CT Interagency Drought Workgroup Regular Meeting May 4, 2023 1:00 PM - 2:30 PM

Microsoft Teams meeting

<u>Click here to join the meeting</u> Meeting ID: 274 962 551 675, Passcode: uCZtXZ <u>Download Teams | Join on the web</u> **Or call in (audio only)** +1 860-840-2075,,817266018# (Hartford) Phone Conference ID: 817 266 018#

<u>Agenda</u>

- 1. Call to order and seating of voting members
- 2. Adoption of draft April 6, 2023 meeting minutes
- 3. Update: Water Planning Council Vote on State Drought Coordinator
- 4. State Drought Coordinator Report
 - a. Review of April monthly data and other relevant information
 - b. Vote on drought stage changes if warranted
- 5. Business
 - a. Post-2022 Drought Actions
 - i. <u>Section VI Drought Recovery</u>
 - ii. Agency findings / reports
 - iii. After-Action/Improvement Plan Report
 - b. Drought Plan Review
 - Agency updates on plan priority areas
 - c. Climate Change: Preparing for Drought in CT Webinar Review
 - d. Expanded <u>CT state page</u> at drought.gov
 - e. Other
- 6. Public Comment

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- 7. Next Meeting June 8, 2023
- 8. Adjourn



April Observed Precipitation

Accumulated Precipitation (inches) April 01, 2023 to April 30, 2023





National Oceanic and Atmospheric Administration U.S. Department of Commerce

Boston Weather Forecast Office



April Precipitation: Departure from Normal and Percent of Normal

Precipitation Departure from Normal (inches) April 01, 2023 to April 30, 2023





Departure from Normal (inches)



National Oceanic and Atmospheric Administration

Precipitation Percent of Normal April 01, 2023 to April 30, 2023



Boston Weather Forecast Office



Precipitation Percent of Normal: 3 and 6 Month

Precipitation Percent of Normal February 01, 2023 to April 30, 2023









National Oceanic and Atmospheric Administration

Precipitation Percent of Normal November 01, 2022 to April 30, 2023



Boston Weather Forecast Office

Surface Reservoir Capacity Measurements and Trends 4/28/2023 Update

USDM Reduces the Moderate Drought Area Down to Just Southwestern CT!

Thirty-four surface water systems measure their reservoir capacities weekly and report the readings to the Drinking Water Section (DWS). The attached table summarizes the most recent measurements in percent full and shows the week-to-week trend of their capacities.

Key takeaways:



• 16 reservoir systems have reported that they are currently at 100% full (-1 since last week).



- The gray bars indicate last week's measurements and the colored bar is the current measurement. In non-drought conditions, the graph above would have all of the systems in the >=100% of normal column (n=34).
- 5 system's short-term week to week trend is upward (-2 since last week). 13 systems are trending downward in capacity from their previous measurements (+4 since last week). 16 systems have had no change in capacity (-2 since last week).
- No Reservoir systems are under a drought stage.



- US Drought Monitor: USDM upgraded areas of CT from D1 to D0 based on rain received over the last weekend.
- https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?CT



• Last USDM week, CT received 1 to 4 inches of rain between April 19th and April 25th. (Map 1). The 30day Percent of Normal Precipitation map shows below normal precipitation across the state except for a small area of near normal precipitation in the northern middle of the state. (Map 2). The long-term trend over the last 90-days shows the majority of CT is below normal in rainfall with a small area of near normal rainfall in the middle of CT (Map 3). The 7-Day Streamflow map shows near normal streamflows in CT due to the significant rainfall received in the NE region. Groundwater real time monitoring wells show as normal with some much below normal measurements being recorded in SW CT.



Map 1-7 Day Total Precipitation









PWSID	PWS Name	Most Recent Reading Date	Percent Full	Current Status	Trend	Historical Average	Percent of Normal	Previous Date	Previous Percent Full	County_Served
CT1350011	Aquarion Water Co of CT-Stamford	4/16/2023	82.80	No Drought Stage	↓	94.30	88	4/9/2023	83.60	FAIRFIELD
CT1030011	Norwalk First Taxing District	4/23/2023	94.70	No Drought Stage		97.40	97	4/16/2023	94.70	FAIRFIELD
CT0570011	Aquarion Water Co of CT-Greenwich Systen	4/16/2023	97.80	No Drought Stage	\checkmark	97.30	100	4/9/2023	98.90	FAIRFIELD
CT0090011	Bethel Water Dept	4/23/2023	99.80	No Drought Stage	\uparrow	98.40	101	4/16/2023	99.50	FAIRFIELD
CT1030021	South Norwalk Electric & Water	4/24/2023	100.00	No Drought Stage	1	98.60	101	4/17/2023	99.50	FAIRFIELD
CT0150011	Aquarion Water Co of CT-Main System	4/16/2023	99.50	No Drought Stage	\checkmark	98.20	101	4/9/2023	99.80	FAIRFIELD
CT0340011	Danbury Water Department	4/2/2023	100.00	No Drought Stage		96.70	103	3/26/2023	100.00	FAIRFIELD
CT0890011	New Britain Water Department	4/20/2023	87.10	No Drought Stage	\checkmark	90.30	96	4/13/2023	87.60	HARTFORD
CT0770021	Manchester Water Department	4/23/2023	100.00	No Drought Stage		100.40	100	4/16/2023	100.00	HARTFORD
CT0170011	Bristol Water Department	4/23/2023	98.50	No Drought Stage	\checkmark	97.40	101	4/16/2023	98.60	HARTFORD
CT0473011	CTWC - Northern Reg-Western System	4/20/2023	99.10	No Drought Stage	\checkmark	97.30	102	4/13/2023	100.00	HARTFORD
CT1310011	Southington Water Department	4/22/2023	100.00	No Drought Stage		96.20	104	4/15/2023	100.00	HARTFORD
CT0640011	Metropolitan District Commission	4/24/2023	100.00	No Drought Stage	\uparrow	95.30	105	4/17/2023	99.90	HARTFORD
CT1430011	Torrington Water Company	4/16/2023	91.30	No Drought Stage		94.20	97	4/9/2023	91.30	LITCHFIELD
CT1620011	Winsted Water Works	4/23/2023	100.00	No Drought Stage		100.00	100	4/16/2023	100.00	LITCHFIELD
CT0980011	Aquarion Water Co of CT-Norfolk System	4/16/2023	100.00	No Drought Stage		99.80	100	4/9/2023	100.00	LITCHFIELD
CT1220011	Aquarion Water Co of CT-Salisbury Sys	4/16/2023	100.00	No Drought Stage		99.40	101	4/9/2023	100.00	LITCHFIELD
CT1250011	Sharon Water & Sewer Commission	4/1/2023	100.00	No Drought Stage		95.20	105	3/25/2023	100.00	LITCHFIELD
CT0261031	CTWC - Shoreline Region-Chester System	4/20/2023	98.40	No Drought Stage	\checkmark	99.30	99	4/13/2023	99.40	MIDDLESEX
CT0830021	Connecticut Valley Hospital	4/17/2023	100.00	No Drought Stage		95.80	104	4/11/2023	100.00	MIDDLESEX
CT0830011	Middletown Water Department	2/26/2023	95.60	No Drought Stage	\checkmark	91.70	104	2/19/2023	100.00	MIDDLESEX
CT1480011	Wallingford Water Department	4/21/2023	91.80	No Drought Stage	\checkmark	93.20	99	4/14/2023	92.80	NEW HAVEN
CT0800011	Meriden Water Division	4/9/2023	96.10	No Drought Stage	\checkmark	97.20	99	4/2/2023	96.80	NEW HAVEN
CT0608011	CTWC - Shoreline Region-Guilford System	4/20/2023	100.00	No Drought Stage		99.90	100	4/13/2023	100.00	NEW HAVEN
CT0930011	Regional Water Authority	4/16/2023	96.80	No Drought Stage	\checkmark	95.90	101	4/9/2023	97.20	NEW HAVEN
CT0880011	CTWC - Naugatuck Region-Central System	4/20/2023	100.00	No Drought Stage		99.00	101	4/13/2023	100.00	NEW HAVEN
CT1510011	Waterbury Water Department	3/26/2023	99.30	No Drought Stage	\uparrow	97.60	102	3/19/2023	99.20	NEW HAVEN
CT0590011	Groton Utilities	4/17/2023	98.90	No Drought Stage	\checkmark	99.30	100	4/10/2023	99.30	NEW LONDON
CT0580011	Jewett City Water Company	4/17/2023	100.00	No Drought Stage		100.00	100	4/10/2023	100.00	NEW LONDON
CT1040011	Norwich Public Utilities	4/22/2023	99.70	No Drought Stage	\checkmark	99.40	100	4/15/2023	100.00	NEW LONDON
CT1370011	Aquarion Water Co of CT-Mystic	4/16/2023	100.00	No Drought Stage		99.30	101	4/9/2023	100.00	NEW LONDON
CT0950011	New London Dept. of Public Utilities	4/23/2023	94.30	No Drought Stage	\uparrow	89.10	106	4/16/2023	92.00	NEW LONDON
CT1340011	CTWC - Northern Reg-Stafford System	4/20/2023	100.00	No Drought Stage		100.00	100	4/13/2023	100.00	TOLLAND
CT1630011	Windham Water Works	4/23/2023	100.00	No Drought Stage		100.00	100	4/16/2023	100.00	WINDHAM
<u>.</u>			97.69			97.15	100.56		Ave Percent of	Normal by County
个 -Increase since last measurement (less than 10% increase)				Number of systems:					98.7	1 FAIRFIELD
个个 -Increase since last measurement (10% or greater increase)				Greater than or equal to 1	00% of Nor	mal	27		101.3	3 HARTFORD
	ν -Decrease since last measurement (less than 10% decrease))		Between 90% and 99% of	vormal		6		100.6	J LIICHFIELD

\uparrow	-Increase since last measurement (less than 10% increase)
$\uparrow\uparrow$	-Increase since last measurement (10% or greater increase)
\checkmark	-Decrease since last measurement (less than 10% decrease)
$\checkmark \checkmark$	-Decrease since last measurement (10% or greater decrease)
	- Same measurement as the previous measurement

Between 90% and 99% of N	Iormal
Less than 90% of Normal	
At 100% Full	

1

16

102.33 MIDDLESEX 100.33 NEW HAVEN 101.40 NEW LONDON 100.00 TOLLAND

From Doug Glowacki, DEMHS: Shown below is the GFS model forecast for total rainfall for the next 16 days. We are expecting several periods of showers and perhaps a cool front or two with scattered thunderstorms over the next 16 days. Total rainfall is forecast to range from 0.75 to 1.25" across the state (see first map below).

Although this rainfall is slightly below normal, the past two weeks have been well above normal with 150% - 200% of normal rainfall (see second map below). Therefore, the slightly below normal rainfall over the next two weeks may just dry us back down to normal.



<u>Map 1</u>: 16-day GFS Model Forecast (valid through 5/19/23)



Map 2: Last 14-Day Percent of Normal Precipitation (as of 5/2/23)

Department of Agriculture – Drought Status Report

	Reported Conditions						
Parameter		As of 4/5	As of 4/30				
	Report Date Status		Report Date	Status			
Palmer Drought Severity Index	4/1/23	Northwest CT experiencing moist spell. Rest	4/29/23	Majority of CT experiencing near normal			
<u>(map)</u>		of state appears normal.		moisture levels.			
Palmer drought severity index	4/1/23	Northwest: 2.19	4/29/23	Northwest: 1.21			
<u>(data)</u>		Central: 1.63		Central: 0.85			
		Coastal: 0.42		Coastal: -0.08			
Precipitation needed to end	4/1/23	Northwest: 0	4/29/23	Northwest: 0			
drought (in.)		Central: 0		Central: 0			
		Coastal: 0		Coastal: 0			
Crop Moisture (current map)	4/1/23	Entire state shows abnormally moist.		Central CT is wet. Northwest and Coastal			
				are abnormally moist.			
<u>Topsoil moisture (current map)</u>	4/1/23	No data available.	4/30/23	No data available.			
Topsoil moisture (current vs. 5	4/1/23	No data available.	4/30/23	No data available.			
<u>yr. mean)</u>							
Veg DRI (% of CT land area	4/1/23	No data available.	4/30/23	Most of state in near normal conditions.			
shown as pre-drought,				Abnormally dry conditions near New			
moderate, severe or extreme)				Haven as of 4/30/23			
Drought Monitor Report for CT	3/28/23	No data available.	4/25/23	Abnormally dry as of 4/25/23			
NASS Crop Progress Report	4/2/23	According to the National Agricultural		According to the National Agricultural			
(New England)		Statistics Service in New England, there were		Statistics Service in New England, there			
		3.0 days suitable for fieldwork for the week		were 4 days suitable for fieldwork for the			
		ending Sunday, April 2, 2023. Topsoil		week ending Sunday, April 30, 2023.			
		moisture supplies were 0 percent very short,		Topsoil moisture supplies were 0 percent			
		0 percent short, 75 percent adequate, and 25		very short, 3 percent short, 71 percent			
		percent surplus. Subsoil moisture supplies		adequate, and 26 percent surplus. Subsoil			
		were 0 percent very short, 0 percent short, 40		moisture supplies were 0 percent very			
		percent adequate, and 60 percent surplus.		short, 0 percent short, 61 percent			
				adequate, and 39 percent surplus.			

Summary: Data from all of these indicators showed near normal conditions present in the majority of the state as of April 30, 2023. Notice should be taken that rainfall has occurred in areas of the state shown as experiencing dry conditions since last Drought Monitory Report was published on April 25.

Explanatory notes:

Palmer Drought Severity Index: The Palmer Drought Severity Index (PDSI) uses readily available temperature and precipitation data to estimate relative dryness. It is a standardized index that generally spans -10 (dry) to +10 (wet). Maps of operational agencies like NOAA typically show a range of -4 to +4, but more extreme values are possible.

Crop moisture index: The CMI gives the short-term or current status of purely agricultural drought or moisture surplus and can change rapidly from week to week. The CMI index indicates general conditions and not local variations caused by isolated rain. Input to the calculations include the weekly precipitation total and average temperature, division constants (water capacity of the soil, etc.) and previous history of the indices.

Topsoil moisture: Topsoil Moisture Monitoring maps are based on United States Department of Agriculture state reports of topsoil moisture conditions. Means are calculated from historical weekly data published by USDA/NASS using the closest date to the equivalent date for the year. Results are based on the short and very short % ages of topsoil moisture (upper 6 inches) reported by the USDA. Reports are based on subjective observations.

Vegetation Drought Response Index: VegDRI calculations integrate satellite-based observations of vegetation conditions, climate data, and other biophysical information such as land cover/land use type, soil characteristics, and ecological setting. The VegDRI maps that are produced deliver continuous geographic coverage over large areas, and have inherently finer spatial detail (1-km2 resolution) than other commonly available drought indicators such as the U.S. Drought Monitor. The state statistics table is located here: https://vegdri.unl.edu/Home/VegDRITables.aspx?CT.







Vegetation Drought Response Index

Complete: Connecticut



April 30, 2023











U.S. Drought Monitor Connecticut

April 25, 2023

(Released Thursday, Apr. 27, 2023) Valid 8 a.m. EDT



	Drought Conditions (Percent Area)							
		None	D0-D4	D1-D4	D2-D4	D3-D4	D4	
	Current	11.35	88.65	6.74	0.00	0.00	0.00	
	Last Week 04-18-2023	1. 15	98.85	36.54	0.00	0.00	0.00	
	3 Month s Ago 01-24-2023	<mark>92.95</mark>	7.05	0.00	0.00	0.00	0.00	
	Start of Calendar Year 01-03-2023	<mark>53.82</mark>	46.18	0.00	0.00	0.00	0.00	
	Start of Water Year 09-27-2022	0.00	100.00	70.06	28.07	0.00	0.00	
	One Year Ago 04-26-2022	100.00	0.00	0.00	0.00	0.00	0.00	

Intensity:



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

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droughtmonitor.unl.edu