

CT Interagency Drought Workgroup

October 1, 2020, 2:00 p.m. EDT, conducted remotely via Microsoft Teams:

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Agenda

- 1.** Call to order
- 2.** Introductions (if needed)
- 3.** Approval of minutes: 9/17/2020
- 4.** Update on Regional Water/Drought Coordinators (DEMHS)
- 5.** Discuss current conditions and areas of improvement/degradation for each drought region
 - a. Review summary prepared by OPM (attached) and any questions on agency updates
 - b. Discussion of other information
- 6.** Recommend a course of action in accordance with [State Drought Plan](#):
 - a. Maintain or modify current drought stage for each county
 - b. If modifications are made, review actions to take place in accordance with drought plan (attached)
- 7.** Items for next meeting and schedule
- 8.** Adjourn

Stage 2 Drought Trigger Summary by Region -- October 1, 2020

	Stage 2 Trigger	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham	Data of Record
Precipitation (1)	Two-month total below 65% of normal	105% of normal	50% of normal	80% of normal	81% of normal	84% of normal	54% of normal	68% of normal	59% of normal	8/31/2020
Ground Water (2)	Two out of three months below the 25th percentile	18% stations meet trigger	40% stations meet trigger	60% stations meet trigger	57% stations meet trigger	8% stations meet trigger	40% stations meet trigger	8% stations meet trigger	67% stations meet trigger	8/31/2020
Streamflow (3)	Two out of three months below the 25th percentile	7% stations meet trigger	73% stations meet trigger	50% stations meet trigger	25% stations meet trigger	43% stations meet trigger	20% stations meet trigger	0% stations meet trigger	40% stations meet trigger	8/31/2020
Reservoirs (4)	Average levels less than 80% of normal	88% of normal	81% of normal	91% of normal	86% of normal	87.5% of normal	92% of normal	82% of normal	100% of normal	9/16/2020
Palmer Drought Severity Index (5)	-2.0 to -2.99	-3.0	-3.18	-3.52	-3.0	-3.0	-3.0	-3.18	-3.18	9/26/2020
Crop Moisture Index (6)	-1.0 to -1.99	-2.17	-2.35	-2.04	-2.17	-2.17	-2.17	-2.35	-2.35	9/26/2020
VegDRI (seasonal) (7)	Pre-drought stress	>75% of region	>75% of region	>75% of region	>75% of region	>75% of region	>75% of region	>75% of region	>75% of region	9/27/2020
Fire Danger (8)	Moderate	Low	Low	Low	Low	Low	Low	Low	Low	9/30/2020
U.S. Drought Monitor (9)	Intensity level D1-D2	D0	D1-D3	N-D2	D0-D2	D0-D1	D1-D3	D1-D3	D1-D3	9/24/2020

Key:	Drought trigger met across the majority of region	Region partially meets drought trigger or is near trigger threshold (judgement call needed)	Drought trigger not met across the majority of region (conditions can be worse in specific localities)
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Methodology:
(1) Based on monthly precipitation averaged by region, calculated by National Weather Service (NWS).
(2) Based on monthly assessment of groundwater stations by region, calculated by United States Geological Survey (USGS). Region is identified as meeting trigger when ≥65% of stations in the region meet the threshold. Region is identified as not meeting trigger when ≤25% of stations in the region meet the threshold. Region is identified as partially meeting trigger when greater than 25% and less than 65% of stations in the region meet the threshold.
(3) Based on monthly assessment of stream gauge stations by region, calculated by USGS. Region is identified as meeting trigger when ≥65% of stations in the region meet the threshold. Region is identified as not meeting trigger when ≤25% of stations in the region meet the threshold. Region is identified as partially meeting trigger when greater than 25% and less than 65% of stations in the region meet the threshold.
(4) Based on latest available reservoir status reports obtained from public water suppliers and compiled by CT Department of Public Health Drinking Water Section.
(5) Calculated by Climate Prediction Center (CPC) for each State Climate Division and extrapolated to county. Northwestern Climate Division reflective of Fairfield county, Central Climate Division reflective of Hartford, Tolland, Windham counties. Blend of Central Climate Division and Coastal Climate Division for Fairfield, New Haven, Middlesex, New London counties.
(6) Calculated by CPC for each State Climate Division and extrapolated to county. Northwestern Climate Division reflective of Fairfield county, Central Climate Division reflective of Hartford, Tolland, Windham counties. Blend of Central Climate Division and Coastal Climate Division for Fairfield, New Haven, Middlesex, New London counties.
(7) Based on visual assessment of geographic extent of each VegDri drought designation in each region, calculated by the National Drought Mitigation Center in collaboration with USGS.
(8) Based on daily forest fire danger report from CT DEEP Bureau of Natural Resources, Division of Forestry.
(9) Based on analysis of most recent edition of the U.S. Drought Monitor, produced by the National Drought Mitigation Center.

Stage 3 Drought Trigger Summary by Region -- October 1, 2020

	Stage 3 Trigger	Fairfield	Hartford	Litchfield	Middlesex	New Haven	New London	Tolland	Windham	Data of Record
Precipitation (1)	Three-month total below 65% of normal	84% of normal	46% of normal	69% of normal	62% of normal	74% of normal	58% of normal	63% of normal	62% of normal	8/31/2020
Ground Water (2)	Four consecutive months below the 25th percentile	≤25% stations meet trigger	≤25% stations meet trigger	≤25% stations meet trigger	≤25% stations meet trigger	≤25% stations meet trigger	≤25% stations meet trigger	≤25% stations meet trigger	≤25% stations meet trigger	8/31/2020
Streamflow (3)	Four out of five months below the 25th percentile	≤25% stations meet trigger	≤25% stations meet trigger	≤25% stations meet trigger	≤25% stations meet trigger	≤25% stations meet trigger	≤25% stations meet trigger	≤25% stations meet trigger	≤25% stations meet trigger	8/31/2020
Reservoirs (4)	Average levels less than 70% of normal	88% of normal	81% of normal	91% of normal	86% of normal	87.5% of normal	92% of normal	82% of normal	100% of normal	9/16/2020
Palmer Drought Severity Index (5)	-3.0 to -3.99	-3.0	-3.18	-3.52	-3.0	-3.0	-3.0	-3.18	-3.18	9/26/2020
Crop Moisture Index (6)	-2.0 to -2.99	-2.17	-2.35	-2.04	-2.17	-2.17	-2.17	-2.35	-2.35	9/26/2020
VegDRI (seasonal) (7)	Moderate drought conditions	<25% of region	25-75% of region	>75% of region	25-75% of region	<25% of region	>75% of region	25-75% of region	>75% of region	9/27/2020
Fire Danger (8)	High	Low	Low	Low	Low	Low	Low	Low	Low	9/30/2020
U.S. Drought Monitor (9)	Intensity level D2-D3	D0	D1-D3	N-D2	D0-D2	D0-D1	D1-D3	D1-D3	D1-D3	9/24/2020

Key:	Drought trigger met across the majority of region	Region partially meets drought trigger or is near trigger threshold (judgement call needed)	Drought trigger not met across the majority of region (conditions can be worse in specific localities)
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Methodology:
(1) Based on monthly precipitation averaged by region, calculated by National Weather Service (NWS).
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(4) Based on latest available reservoir status reports obtained from public water suppliers and compiled by CT Department of Public Health Drinking Water Section.
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Stage 1: Below Normal Conditions

Defining Criteria:

Stage 1 is a preliminary preparedness stage that serves to alert the parties who should be prepared to respond to potentially worsening drought conditions. The primary target audience includes state, regional, and local officials and public water suppliers. Typically, this stage is activated upon the first signals of impacts from abnormally dry conditions. There is no expectation for a broad public notice of a Stage 1 declaration.

Specific criteria thresholds are not defined for Stage 1 as the decision to begin focusing on a possible developing drought is based on the IDW's professional judgment.

Stage 1 Recommended Mitigation Actions

Stage 1 Recommended Mitigation Actions		
Coordination & Management	State Agencies coordinated through the IDW	Pay attention to all aspects of agency operations that could indicate impending drought conditions; communicate and meet as needed.
		Delegate duties and responsibilities as necessary to assure information flow among state agencies.
		Designate agency spokesperson(s) to coordinate interaction with the public and expedite information referrals.
		Submit drought assessment reports as necessary to agency heads.
		Designate an individual to be the contact person for receiving and compiling drought-related information.
	Municipalities / Local Officials	Municipal water coordinators provide DPH with up-to-date municipal water coordinator contact information. If no municipal water coordinator exists, designate a local official competent in water supply issues as the municipal water coordinator and provide contact information. Municipal water coordinator maintains regular communications flow with local emergency management director.
	Water Suppliers	Designate a point contact person for communication with municipalities and the state. Provide up-to-date contact information to DPH to ensure the communication of vital information and assess needed technical and financial assistance in an emergency.
Public Outreach & Education		The Below Normal Conditions stage is intended to initiate internal communication and awareness among the IDW and other decision makers, in response to observations or reports that warrant heightened awareness of conditions. Communication with the public is not planned at this time.
Data collection, monitoring, & preparedness	State Agencies coordinated through the IDW	Continue to regularly monitor the primary indicators of drought; systematically collect, analyze, and disseminate real-time drought-related information.
		Identify geographic extent of dry conditions and determine affected regions.
		Plan what staff and/or funding could be made available, if necessary, to support increased monitoring activities.
		Verify that all monitoring networks and drought information websites are functioning and include relevant, up-to-date information.
		Review database of contact information for public water suppliers and municipal water coordinators and update as needed.
		Update database/map of public water suppliers that have requested voluntary conservation and/or have placed mandatory water restrictions.

Stage 2: Incipient Drought

Defining Criteria:

A decision to issue a Stage 2 declaration regarding incipient drought is guided by the following drought criteria thresholds, as well as any other ancillary data:

Precipitation	Two-month total below 65% of average
Groundwater	Two out of three months below the 25 th percentile
Streamflow	Two out of three months below the 25 th percentile
Reservoirs	Average levels less than 80% of normal
Palmer Drought Severity Index	-2.0 to -2.99
Crop Moisture Index	-1.0 to -1.99, abnormally dry
VegDRI (seasonal)	Pre-drought conditions
Fire Danger	Moderate
U.S. Drought Monitor	Intensity level D1-D2

This stage was formerly called: Drought Advisory

Stage 2 Recommended Mitigation Actions

Stage 2 Recommended Mitigation Actions		
Coordination & Management	State Agencies coordinated through the IDW	Alert municipal water coordinators and water suppliers of conditions.
		Coordinate with municipal water coordinators, local health directors, and water suppliers to promote water conservation, monitor local situations, and report problems.
		Offer technical assistance to water utilities experiencing problems to assist with system management and promotion of water conservation with specific measures tailored to each water utility. Assist water utilities in strengthening supply-side and demand-side conservation measures.
		Survey local Water Coordinators and assess municipal drought preparedness.
		<ul style="list-style-type: none"> Advise municipalities to review appropriate ordinances to enable the enforcement of water conservation if needed in the future and to coordinate with water utilities, when pertinent. Advise water utilities to implement their coordination plans with their municipalities.
	Municipalities / Local Officials	Water coordinator and water suppliers should review communications protocol and coordinate on any public announcements (this could involve multiple communities).
		Alert key town officials (police & fire chiefs, health director, chief executive officer, emergency management director, public works, parks & recreation, superintendent of schools) about conditions.
		Notify municipal public works departments and fire responders to consider suspending all unnecessary exercises that require fire hydrants to be opened.
	Water Suppliers	Communicate with DPH and municipal water coordinators about local conditions, concerns, and any changes to the status of water supply.
		Consider postponing discretionary water consuming maintenance, repair work, and shutdowns.
Public Outreach & Education	State Agencies coordinated through the IDW	Provide information to weather forecasters and other media to encourage public interest stories and facilitate dissemination of drought information to the public.
		Compile information on water conservation tips to homeowners, e.g., "Water Efficiency Measures for Residents," and "Water Efficiency Measures for Landscaping," in preparation for distribution through the Internet, public service announcements, and other timely mailings should the drought worsen.
		Increase awareness of the state's drought information website.
	Municipalities / Local Officials	Work with state agencies to prepare information on water conservation tips for future dissemination to water users through the Internet, newspapers, public service announcements, and other timely mailings.
		Issue guidance document for private well users who may require assistance with well repairs or enhancement and make this available via the Internet.
	Water Suppliers	Consider issuing voluntary conservation appeals to all customers.

		Respond to customer complaints and problems related to drought conditions.
Data collection, monitoring, & preparedness	<i>State Agencies coordinated through the IDW</i>	Continue to monitor the primary indicators of drought, increasing the frequency as needed. Include qualitative data. Prepare new assessment reports as conditions change.
		Review activities of neighboring states through websites, and in coordination with National Weather Service and
		Survey local health departments, well drillers, and the Department of Consumer Protection concerning well drilling activity related to dry conditions.
		Monitor WebEOC for activities related to dry conditions.
		Review and implement, as needed, the plan for managing potential forest fire hazards and threats.
		Review water supply systems that have historically had adequacy problems, “target systems,” and provide technical assistance as needed.
		Review reservoir storage reports of the systems that use surface water supplies and consider more frequent reservoir level reporting for selected systems.
		Verify database accuracy of approved water haulers, approved bottled water purveyors, licensed well drillers, and upload lists to the state drought management website.
	<i>Municipalities / Local Officials</i>	Water coordinator should review any local sources of data on wells, dry hydrants, fire conditions, etc., and communicate to the appropriate state agencies.
	<i>Water Suppliers</i>	Monitor local water supplies and collect data more frequently as needed.
		Begin preparing for the possibility of bringing alternative/secondary supply systems online.
		Investigate any deviation from normal use registered on production meters.
		Review water supply emergency contingency plan triggers and mitigation activities; update if necessary.

Stage 3: Moderate Drought

Defining Criteria:

A decision to issue a Stage 3 declaration regarding moderate drought is guided by the following drought criteria thresholds, as well as any other ancillary data:

Precipitation	Three-month total below 65% of average
Groundwater	Four consecutive months below the 25 th percentile
Streamflow	Four out of five months below the 25 th percentile
Reservoirs	Average levels less than 70% of normal
Palmer Drought Severity Index	-3.0 to -3.99
Crop Moisture Index	-2.0 to -2.99, excessively dry
VegDRI (seasonal)	Moderate drought conditions
Fire Danger	High
U.S. Drought Monitor	Intensity level D2-D3

This stage was formerly called: Drought Watch

Stage 3: Moderate Drought		
Coordination & Management	State Agencies coordinated through the IDW	Declare a Stage 3 Drought and notify municipal water coordinators.
		Governor to consider convening Unified Command, including key state agencies and ESF 12 water companies, to review emergency plans and coordinate messaging. Consider establishing a Web EOC incident in order to track water issues.
		Contact each municipal Water Coordinator to ensure understanding of the required role and responsibilities of a municipal Water Coordinator.
		Commissioners require all state-owned facilities to enact water conservation measures and to review and update any specific drought/emergency plans.
		Communicate with the Army Corps of Engineers or other dam operators on possible use of impoundments for streamflow augmentation in locations where existing streamflow regulations are not adequately meeting the needs of fish and wildlife downstream.
		Initiate contact with federal agencies (FEMA/EPA/USGS/USDA/Corps) in order to identify federal assistance capabilities.
		Provide technical assistance to utilities on managing systems during dry conditions, including (a) administering expedited reviews of proposed system upgrades and alternative water supplies for drought-impacted community water systems; and (b) assist in the identification of emergency connections.
		Evaluate unused or underutilized high yield aquifers developable as temporary emergency water supplies including for non-potable uses.
		Disseminate generic press releases (DEMHS/OPM) and notification letters to water systems, local health directors, well drillers, etc.
		Direct state agencies to conserve water and repair leaks at state facilities.
	Municipalities / Local Officials	Municipal water supply coordinators should provide input to DPH on local conditions; for example, any change in status such as triggers identified in water supply plans or as defined by asset management plans, if any.
	Water Suppliers	Review operations to ensure that conservation efforts are maximized. Non-critical utility uses such as routine flushing, clearwell, clarifier or storage tank cleaning, meter testing and bleeders should be reviewed to eliminate, reduce or delay water use, where feasible.
		Preparation for mandatory conservation, including necessary enforcement mechanisms, will be initiated.
Determine where temporary interconnections between water utilities are needed and coordinate with DEEP/DPH for expedited permitting.		

		Consider preparations to activate “emergency” and “inactive” sources of water supply for potential use and coordinate with DPH.
Public Outreach & Education	<i>State Agencies coordinated through the IDW</i>	Send letters to municipal officials requesting they urge residents to curtail outdoor watering.
		Hold news conference to announce activation of the Water Status website and information line to get information on water status and conservation measures.
		Target heavy water users and evaluate mechanisms for water use reduction. Use guidance provided in “Industrial/Commercial/Institutional Water Users – Planning Guidance for Water Conservation and Emergency Contingency Plans” and “Agricultural Water Users - Planning Guidance for Water Conservation and Emergency Contingency Plans”.
		Assist agricultural industry by determining possible issues, prospective situations, and remedial steps that can be taken, including the dissemination of information and technical assistance for irrigation improvements available under federal emergency programs to agricultural growers.
		Remind holders of registered water diversions of their legal responsibilities and conditions that are prerequisite to a suspension of minimum stream flow standards pursuant to CGS Sec. 22a-6 and RCSA 26-141a-4(b).
		Use the Internet, public service announcements and radio station broadcasts to urge residents and businesses to conserve water (provide conservation tips such as “Water Efficiency Measures for Residents,” and “Water Efficiency Measures for Landscaping”). Encourage water users to cooperate with local officials and utilities as conditions may be worse in specific areas, requiring greater efforts in accordance with adopted utility plan.
	<i>Municipalities / Local Officials</i>	Set a voluntary outdoor water use reduction for all residents and businesses.
<i>Water Suppliers</i>	Voluntary conservation will be promoted in residential, commercial and industrial facilities to reduce demand from previous non-drought projected usage for the appropriate month.	
Data collection, monitoring, & preparedness	<i>State Agencies coordinated through the IDW</i>	Monitor implementation of individual water supply plans (through WebEOC or other means).
		Ensure municipal preparedness: <ul style="list-style-type: none"> • Obtain feedback from large water systems concerning adequacy of municipal authorities in place for water emergencies. • Follow-up and provide technical assistance to towns regarding local ordinances (recommend model ordinances, authorities, and fines.)
		Identify non-essential water uses during the Severe Drought Stage relative to time of year.
		Determine where temporary interconnections between water utilities may be needed, in accordance with CGS Sec. 22a-378.
		Initiate process for drafting Emergency Executive Order for the Office of the Governor.
		Assess and report agricultural impacts of worsening drought.
	<i>Municipalities / Local Officials</i>	Track and report problems related to the drought for both deep and shallow wells.
	<i>Water Suppliers</i>	Review adequacy of water monitoring and consumption records and invest in increased monitoring capabilities where needed.
		Evaluate potential funding needs for actions required under severe or extreme drought conditions to ensure the availability of adequate funding through budgets or emergency measures.
		Initiate increased reservoir level monitoring and reporting as directed by DPH.