

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 September 2025	
	SIGNATURE James Sinko - Meteorologist Hydrology Program Manager	
	DATE October 12, 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.

September 2025

September 2025 was a continuation of the drought impacting Maine and the overall pattern struggled to provide any relief in those conditions. The overall synoptic pattern over the United States featured troughing in the eastern US anchored over the Appalachians with ridging in the Rockies. Persistent cutoff upper level low was centered over the Tennessee and Ohio River Valleys. Maine was located in the more zonal section of the overall synoptic pattern with numerous rounds of surface high pressures over New England. Our forecast area was typically to the northeast of surface highs which favored a drier pattern and we relied on the occasional shortwave energy to produce rainfall events. Overall, September 2025 wrapped up with above average temperatures throughout northern and eastern Maine with significantly below average precipitation deficits at all climate sites. In the larger climatic patterns the North Atlantic Oscillation (NAO) had a monthly mean of -0.80 standard deviation while the Pacific North American Pattern (PNA) had a monthly mean of +0.81 standard deviation. By the end of September El Niño-Southern Oscillation (ENSO) was transitioning from ENSO Neutral to a weak La Nina as the Niño regions turned -0.1°C to -0.5°C.

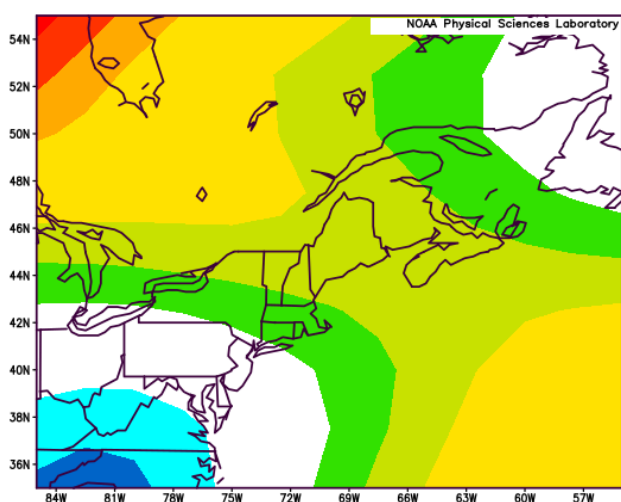


Figure 1: 500mb Geopotential Height (m) Anomalies (1991-2020 Climo)
September 2025

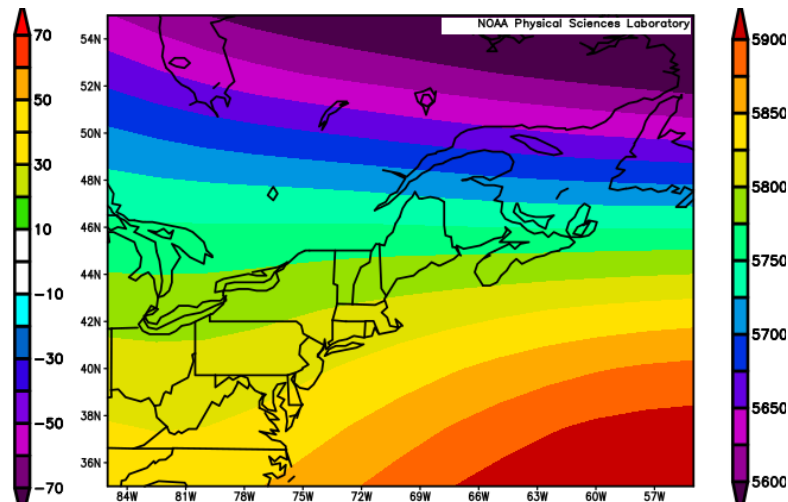


Figure 2: 500mb Geopotential Height (m) Composite Mean
September 2025

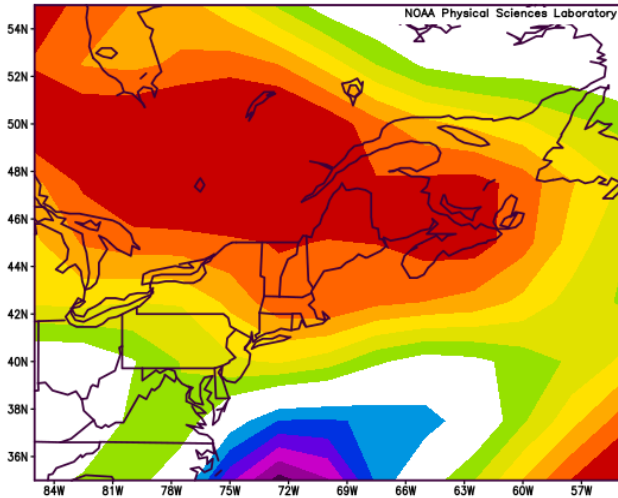


Figure 3: Sea Level Pressure (mb) Anomalies (1991-2020 Climo)
September 2025

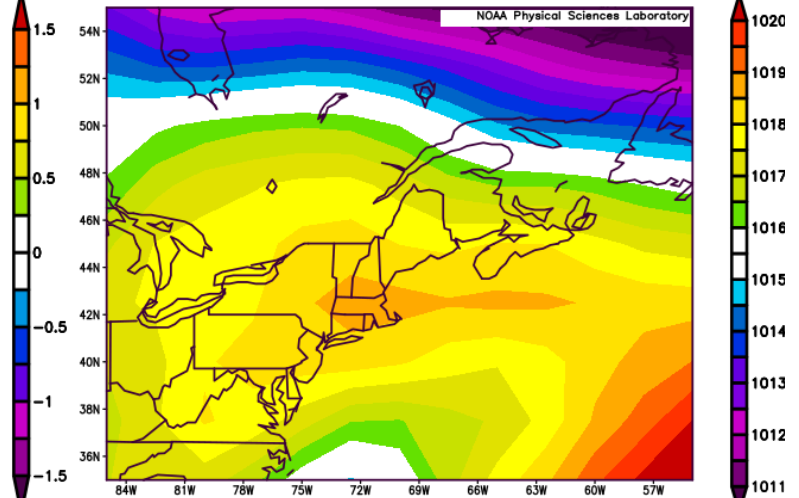


Figure 4: Sea Level Pressure (mb) Composite Mean
September 2025

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*	1.45	3.46	-2.01	41.9%					
Fort Kent	1.62	3.72	-2.10	43.5%	0.0	0.0	0.0	0	0.0
Van Buren	2.14	3.83	-1.69	55.9%	0.0	0.0	0.0	0	0.0
Limestone	1.95	3.78	-1.83	51.6%					
Caribou	1.77	3.44	-1.67	51.5%	0.0	0.1	-0.1	0	0.0
Houlton	1.67	3.40	-1.73	49.1%					
Millinocket*	2.21	3.61	-1.40	61.2%	0.0			0	0.0
Greenville*	2.26	3.44	-1.18	65.7%					
Moosehead*	2.26	3.42	-1.16	66.1%	0.0	0.0	0.0	0	0.0
Dover-Foxcroft	3.31	3.70	-0.39	89.5%	0.0	0.0	0.0	0	0.0
Corinna	3.42	3.56	-0.14	96.1%	0.0	0.0	0.0	0	0.0
Old Town	3.29	3.67	-0.38	89.6%					
Bangor	3.06	3.76	-0.70	81.4%	0.0	0.0	0.0	0	0.0
East Surry	3.16	3.92	-0.76	80.6%	0.0			0	0.0
Robbinston*	2.66	4.23	-1.57	62.9%	0.0	0.0	0.0	0	0.0
Topsfield*	2.96	4.01	-1.05	73.8%	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. *Frenchville ASOS has documented issues with precipitation measurements in the winter months.

September was dominated by worsening drought conditions, with **precipitation** totals falling well short of normal across the region. All climate sites reported significant deficits. Houlton recorded its 13th driest September since 1948, receiving only 1.67 inches of rain, a deficit of 1.73 inches. Similarly, Caribou had its 11th driest September since 1939, with 1.77 inches of precipitation and a deficit of 1.67 inches. The NWS Caribou site also observed 3.52 inches of moisture evaporation, further compounding the problem. While Central Highlands and Interior Downeast received some "wetting rains," none of these storms were substantial enough to break the drought. Millinocket, for instance, received 2.21 inches of rain, still leaving it with a 1.40-inch deficit. Among the sites, Bangor fared the best, receiving 3.06 inches of rain for a smaller deficit of 0.70 inches.

As a result, **drought** conditions intensified and expanded throughout the month. At the start of September, the North Woods was not in a drought, and central and eastern Aroostook, alongside parts of northern Piscataquis, Somerset, and Penobscot, were abnormally dry. Central Maine and Downeast were in a moderate drought, with coastal Downeast in a severe drought. By September 2nd, the severe drought had spread to Central Maine and Interior Downeast. By the end of the month, abnormally dry conditions had expanded into the North Woods and remained in parts of northern Piscataquis, Penobscot, Somerset, and eastern Aroostook. Moderate drought was now present in southern Aroostook and central Piscataquis and Penobscot. Severe drought extended through Central Maine, Interior Downeast, and the Washington County coastline. The most significant worsening was in Hancock County, where the coastline's drought status was upgraded to extreme by month's end.

As the growing season was coming to an end in September, due to the loss of sun angle and colder temperatures, the Drought was beginning to make significant impacts to **Groundwater** conditions. Worst groundwater conditions were noted at Hadley Lakes, Kenduskeag, Millinocket and Clayton Lake where most of these sites have 30-50 years of record. Fort Kent and Calais remained within "normals" for the month but the remainder of the sites were in the below to much below normal ranges. Soil moisture conditions continue to impact the area with the later harvested crops like potatoes. A potato grower in southern Aroostook County anticipated a 30% reduction in yields in the dryland fields. The soil was so hard and dry that it would be difficult to avoid bruising the potatoes. By the end of the month the Maine Dry Well Survey received several reports from the service area, Aroostook (4 reports), Hancock (11 reports), Penobscot (18 reports), Piscataquis (6 reports) and Washington (19 reports).

September saw exceptionally low **streamflows** across most rivers and streams, reaching significantly below-normal to record-low mean flows. These conditions, typical low for this time of year, mirrored the significant drought impacts observed in groundwater levels. St. Croix dam operators struggled to maintain minimum operational levels for both lake and river levels. While some isolated areas received beneficial rainfall towards the end of the month, relief was limited. Specifically, all locations on the Piscataquis River reported flows below the 10th percentile (much below normal). The entire St. Croix basin experienced flows less than the 5th percentile, including several record-low flows. The St. John basin also saw significantly below-normal conditions, with a record-low monthly mean flow at Fort Kent, a site with 97 years of record. Finally, the Narraguagus River in Cherryfield, with a 76-year record, reported monthly mean flows in September that were below the 10th percentile, indicating much below-normal conditions. More flow details listed below...

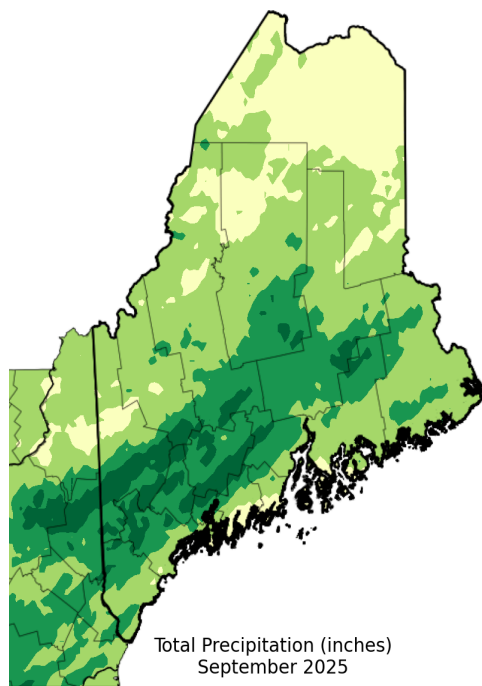
Water storage across key river systems in Eastern & Northern Maine generally remained within normal ranges through September but the impacts of the drought were noticeable by late month. The Penobscot River system began the month at 70.5% of capacity, or 2.2% above the long-term average which is normal. By the end of September, storage decreased to 60.8%, which became slightly below the long-term average by 4%. Ripogenus Dam storage started the month near 24 billion cubic feet, consistent around the low end of the normal range for September, and ended the month down at 19.5 billion cubic feet which was just barely within the normal range. The Union River system started the month at 43.5% of capacity, 9.3% below the long-term average. By month's end,

storage declined to 30%, or 12.6% below average. The drop off by the end of the month at many of the storage locations indicated the impacts of the lack of rainfall and ongoing drought conditions combined with seasonal draw down activity. By the end of the month on the St. Croix system; East Grand Lake, West Grand Lake, Grand Falls, and Vanceboro are all reported to be between 53 and 62% full. Currently, dam gates at Vanceboro are now set at the minimum opening required for eel passage, slightly over the required minimum flow. There is only 1.5 feet remaining before hitting the minimum lake level elevation. Big, Long, and Lewey Lakes, and the Grand Falls flowage are all very low. All of which are controlled by the Grand Falls Dam. Water is being released over the dam to maintain minimum flow requirements downstream. Please note that 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 above normal at all sites, with average mean temperatures generally 0.5-1 degrees Fahrenheit above normal. Monthly maximum temperatures were significantly above normal by 2-3 degrees. Houlton was the warmest station, ranging 3.1 degrees above normal. Millinocket was the next warmest, with max temperatures being 2.7 degrees above normal. Lastly, Caribou and Bangor both tied 2.1 degrees above climate normals for their daytime highs. Monthly minimum temperatures were generally 0.5-1.5 degrees below climate normals. Caribou had the largest deviation, being around 1.5 degrees colder than climate normals. Houlton was next, around 1 degree cooler than normal. Millinocket and Bangor had minor deviations, only about 0.3 degrees below average.

Town/City	Avg Monthly Temperature (°F)	Normal Monthly Temperature (°F)	Departure from Normal (°F)
Frenchville	56.3	56.1	0.2
Fort Kent	55.3	54.3	1.0
Van Buren	56.7	55.4	1.3
Limestone	55.4	54.7	0.7
Caribou	56.7	56.6	0.1
Houlton	56.9	56.2	0.7
Millinocket	59.2	58.2	1.0
Greenville*	58.2	57.2	1.0
Moosehead	57.3	56.0	1.3
Dover-Foxcroft	58.8	57.8	1.0
Corinna	60.5	59.8	0.7
Old Town	59.2	57.7	1.5
Bangor	60.7	59.9	0.8
East Surry	59.7	59.3	0.4
Robbinston*	61.0	59.0	2.0
Topsfield*	61.5	58.3	3.2

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



Total Precipitation (inches)
September 2025

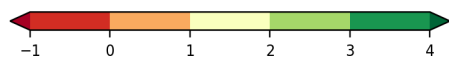
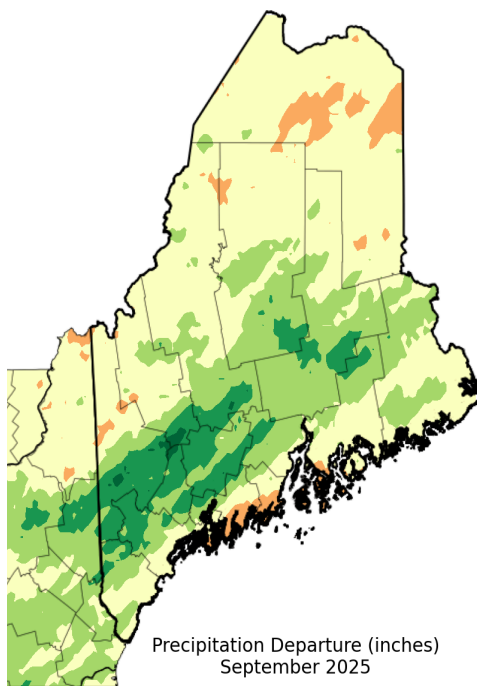


Figure 5. Total Precipitation (inches)
September 2025



Precipitation Departure (inches)
September 2025

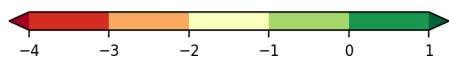
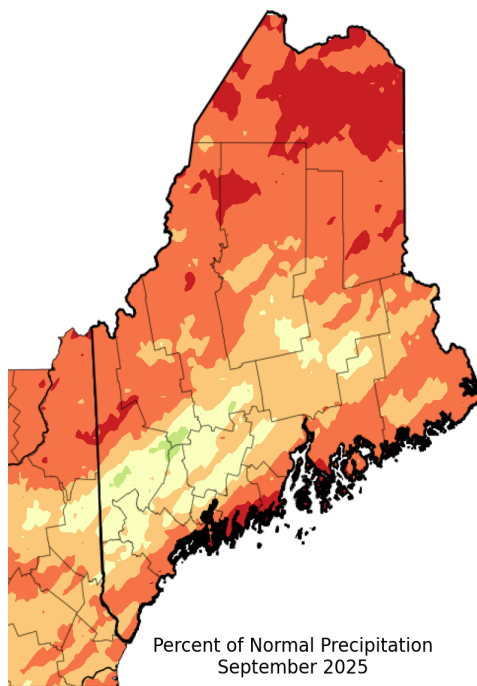


Figure 6. % of Normal Precipitation
September 2025



Percent of Normal Precipitation
September 2025

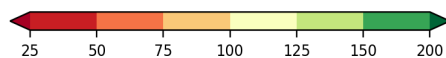
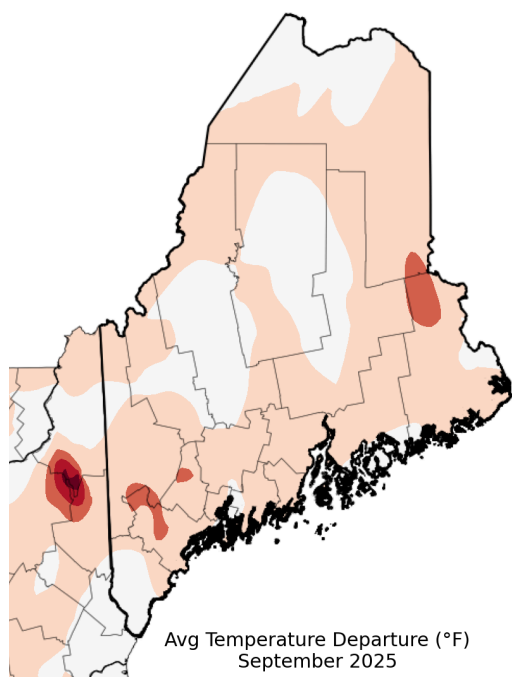


Figure 7. Precipitation Departure (inches)
September 2025



Avg Temperature Departure (°F)
September 2025

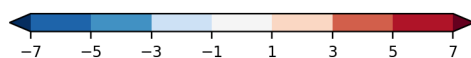


Figure 8. Avg Temperature Departure
September 2025

Figure 5-8 Source: [Northeast Regional Climate Center](#)

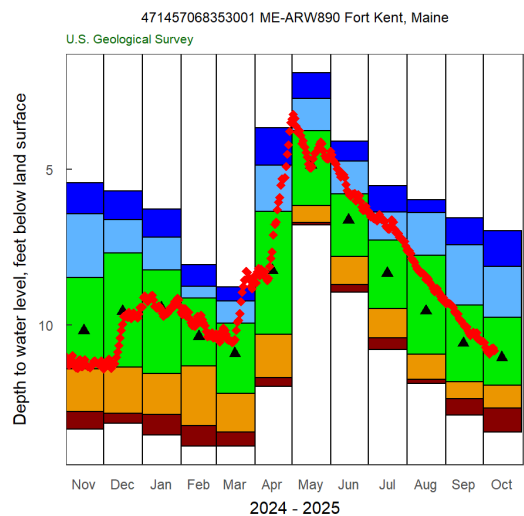
September Average Monthly Streamflows

Data provided by the U.S. Geological Survey

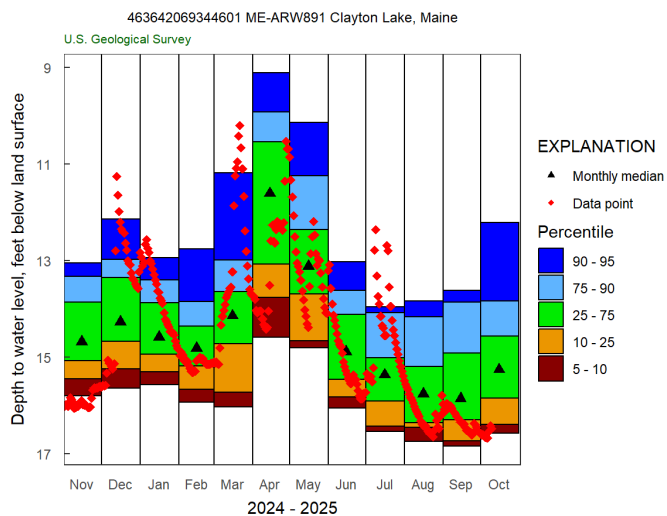
River	Monthly Mean Flow (cfs)	% Normal (mean)	Percentile Class	Drainage (mi ²)	Years of Record
Big Black River near Depot Mtn	41	31%	Normal	171	40
St. John River at Nine Mile Bridge	259	20%	Much Below Normal	1341	73
Allagash River near Allagash	460	44%	Below Normal	1478	94
St. John River at Dickey	675	29%	Below Normal	2680	79
St. John River at Fort Kent	824	18%	Low	5929	97
Fish River near Fort Kent	103	18%	Much Below Normal	873	94
Aroostook River near Masardis	172	25%	Below Normal	892	66
Aroostook River at Washburn	504	44%	Normal	1654	93
St. Croix River at Vanceboro	236	33%	Much Below Normal	413	95
St. Croix River at Baring	426	25%	Low	1374	64
Grand Lake Stream at Grand Lake Stream	90	20%	Low	228.3	95
Narraguagus River at Cherryfield	38	22%	Much Below Normal	227	76
East Branch Penobscot River at Grindstone	568	58%	Normal	837	102
Mattawamkeag near Mattawamkeag	84	10%	Much Below Normal	1418	89
Piscataquis River near Dover-Foxcroft	23	12%	Much Below Normal	298	121
Sebec River at Sebec	44	12%	Low	326	69
Piscataquis River at Medford	172	18%	Much Below Normal	1162	93
Penobscot River at West Enfield	3680	54%	Much Below Normal	6422	121

September Monthly Average Groundwater Levels

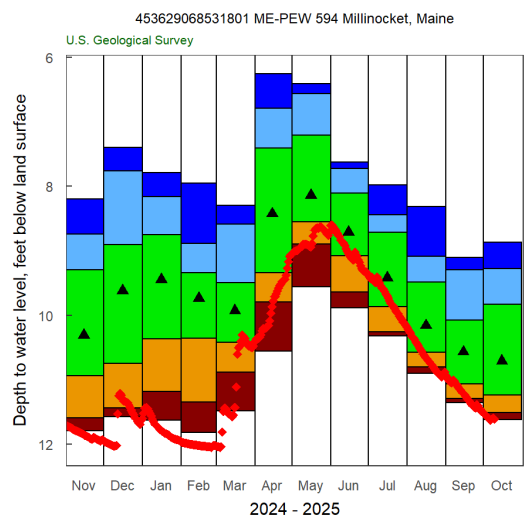
Station	Percentile Class	Monthly Mean Depth to Water Level below land surface (feet)	Years of Record
Hadley Lakes	Normal	6.25	40
Kenduskeag	Below Normal	25.50	47
Calais	Normal	3.49	45
Millinocket	Below Normal	11.22	32
Clayton Lake	Below Normal	16.27	47
Fort Kent	Normal	10.02	49



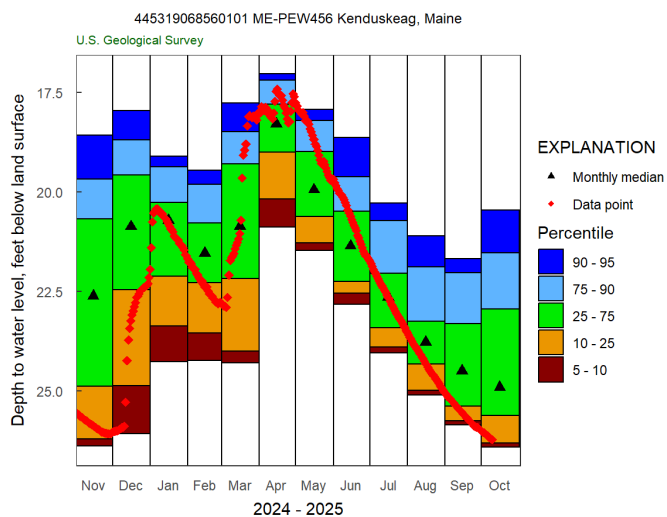
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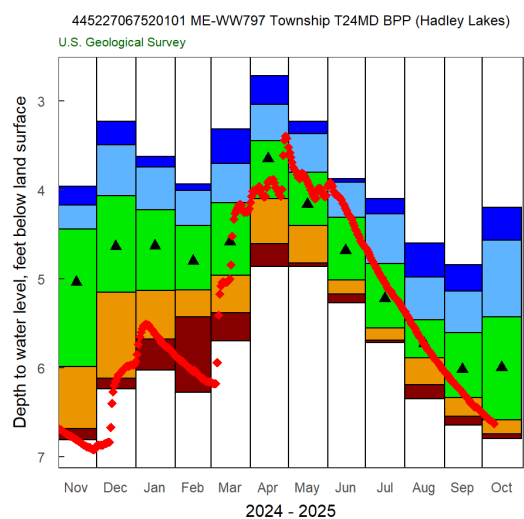
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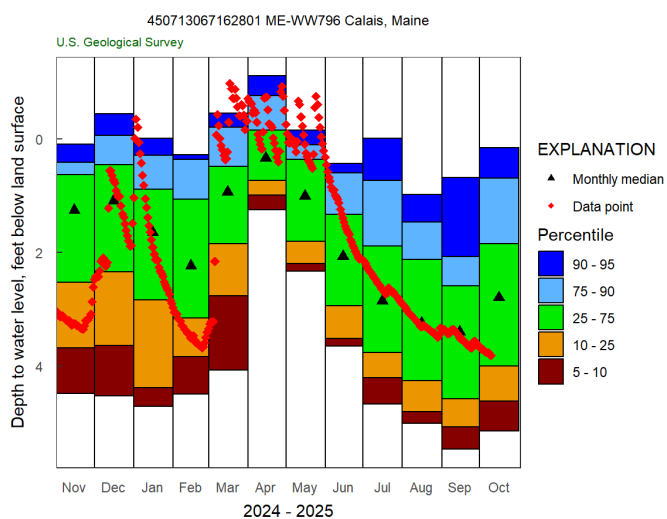
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Plot created: 2025-10-11



Plot created: 2025-10-11



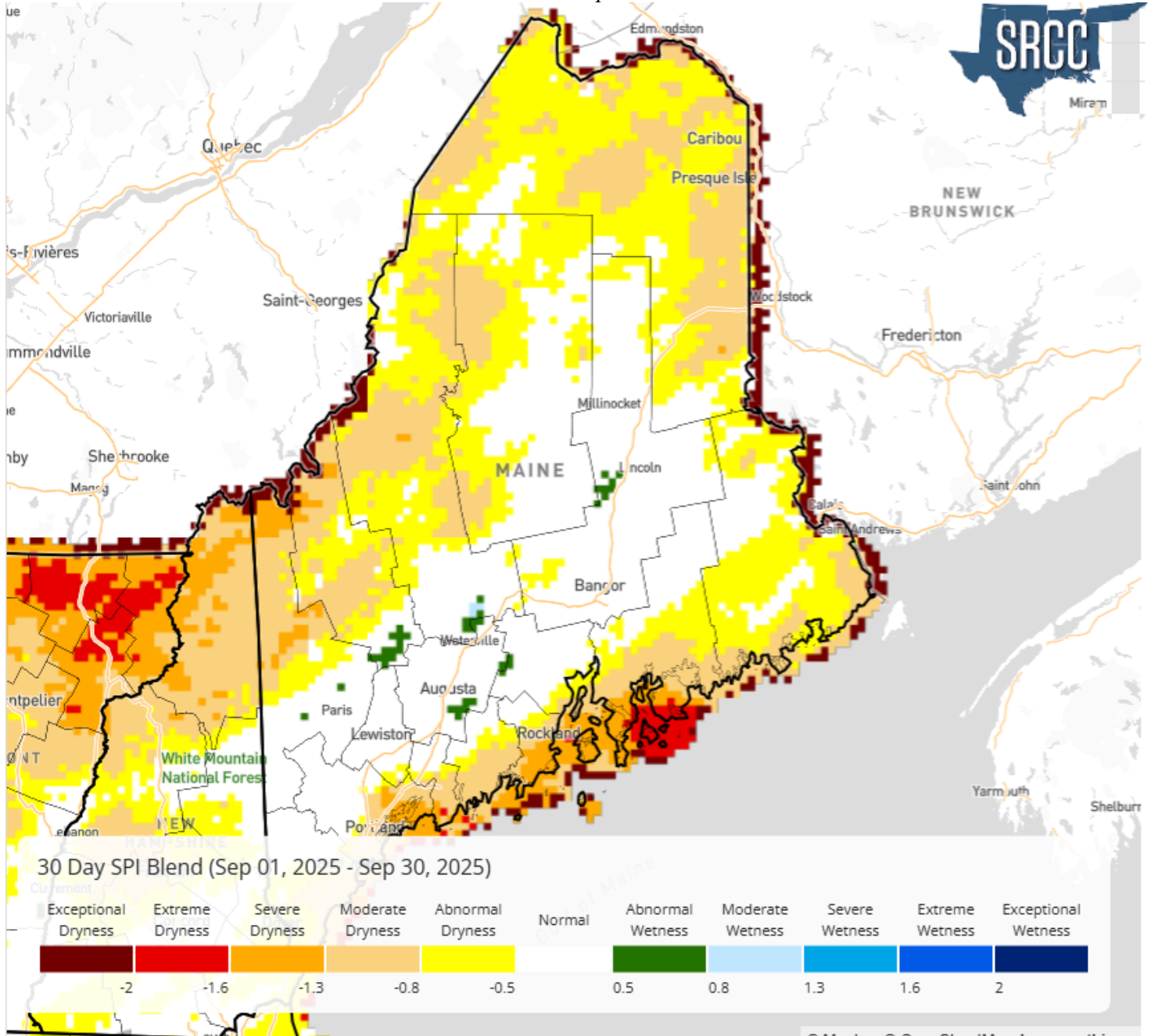
Plot created: 2025-10-11

Figure 9-14: Groundwater Level Yearly Plots to Current
Source: [United States Geological Survey](https://www.usgs.gov/)

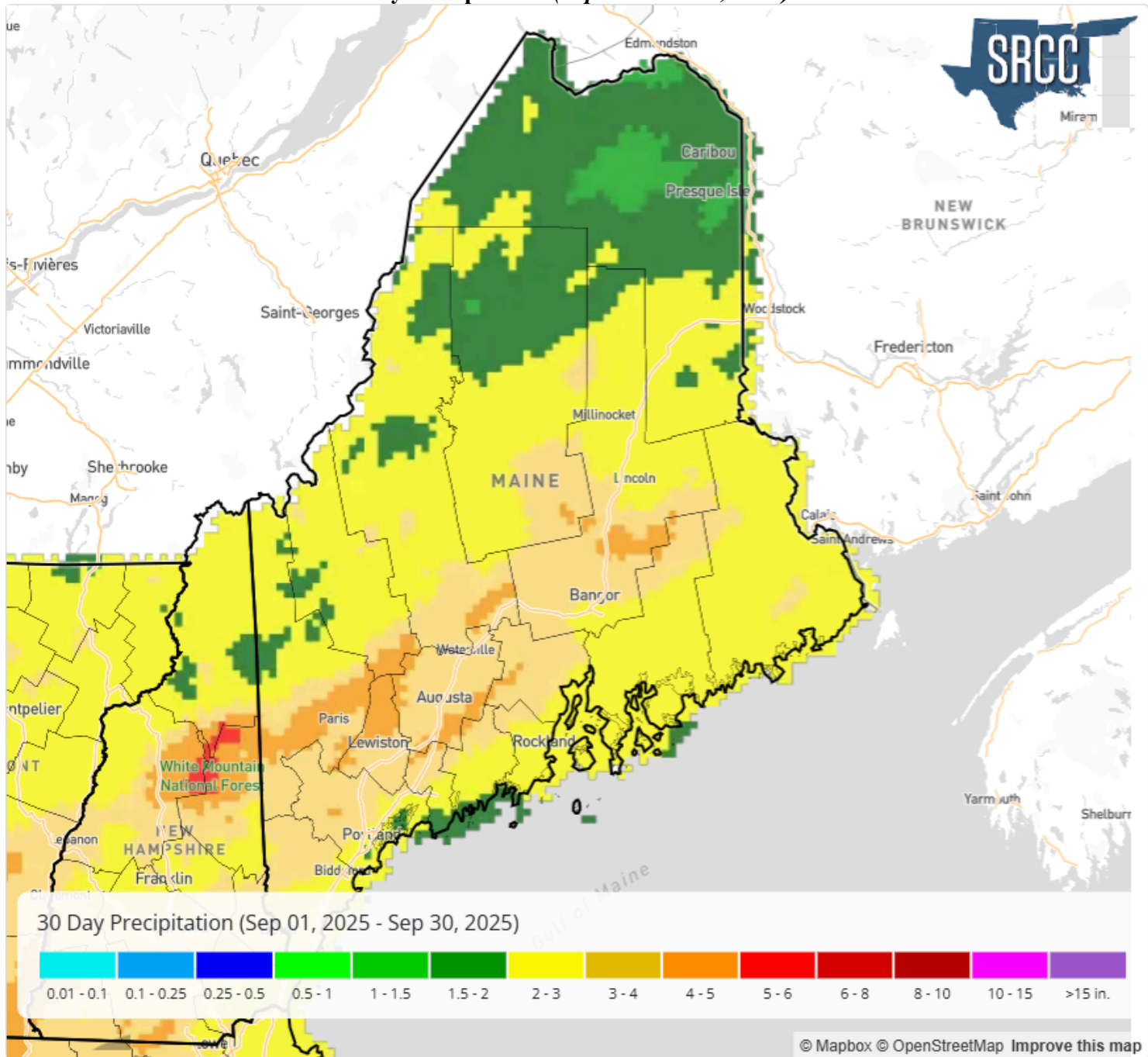
Flow or Water Level	Percentile Range	Explanation
Ice Impacted	NA	Ice impacted resulting in No Data available
Low	0 th	The monthly mean streamflow or median water level during this month is the lowest ever recorded during the period of record for this site.
Much Below Normal	0 th to 10 th	The monthly 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.

30 Day SPI Blend (September 1-30, 2025)

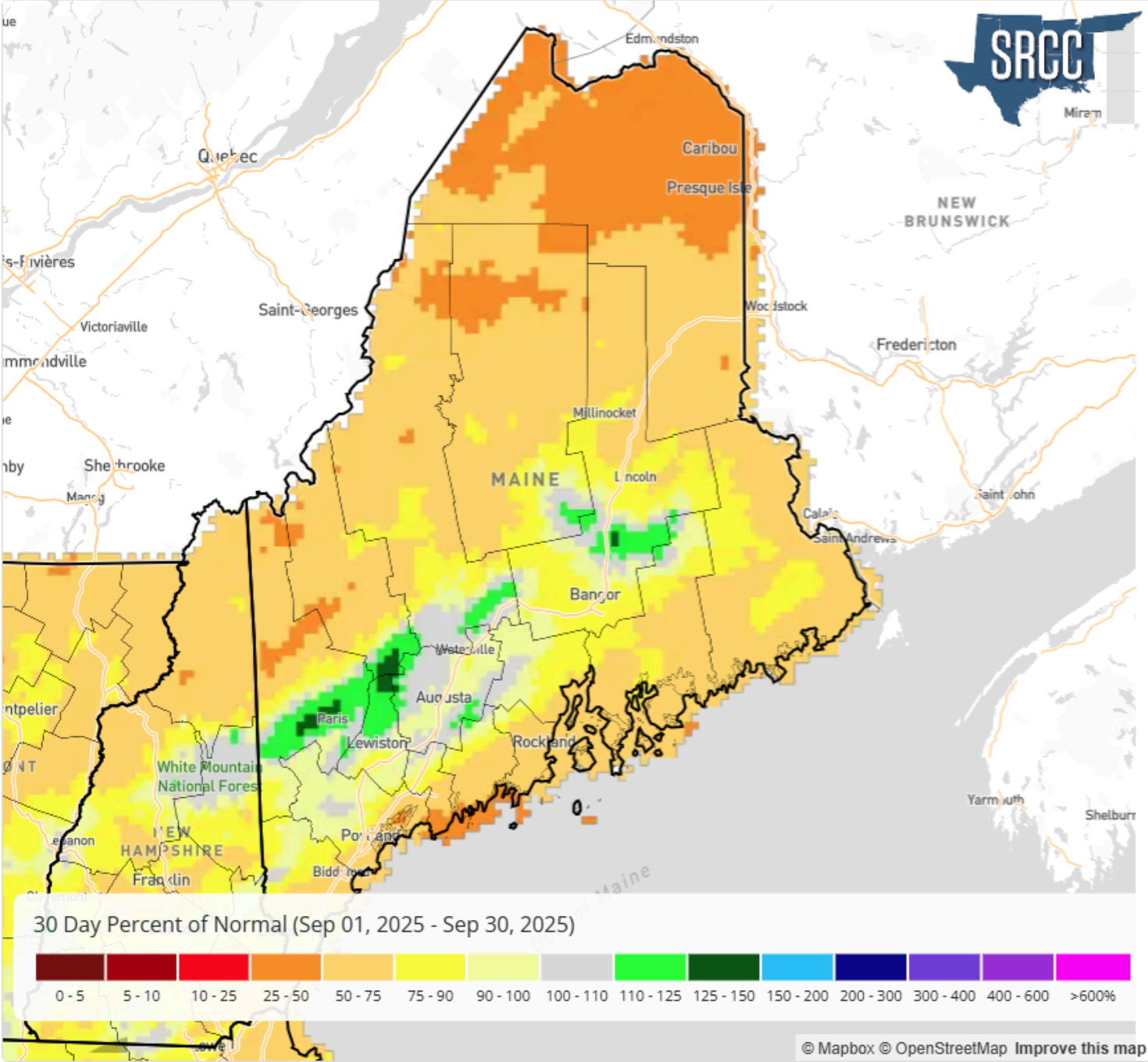
The SPI Blend is a modified version of the Standardized Precipitation Index (SPI) that is used to assess drought conditions by considering precipitation data on multiple time scales. It uses a linear weighting system, giving more weight to recent precipitation within a given time period. This approach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



30 Day Precipitation (September 1-30, 2025)



30 Day Precipitation Percent of Normal (September 1-30, 2025)



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

Product	How Many Issued	Reason for Issuance
None	NA	NA

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

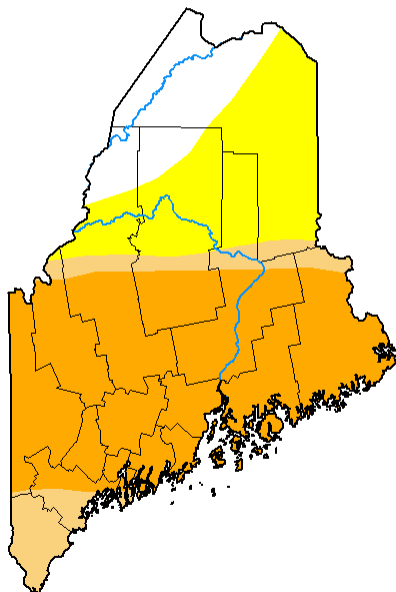
Station Number	Station Name/Location	Total Precipitation (inches)
ME-AR-15	Presque Isle 1.3 WSW	1.42
ME-AR-18	New Sweden 4.9 NNW	1.62
ME-AR-28	Presque Isle 4.2 S	1.59
ME-AR-41	Castle Hill 1.0 S	1.65
ME-AR-42	Houlton 2.5 NNW	2.06
ME-HN-2	East Surry	3.16
ME-HN-4	Mariaville 1.4 ESE	2.06
ME-HN-42	Bucksport 3.3 NNW	2.79
ME-HN-56	Surry 2.5 SSE	2.63
ME-HN-58	Sullivan 2.4 SSE	2.23
ME-HN-64	Southwest Harbor 0.9 NW	2.55
ME-HN-68	Southwest Harbor 2.2 SE	2.10
ME-HN-69	Mount Desert 2.3 NE	2.52
ME-PN-10	Lincoln 4.3 NE	2.46
ME-PN-47	Milford 0.8 SSW	3.37
ME-PN-51	Hermon 1.2 W	3.00
ME-PN-55	Orono 1.1 SSW	3.21
ME-PN-58	Hudson 2.4 ESE	3.46
ME-PN-62	Glenburn 2.0 ESE	3.45
ME-PN-63	Dixmont 4.5 NE	3.44
ME-PS-9	Abbot 4.6 WNW	2.67
ME-WS-10	Pembroke 5.4 SSE	2.77
ME-WS-11	Whiting 2.3 WSW	2.78
ME-WS-31	Eastport 1.4 ESE	2.64
ME-WS-34	Perry 3.8 NNW	2.66

***Additional CoCoRaHS reports were not complete with 31 days of record**







Source: <https://cocorahs.org/ViewData/TotalPrecipSummary.aspx>

Drought Monitor September 2, 2025
U.S. Drought Monitor
Maine

September 2, 2025
(Released Thursday, Sep. 4, 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:

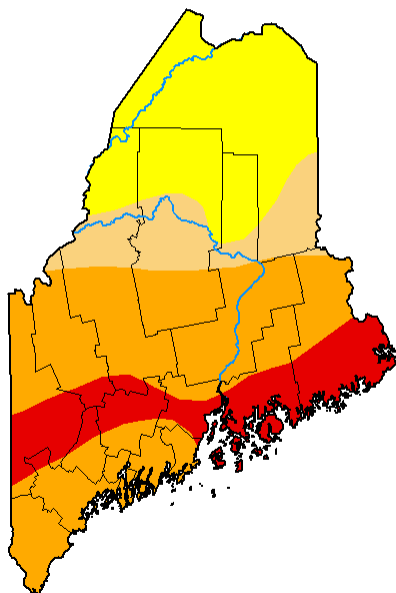
David Simeral
Western Regional Climate Center









droughtmonitor.unl.edu

Drought Monitor September 30, 2025
U.S. Drought Monitor
Maine

September 30, 2025
(Released Thursday, Oct. 2, 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:

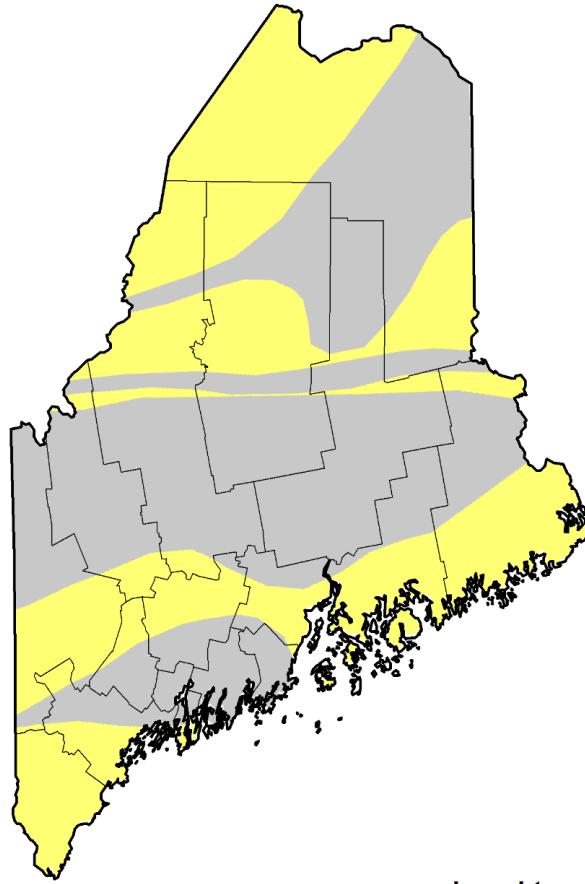
Curtis Riganti
National Drought Mitigation Center



droughtmonitor.unl.edu

Drought Monitor Change in September 2025

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



September 30, 2025
compared to
September 2, 2025

droughtmonitor.unl.edu



- 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

Week	None (%)	D0-D4 (%)	D1-D4 (%)	D2-D4 (%)	D3-D4 (%)	D4 (%)	DSCI
9/2/2025	13.10	86.90	62.67	52.94	0	0	203
9/30/2025	0	100	71.92	59.51	16.61	0	248
Change	-13.10	13.10	9.25	6.57	16.61	0	45

Dry Conditions / Drought Photos

On September 22, 2025 the Eastport Municipal Airport reported to the Condition Monitoring Observer Reports [CMOR](#) system *"Drought is causing the airport's turf fields to grow far slower than normal creating a dry desirable location for multiple avian species to flock to and bed down. Normally we let the turf grasses to grow up to 16" which prevents these avian populations to seek out other areas with shorter head to flock to and bed down. Because our taxiway and runway are located directly in the middle of these fields, the increased avian presence has created a real and significant increase in risk to the safety of flight of any aircraft taxiing, landing, or taking off at the airport. This increased risk doesn't make the airport a high risk to operate out of, it's simply higher when compared to a summer with a more average amount of rainfall in the same timeframe resulting in the normal amount of summertime growth."*

September 28th the town of Princeton reported public drinking water well issues.

