NWS Form E-5 (04-2006) (PRES. BY NWS Instruction 10-924) **U.S. DEPARTMENT OF COMMERCE** **NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION** **NATIONAL WEATHER SERVICE**	HYDROLOGIC SERVICE AREA (HSA) **WFO Caribou, Maine**
MONTHLY REPORT OF HYDROLOGIC CONDITIONS	REPORT FOR: MONTH: **June** YEAR: **2025**
TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283	SIGNATURE **James Sinko - Meteorologist** **Hydrology Program Manager**
	DATE **July 11, 2025**

When no flooding occurs, include miscellaneous river conditions below the small box, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924).

☐ An X inside this box indicates that no flooding occurred within this hydrologic service area.

June 2025

June 2025 concluded with generally near-average temperatures and significantly below-average precipitation across much of northern and eastern Maine. ENSO-neutral conditions persisted throughout the month, with near-average sea surface temperatures (SSTs) observed across most of the Pacific Ocean. The North Atlantic Oscillation (NAO) index averaged +0.70 standard deviations, while the Pacific North American (PNA) pattern index averaged –1.11 standard deviations—marking the most negative June value since 2014. The large-scale atmospheric pattern over the continental United States featured a trough over the West Coast and ridging over the Southern Plains, resulting in generally zonal flow and progressive weather systems across the East Coast, including Maine. High pressure remained anchored over the central Atlantic, near or slightly north of Bermuda. This overall pattern was characterized by positive height anomalies over the North Pacific and negative anomalies across northern Canada—consistent with the observed negative PNA and positive NAO phases.

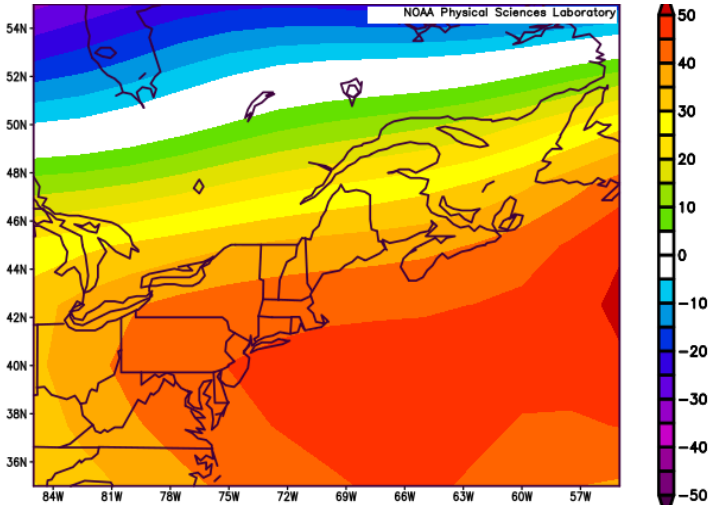


Figure 1: 500mb Geopotential Height (m) Anomalies *(1991-2020 Climo)*
June 2025

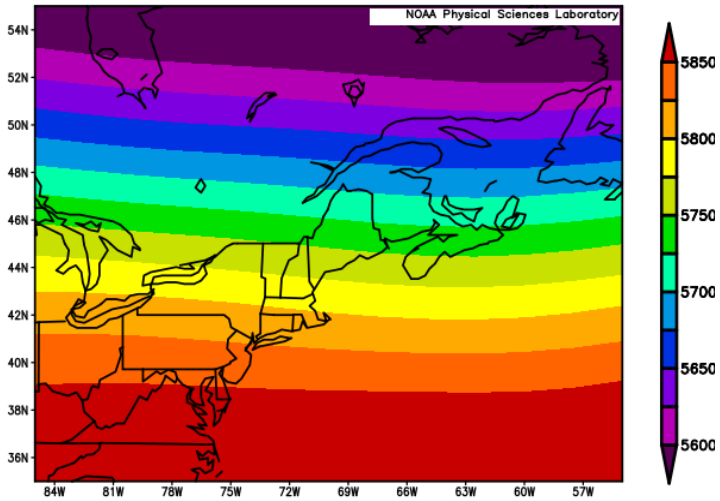


Figure 2: 500mb Geopotential Height (m) Composite Mean
June 2025

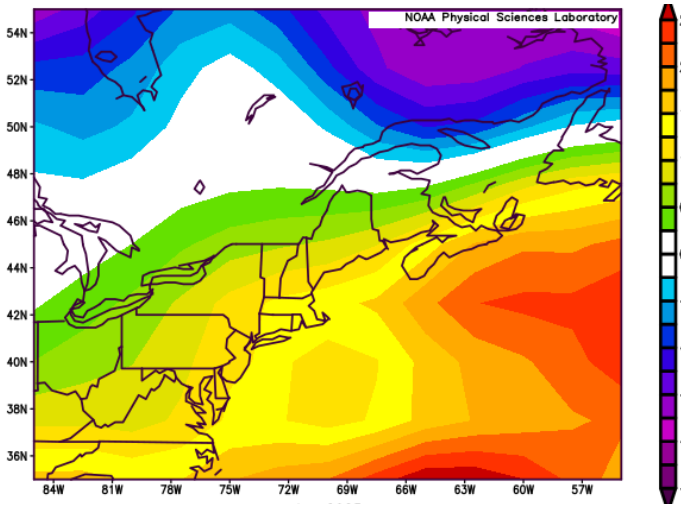


Figure 3: Sea Level Pressure (mb) Anomalies *(1991-2020 Climo)*
June 2025

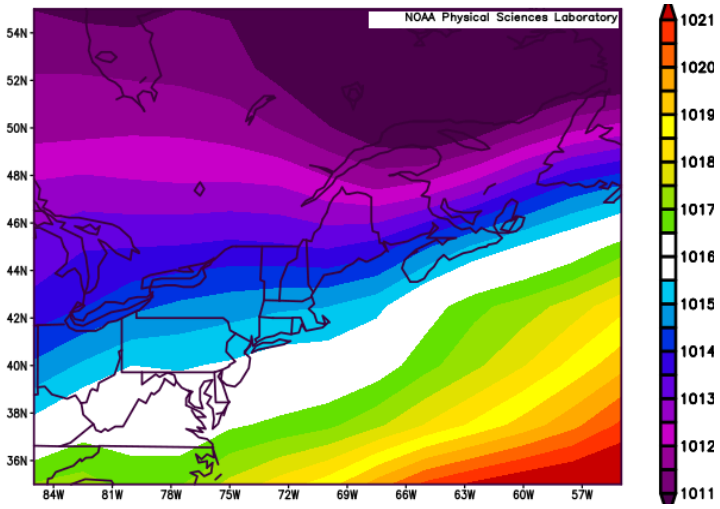


Figure 4: Sea Level Pressure (mb) Composite Mean
June 2025

Figure 1-4 Source: NOAA Physical Sciences Laboratory

Precipitation Totals for Select Locations *(All Units in Inches)*

Location	Total Precip	Normal Precip	Departure from Normal	% of Normal	Snowfall	Normal Snowfall	Departure from Normal	Greatest Snow Depth	Monthly Average Snow Depth
Frenchville*	3.00	4.23	**-1.23**	70.9%					
Fort Kent	5.33	4.42	**0.91**	120.6%	0.0	0.0	0.0	0	0.0
Van Buren	2.12	3.97	**-1.85**	53.4%	0.0	0.0	0.0	0	0.0
Caribou	2.52	3.89	**-1.37**	64.8%	0.0	0.0	0.0	0	0.0
Houlton	3.11	4.04	**-0.93**	77.0%					
Millinocket*	2.63	4.20	**-1.57**	62.6%	0.0			0	0.0
Greenville*	4.71	4.04	**0.67**	116.6%					
Moosehead*	4.56	4.39	**0.17**	103.9%	0.0	0.0	0.0	0	0.0
Dover-Foxcroft	4.83	4.35	**0.48**	111.0%	0.0	0.0	0.0	0	0.0
Corinna	4.40	4.02	**0.38**	109.5%	0.0	0.0	0.0	0	0.0
Old Town	3.13	4.19	**-1.06**	74.7%					
Bangor	2.93	3.87	**-0.94**	75.7%	0.0	0.0	0.0	0	0.0
East Surry	2.60	4.48	**-1.88**	58.0%	0.0			0	0.0
Robbinston*	2.77	4.10	**-1.33**	67.6%	0.0	0.0	0.0	0	0.0

**Millinocket snowfall measured at CoOp site, not the ASOS site. *Moosehead Site is in GYX CWA. *Topsfield Records date back to 2000. *Robbinston Records dates back to 1994. *Greenville data gap between 1975 and 1999. *Baileyville is a partial complete record to 1917. *Frenchville ASOS has documented issues with precipitation measurements in the winter months.*

Total **rainfall** across the region remained below climate normals in the North Woods, southeast Aroostook, and coastal Downeast. In contrast, the Central Highlands and northwest Aroostook received above-normal rainfall,

generally ranging from 100 to 150 percent of normal, with isolated areas reaching 150 to 200 percent, due to several heavy rainfall events throughout the month. Despite this, the Central Highlands, eastern Aroostook, and Downeast regions recorded only 50 to 90 percent of their typical monthly precipitation. Calculated soil moisture from the Climate Prediction Center (CPC) remained elevated throughout Maine. At Caribou, monthly **evaporation** totaled 4.84 inches, while rainfall measured 2.52 inches, resulting in a monthly moisture deficit. However, thanks to multiple rainfall events during May, soil moisture levels were well above normal entering June. The U.S. **Drought Monitor** showed no drought classification for northern and eastern Maine throughout the month. Despite below-average precipitation and near-normal temperatures in June, drought conditions did not develop by month's end.

Groundwater conditions in June 2025 showed significant declines due to the lack of rainfall across the area but thanks to May 2025 rainfall the groundwater remained normal to above normal conditions for all observing sites. Calais, Fort Kent and Hadley Lakes remained above Normal conditions for the month while Kenduskeag, Millinocket and Clayton Lake returned to normal conditions. For more details, refer to the graphics below.

Streamflows across the region remained sustained through June thanks to the frequent rainfall of May 2025. Most rivers across Maine ended the month near normal flow levels. Exceptions were noted on the Fish River at Fort Kent and the St. John River at Fort Kent, both of which recorded below to much below normal flows. This was primarily due to convection and excessive rainfall mainly confined into the North Woods in the upper reaches of the St. John basin. Below normal conditions were noted in the Downeast river basins mainly the St. Croix which can be heavily altered due to dam activities.

Water storage across key river systems in Eastern & Northern Maine generally remained within normal ranges through June. The Penobscot River system began the month at 93.3% of capacity, or 0.6% below the long-term average which is normal. By the end of June, storage decreased slightly to 88%, remaining slightly below the long-term average by 2.7%. Ripogenus Dam storage started the month near 37 billion cubic feet, consistent with the normal range for June, and ended the month near 34 billion cubic feet—also within the normal range. The Union River system started the month at 83.4% of capacity, 16.6% below the long-term average. By month's end, storage declined to 74.1%, or 13.8% below average. Please note: water release schedules are subject to change based on evolving weather conditions and power system operational needs, and may not be reflected in monthly storage statistics.

Temperatures were generally near normal across much of northern Maine, with anomalies ranging from 0.5 to 1.5 degrees above average. In central and southern Maine, monthly average maximum temperatures were up to 1 degree warmer than climate normals. Millinocket observed the largest departure from normal, at 1.1 degrees above average, while Houlton averaged 0.2 degrees above normal. In contrast, some stations in northern and central Maine recorded slightly cooler-than-average maximum temperatures. Caribou finished the month 0.2 degrees below normal, and Bangor recorded a departure of 0.1 degrees below normal. A significant heat wave impacted the Northeast on June 24th, resulting in multiple daily record high temperatures across New England. Bangor reached 98°F, surpassing the previous record of 93°F set in 1995. Houlton tied its 1995 record at 92°F. Caribou reached 93°F, and Millinocket hit 94°F—just shy of their respective records from 1995 and 1914. Overnight low temperatures were generally warmer than average across central and northern Maine. Houlton recorded lows 2.1 degrees above normal, Caribou was 0.5 degrees above average, Millinocket 0.9 degrees above average, and Bangor's lows were 1.1 degrees above the historical average.

Town/City	Avg Monthly Temperature (°F)	Normal Monthly Temperature (°F)	Departure from Normal (°F)
Frenchville	60.5	60.8	**-0.3**
Fort Kent	58.8	59.1	**-0.3**
Van Buren	60.7	59.9	**0.8**
Caribou	61.5	61.4	**0.1**
Houlton	61.4	60.2	**1.2**
Millinocket	63.7	62.6	**1.1**
Greenville*	61.3	60.7	**0.6**
Moosehead	61.3	60.0	**1.3**
Dover-Foxcroft	63.7	61.9	**1.8**
Corinna	64.7	63.8	**0.9**
Old Town	63.2	61.3	**1.9**
Bangor	64.1	63.6	**0.5**
East Surry	62.3	61.2	**1.1**
Robbinston*	61.3	60.4	**0.9**
Topsfield*	62.4	61.6	**0.8**

Read below for specific details & maps of Streamflows, Groundwater Levels, Non-Routine Hydrologic Products issued by WFO Caribou and Drought conditions.

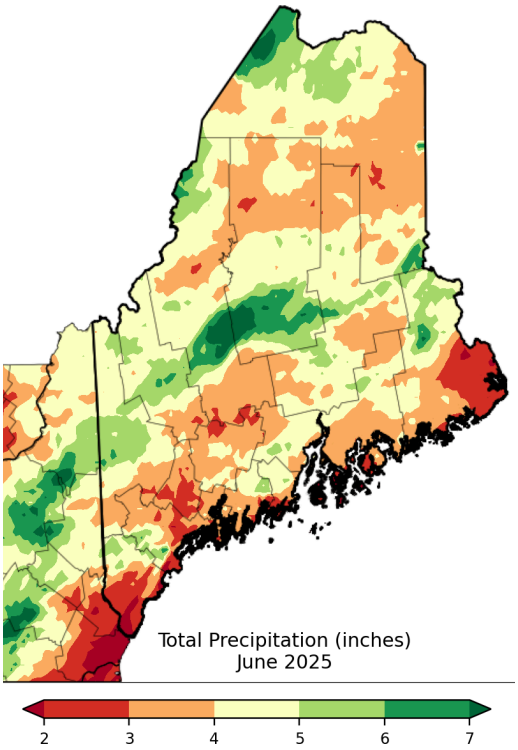


Figure 5. Total Precipitation (inches) June 2025

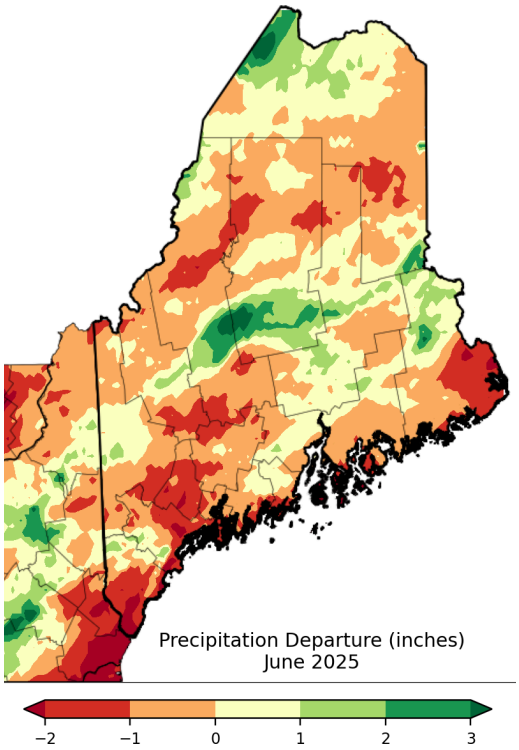


Figure 6. % of Normal Precipitation June 2025

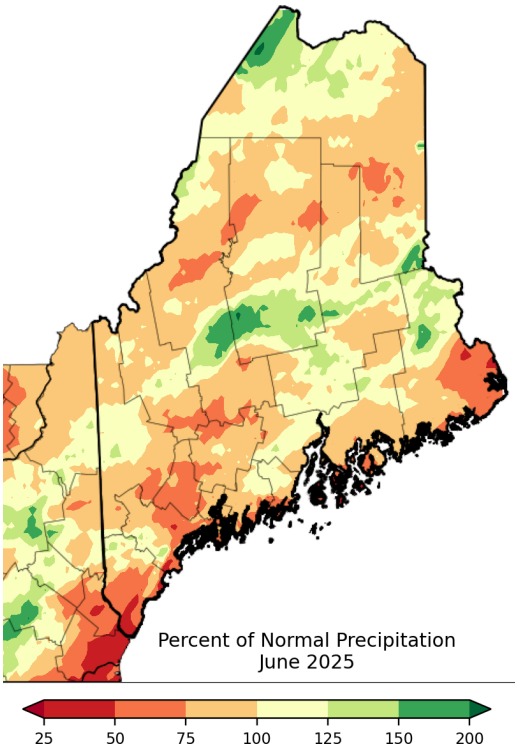


Figure 7. Precipitation Departure (inches) June 2025

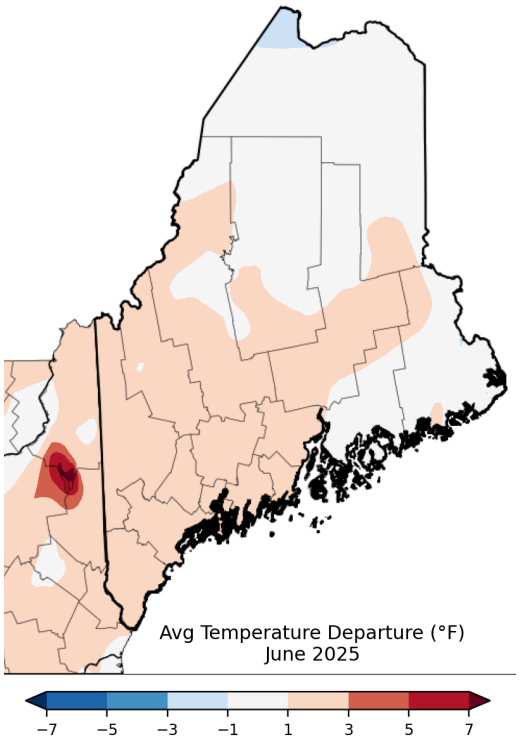


Figure 8. Avg Temperature Departure June 2025

Figure 5-8 Source: Northeast Regional Climate Center

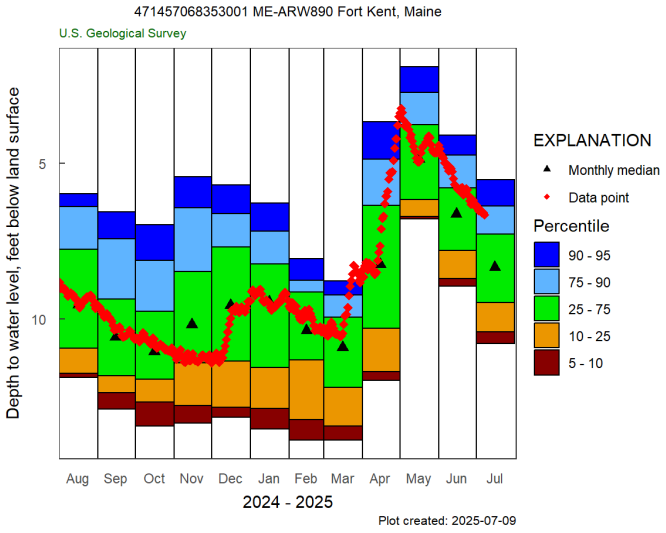
June Average Monthly Streamflows

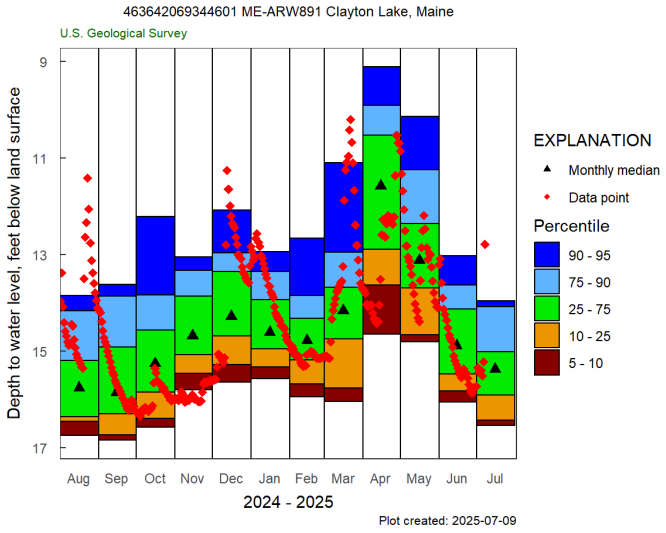
Data provided by the U.S. Geological Survey

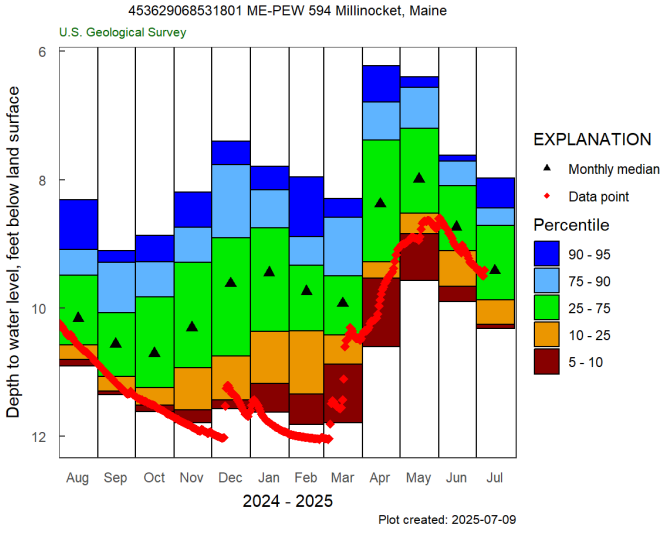
River	Monthly Mean Flow (cfs)	% Normal (mean)	Percentile Class	Drainage (mi^2)	Years of Record
Big Black River near Depot Mtn	346	131%	Above Normal	171	40
St. John River at Nine Mile Bridge	2071	99%	Normal	1341	73
Allagash River near Allagash	1865	88%	Normal	1478	93
St. John River at Dickey	4333	100%	Normal	2680	78
St. John River at Fort Kent	4999	49%	Much Below Normal	5929	97
Fish River near Fort Kent	918	53%	Below Normal	873	94
Aroostook River near Masardis	1151	90%	Normal	892	66
Aroostook River at Washburn	2116	87%	Normal	1654	93
St. Croix River at Vanceboro	400	48%	Below Normal	413	95
St. Croix River at Baring	1294	58%	Normal	1374	64
Grand Lake Stream at Grand Lake Stream	234	54%	Below Normal	228.3	95
Narraguagus River at Cherryfield	309	88%	Normal	227	76
East Branch Penobscot River at Grindstone	1765	79%	Normal	837	102
Mattawamkeag near Mattawamkeag	2031	103%	Normal	1418	89
Piscataquis River near Dover-Foxcroft	692	144%	Above Normal	298	121
Sebec River at Sebec	775	149%	Above Normal	326	69
Piscataquis River at Medford	2351	124%	Normal	1162	92
Penobscot River at West Enfield	11021	95%	Normal	6422	121

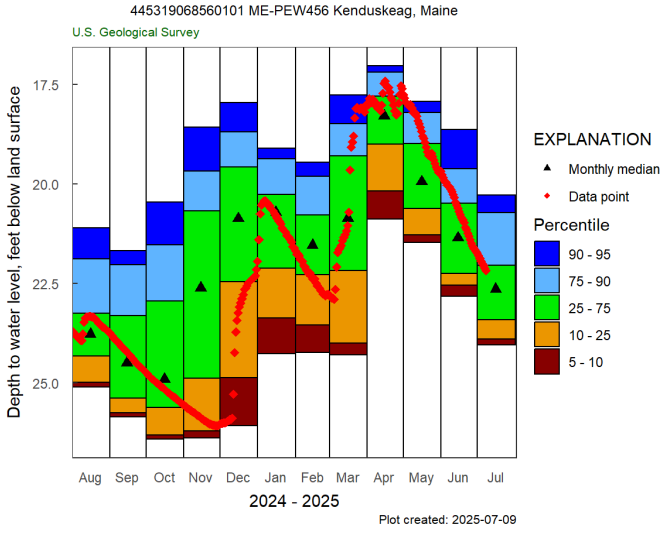
June Monthly Average Groundwater Levels

Station	Percentile Class	Monthly Mean Depth to Water Level below land surface (feet)	Years of Record
Hadley Lakes	Above Normal	4.24	40
Kenduskeag	Normal	20.67	47
Calais	Above Normal	1.20	45
Millinocket	Normal	8.99	32
Clayton Lake	Normal	14.98	47
Fort Kent	Above Normal	5.44	49









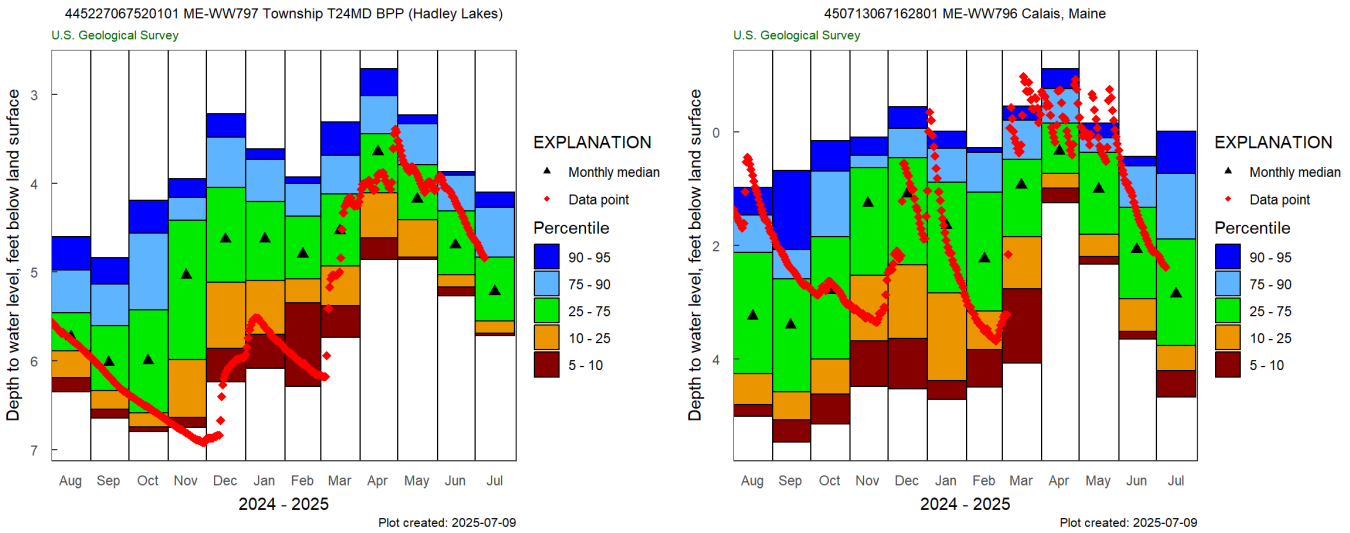
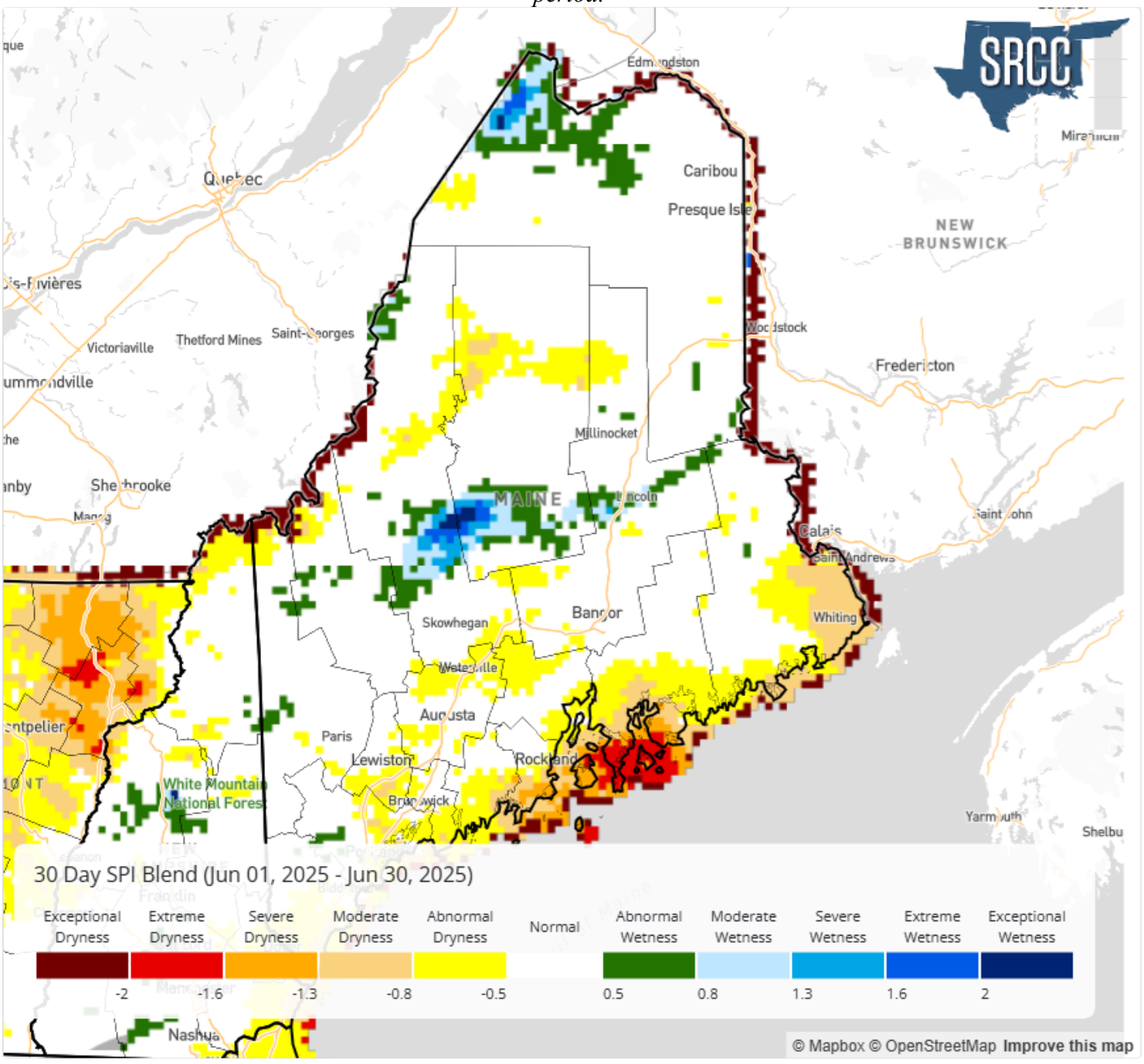


Figure 9-14: Groundwater Level Yearly Plots to Current
Source: United States Geological Survey

Flow or Water Level	Percentile Range	Explanation
Ice Impacted	NA	Ice impacted resulting in No Data available
Low	0^{th}	The monthly mean streamflow or median water level during this month is the lowest ever recorded during the period of record for this site.
Much Below Normal	0^{th} to 10^{th}	The monthly mean streamflow or median water level during this month is less than the 10^{th} percentile when compared to all of the months during the period of record for this site.
Below Normal	10^{th} to 25^{th}	The monthly mean streamflow or median water level during this month is between the 10^{th} and 25^{th} percentiles when compared to all of the months during the period of record for this site.
Normal	25^{th} to 75^{th}	The monthly mean streamflow or median water level during this month is between the 25^{th} and 75^{th} percentiles when compared to all of the months during the period of record for this site.
Above Normal	75^{th} to 90^{th}	The monthly mean streamflow or median water level during this month is between the 75^{th} and 90^{th} percentiles when compared to all of the months during the period of record for this site.
Much Above Normal	90^{th} to 100^{th}	The monthly mean streamflow or median water level during this month is greater than the 90^{th} percentile when compared to all of the months during the period of record for this site.
High	100^{th}	The monthly mean streamflow or median water level during this month is the highest ever recorded during the period of record for this site.

30 Day SPI Blend *(June 1-30, 2025)*

The SPI Blend is a modified version of the Standardized Precipitation Index (SPI) that is used to assess drought conditions by considering precipitation data on multiple time scales. It uses a linear weighting system, giving more weight to recent precipitation within a given time period. This approach allows for a more nuanced understanding of drought conditions compared to the traditional SPI, which considers all precipitation equally within a time period.



Non-Routine Hydrologic Products from WFO Caribou, ME
June 2025

Product	How Many Issued	Reason for Issuance
Flood Advisory	2	Excessive Rainfall

CoCoRaHS Complete Precipitation Reports
www.cocorahs.org
May 2025

Station Number	Station Name/Location	Total Precipitation (inches)
ME-AR-15	Presque Isle 1.3 WSW	3.53
ME-AR-28	Presque Isle 4.2 S	3.51
ME-AR-41	Castle Hill 1.0 S	4.02
ME-AR-42	Houlton 2.5 NNW	4.08
ME-HN-2	East Surry	3.10
ME-HN-4	Mariaville 1.4 ESE	3.09
ME-HN-42	Bucksport 3.3 NNW	4.69
ME-HN-56	Surry 2.5 SSE	3.64
ME-HN-68	Southwest Harbor 2.2 SE	3.44
ME-PN-10	Lincoln 4.3 NE	3.59
ME-PN-47	Milford 0.8 SSW	3.86
ME-PN-51	Hermon 1.2 W	4.23
ME-PN-55	Orono 1.1 SSW	3.93
ME-PN-58	Hudson 2.4 ESE	3.89
ME-PS-9	Abbot 4.6 WNW	6.95
ME-WS-10	Pembroke 5.4 SSE	3.49
ME-WS-31	Eastport 1.4 ESE	4.06

***Additional CoCoRaHS reports were not complete with 30 days of record**
Source: https://cocorahs.org/ViewData/TotalPrecipSummary.aspx

Drought Monitor June 3, 2025

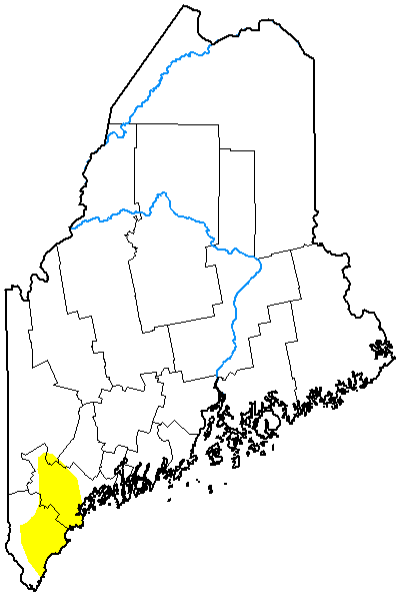
U.S. Drought Monitor

Maine

June 3, 2025

(Released Thursday, Jun. 5, 2025)

Valid 8 a.m. EDT



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:

Brad Pugh
CPC/NOAA

droughtmonitor.unl.edu

Drought Monitor June 24, 2025

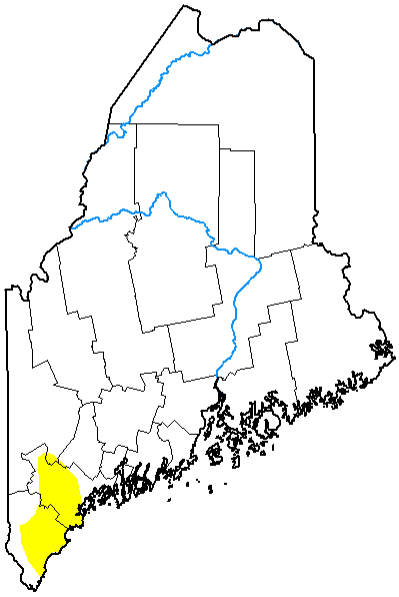
U.S. Drought Monitor

Maine

June 24, 2025

(Released Thursday, Jun. 26, 2025)

Valid 8 a.m. EDT



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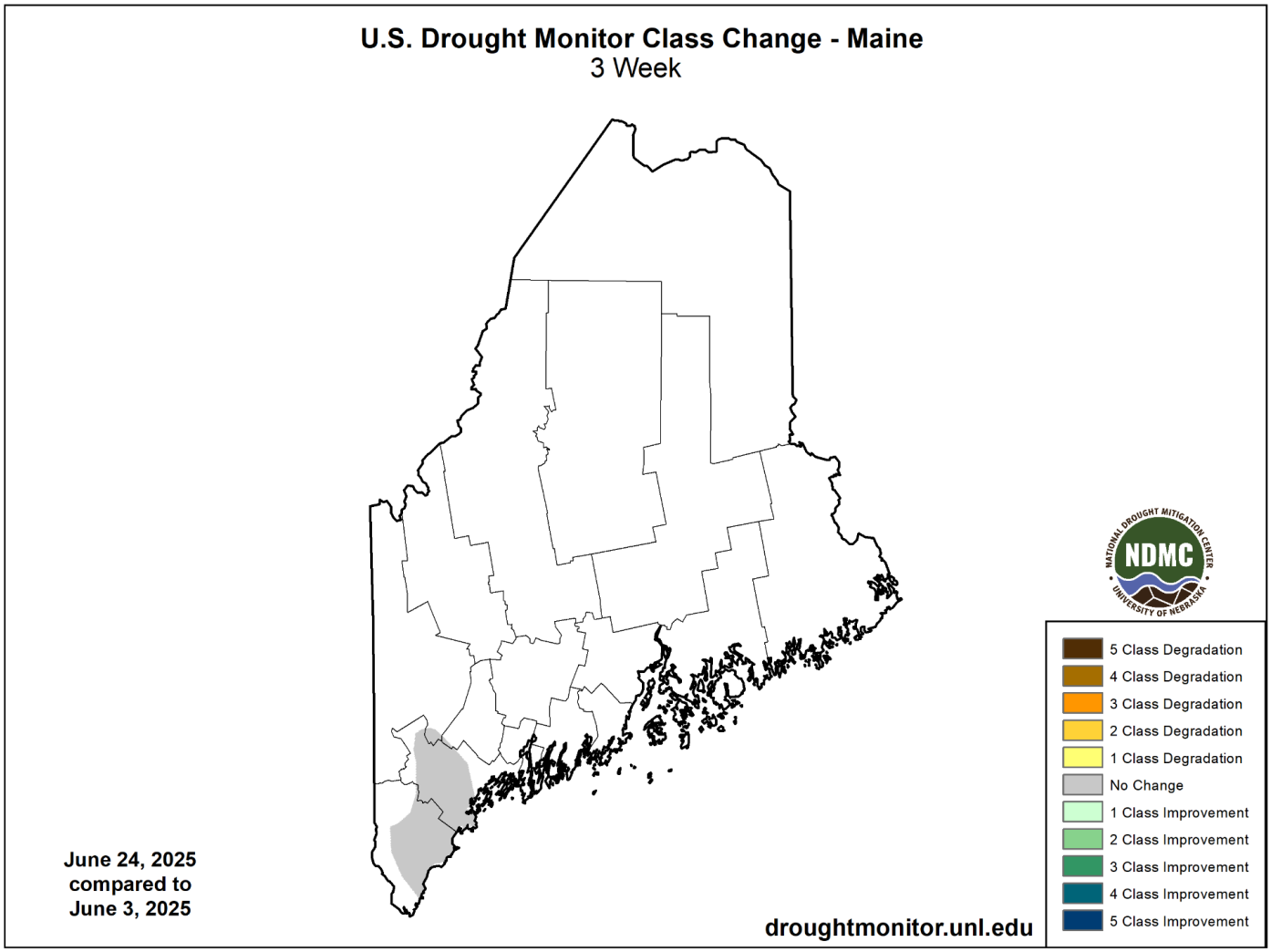
Author:

Curtis Riganti
National Drought Mitigation Center

droughtmonitor.unl.edu

Drought Monitor Change in May 2025



Week	None (%)	D0-D4 (%)	D1-D4 (%)	D2-D4 (%)	D3-D4 (%)	D4 (%)	DSCI
6/3/2025	96.42	3.58	0	0	0	0	4
6/24/2025	96.45	3.55	0	0	0	0	4
Change	0.03	-0.03	0	0	0	0	0

Flooding Damage Photos

On June 7, 2025 Excessive Rainfall led to flooding of remote dirt/gravel roads in interior Downeast Maine. Reports from the Maine Forest Service showed significant washouts of the Haycock Pond Road, 36-00-0 Road and Machias Lake Road. Machias Lake Road was impassable. This is associated with Flood Advisory # 15 issued at 4:14PM EDT June 7, 2025. Radar estimates of 2-4 inches fell. Photos are courtesy of the Maine Forest Service.