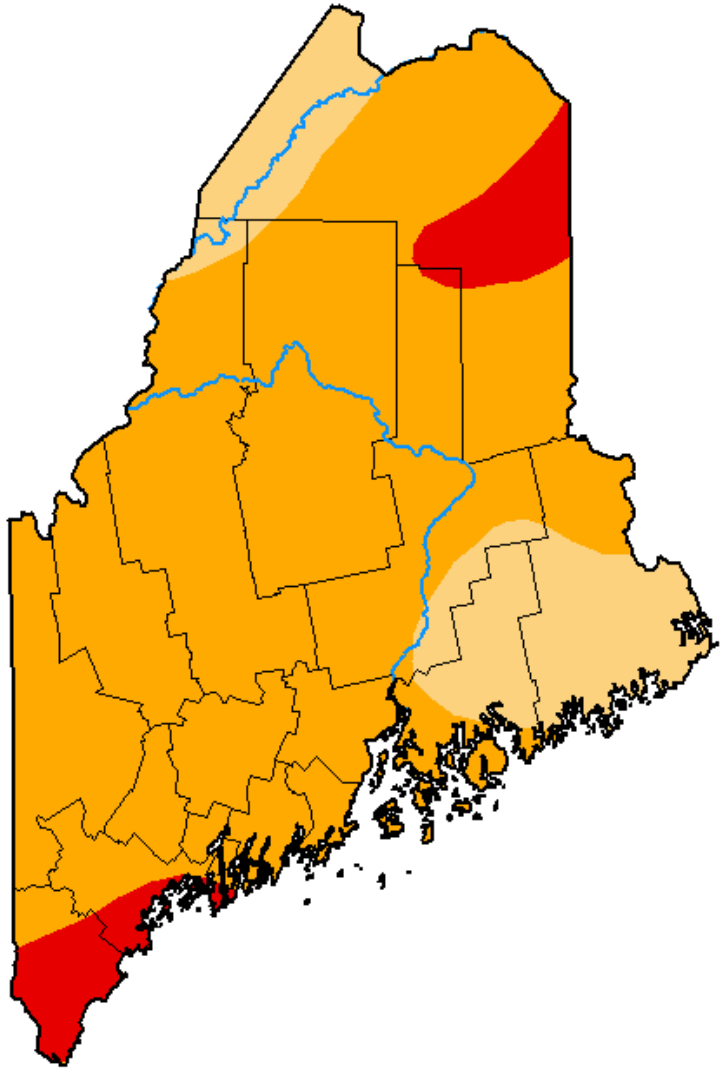


# 2020, Year of Many Challenges: Drought



Bangor Daily News



Photos: Bangor Daily News



# What is drought?

- Lack of rain, high temperatures, low humidity (meteorological drought)
- Lack of soil moisture (agricultural drought)
  - Wilting plants, reduced crop growth and yield
  - Increase in fire danger
- Low flow in streams, rivers, and lakes (shorter-term hydrological drought)
  - Loss of irrigation sources, stressed public water supplies
  - Higher water temperatures
  - Stranding of fish and invertebrates
- Low groundwater levels (longer-term hydrological drought)
  - Drying wells
  - Drying springs and groundwater-dependent wetlands

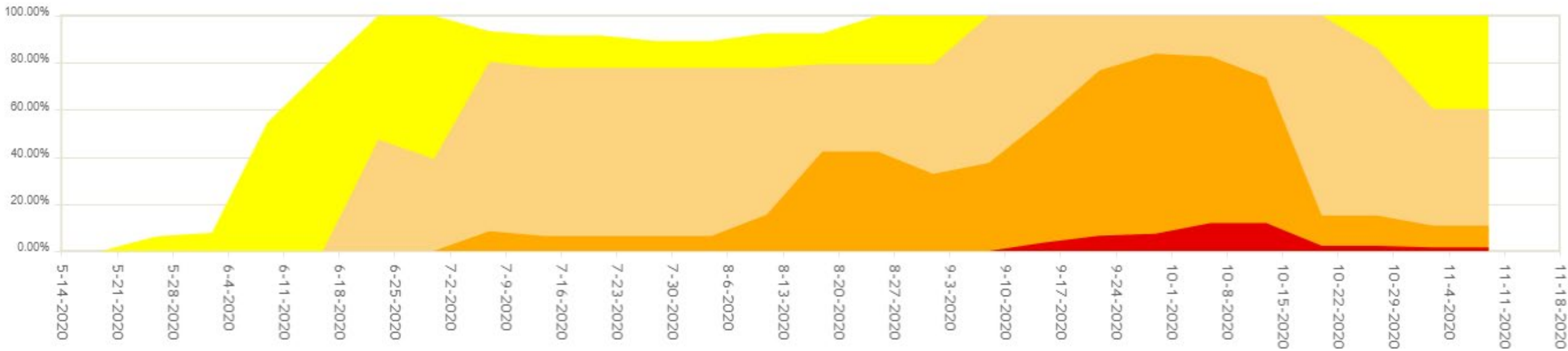
U.S. Drought Monitor  
Severity Scale:

	Category	Impact
Abnormally Dry	D0	Crop growth is stunted; planting is delayed
		Fire danger is elevated; spring fire season starts early
		Lawns brown early; gardens begin to wilt
		Surface water levels decline
Moderate Drought	D1	Irrigation use increases; hay and grain yields are lower than normal
		Honey production declines
		Wildfires and ground fires increase
		Trees and landscaping are stressed; fish are stressed
		Voluntary water conservation is requested; reservoir and lake levels are below normal capacity
Severe Drought	D2	Specialty crops are impacted in both yield and fruit size
		Producers begin feeding cattle; hay prices are high
		Warnings are issued on outdoor burns; air quality is poor
		Golf courses conserve water
		Trees are brittle and susceptible to insects
		Fish kills occur; wildlife move to farms for food
		Water quality is poor; groundwater is declining; irrigation ponds are dry; outdoor water restrictions are implemented
Extreme Drought	D3	Crop loss is widespread; Christmas tree farms are stressed; dairy farmers are struggling financially
		Well drillers and bulk water haulers see increased business
		Water recreation and hunting are modified; wildlife disease outbreak is observed
		Extremely reduced flow to ceased flow of water is observed; river temperatures are warm; wells are running dry; people are digging more and deeper wells



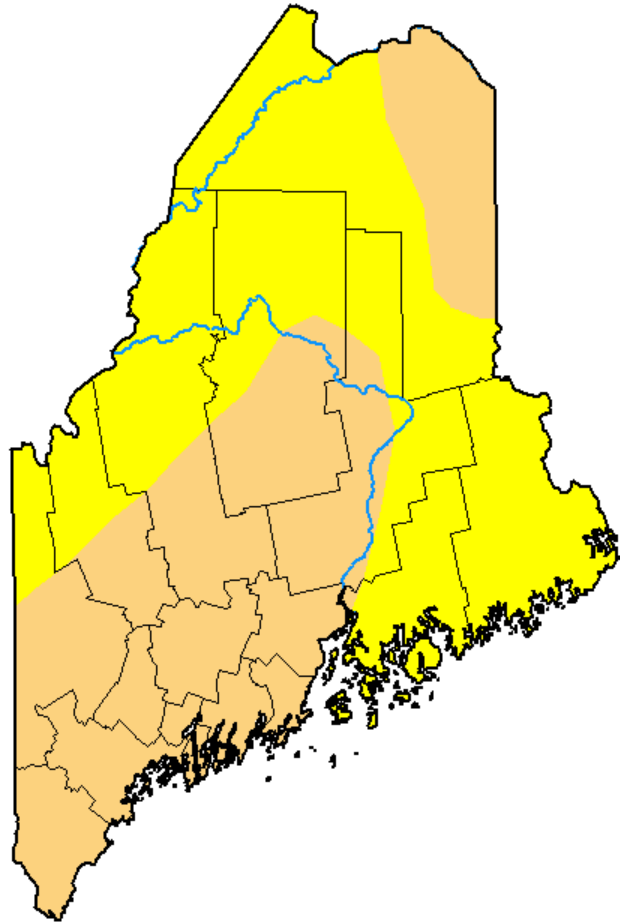
- Dry conditions began in mid-May and rapidly worsened in June.  
- “flash drought” caused by very dry, warm air with no rain.

Maine Percent Area



- Although some areas saw some relief in mid-October, the drought is not currently over.

**U.S. Drought Monitor  
Maine**



**June 23, 2020**

(Released Thursday, Jun. 25, 2020)

Valid 8 a.m. EDT

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	47.36	0.00	0.00	0.00
<b>Last Week</b> <i>06-16-2020</i>	22.32	77.68	0.00	0.00	0.00	0.00
<b>3 Months Ago</b> <i>03-24-2020</i>	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Calendar Year</b> <i>12-31-2019</i>	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> <i>10-01-2019</i>	87.45	12.55	0.00	0.00	0.00	0.00
<b>One Year Ago</b> <i>06-25-2019</i>	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme 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>*

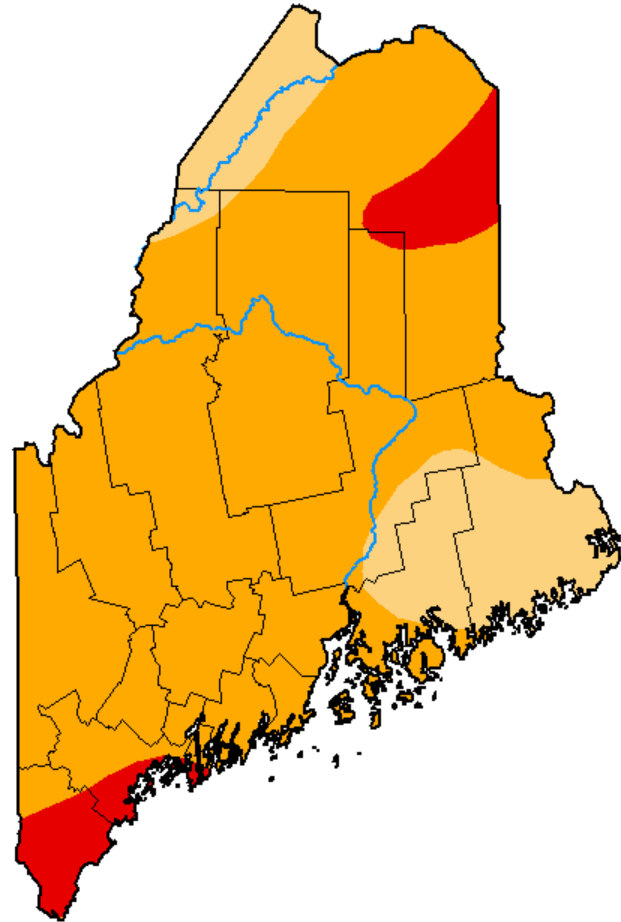
Author:

Adam Hartman  
NOAA/NWS/NCEP/CPC



[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

**U.S. Drought Monitor  
Maine**



**September 29, 2020**

*(Released Thursday, Oct. 1, 2020)*

Valid 8 a.m. EDT

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	100.00	83.86	7.28	0.00
<b>Last Week</b> <i>09-22-2020</i>	0.00	100.00	100.00	76.76	6.52	0.00
<b>3 Months Ago</b> <i>06-30-2020</i>	0.00	100.00	39.07	0.00	0.00	0.00
<b>Start of Calendar Year</b> <i>12-31-2019</i>	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> <i>10-01-2019</i>	87.45	12.55	0.00	0.00	0.00	0.00
<b>One Year Ago</b> <i>10-01-2019</i>	87.45	12.55	0.00	0.00	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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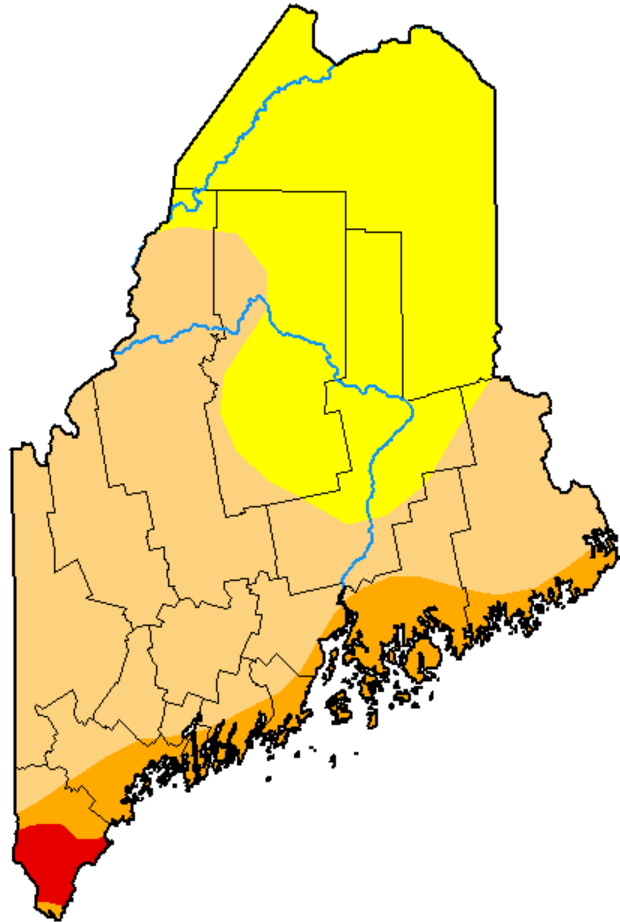
Author:

Brad Rippey  
U.S. Department of Agriculture



[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)

**U.S. Drought Monitor  
Maine**



**November 10, 2020**

*(Released Thursday, Nov. 12, 2020)*

Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	60.42	10.81	1.55	0.00
<b>Last Week</b> <i>11-03-2020</i>	0.00	100.00	60.42	10.81	1.55	0.00
<b>3 Months Ago</b> <i>08-11-2020</i>	7.46	92.54	77.76	15.44	0.00	0.00
<b>Start of Calendar Year</b> <i>12-31-2019</i>	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> <i>09-29-2020</i>	0.00	100.00	100.00	83.86	7.28	0.00
<b>One Year Ago</b> <i>11-12-2019</i>	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme 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:

Richard Tinker  
CPC/NOAA/NWS/NCEP

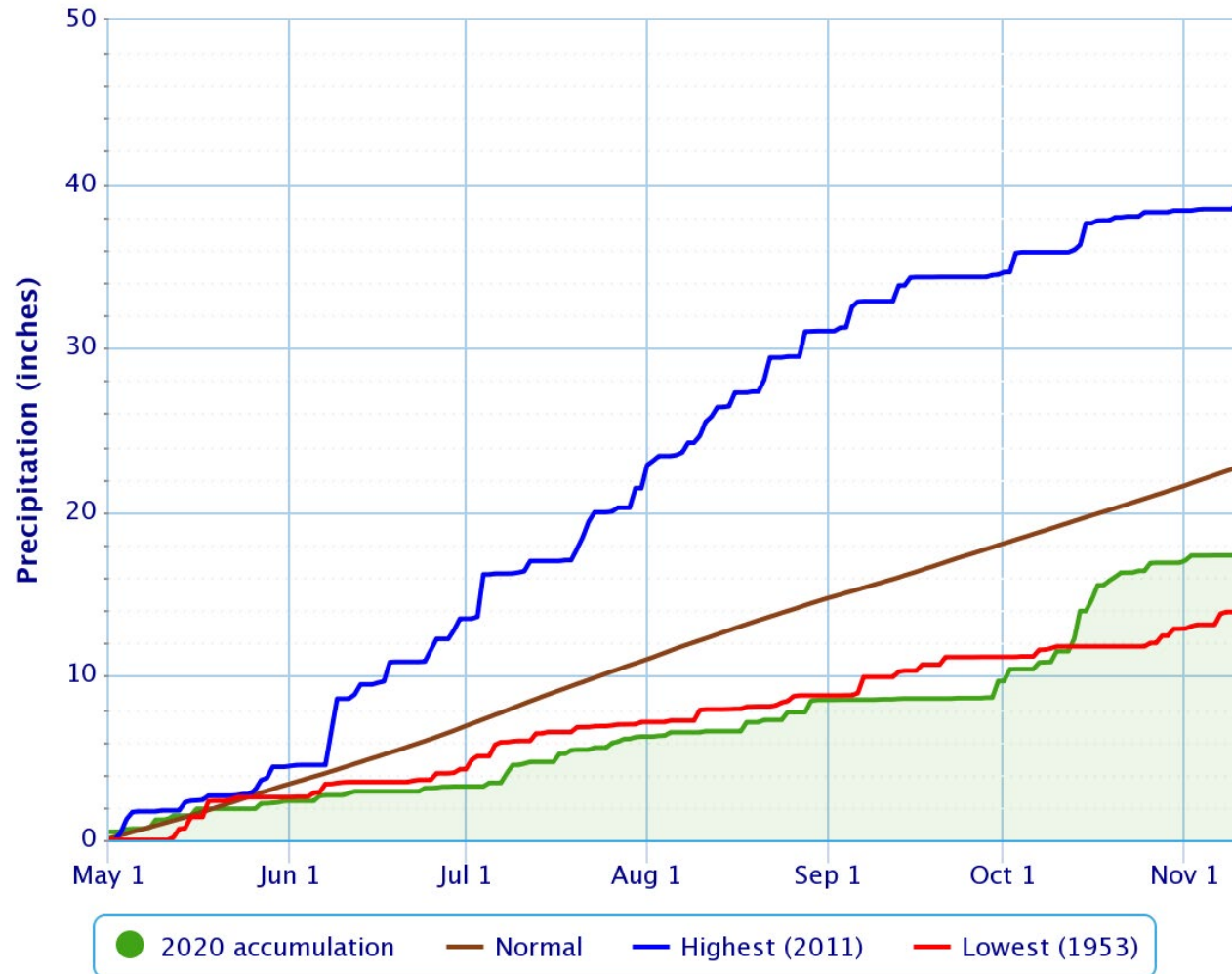


[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)



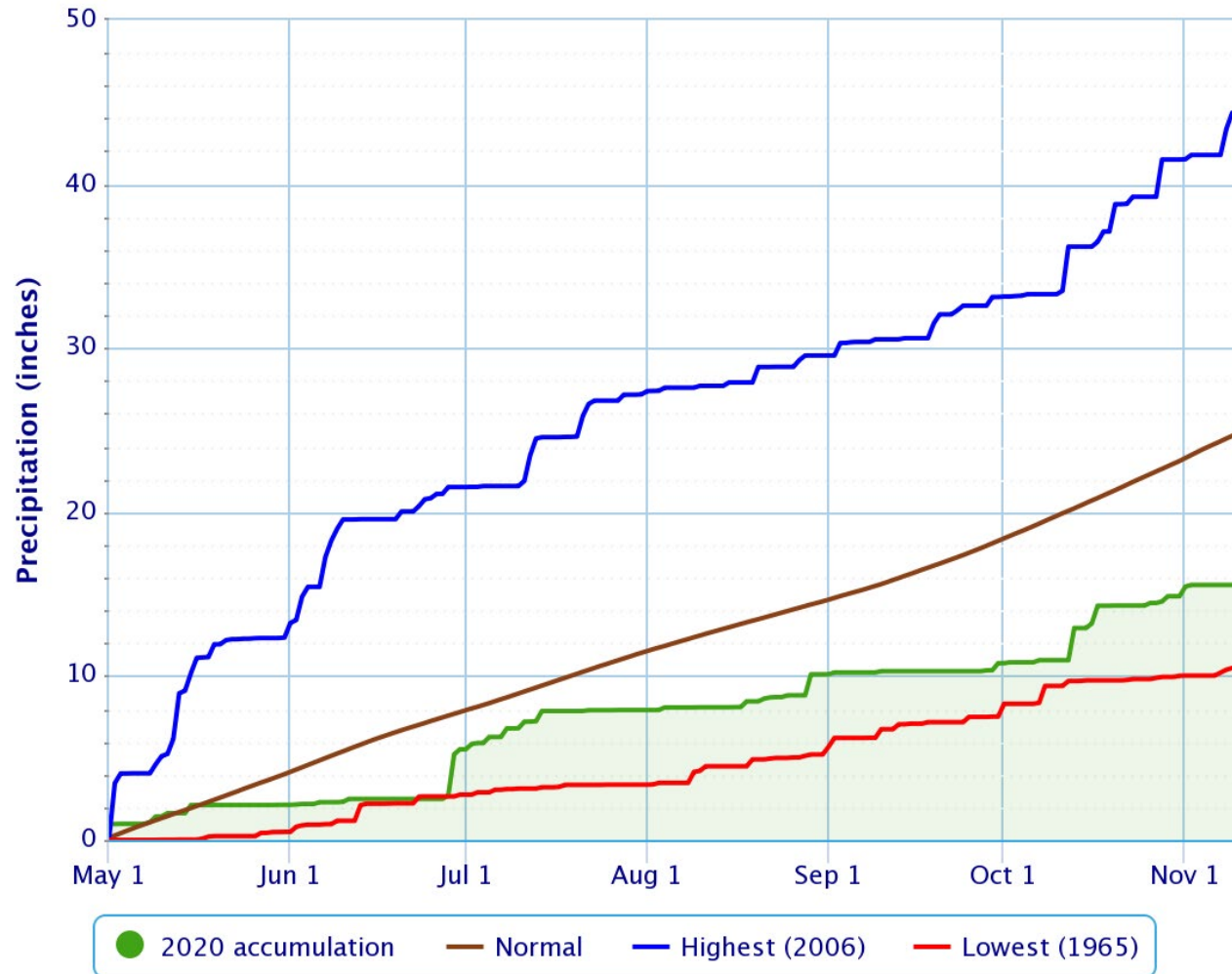
### Accumulated Precipitation – Caribou Area, ME (ThreadEx)

Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



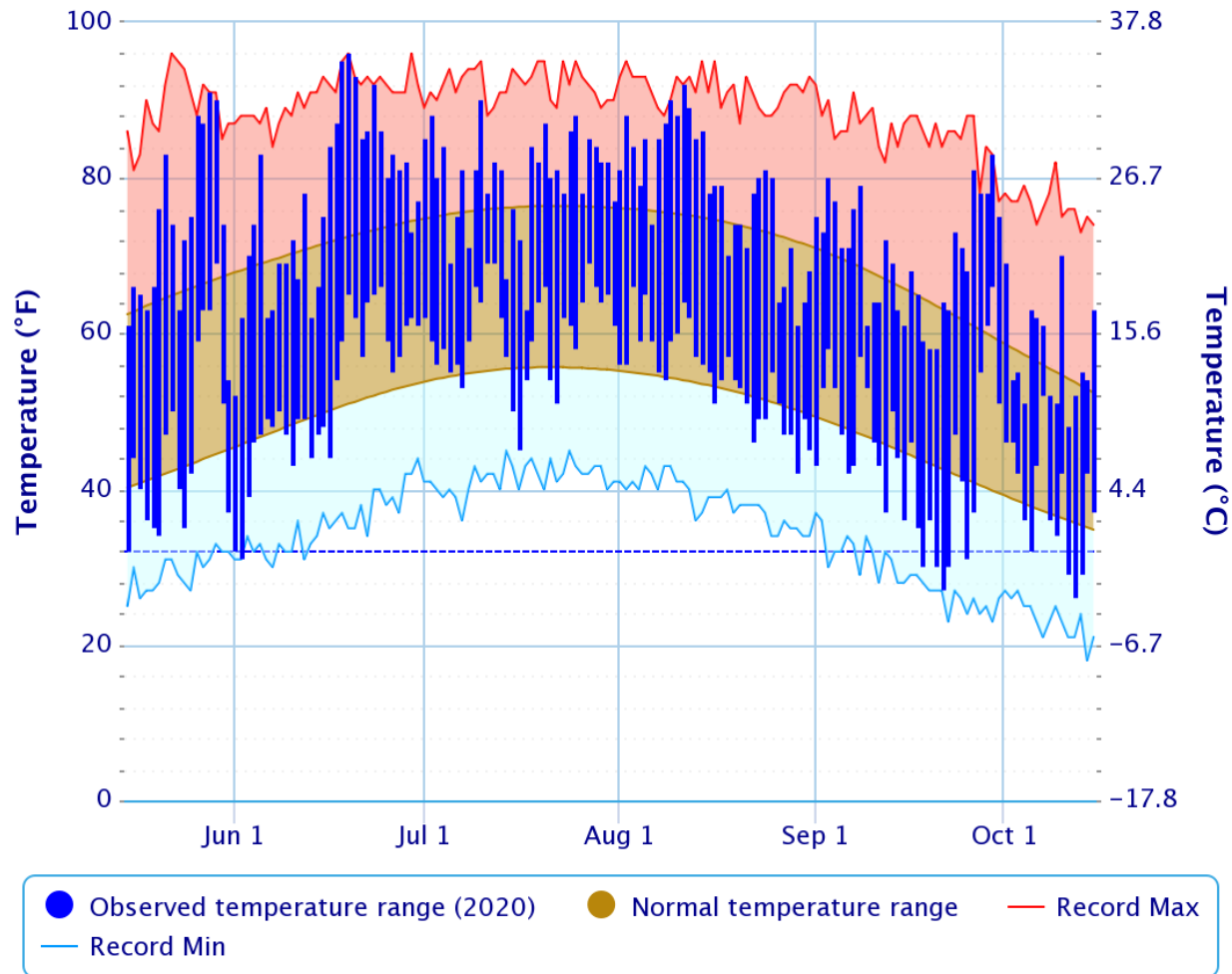
### Accumulated Precipitation – Portland Area, ME (ThreadEx)

Click and drag to zoom to a shorter time interval; green/black diamonds represent subsequent/missing values



### Daily Temperature Data – Caribou Area, ME (ThreadEx)

Period of Record – 1939-01-16 to 2020-11-11. Normals period: 1981-2010. Click and drag to zoom chart.

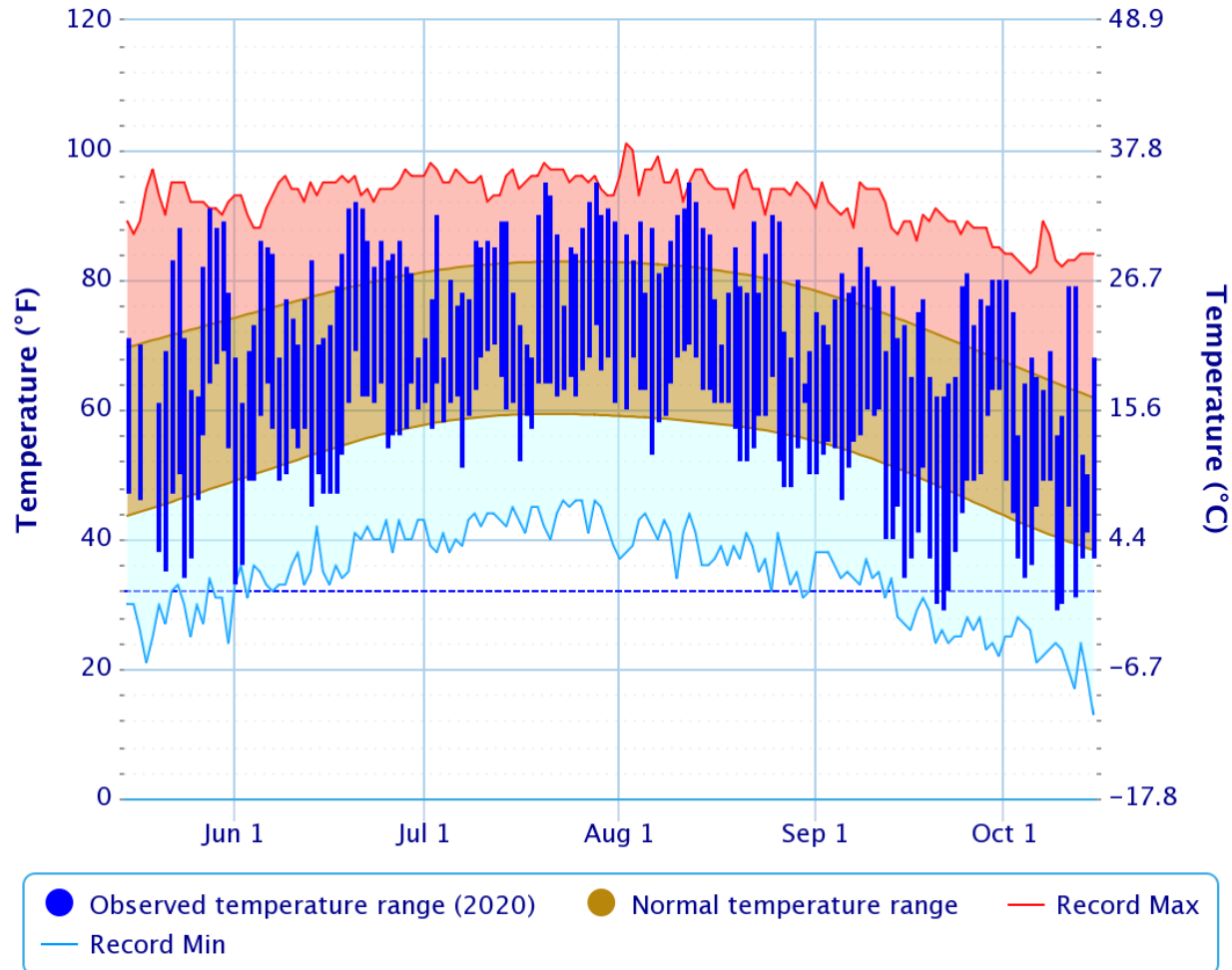


Powered by ACIS



### Daily Temperature Data – SANFORD 2 NNW, ME

Period of Record – 1953-07-25 to 2020-11-06. Normals period: 1981-2010. Click and drag to zoom chart.

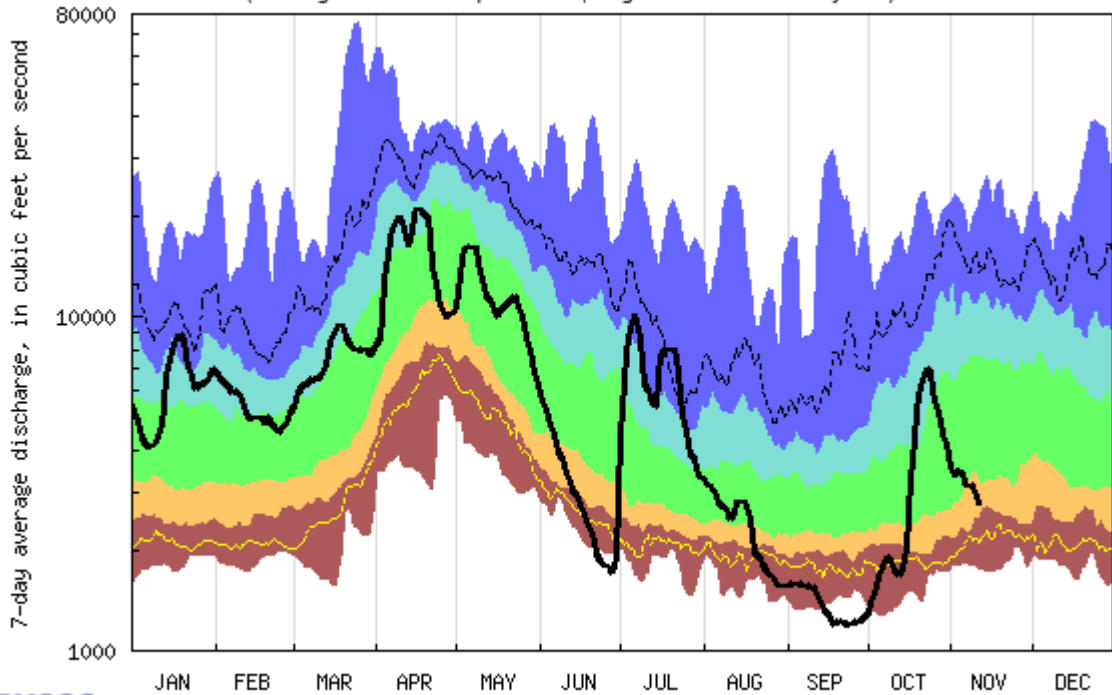


Powered by ACIS



# River Flows

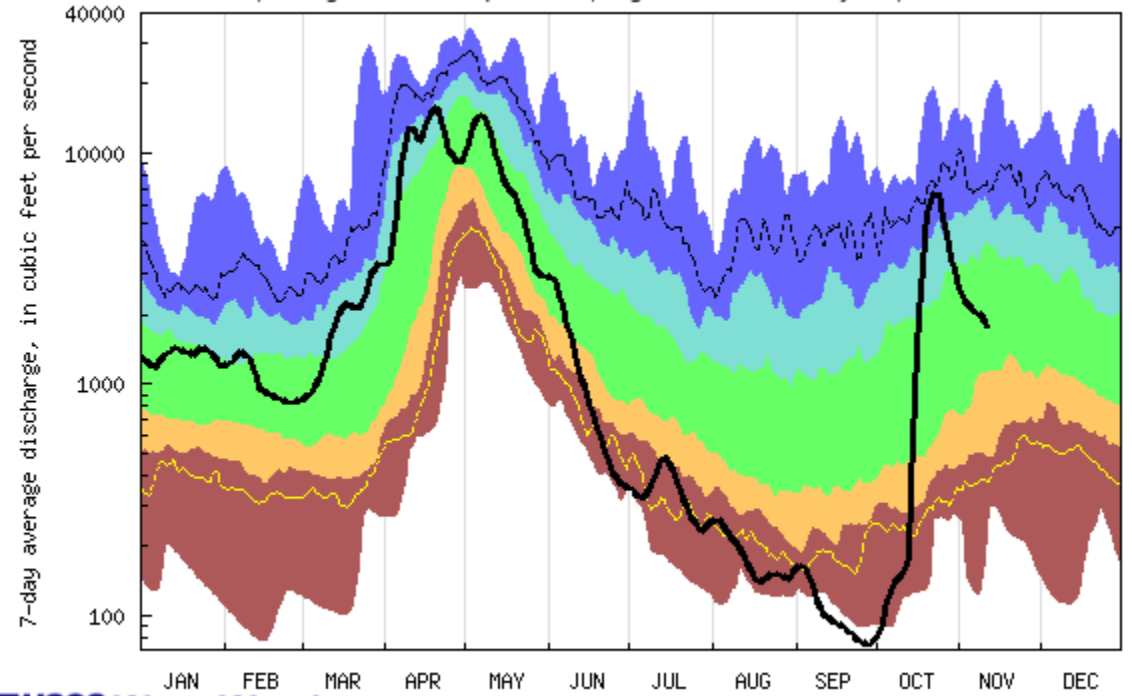
USGS 01059000 Androscoggin River near Auburn, Maine  
(Drainage area: 3263 square miles, length of record: 90 - 91 years)



USGS WaterWatch

Last updated: 2020-11-12

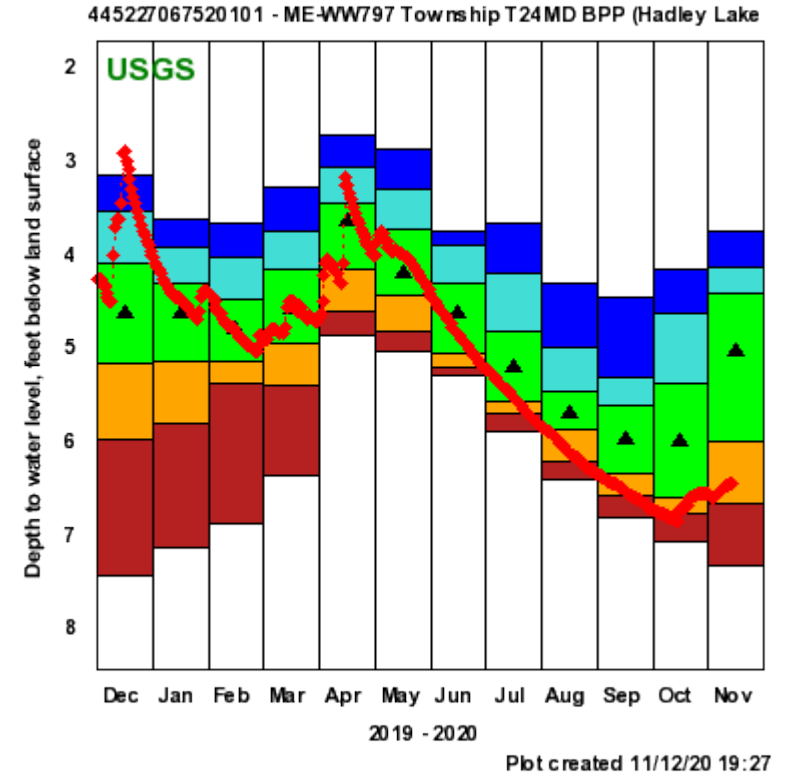
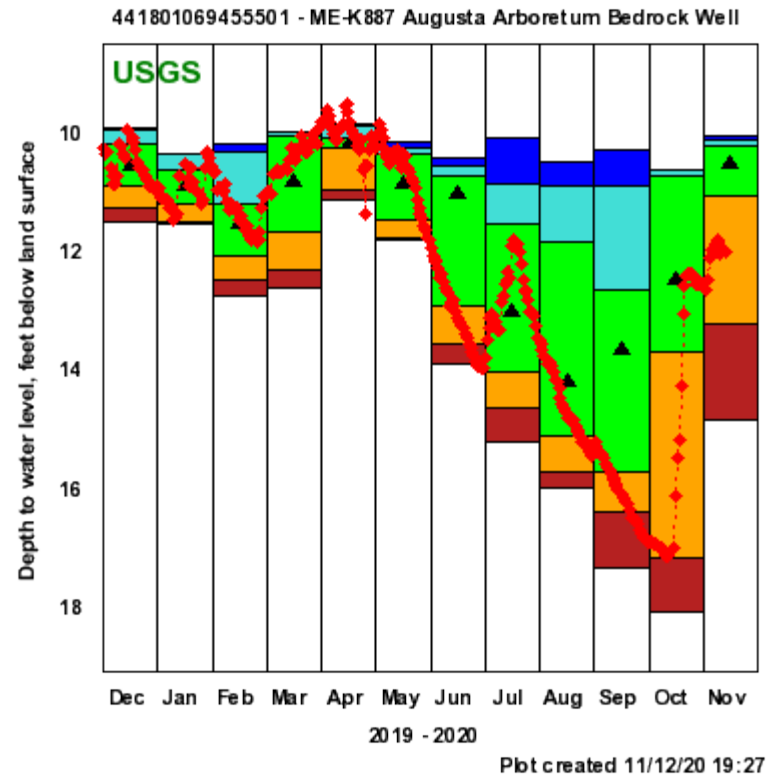
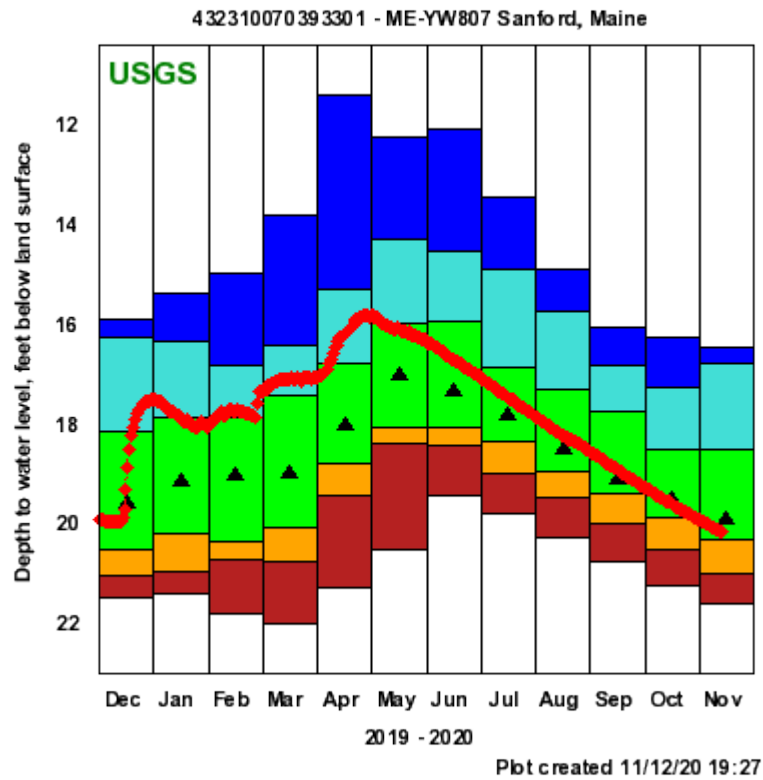
USGS 01017000 Aroostook River at Washburn, Maine  
(Drainage area: 1654 square miles, length of record: 89 - 90 years)



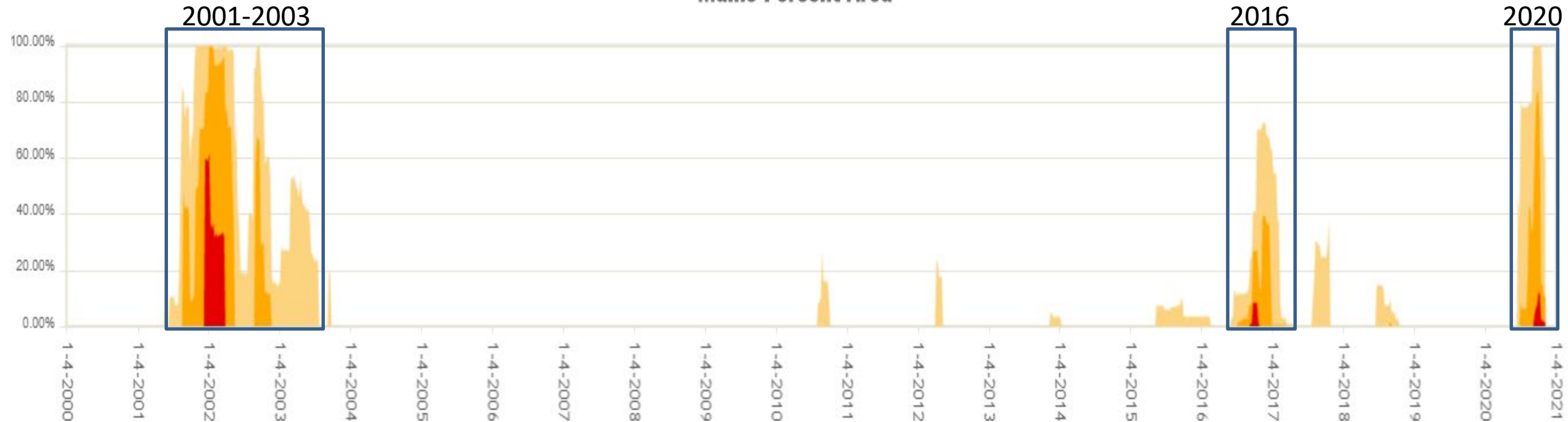
USGS WaterWatch

Last updated: 2020-11-12

# Groundwater



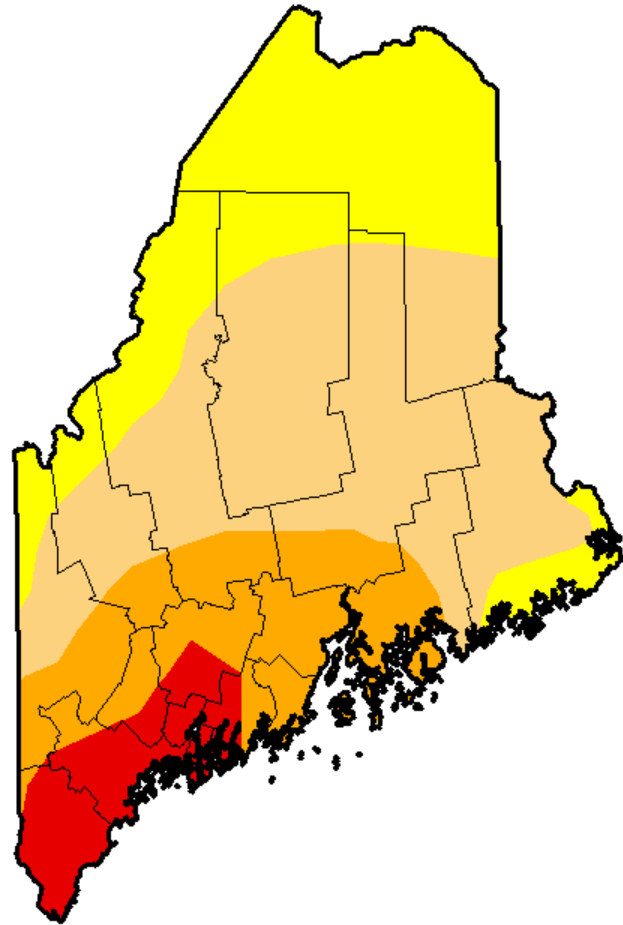
### Maine Percent Area



- 1947-50, 1995, and 1999-2003 were Maine’s most severe hydrological droughts.
- 1963-69 was Maine’s longest period (7 years) of drought.

**U.S. Drought Monitor  
Maine**

**October 18, 2016**  
(Released Thursday, Oct. 20, 2016)  
Valid 8 a.m. EDT



*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	69.99	27.33	8.35	0.00
<b>Last Week</b> <i>10/11/2016</i>	5.14	94.86	40.81	26.75	8.35	0.00
<b>3 Months Ago</b> <i>7/19/2016</i>	53.72	46.28	11.55	1.43	0.00	0.00
<b>Start of Calendar Year</b> <i>12/29/2015</i>	79.87	20.13	3.45	0.00	0.00	0.00
<b>Start of Water Year</b> <i>9/27/2016</i>	42.23	57.77	40.81	26.75	8.35	0.00
<b>One Year Ago</b> <i>10/20/2015</i>	92.71	7.29	3.45	0.00	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

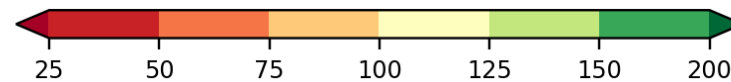
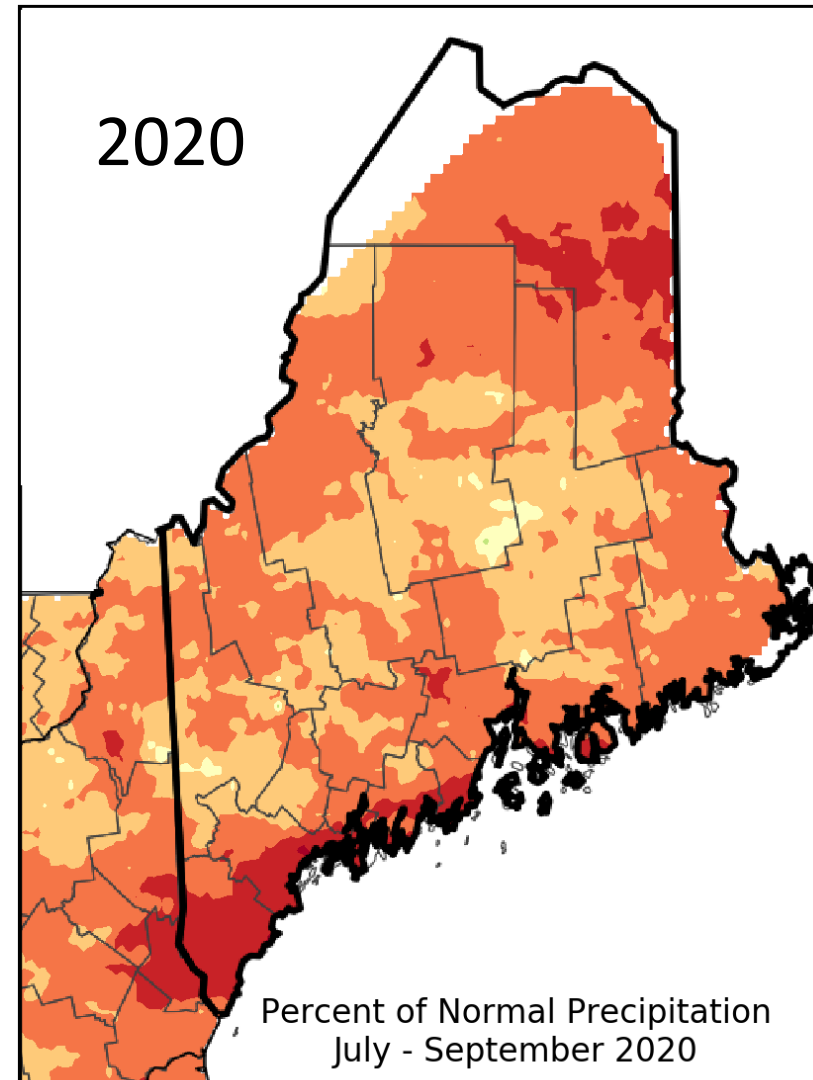
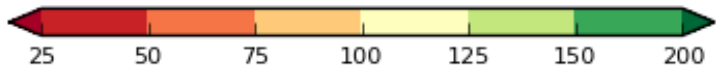
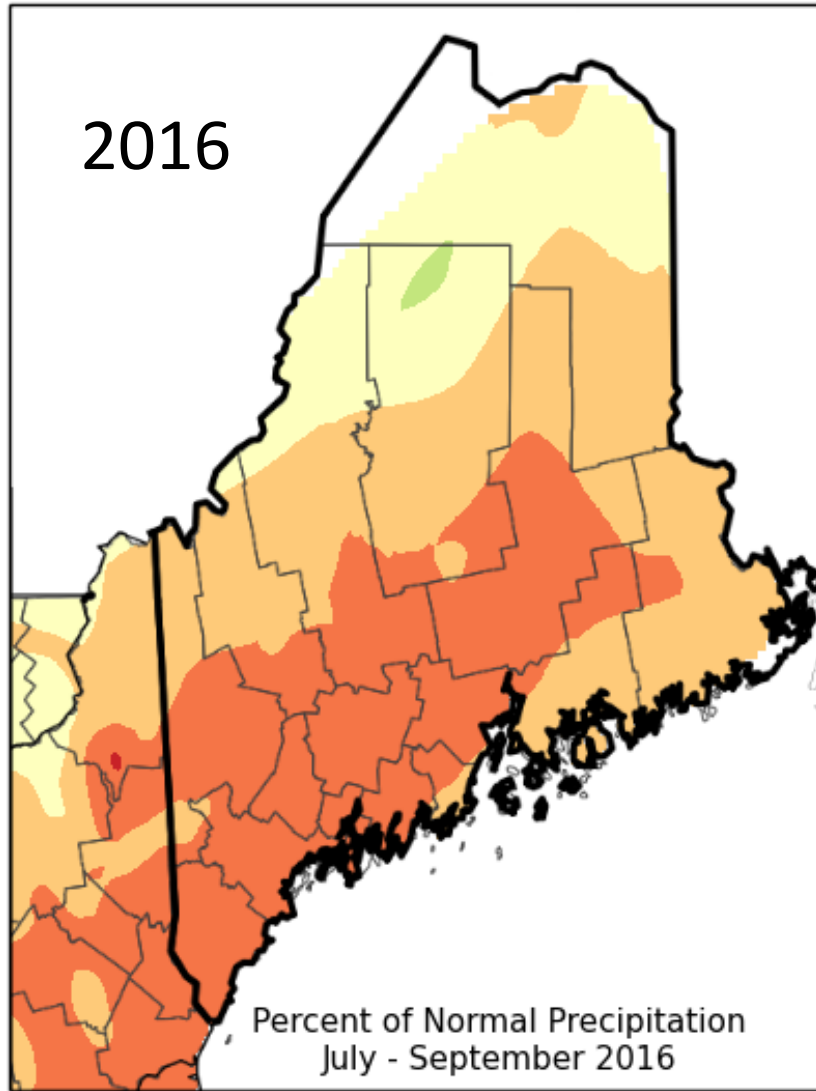
*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

**Author:**  
Eric Luebehusen  
U.S. Department of Agriculture

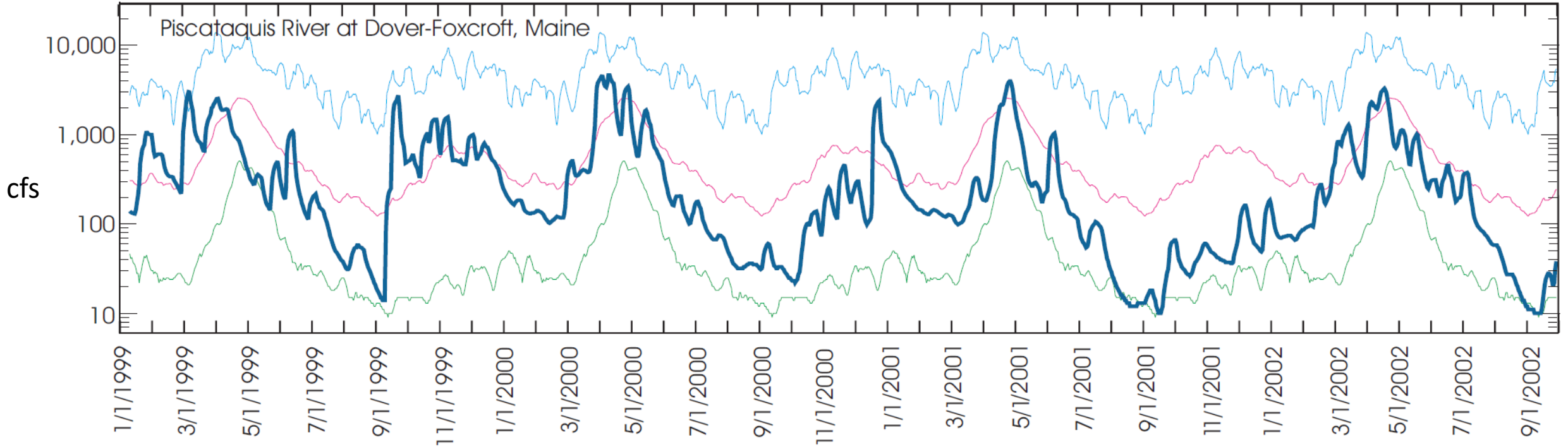


<http://droughtmonitor.unl.edu/>



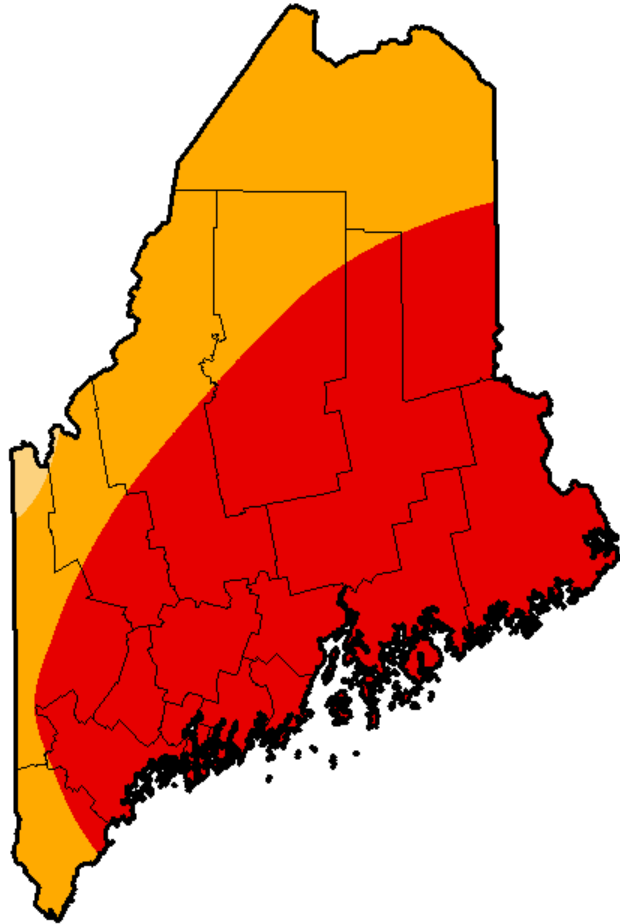


# River Flows 1999-2002



USGS Fact Sheet 2004-3021

**U.S. Drought Monitor  
Maine**



**January 8, 2002**

*(Released Thursday, Jan. 10, 2002)*

Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	100.00	99.29	61.67	0.00
<b>Last Week</b> <i>1/1/2002</i>	0.00	100.00	100.00	83.74	58.53	0.00
<b>3 Months Ago</b> <i>10/9/2001</i>	0.00	100.00	66.98	9.21	0.00	0.00
<b>Start of Calendar Year</b> <i>1/1/2002</i>	0.00	100.00	100.00	83.74	58.53	0.00
<b>Start of Water Year</b> <i>9/25/2001</i>	0.00	100.00	78.03	41.70	0.00	0.00
<b>One Year Ago</b> <i>1/9/2001</i>	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

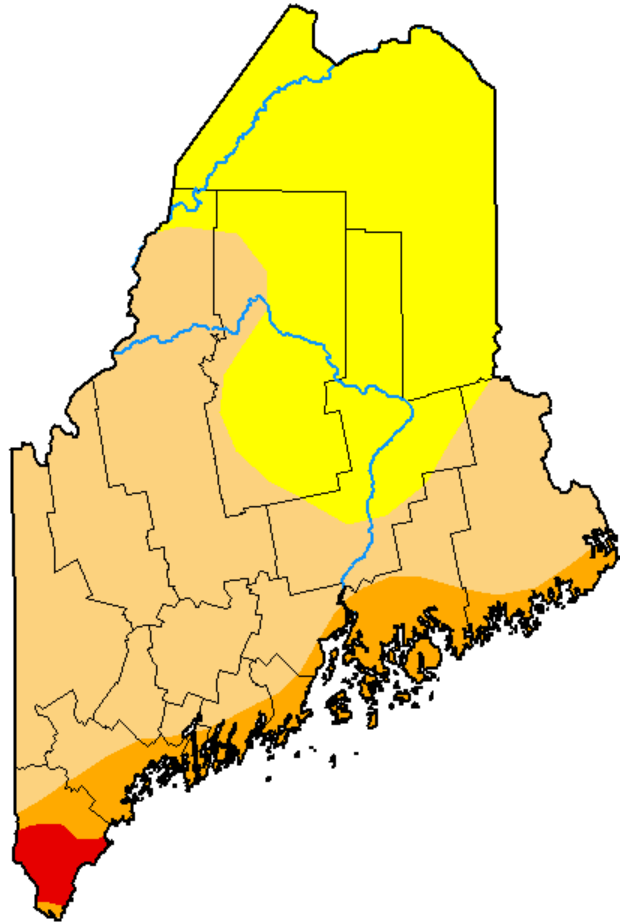
*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

**Author:**  
Richard Heim  
NCDC/NOAA



<http://droughtmonitor.unl.edu/>

**U.S. Drought Monitor  
Maine**



**November 10, 2020**  
(Released Thursday, Nov. 12, 2020)  
Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	60.42	10.81	1.55	0.00
<b>Last Week</b> <i>11-03-2020</i>	0.00	100.00	60.42	10.81	1.55	0.00
<b>3 Months Ago</b> <i>08-11-2020</i>	7.46	92.54	77.76	15.44	0.00	0.00
<b>Start of Calendar Year</b> <i>12-31-2019</i>	100.00	0.00	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> <i>09-29-2020</i>	0.00	100.00	100.00	83.86	7.28	0.00
<b>One Year Ago</b> <i>11-12-2019</i>	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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Author:

Richard Tinker  
CPC/NOAA/NWS/NCEP



[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)