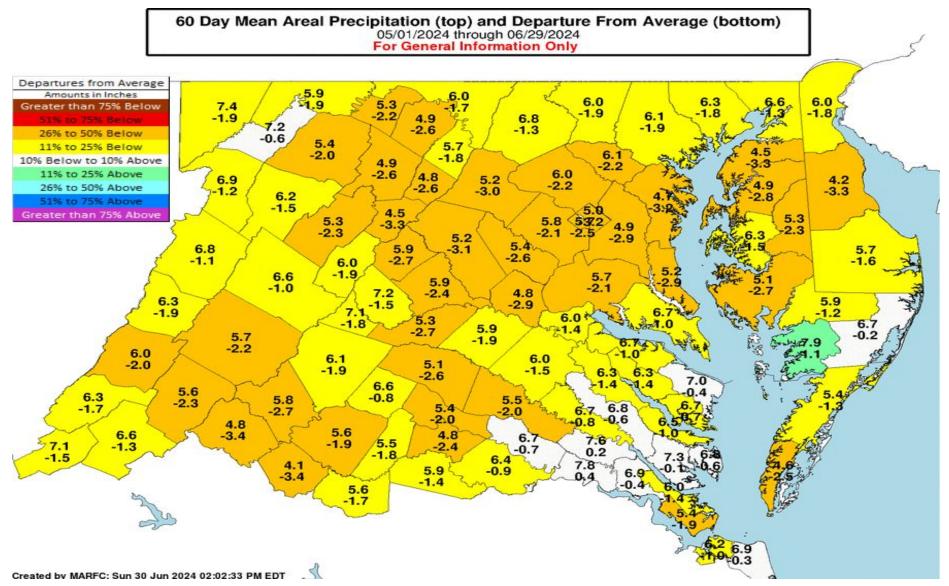


60-Day Percent of Normal Precipitation



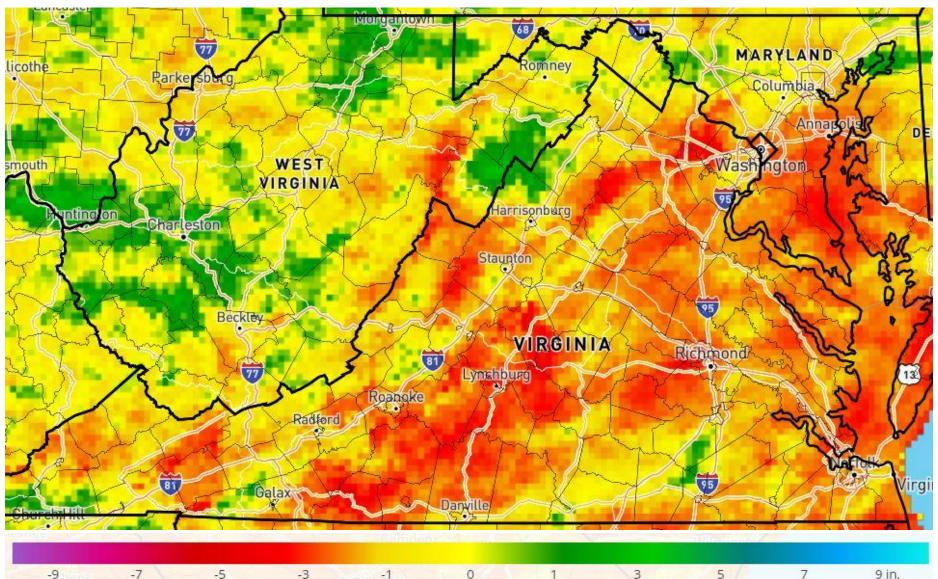


60-Day Departure Of Precipitation



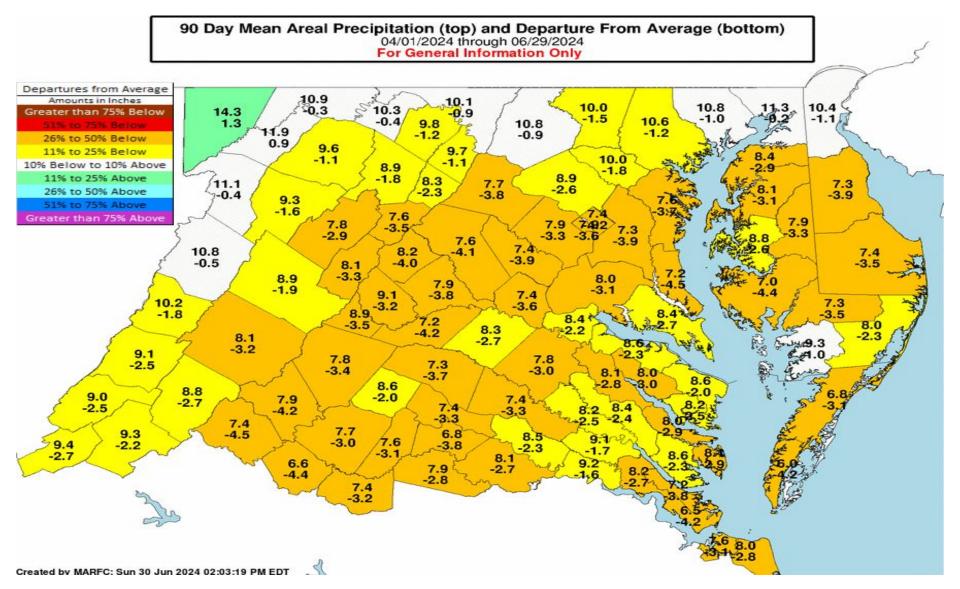


90-Day Percent of Normal Precipitation



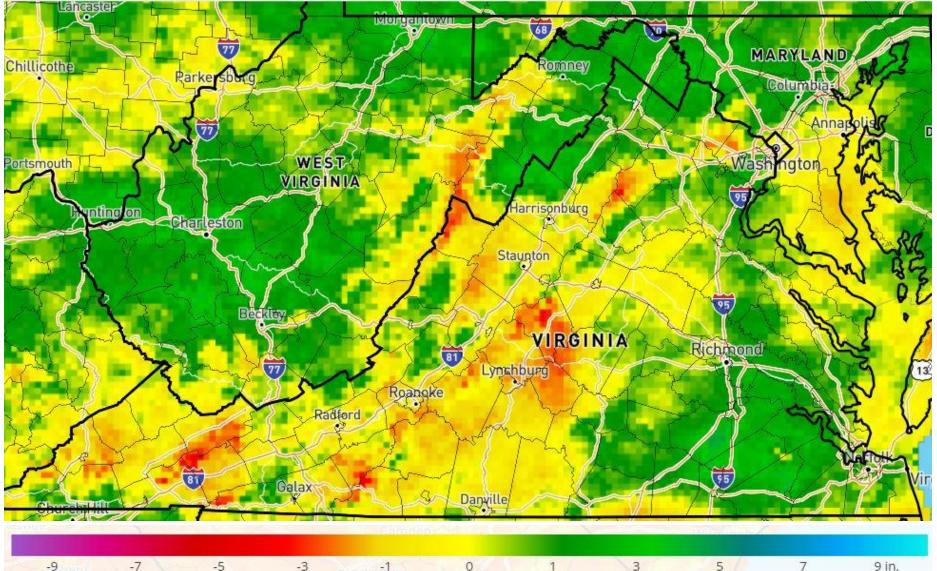


90-Day Departure Of Precipitation



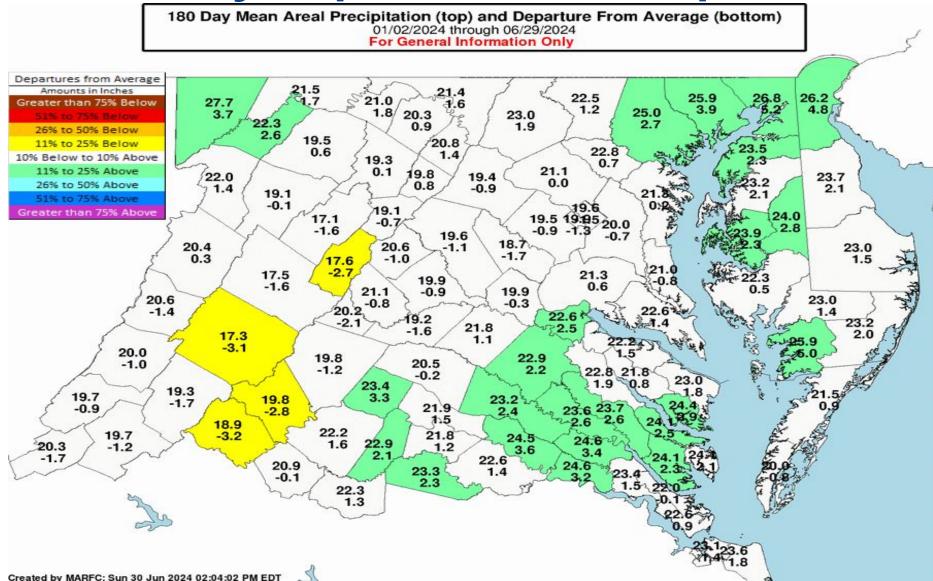


180-Day Percent of Normal Precipitation





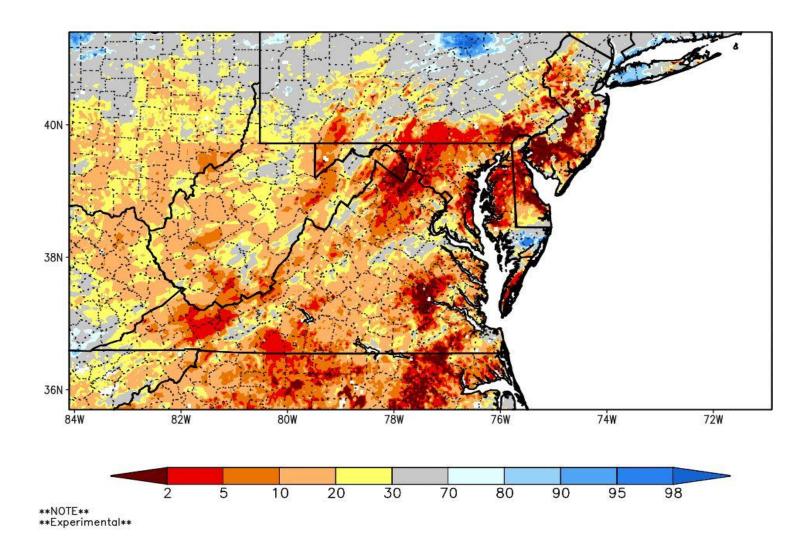
180-Day Departure Of Precipitation





NASA SPoRT LIS Soil Moisture

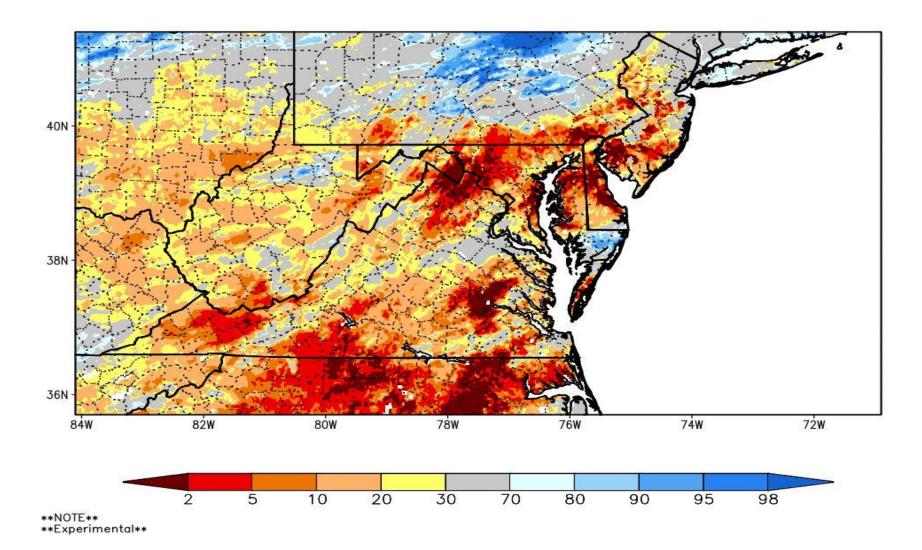
SPoRT-LIS 0-100 cm Soil Moisture percentile valid 30 Jun 2024



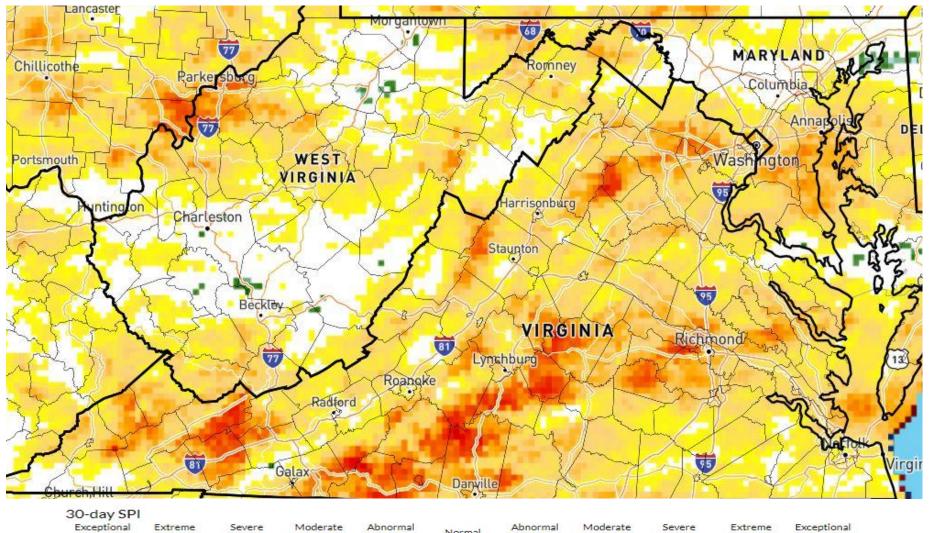


NASA SPoRT LIS Soil Moisture

SPoRT-LIS 0-40 cm Soil Moisture percentile valid 30 Jun 2024

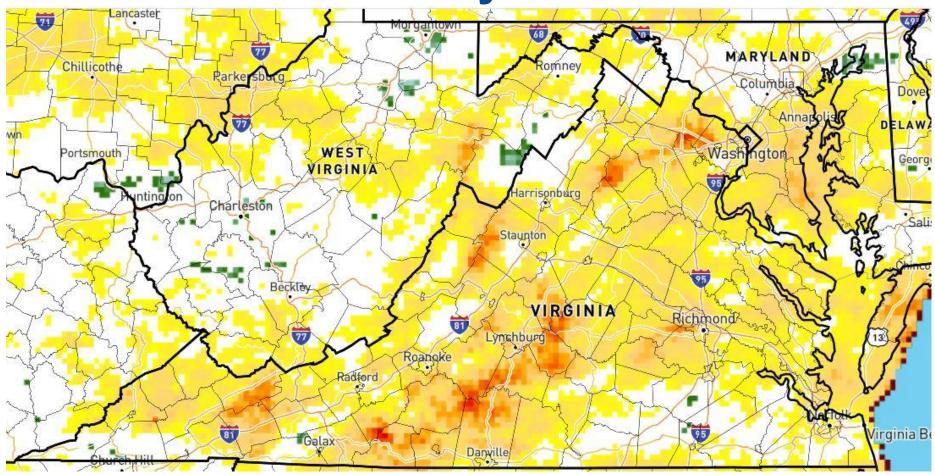


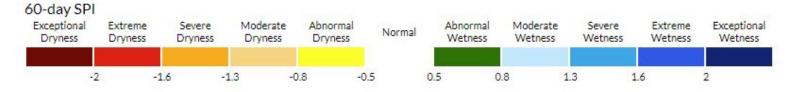




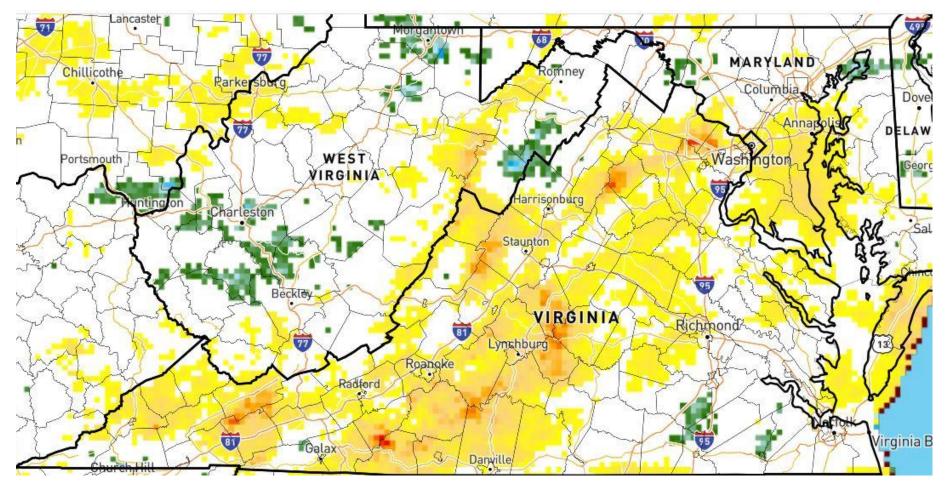
Dryness	Dryness	Dryness	Dryness	Dryness	; Normal	Wetness	s Wetness	Wetness	Wetness	Wetness
	-2	-1.6	-1.3	-0.8	-0.5	0.5	0.8	1.3	1.6	2





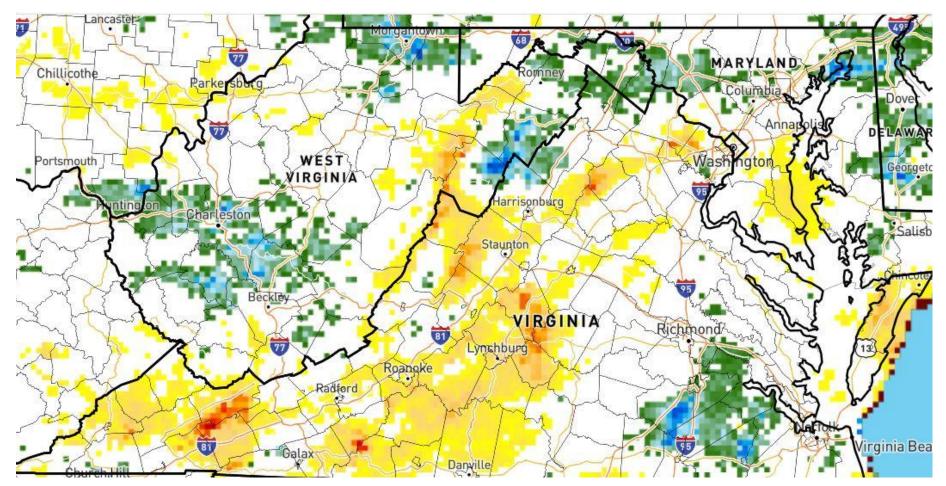


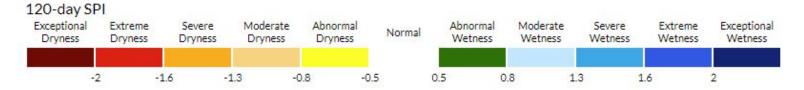








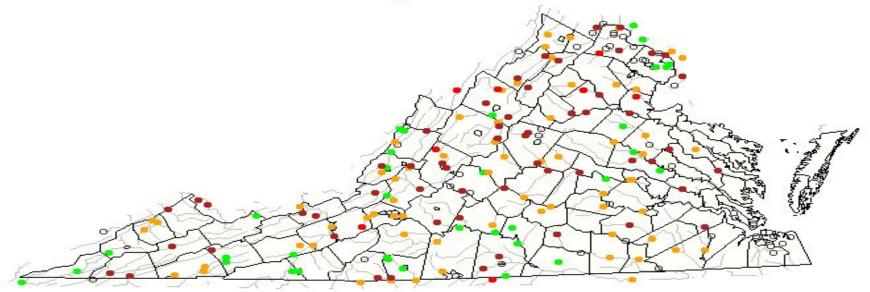






7 Day Streamflows

Sunday, June 30, 2024







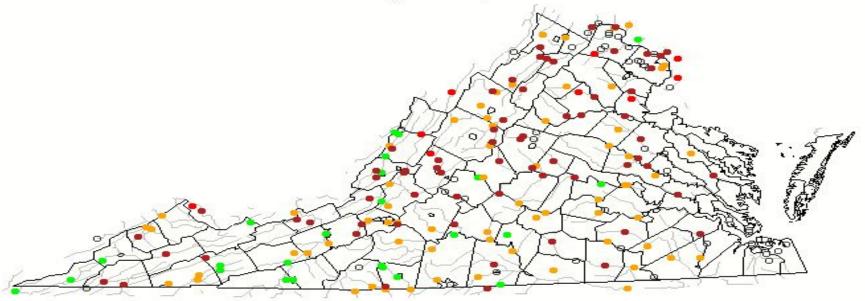
Choose a data retrieval option and select a location on the map O List of all stations O Single station O Nearest stations

		Explan	nation - F	Percent	ile classe	s	
•		•	•			•	0
Low	<10	10-24	25-75	76-90	>90		Not-ranked
LOW	Much below normal	Below normal	Normal	Above	Much above normal	High	



14 Day Streamflows

Sunday, June 30, 2024





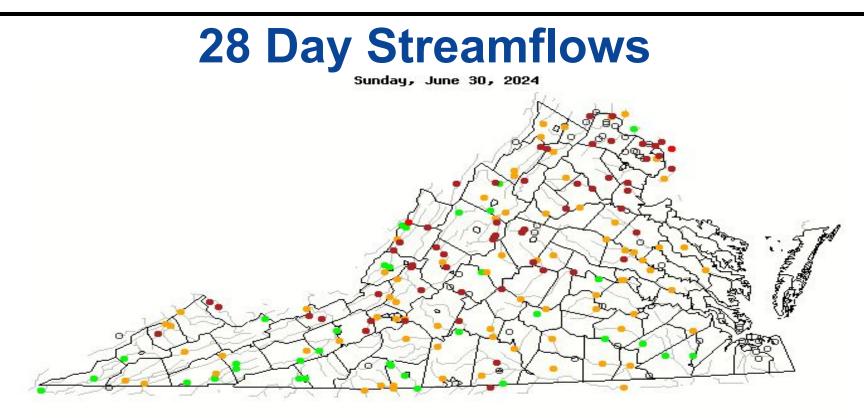
Search USGS streamgage

Choose a data retrieval option and select a location on the map O List of all stations O Single station O Nearest stations

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		Explan	nation - F	Percent	ile classe	S	
•		•	•			٠	0
Low	<10	10-24	25-75	76-90	>90		Not-ranked
LOW	Much below normal	Below	Normal	Above	Much above normal	High	Not-ranked





USGS

Search USGS streamgage

Choose a data retrieval option and select a location on the map O List of all stations O Single station O Nearest stations

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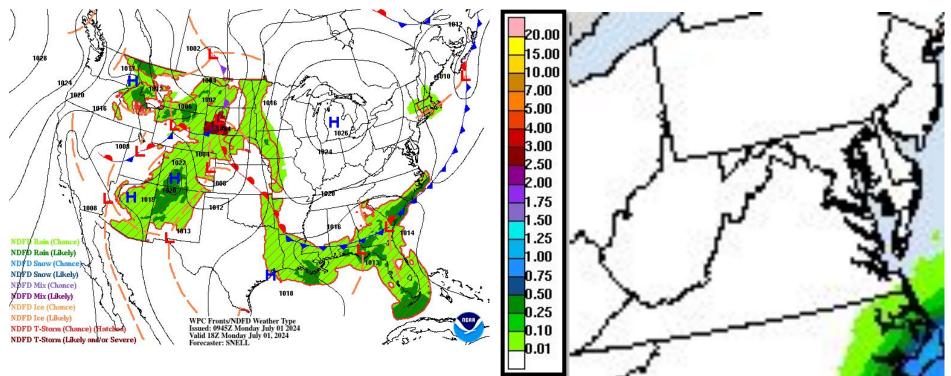
		Explan	nation - F	Percent	ile classe	s	
•	•					•	0
Low	<10	10-24	25-75	76-90	>90		Not-ranked
Low	Much below normal	Below normal	Normal	Above	Much above normal	High	



Upcoming Weather Pattern Today

Fronts and Weather

Accumulated Precipitation Forecasts



Courtesy of the Weather Prediction Center (www.wpc.ncep.noaa.gov)

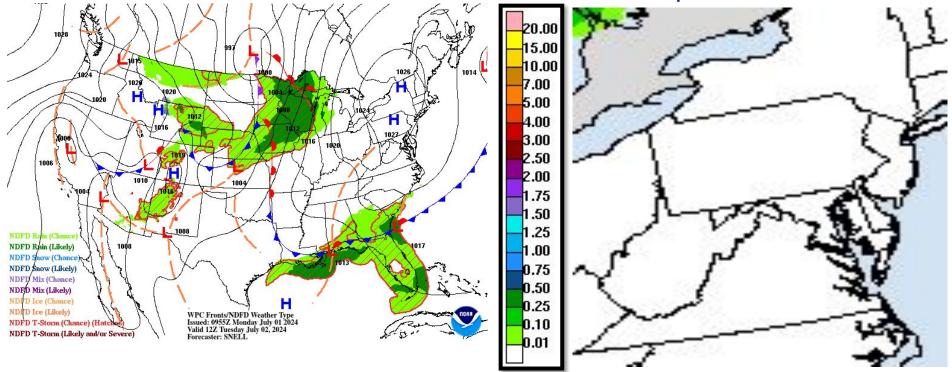


Upcoming Weather Pattern

Tuesday

Fronts and Weather

Accumulated Precipitation Forecasts



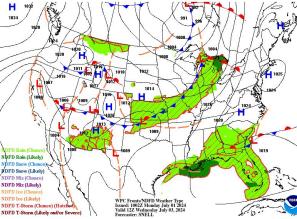
Thursday

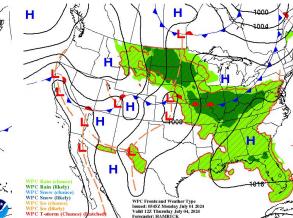


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Upcoming Weather Pattern

Wednesday





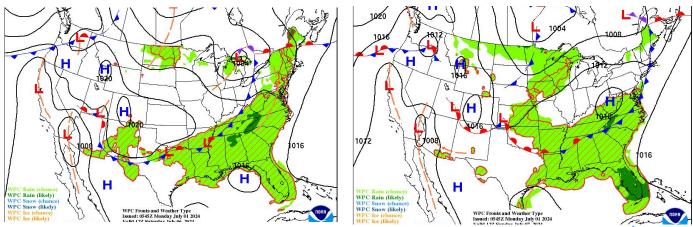


Friday

Saturday

Sunday

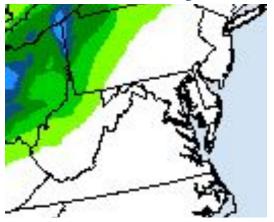
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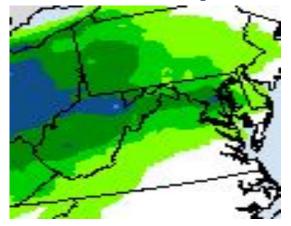


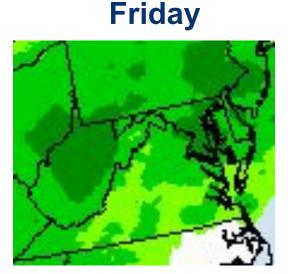
Precipitation Forecasts

Wednesday



Thursday



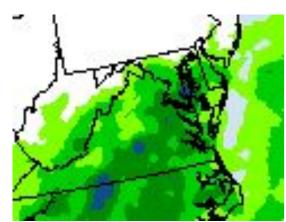


20.00 5.00 10.00 7.005.004.003.00 2.502.00 1.75 1.50 1.25 .00 0.750.50 0.250.10 0.01

Saturday

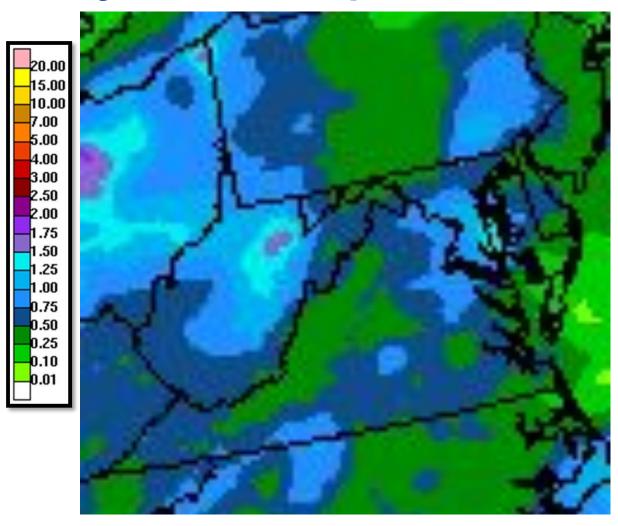
Sunday





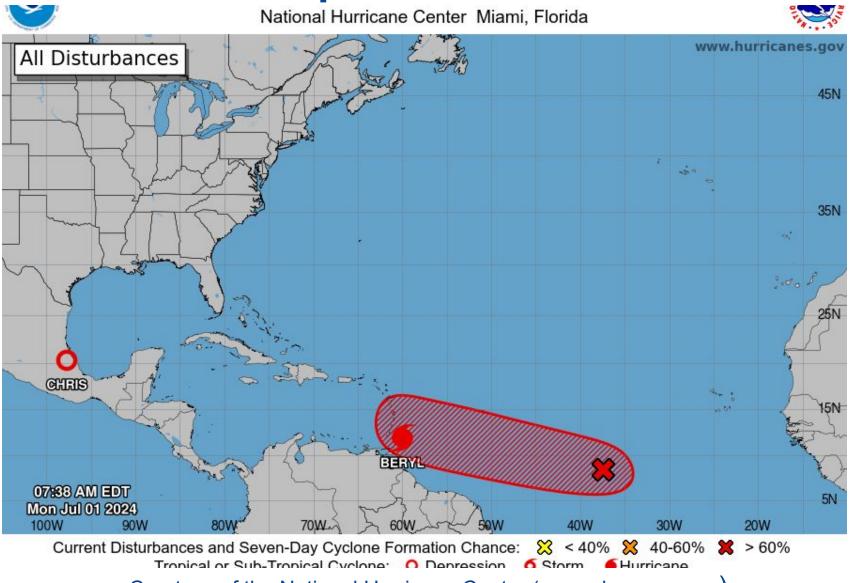


Seven-Day Total Precipitation Forecast





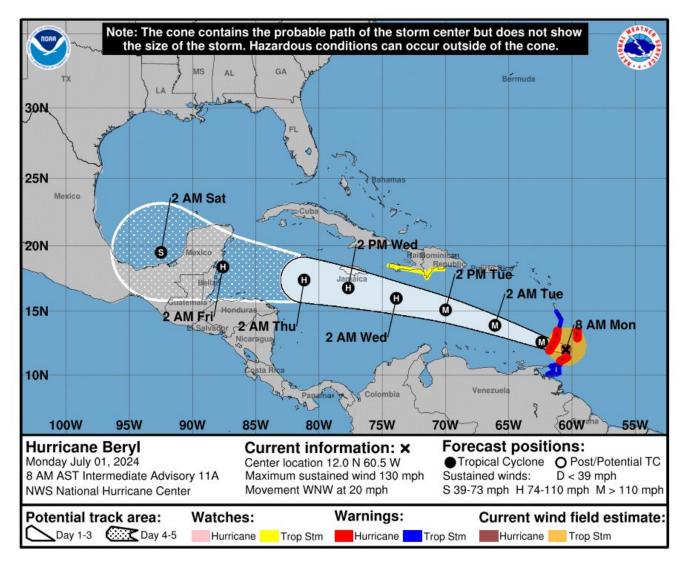
Tropical Outlook



Courtesy of the National Hurricane Center (www.nhc.noaa.gov)

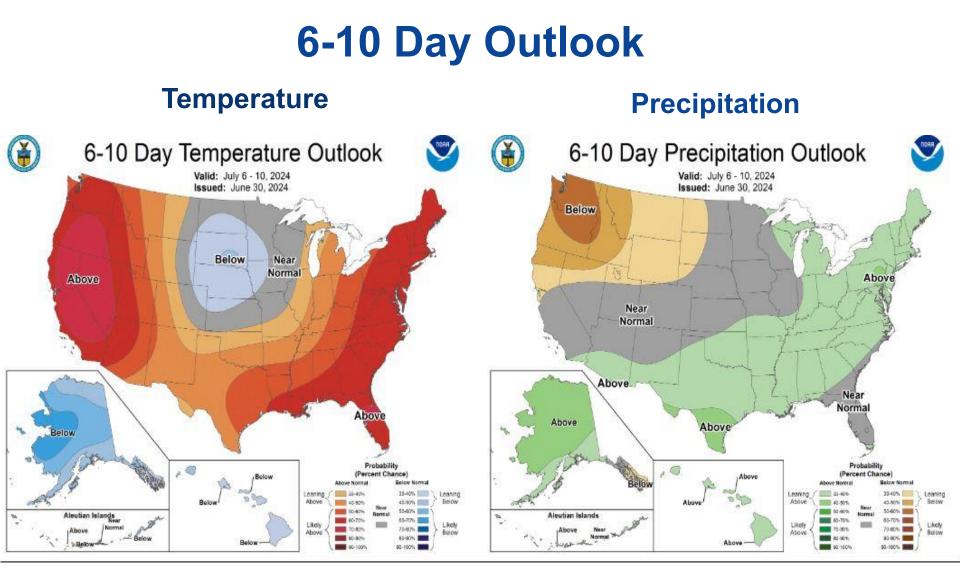


Hurricane Beryl



Courtesy of the National Hurricane Center (<u>www.nhc.noaa.gov</u>)



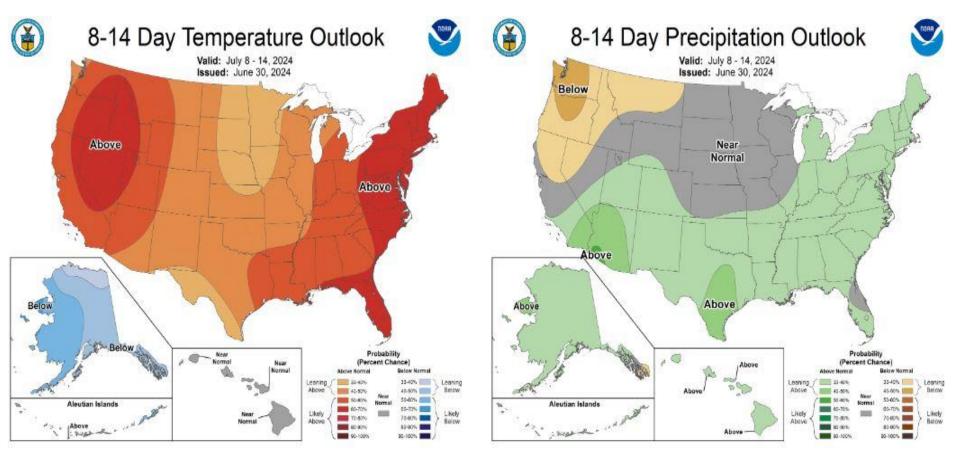




8-14 Day Outlook

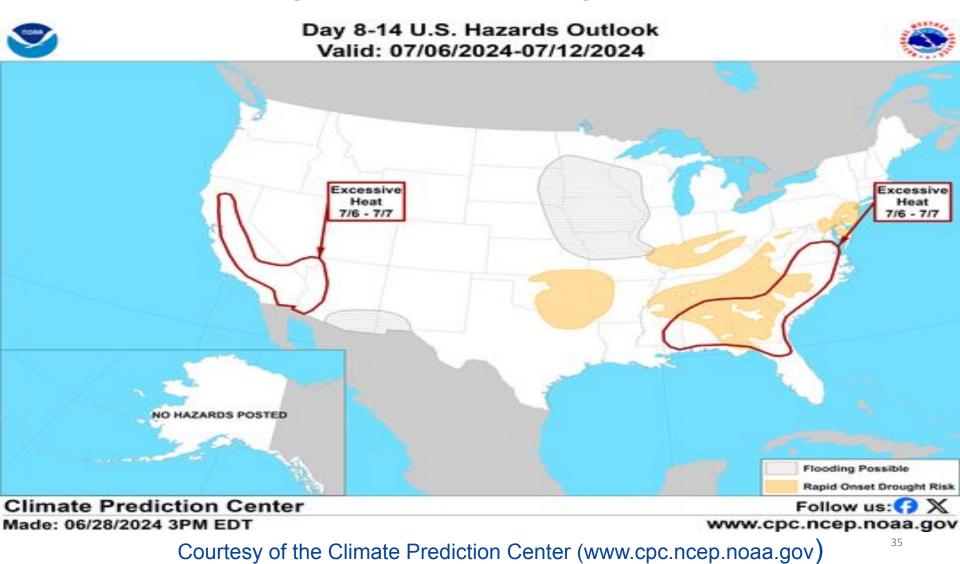
Temperature

Precipitation





8-14 Day Hazards: July 8-14, 2024

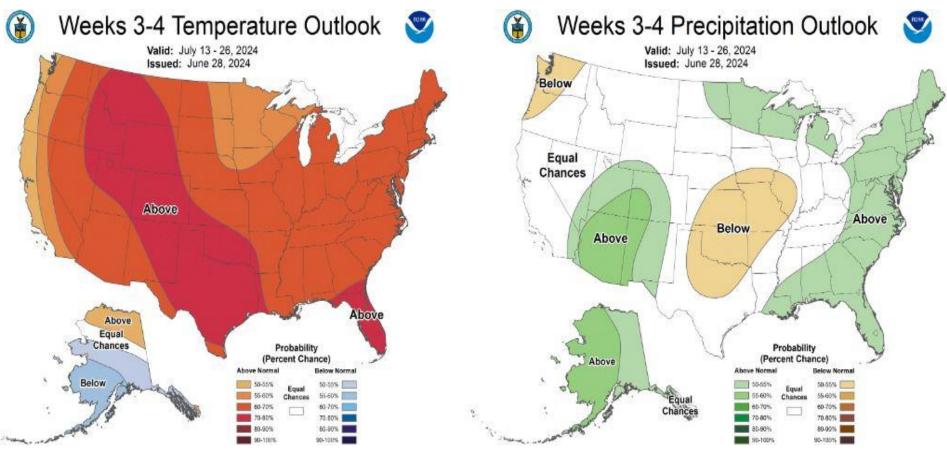




Precipitation

3-4 Week Outlook

Temperature

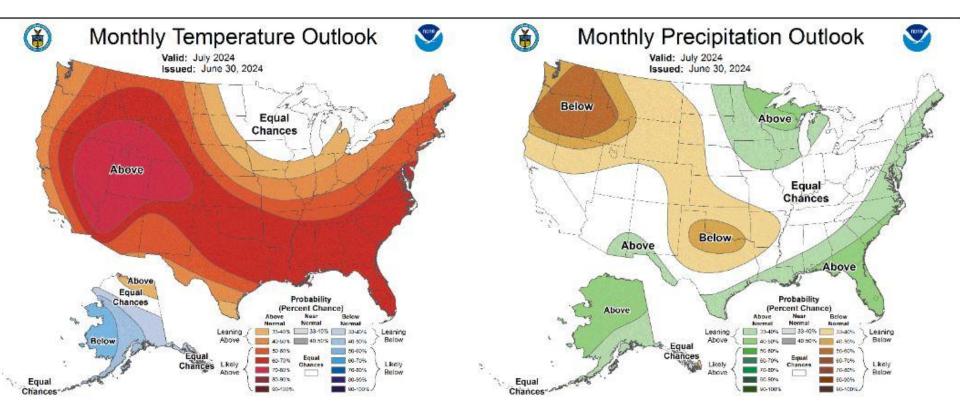




One-Month Outlook: July 2024

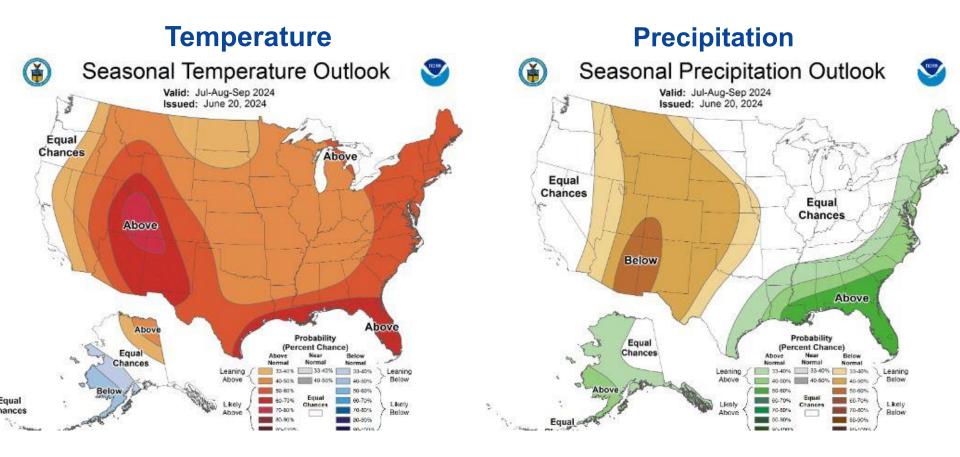
Temperature

Precipitation





Three-Month Outlook: Jul-Aug-Sep 2024





Monthly Drought Outlook: Jul/Aug/Sep 2024

