

Drought Conditions in NH

March 24, 2017



Go to www.des.nh.gov. Scroll down the "A-Z list" to Drought Management.

The screenshot shows the homepage of the New Hampshire Department of Environmental Services (DES). The header includes the DES logo and navigation links: PUBLIC, GOVERNMENT, BUSINESS, and A to Z LIST (circled in red). The main content area is titled "Drought Management Program" and includes a search bar, a "Hot Topics" section with several news items, a "Publications" section, and a "Rules/Regulatory" section. On the right side, there are three sidebar boxes: "Drought Program" with a list of sub-topics, "Water Division" with a list of sub-topics, and "The Department" with a list of sub-topics. At the bottom right, there is a "DES Calendar" table.

Navigation Menu:

- DES Home
- A to Z List
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- Public
- Government
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- Programs
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- Contact Us

Search: search this site [Go]

Divisions > Water Division > Programs/Bureaus/Units >

Drought Management Program

Although New Hampshire is typically thought of as a water-rich state, there are times the demand for water can be difficult to meet. A combination of increased population and extended periods of low precipitation can cause reduced water supplies in the state. Drought is a normal, recurrent feature of climate. It occurs almost everywhere. [more...](#)

Hot Topics

- NEW! [Press Release: NHDES Urges Residents to Conserve Water](#)
- NEW! [Private Well Financial Assistance for Very-Low Income Households](#)
- NEW! [Weekly NH Drought Status Summary](#)
- NEW! [Water Restrictions and Bans 2016](#)
- NEW! [2016 Drought Guidance for Municipalities and Public Water Systems](#)
- NEW! [2016 Drought Guidance for Homeowners with Private Wells](#)
- [Drought Indicator Resources](#)
- [Model Regulation for Restricting Lawn Irrigation](#)
- [Model Regulation for Water System Restrictions](#)

Publications

- [NH Drought Management Areas](#)
- [UNH Study: An Analysis of Drought Conditions in New Hampshire](#)
- [Water Resources Primer/Floods and Droughts Chapter](#)

Rules/Regulatory

- [RSA 41:11-d Restricting the Watering of Lawns by Municipalities](#)
- [Env-Dw 503 Public Water System Operational Requirements \(For limiting water use: See Env-Dw 503.09 and Env-Dw 503.18-503.20\)](#)
- [RSA 482 Dams, Mills, and Flowage](#)
- [Water Conservation Rules](#)

Drought Program

- Program Home
- Overview
- Hot Topics
- Publications
- Rules/Regulatory
- Education/Outreach
- Technical Assistance
- Related Programs
- Resources/Links
- Contact Us

Water Division

- Water Home
- Division Overview
- Programs/Bureaus/Units
- Rules/Regulatory
- Publications
- Contact Us

The Department

- Commissioner's Office
- Air Resources Division
- Waste Management Div.
- Water Division
- Boards and Committees

DES Calendar

DES Calendar								
						1	2	3
4	5	6	7	8	9	10		
11	12	13	14	15	16	17		
18	19	20	21	22	23	24		
25	26	27	28	29	30			

<http://des.nh.gov/index.htm>



Current Drought Conditions

A Situation Summary for New Hampshire

Drought Conditions	Check weekly during continued dry weather for Drought Status in New Hampshire 📄 and Water Restrictions and Bans 📄 .
US Drought Monitor¹ Classification for New Hampshire	Updated Thursdays based on data as of 7:00 AM Tuesday at US Drought Monitor
Precipitation	Daily updates at Weather Service Precipitation Analysis Tool or Northeast River Forecast Center
Stream Flow Conditions	Daily updates at USGS WaterWatch - Streamflow conditions
Groundwater Levels	Updated monthly at USGS Groundwater Watch
Drinking Water Supply Reservoirs	Contact the Drinking Water and Groundwater Bureau at 271-0660 for information.
Recreational Lake Levels	Lake water levels for several water bodies in NH can be accessed at DES Real-Time Data & Information for Watersheds in New Hampshire .
Fire Danger	Check daily. Conditions change frequently. (updates at NH Division of Forest & Lands)

¹ The U.S. Drought Monitor is joint venture of the USDA; National Drought Mitigation Center; US Department of Commerce; and NOAA.

More information at:

[DES Drought Management Program](#)

[DES Water Conservation Program](#)

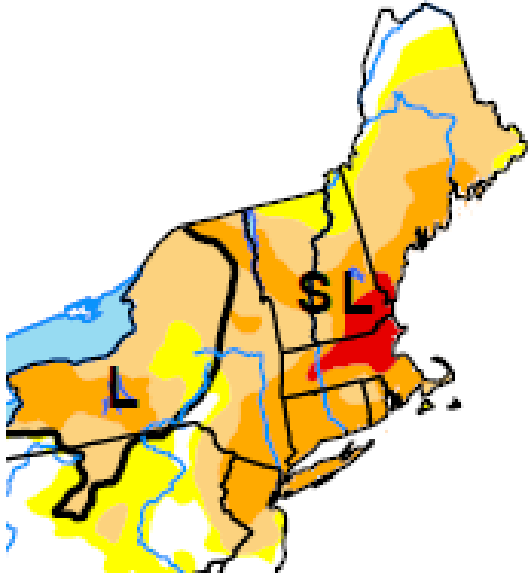


Drought Emergency in New Hampshire

Impact Summary:

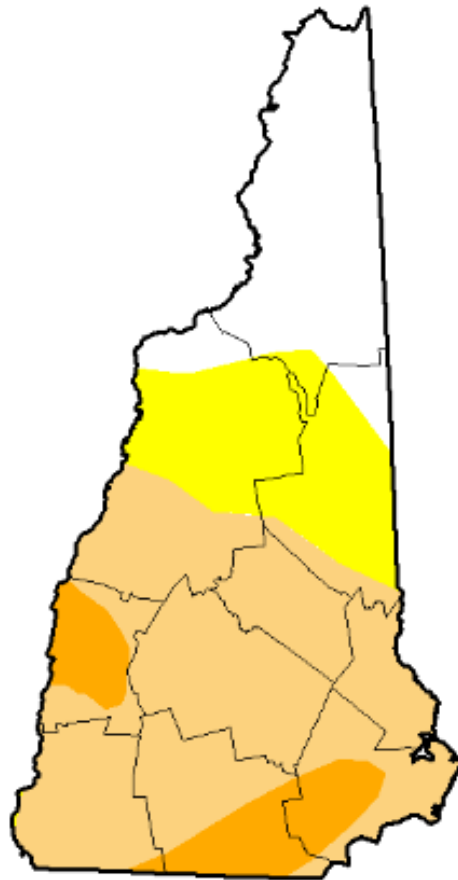
- Hundreds of wells have failed
- Private well drilling
 - Backlog of many weeks to deepen/replace wells
 - Deferring well drilling for new construction
- Limited financial assistance options for homeowners
- Agriculture has been significantly impacted –
 - Federal grant and loan programs are being implemented
 - State financial assistance funds are being considered
- A few large community water systems pursued emergency approvals
- Ecosystems are stressed
- Fire danger was elevated

US Drought Monitor Northeast



October 25, 2016

U.S. Drought Monitor New Hampshire



March 21, 2017

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	22.27	77.73	59.40	10.04	0.00	0.00
Last Week 3/14/2017	19.08	80.92	67.00	44.60	0.00	0.00
3 Months Ago 12/02/2016	8.41	91.59	75.35	45.36	4.67	0.00
Start of Calendar Year 1/3/2017	8.41	91.59	75.35	44.93	0.00	0.00
Start of Water Year 3/27/2016	15.33	84.67	62.44	40.49	19.27	0.00
One Year Ago 3/22/2016	86.55	13.45	0.00	0.00	0.00	0.00

Intensity



Precipitation Departures from Normal

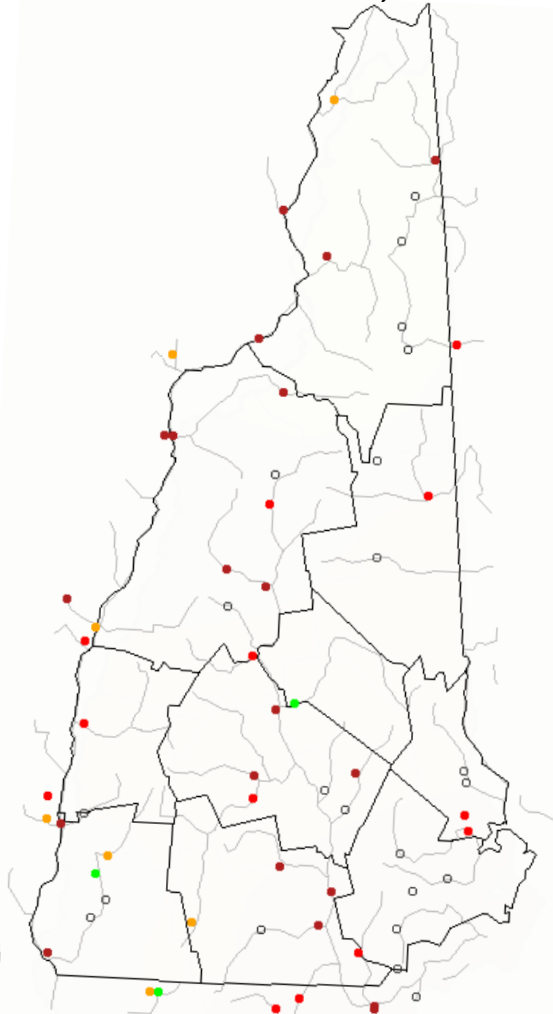
PRECIPITATION/DEPARTURE FROM NORMAL (INCHES)

21-Mar-17

	30 DAYS	90 DAYS	180 DAYS	365 DAYS
BELKNAP	1.64/-1.75	7.99/-1.68	19.39/-2.22	34.88/-10.37
CARROLL	2.23/-1.54	10.49/-0.44	22.90/-1.62	41.11/-9.72
CHESHIRE	1.91/-1.62	7.75/-2.53	17.06/-5.35	33.68/-13.23
COOS	2.43/-0.61	9.21/0.07	19.56/-1.87	37.52/-6.87
GRAFTON	2.39/-0.85	8.74/-0.82	19.65/-2.57	39.90/-8.12
HILLSBOROUGH	1.78/-1.94	8.49/-2.07	19.80/-3.02	33.92/-13.08
MERRIMACK	1.59/-1.92	7.86/-2.18	19.27/-2.85	34.55/-11.70
ROCKINGHAM	1.76/-2.13	9.04/-1.54	21.16/-1.62	34.45/-12.15
STRAFFORD	1.84/-2.02	9.10/-1.41	20.04/-2.91	33.98/-13.25
SULLIVAN	1.61/-1.72	6.87/-2.70	16.29/-5.06	32.44/-12.97

28-Day Stream Flow

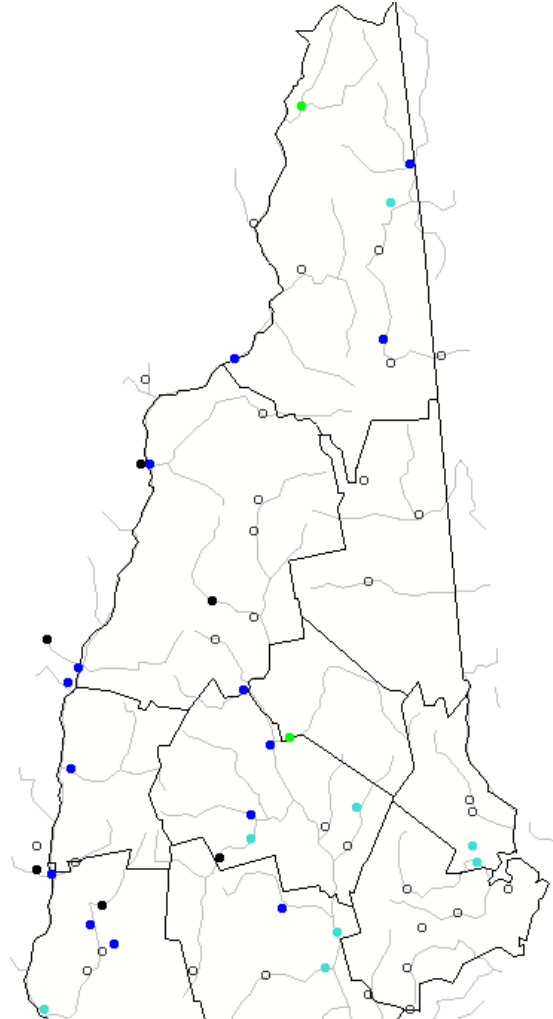
October 19, 2016



Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

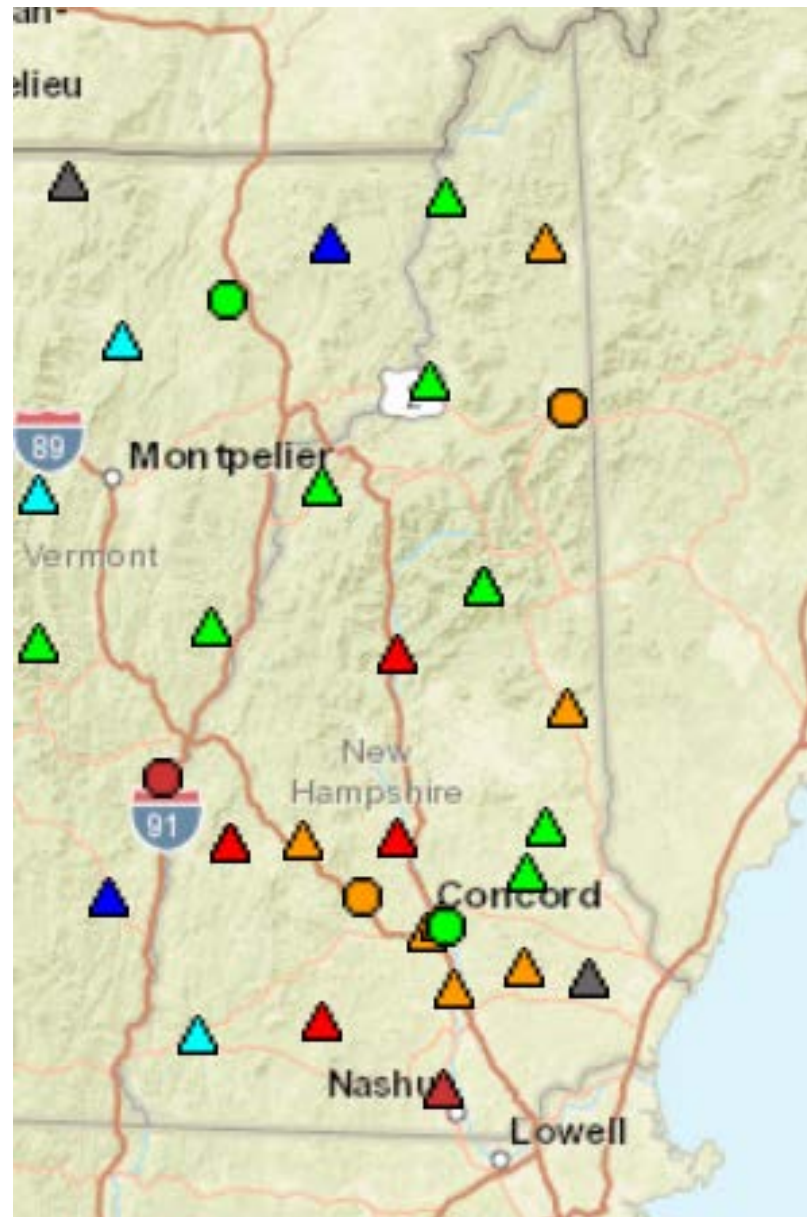
28-Day Stream Flow

March 12, 2017



Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

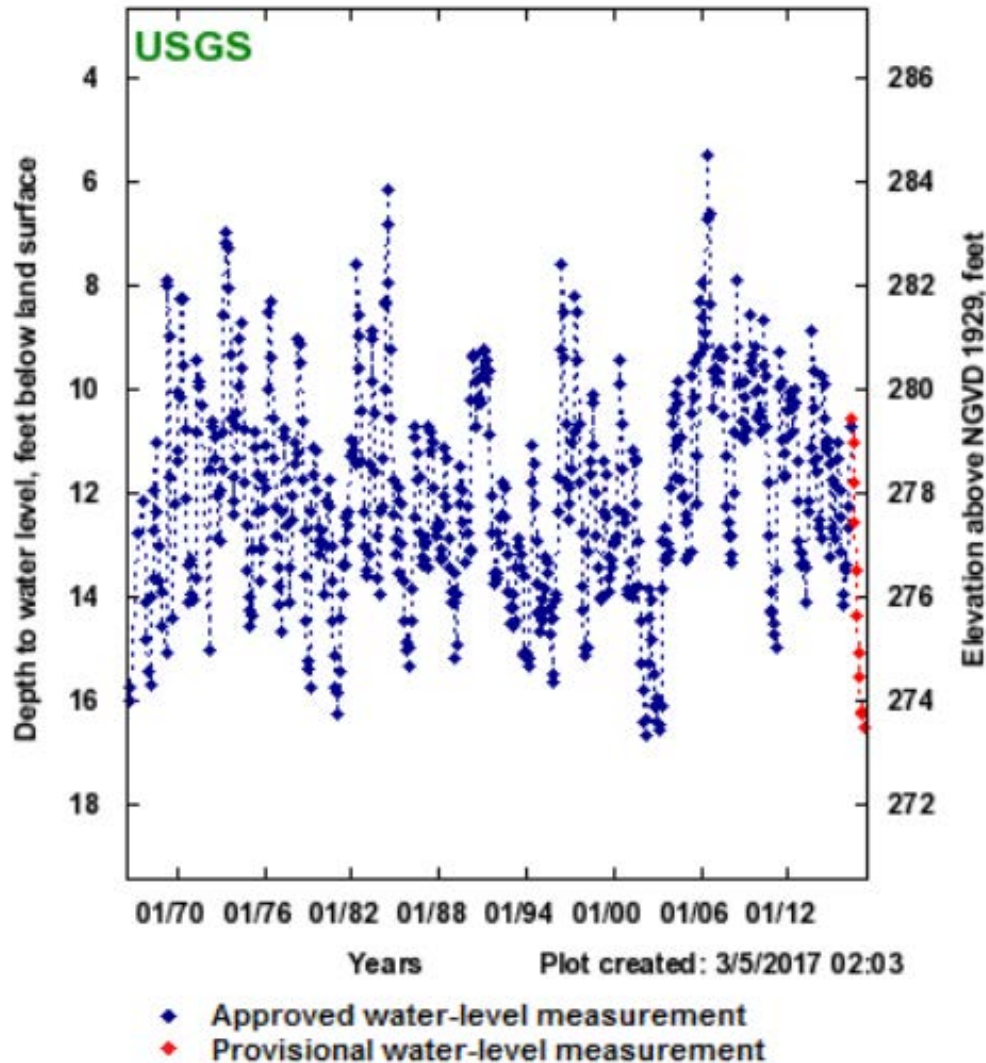
Monthly Groundwater Levels Through 3/12/2017



Explanation - Percentile classes (symbol color based on most recent measurement)								Wells	Springs	
●	●	●	●	●	●	●	●	○	Real-Time	■
Low	<10	10-24	25-75	76-90	>90	High	Not Ranked	□	Continuous	■
	Much Below Normal	Below Normal	Normal	Above Normal	Much Above Normal			△	Periodic Measurements	■

Sand & Gravel Groundwater Monitoring Well - Franklin

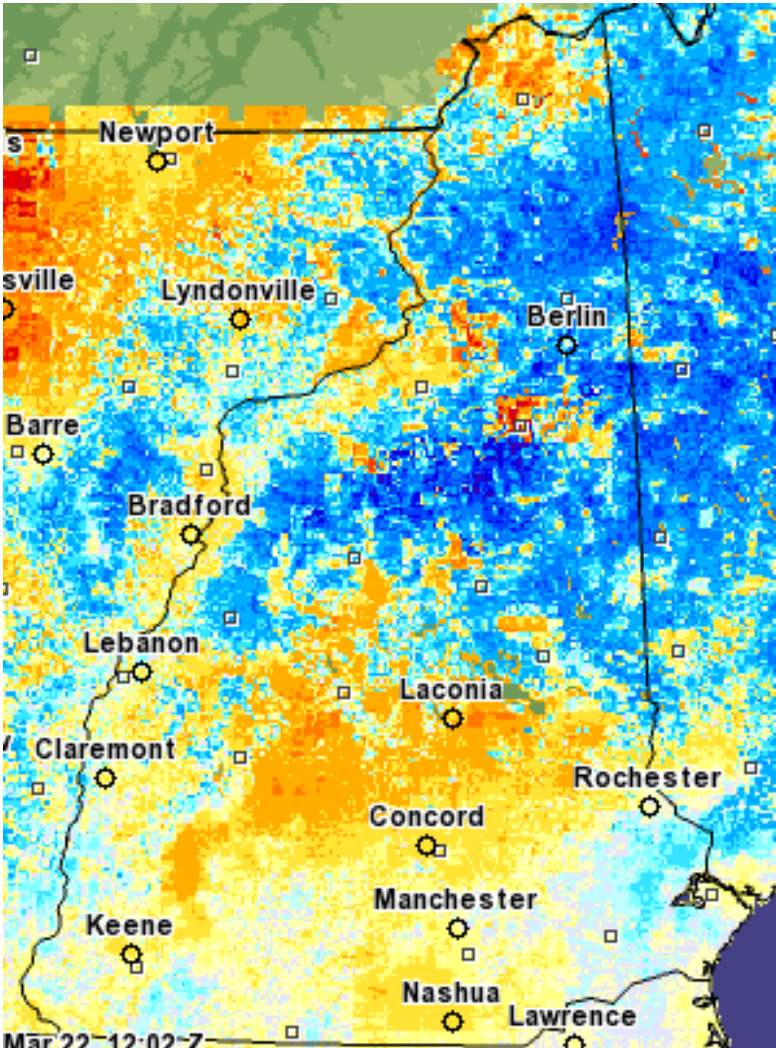
432428071390701 - NH-FKW 1



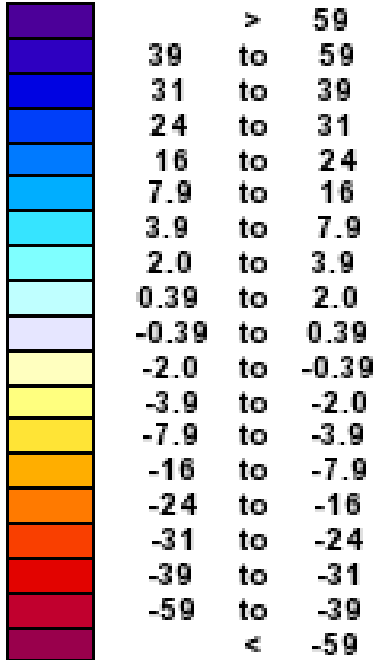
Groundwater is near the historic low level - 50 years of monitoring

Modeled Snow Depth Departure from Normal (Daily) for 2017 March 22, 6:00 UTC

189.9 mi



Inches of depth



Not Estimated

Known Water Use Restrictions and Bans

Last Update: November 3, 2016

Legend

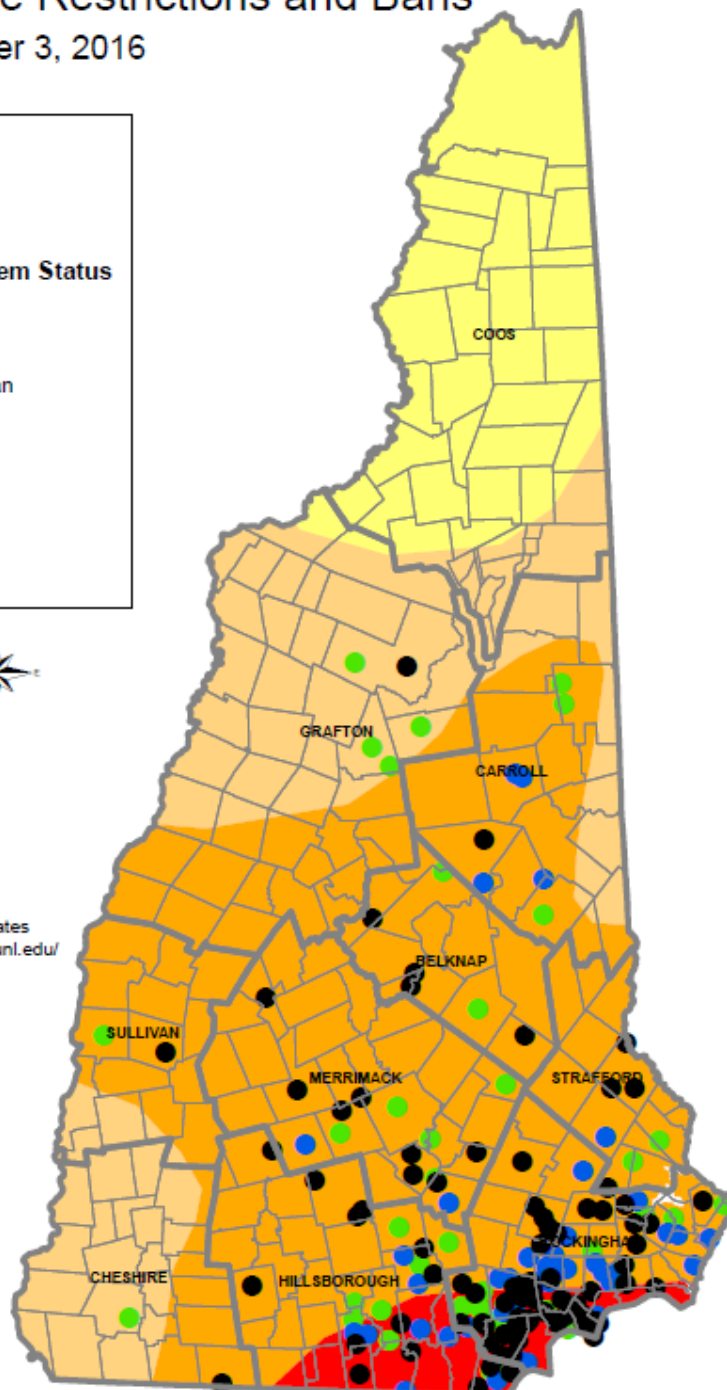
- County Boundary
- Town Boundary
- Municipality or Water System Status**
 - Outdoor Use Ban
 - Restriction
 - Voluntary Restriction or Ban
- Drought Condition**
 - Abnormally Dry
 - Moderate Drought
 - Severe Drought
 - Extreme Drought

0 5 10 20 Miles



Drought Conditions based on United States Drought Monitor (<http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?NH>)

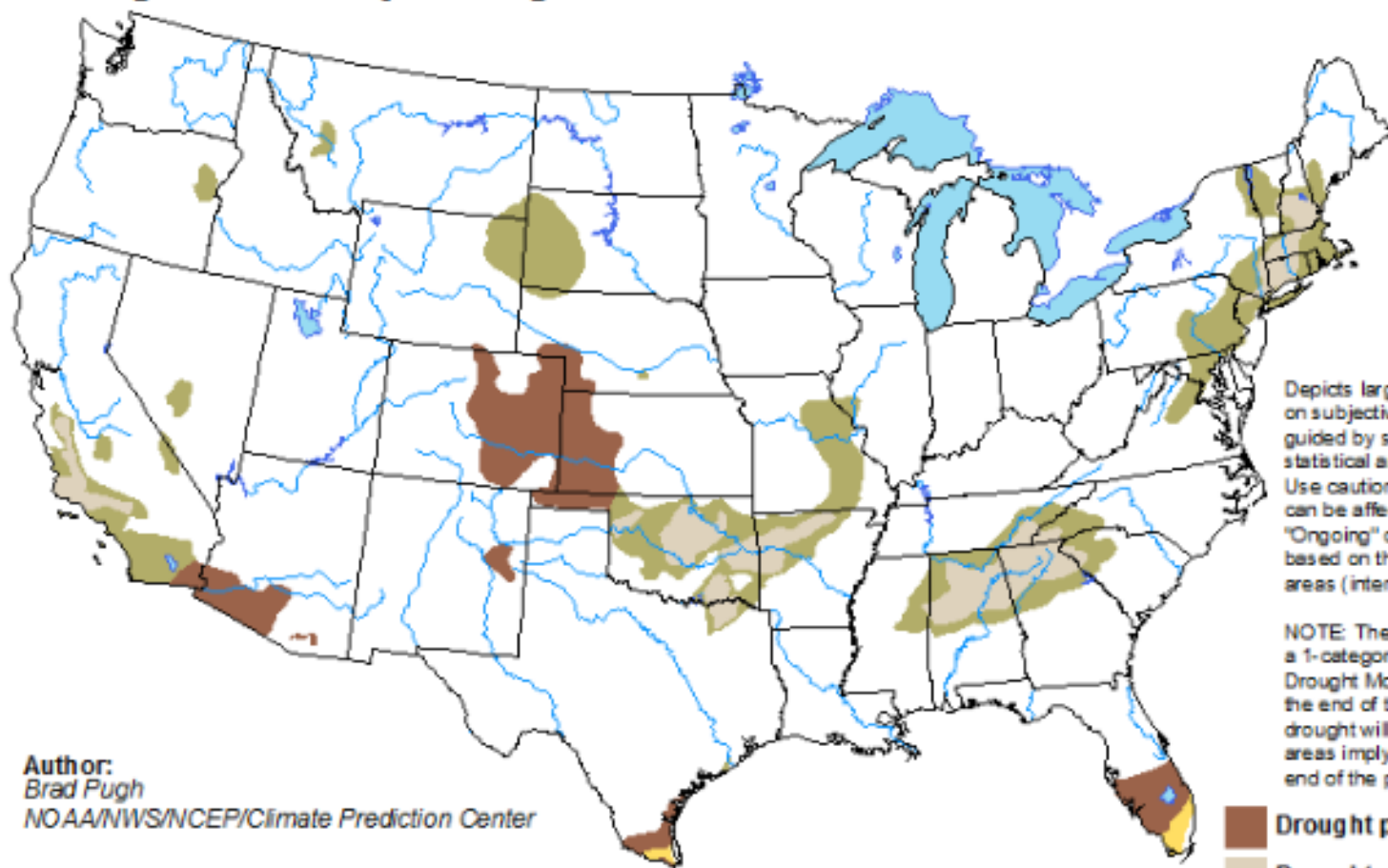
Disclaimer: The status of water use restrictions and bans is based on information submitted to the New Hampshire Department of Environmental Services and may not be comprehensive.



U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period





Valid for February 16 - May 31, 2017
Released February 16, 2017

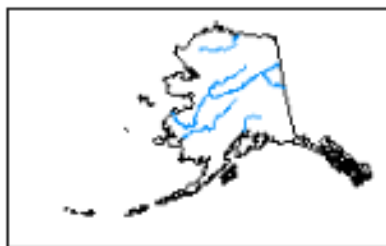


Author:
Brad Pugh
NOAA/NWS/NCEP/Climate Prediction Center

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

-  Drought persists
-  Drought remains but improves
-  Drought removal likely
-  Drought development likely



<http://go.usa.gov/3eZ73>



Historic Drought Related Inquiries/Issues

- **Lake levels**
- **Stream flow**
- **Dam management**
- **Failing water supply wells (private & public)**
- **Public water supply shortages**
- **Restricting outdoor lawn watering**
- **Impacts on business, industry and agriculture**
- **Roadside withdrawals by tanker trucks**
- **Fire danger**

NH Drought Management Plan

- **Technical criteria for classifying drought updated by UNH in 2014**
- **Drought Management Plan Updated in 2015 – Stakeholder review in 2012**
- **Currently being adapted as an annex for the State’s Emergency Operation Plan**
- **Additional stakeholder comments were welcomed through August**
- **Coordinated by NHDES**
- **Administered by a Drought Management Team**
 - **30 entities**
 - **Government/Water Supply/Business/Recreation**



Drought Management Team

- 1) Assembles after a sustained moderate drought is occurring**
- 2) Assesses data and recommends drought classification determination for each management area**
- 3) Recommends public messaging**
- 4) Makes recommendations to members, State agencies and Governor**
- 5) Assists in collecting data (economic and other impacts)**
- 6) Provides forum for information sharing and collaboration**



Drought Management Team

2016-2017 Drought

- Meetings
 - July 22
 - August 18
 - September 16
 - October 21
- Actions
 - Recommended public messaging
 - Financial assistance guidance documents
 - Initially encouraged conservation
 - As drought conditions persisted, strongly recommended mandatory residential lawn watering bans be enacted by municipalities
 - Guidance on impact assessment



Drought Emergency in New Hampshire

Impact Reporting

- Drought impacts can be reported using forms on NHDES' homepage
 - Private wells
 - Businesses
 - Public water Systems
- Well drillers report deepened or replaced wells to NHDES (90 day reporting deadline)
- Water systems report water emergencies



Drought Economic Impact Survey for Households on Private Wells

Created: September 2016

As part of the state's emergency response efforts to the drought, New Hampshire Department of Environmental Services (NHDES) is gathering information related to private well water availability and drought related economic impacts. The information requested in the below survey will assist the state in identifying the location and severity of drought impacts for assessing drought response needs.

Who should submit this form?

Households on a private well experiencing problems with water supply due to the ongoing drought or households that were experiencing problems, but made repairs to mitigate water supply issues. (This does not include homes on public water systems.)

Why is the information needed?

- To identify and assess drought response needs of individuals not served by public water systems.
- To identify where adverse impacts associated with drought are occurring.
- To quantify the specific economic impacts associated with drought to support potential disaster assistance requests.



Drought Emergency in New Hampshire Recommended Measures for NH Residents

Reduce Water Use Immediately

- Lawn Watering
- Sink Faucets
- Showerheads
- Clothes Washers
- Toilets

Private Well Owners

- Manage Your Water Use
- Address Water Supply Problems Before Winter
- Financial Preparedness
- Well Location and Basic Information



2016-2017 Drought Assistance for Homeowners on Private Wells

- Answer calls from private Well owners
- Conservation tips
- Well failure symptoms
- Well improvement options
- Private Well Information
- Licensed well drillers and pump installers
- Financial Assistance – USDA loan/grant for very low income households
- Coordinate with local officials to establish emergency water sources
 - NHDES conducts testing if the source is not already a public water system
- Guidelines & prohibitions on “filling” dry wells with bulk water



2016-2017 Drought Guidance for Municipalities and Public Water Systems

- Drought condition summary
- Water use restriction examples
- Tools available for implementing voluntary and mandatory restrictions
- Promote relationship between towns and community water systems.

Pending 2017 Legislation – HB 173

Municipal and County Government

March 6, 2017

2017-0725h

06/04

Amendment to HB 173

Amend RSA 41:11-d, I as inserted by section 1 of the bill by replacing it with the following:

I. The local governing body may establish regulations restricting the use of water from private wells or public water systems for residential *and commercial* outdoor lawn watering when administrative agencies of the state or federal government have designated the region as being under a declared state or condition of drought. *The governing body issuing the ban order may, upon application for exemption by an affected party, grant an exception to the watering ban.*