

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 YEAR April 2025	
	SIGNATURE James Sinko - Meteorologist Hydrology Program Manager	
	DATE May 9, 2025	
TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283		

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.

April 2025

April 2025 featured normal to above-average temperatures and above-normal precipitation across Northern and Eastern Maine. In March 2025, ENSO-neutral conditions returned, with below-average sea surface temperatures (SSTs) weakening in the central and east-central equatorial Pacific Ocean. The westernmost Niño index values were near zero, while positive index values persisted in the easternmost Niño-3 and Niño-1+2 regions. The North Atlantic Oscillation (NAO) monthly mean was +0.18 standard deviations (SD), and the Pacific North American Pattern (PNA) monthly mean was -0.87 SD. Overall, the atmospheric pattern over the United States was dominated by the PNA. This featured significantly higher geopotential heights over the North Atlantic, just off the Northeastern U.S. coastline extending into Maine, along with another area of anomalously high heights off the Washington State coast in the North Pacific. A standard negative PNA pattern also resulted in weaker lower heights over the Southwestern United States. This maintained an active northern stream of the jet over the Eastern U.S., supporting a longwave trough and a progressive weather pattern.

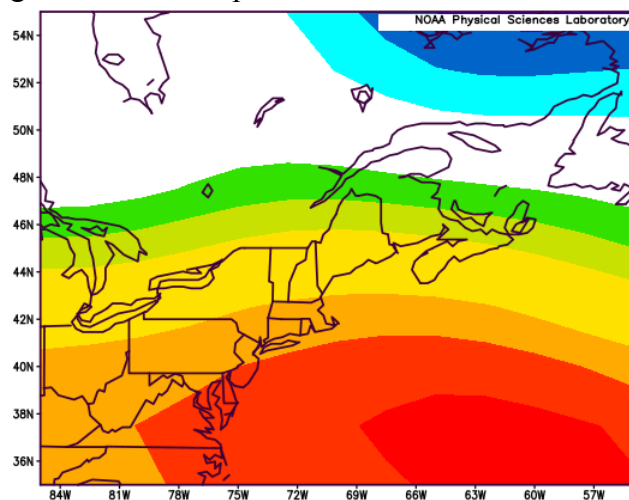


Figure 1: 500mb Geopotential Height (m) Anomalies (1991-2020 Clim) April 2025

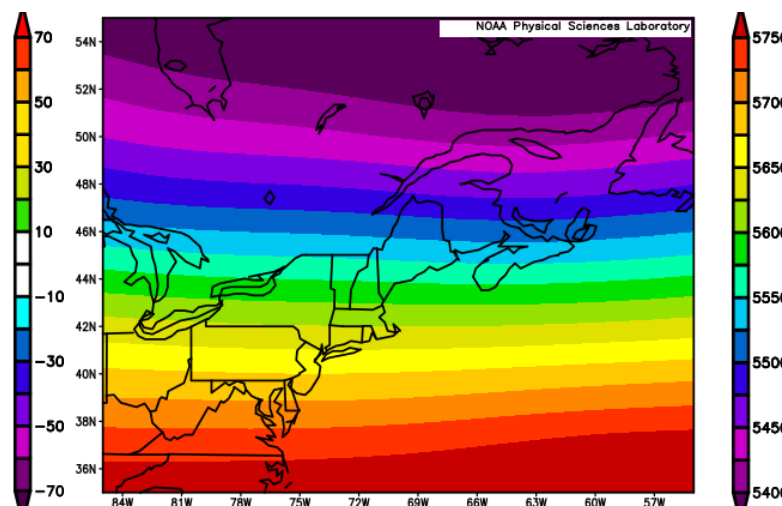


Figure 2: 500mb Geopotential Height (m) Composite Mean April 2025

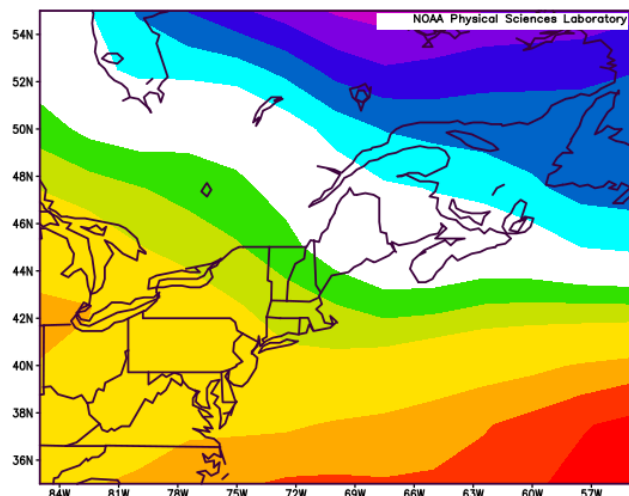


Figure 3: Sea Level Pressure (mb) Anomalies (1991-2020 Climo)
April 2025

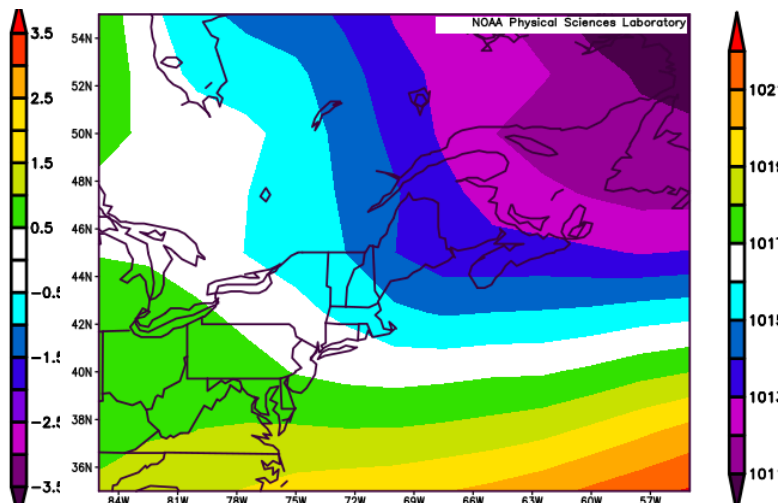


Figure 4: Sea Level Pressure (mb) Composite Mean
April 2025

Figure 1-4 Source: [NOAA Physical Sciences Laboratory](https://www.noaa.gov/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*	3.04	2.35	0.69	129.4%					
Fort Kent	4.78	3.17	1.61	150.8%	6.9	6.6	0.3	3	0.3
Van Buren	6.34	3.06	3.28	207.2%	4.5	5.7	-1.2	4	0.2
Caribou	4.01	2.99	1.02	134.1%	8.7	8.3	0.4	5	0.3
Houlton	4.46	2.94	1.52	151.7%					
Millinocket*	4.14	3.51	0.63	117.9%	3.0			3	0.1
Greenville*	4.18	3.59	0.59	116.4%					
Moosehead*	3.93	3.28	0.65	119.8%	6.5	7.5	-1.0	8	2.5
Dover-Foxcroft	4.18	3.65	0.53	114.5%	2.5	4.7	-2.2	2	0.1
Corinna	4.91	3.83	1.08	128.2%	3.0	3.4	-0.4	3	0.1
Bangor	5.20	3.61	1.59	144.0%	1.0	3.7	-2.7	1	0.0
East Surry	6.53	4.26	2.27	153.3%	1.6			1	0.0
Robbinston*	6.23	4.39	1.84	141.9%	4.8	6.0	-1.2	4	0.1
Topsfield*	6.31	4.21	2.10	149.9%	6.4	9.6	-3.2	4	0.2

*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 precipitation (rain and melted snow) ranged from 110 to 160 percent of normal across the region. In Caribou, 4.01 inches of precipitation were recorded, tying April 1982 as the 10th wettest April on record. Records

in Caribou date back to 1939. In Houlton, 4.46 inches of precipitation made it the 6th wettest April on record and the wettest since 2005 (records began in 1948). In contrast, monthly totals in Bangor and Millinocket fell short of the top 10 wettest Aprils on record. Bangor's records date back to 1925, and Millinocket's to 1903.

Snowfall was generally near average from around Moosehead Lake northward and below average to the south. Caribou recorded 8.7 inches of snow during April, slightly above the 1991–2020 normal of 8.3 inches. It was the snowiest April there since 2021, which recorded 8.9 inches. In Bangor, only 1.0 inch of snow fell, well below the average of 3.7 inches. The most significant snow event in northern Aroostook County occurred on April 5–6, when 3 to 5 inches fell north of Mars Hill. The National Weather Service office in Caribou measured 4.9 inches. Little or no snow was reported farther south. The final snow event of the month occurred on April 13–14, with 2 to 4 inches falling over northeastern Aroostook County, including 3.0 inches in Caribou. Most surrounding areas received less than 2 inches. Farther south, the most notable snow event occurred April 8–9. A band of 3 to 7 inches of snow extended from the Moosehead Lake region eastward into northern Penobscot and Washington Counties. South of this band, 1 to 3 inches fell, including 1.0 inch at Bangor International Airport. To the north of the band, totals were under 3 inches, with no measurable snow reported in northeastern Aroostook County.

At the beginning of April, there was no **snow cover** near Bangor and Downeast areas. From the Central Highlands into eastern Aroostook County, snow depth ranged from a trace to 6 inches. In the North Woods, snow depths ranged from 6 to 18 inches, with the highest amounts at higher elevations. Snow water equivalent (SWE) values ranged from a trace to 2 inches in the Central Highlands and eastern Aroostook County, and from 5 to 7 inches at higher elevations in the North Woods. Snow cover across northern Maine peaked after the April 5–6 event. Most areas had 5 to 15 inches of snow on the ground, with higher terrain receiving up to 20 inches. Snow-liquid equivalents at that time ranged from 1 to 5 inches, with up to 8 inches in elevated areas of the North Woods. By the end of April, all snow cover had melted across the region.

Rainfall and snowmelt significantly improved **drought conditions** across northern and eastern Maine during April 2025. At the start of the month, the U.S. Drought Monitor placed much of Piscataquis County and a small portion of western Aroostook County under Abnormally Dry (D0) conditions. Additionally, D0 conditions were present along the Hancock County coast, extending into much of the Washington County coastline. However, by mid-month and continuing through the end of the month, rainfall, snowmelt, and frost thawing helped end all drought conditions in Maine.

Frost depths at the beginning of the month ranged from 15 to 30 inches in northern Maine, 10 to 25 inches in the Central Highlands, and 5 to 15 inches in Downeast Maine. By mid-month, much of Downeast had completely thawed, with residual frost remaining in the Central Highlands and areas farther north. By the end of the month, rapid thawing across northern Maine led to significant mud season conditions. Numerous dirt roads turned very muddy, and some roads in the North Woods became especially difficult to navigate, resembling “quicksand” due to the rapid loss of frost.

Groundwater levels have been improving following the significant deficit left by the fall of 2024. The combination of melting snowpack, thawing frost, and above-average rainfall during April has contributed to the recovery. While the drought from fall 2024 still caused water issues in the Central Highlands and parts of the North Woods, some improvement has been observed. However, these areas will require additional, substantial rainfall to return to normal levels, as conditions remain well below average in certain spots. Elsewhere in the region, groundwater levels were generally above normal for much of the month. For more details, refer to the graphics below.

Streamflows in April were generally normal to slightly below normal across the St. John and Aroostook River basins, with the Allagash River showing slightly above-normal flows. The below-normal conditions were largely attributed to early ice-out and the peak flow period. The Penobscot River and the Upper St. Croix and Narraguagus Rivers experienced normal flow conditions for the month. However, due to dam activity on the lower St. Croix, the Baring USGS gauge averaged much below-normal flow conditions. Lastly, the Piscataquis River basin recorded below-normal conditions for April's monthly averages.

Regarding **water storage**, the Penobscot River system started the month at 68.3% full, which was 0.6% above the long-term average. Ripogenus Dam storage began the month at around 24 billion cubic feet, within the low end of the “wet” or above-normal range for April. The Union River storage started the month at 80.7% full, which was 58.5% above the long-term average. By month’s end, the Penobscot River system had dropped to 79.8% full, which was 5.7% below the long-term average. Ripogenus Dam storage ended the month at approximately 30 billion cubic feet, within the north range. The Union River storage ended the month at 93.2% full, which was 9.8% above the long-term average.

In terms of **River Ice**, remaining ice on the Saint John, Aroostook Rivers was out by the third week of April. Moosehead Lake reported ice out on April 29th. This was the latest “ice out” for Moosehead Lake since 2020 (May 4th). However, this was nowhere near the record late “ice out” of 1878 (May 29th). A few lakes in the North Woods still had some ice left at the end of the month.

Temperatures across the region ranged from normal to 1.5 degrees (F) above the 1991–2020 averages. No major climate site finished in the top 10 warmest for the month of April. The warmest temperatures came on the 28th and 29th when most inland locations saw high temperatures in the 70s. The rest of the month saw temperatures fluctuate within a few degrees of normal daily values.

Town/City	Avg Monthly Temperature (°F)	Normal Monthly Temperature (°F)	Departure from Normal (°F)
Frenchville	37.1	37.7	-0.6
Fort Kent	36.1	35.4	0.7
Van Buren	36.5	36.4	0.1
Caribou	39.4	38.5	0.9
Houlton	40.0	38.6	1.4
Millinocket	41.5	40.4	1.1
Greenville*	39.1	38.0	1.1
Moosehead	38.5	37.2	1.3
Dover-Foxcroft	40.6	39.5	1.1
Corinna	42.5	42.6	-0.1
Bangor	44.1	42.8	1.3
East Surry	42.4	41.7	0.7
Robbinston*	42.3	41.4	0.9
Topsfield*	40.9	40.6	0.3

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

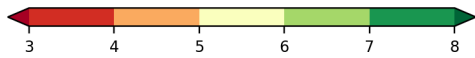
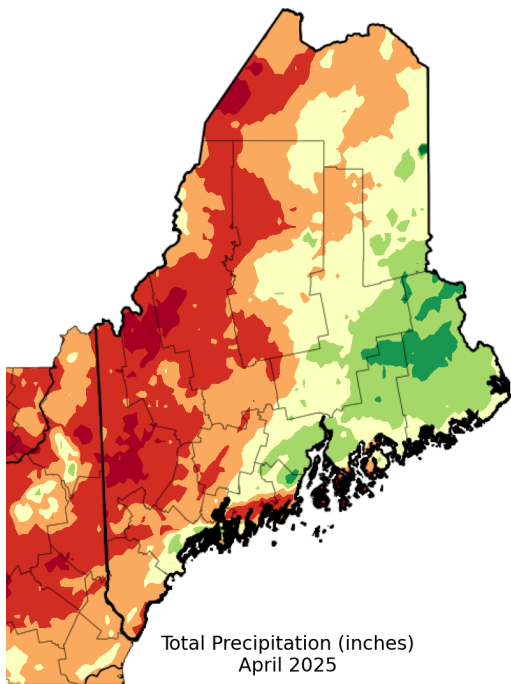


Figure 5. Total Precipitation (inches) April 2025

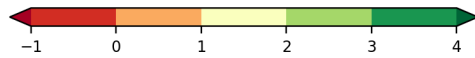
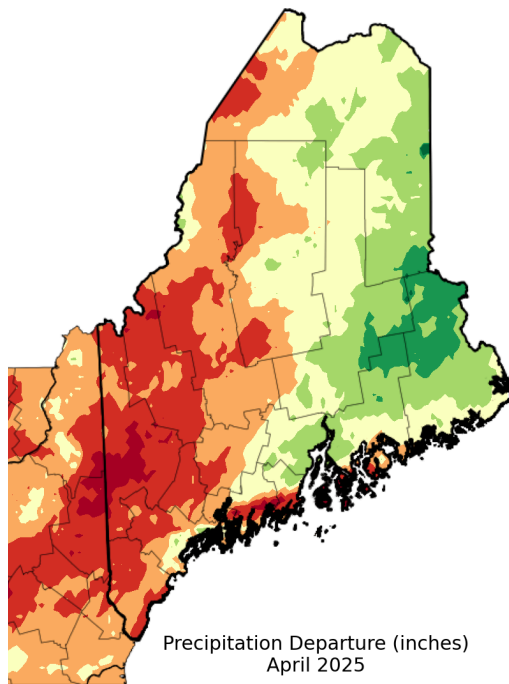


Figure 6. % of Normal Precipitation April 2025

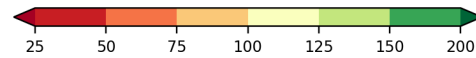
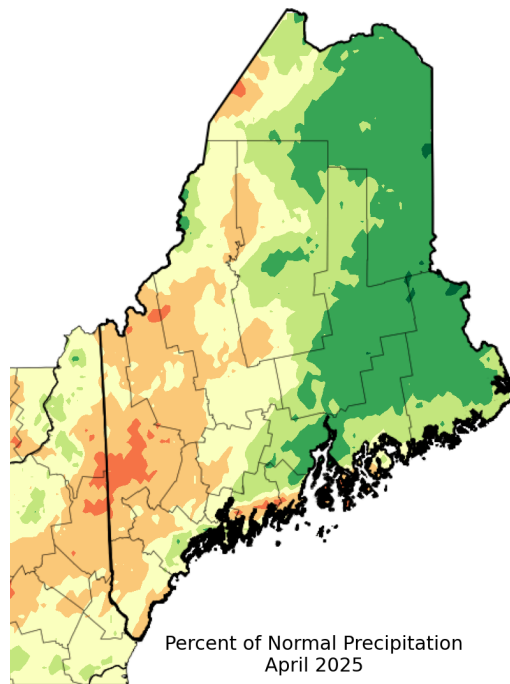


Figure 7. Precipitation Departure (inches) April 2025

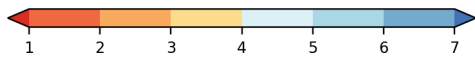
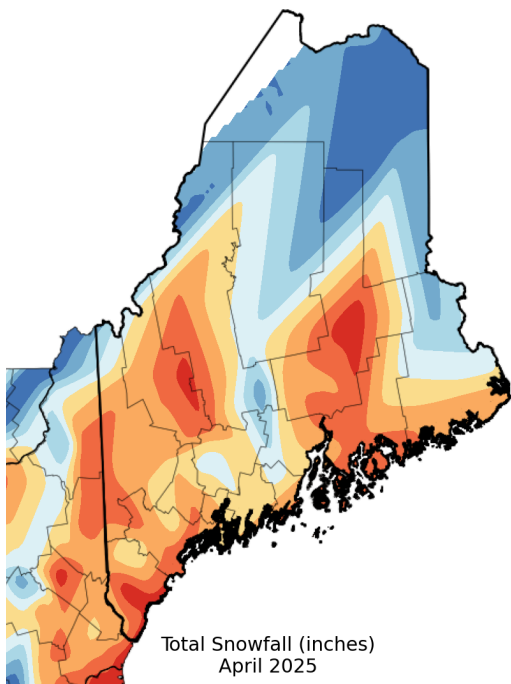


Figure 8. Total Snowfall April 2025

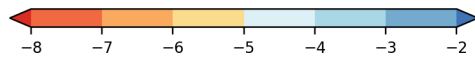
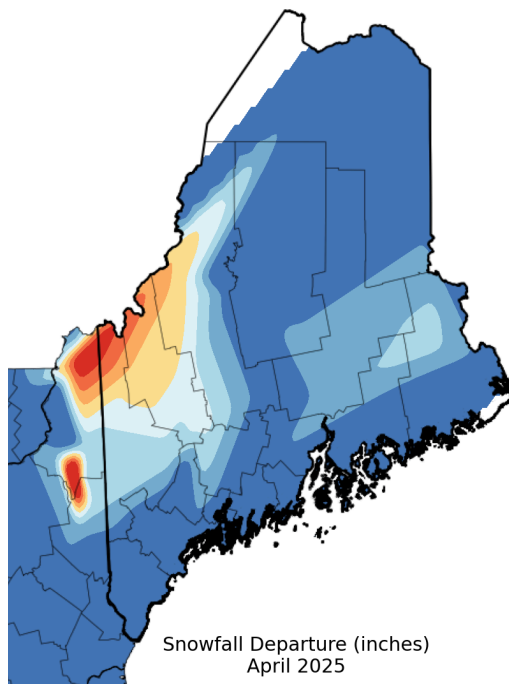


Figure 9. Snowfall Departure April 2025
Figure 5-10 Source: [Northeast Regional Climate Center](#)

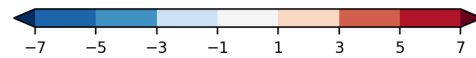
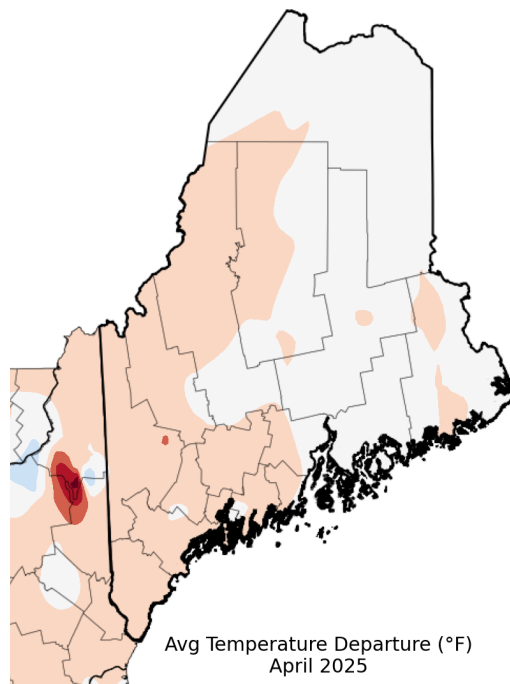


Figure 10. Avg Temperature Departure April 2025

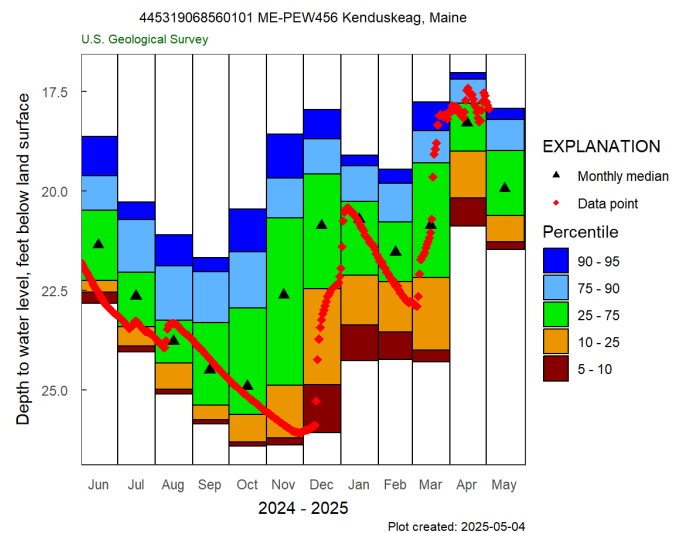
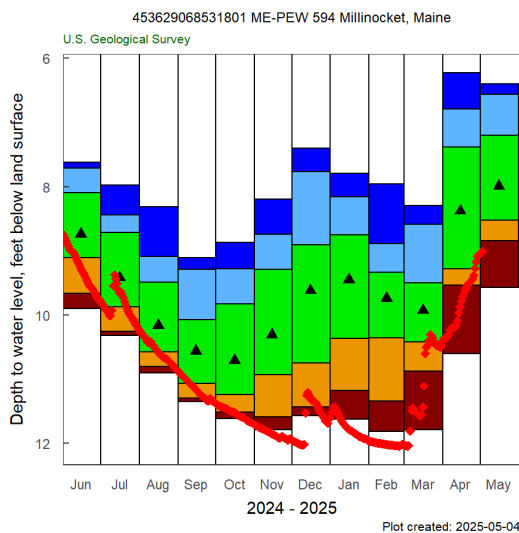
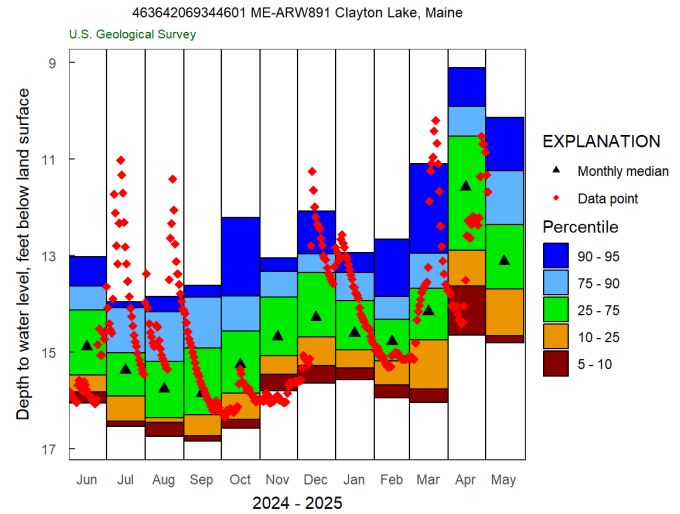
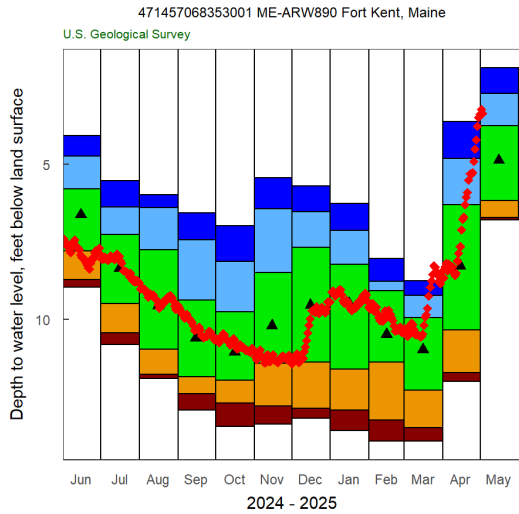
April Average Monthly Streamflows

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	1465	112%	Normal	171	40
St. John River at Nine Mile Bridge	8919	112%	Normal	1341	73
Allagash River near Allagash	7693	147%	Above Normal	1478	92
St. John River at Dickey	14463	93%	Normal	2680	77
St. John River at Fort Kent	14225	53%	Below Normal	5929	97
Fish River near Fort Kent	1937	56%	Below Normal	873	94
Aroostook River near Masardis	4103	82%	Normal	892	66
Aroostook River at Washburn	7805	88%	Normal	1654	93
St. Croix River at Vanceboro	1121	139%	Normal	413	95
St. Croix River at Baring	3315	61%	Much Below Normal	1374	64
Grand Lake Stream at Grand Lake Stream	359	95%	Normal	228.3	95
Narraguagus River at Cherryfield	970	80%	Normal	227	76
East Branch Penobscot River at Grindstone	4164	81%	Normal	837	102
Mattawamkeag near Mattawamkeag	7064	81%	Normal	1418	89
Piscataquis River near Dover-Foxcroft	1392	67%	Below Normal	298	121
Sebec River at Sebec	1545	90%	Normal	326	69
Piscataquis River at Medford	5218	72%	Normal	1162	92
Penobscot River at West Enfield	23623	79%	Below Normal	6422	121

April Monthly Average Groundwater Levels

Station	Percentile Class	Years of Record
Hadley Lakes	Normal	40
Kenduskeag	Normal	47
Calais	Above Normal	45
Millinocket	Much Below Normal	32
Clayton Lake	Normal	47
Fort Kent	Above Normal	49



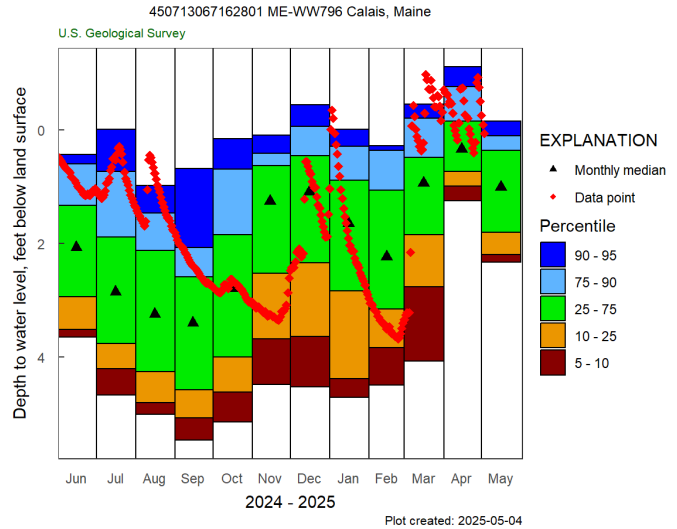
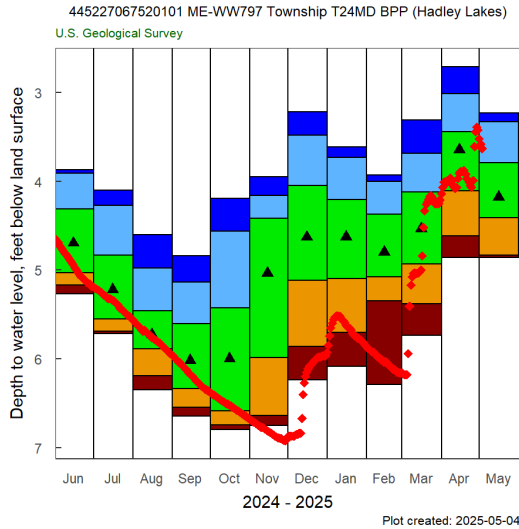


Figure 11-16: Groundwater Level Yearly Plots to Current
Source: [United States Geological Survey](https://www.usgs.gov/)

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.

**Non-Routine Hydrologic Products from WFO Caribou, ME
April 2025**

Product	How Many Issued	Reason for Issuance
None	NA	NA

**CoCoRaHS Complete Precipitation Reports
www.cocorahs.org
April 2025**

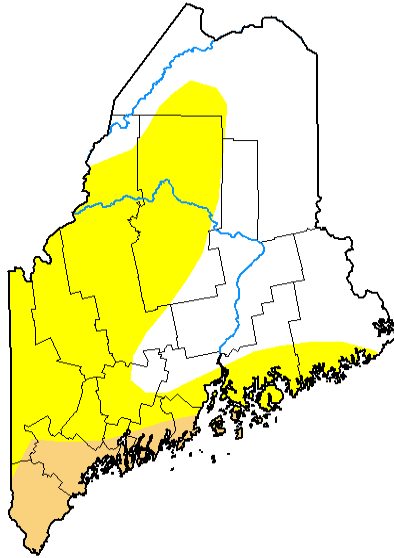
Station Number	Station Name/Location	Total Precipitation (inches)	Total Snowfall (inches)
ME-AR-15	Presque Isle 1.3 WSW	5.23	7.1
ME-AR-18	New Sweden 4.9 NNW	4.88	8.4
ME-AR-41	Castle Hill 1.0 S	4.49	9.2
ME-AR-42	Houlton 2.5 NNW	5.05	3.0
ME-HN-2	East Surry	6.66	1.6
ME-HN-4	Mariaville 1.4 ESE	5.61	1.0
ME-HN-42	Bucksport 3.3 NNW	5.50	0.0
ME-HN-56	Surry 2.5 SSE	6.71	0.0
ME-PN-10	Lincoln 4.3 NE	5.93	0.5
ME-PN-47	Milford 0.8 SSW	5.93	1.2
ME-PN-55	Orono 1.1 SSW	5.96	2.3
ME-PN-58	Hudson 2.4 ESE	5.59	1.3
ME-PN-59	Glenburn 1.5 ENE	5.73	0.9
ME-PS-9	Abbot 4.6 WNW	4.46	4.8
ME-WS-31	Eastport 1.4 ESE	6.41	2.8
ME-WS-34	Perry 3.8 NNW	6.23	4.0

*Additional CoCoRaHS reports were not complete with 28 days of record
Source: <https://cocorahs.org/ViewData/TotalPrecipSummary.aspx>

Drought Monitor April 1, 2025

U.S. Drought Monitor Maine

April 1, 2025
(Released Thursday, Apr. 3, 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 <http://droughtmonitor.unl.edu/About.aspx>

Author:

David Simera
Western Regional Climate Center

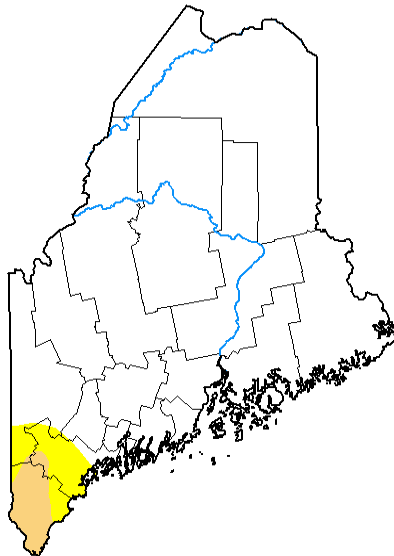


droughtmonitor.unl.edu

Drought Monitor April 29, 2025

U.S. Drought Monitor Maine

April 29, 2025
(Released Thursday, May. 1, 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 <http://droughtmonitor.unl.edu/About.aspx>

Author:

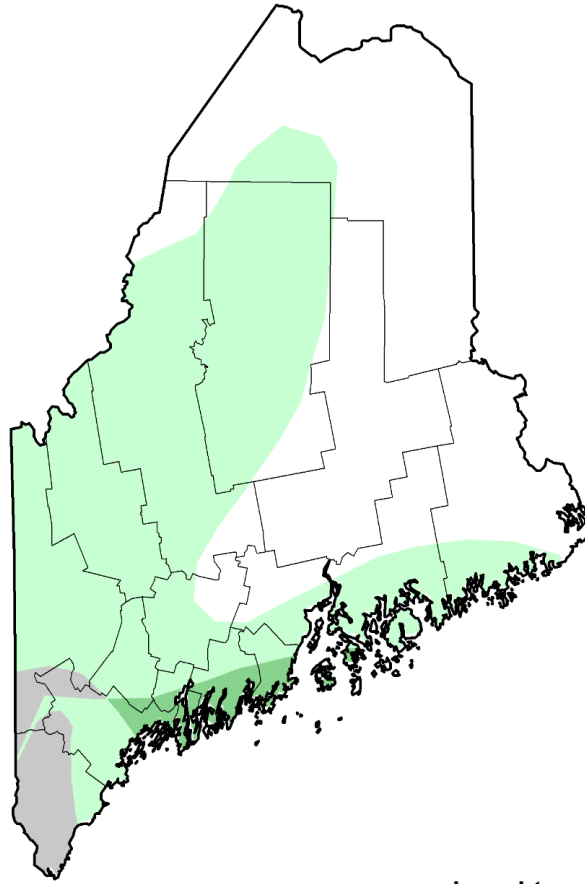
Richard Tinker
CPC/NOAA/NWS/NCEP



droughtmonitor.unl.edu

Drought Monitor Change in April 2025

U.S. Drought Monitor Class Change - Maine 4 Week



April 29, 2025
compared to
April 1, 2025



- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

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Week	None (%)	D0-D4 (%)	D1-D4 (%)	D2-D4 (%)	D3-D4 (%)	D4 (%)	DSCI
4/1/2025	45.81	54.19	7.81	0.00	0	0	62
4/29/2025	93.79	6.21	2.73	0.00	0	0	9
Change	47.98	-47.98	-5.08	0.00	0	0	-53