

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 2021
TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283		SIGNATURE Joseph Hewitt, HPM DATE October 29th, 2021

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 2021

There was some flash flooding during the month of September during some heavy rainfall events. There were two flash flood events that occurred during the month with the first one taking place on the 6th with heavy rain from thunderstorms across NE Aroostook County. Some flooding was observed with a few roads being flooded. The second flash flood event occurred on the 26th in SW Penobscot County and Hancock County. A number of roads were flooded and closed during this event. Otherwise, there was some minor flooding events that took place over the month due to some heavy rainfall.

Precipitation for the month of September was well above normal across the entire region. A big difference from well below normal rainfall in August. At Bangor, 9.42 inches of rain was recorded for the month, which was 5.66 inches above normal. This made it the 2nd wettest September on record, with September of 1999 being the wettest with 9.88 inches of rain. The wettest September was in 1999 with 9.88 inches. In Caribou, 6.13 inches, which was 2.69 inches above normal. This made it the 7th wettest September on record, with the wettest September being back in 1999 with 8.81 inches. Houlton recorded 7.57 inches of rain, which was 4.17 inches above normal. This made it the 4th wettest September on record, with the wettest September back in 2015, with 10.20 inches of rain. Millinocket recorded 7.28 inches of rain, which was 3.67 inches above normal, which made it the 7th wettest September. Bangor set rainfall records on the 11th with 1.20 inches, which broke the previous record of 1.02 inches set in 1999. Another rainfall record was set on the 27th with 2.28 inches, which tied the previous record set in 1977. Houlton also set two rainfall records. The first rainfall record occurred on the 11th with 1.40 inches, which broke the previous record of 1.06 inches set in 1967. The 2nd rainfall record occurred on the 27th with 1.74 inches, which broke the previous record of 1.20 inches set in 1961. The wettest September for Millinocket was back in 1932 with 10.69 inches of rain. There were three big rain events during the month of September. These included the 2nd and 3rd, 10th and 11th, and the 24th through the 26th. The heaviest rainfall fell on the 9th and 10th, and 24th through the 26th with a number of sites reporting up to 4 inches of rain. In regards to evaporation, evaporation rates were reduced to 2.25 inches, which was nearly half total evaporation in August.

September came in above normal for average monthly temperatures ranging from 1.5 to 2.5 inches above normal. Caribou recorded an average monthly temperature of 58.5 degrees, which was 7th warmest September. The warmest September was 61.7 degrees in 1999. Bangor recorded an average monthly temperature of 62.3 degrees, which was the 13th warmest. The warmest September for Bangor

was 65.6 degrees back in 1934. Houlton recorded 58.6 degrees for an average monthly temperature, which was 5th warmest September. The warmest September in Houlton was back in 1999 with 62.4 degrees. It was the 7th warmest September on record with an average monthly temperature 60.3 degrees. The warmest September in Millinocket was back in 2015 with an average monthly temperature of 64.1 degrees. The month started out cool and ended cool, but most of the month was above normal. The warmest days occurred on the 18th and 23rd with Bangor being the only climate site eclipsing 80 degrees. The coldest morning occurred on the 26th with many sites recording lows in the 30s across the north with some patchy frost

There was much improvement in regard to the streamflows for September with flows reaching into the **normal** to **much above normal** range. This was a big change from August, where flows at many sites were either **below** to **much below normal**. For example, the St. John River at Nine Mile Bridge and Fort Kent came in with **normal** flows. In August, the flows at Nine Mile Bridge and Fort Kent were **below** to **much below normal** respectively. The Piscataquis River at Dover-Foxcroft came in with flows **much above normal**, which was a dramatic change from August, where streamflows were **much below normal**.

Groundwater levels also showed improvement from what levels were in August with sites reporting **normal** to **above normal** levels. Clayton Lake came in with groundwater levels much below normal. This was an improvement from August where levels were reported to be at **record low levels**. Millinocket recorded levels in the **normal** range for September. This was significant improve from August where groundwater levels were in the **below normal range**.

In regards to Drought monitoring, much of Northern Maine and the Maine Central Highlands started out in **Moderate Drought**, while the rest of the region was in the **normal range**. By the end of the month, Drought conditions significantly improved with 2/3rd of the region in the normal range, while NW Maine saw an improvement to **Abnormally Dry**.

October Precipitation Totals for Select Locations with all units in inches

Location	Total Precip	Normal Precipitation	Departure from Normal	Snowfall	Normal Snowfall	Departure from Normal Snowfall	Greatest Snow Depth
Frenchville	7.79	4.36	+4.33	NA	NA	NA	NA
Caribou	6.13	3.44	+2.69	0.0	0.0	0	0
*Millinocket	7.28	3.61	+3.67	NA	NA	NA	NA
Bangor	9.42	3.76	+5.66	0.0	0	0.0	0
Houlton	7.57	3.40	+4.17	NA	NA	NA	NA

*Millinocket snowfall measured at wastewater treatment plant, not the ASOS site. Data might not be available every month.

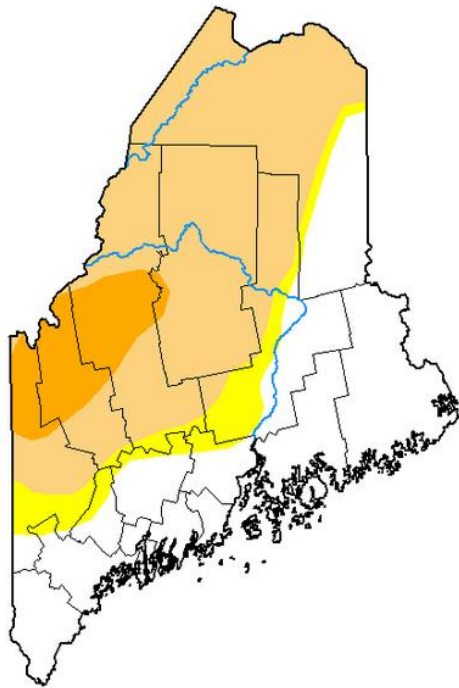
September Stream Flows for Selected Rivers

River	Normal Flow (cfs)	Monthly Mean Flow (cfs)	Monthly Mean (in)	Percentile Class	Drainage (mi ²)	Years of Record
St. John River at Ninemile Bridge	408 – 1860	1040	0.87	Normal	1341	70
St. John River at Fort Kent	2280 – 6060	2910	0.55	Normal	5929	94
Aroostook River at Washburn	417 - 1340	1710	1.15	Above Normal	1654	91
Narraguagus River at Cherryfield	59 - 206	355	1.74	Much Above Normal	227	73
E Br Penobscot River at Grindstone	542 - 1090	1380	1.84	Above Normal	837	118
Mattawamkeag nr Mattawamkeag	202 – 922	2960	2.33	Much Above Normal	1418	86
Piscataquis River nr Dover-Foxcroft	56.4 – 214	198	0.74	Normal	298	118

Groundwater Levels

Station	Normal Range (ft)	Mean Water Level Below Land-sfc Datum (ft)	Departure from Month-end Median (ft)	Percentile Class	Years of Record
Amherst	26.20 – 22.40	22.88	-2.13	Normal	31
Crooked Road	NA	NA	NA	NA	NA
Hadley Lakes	6.34 – 5.61	5.44	-0.48	Above Normal	35
Kenduskeag	25.40 – 23.50	24.19	-0.31	Normal	43
Calais	3.82 – 2.39	2.27	-0.76	Above Normal	21
Millinocket	11.10 – 10.00	10.92	0.41	Normal	27
Clayton Lake	16.30 – 15.10	16.75	0.65	Much Below Low	42
Fort Kent	11.80 – 9.51	11.39	07.8	Normal	43

U.S. Drought Monitor
Maine



September 7, 2021
(Released Thursday, Sep. 9, 2021)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	38.51	61.49	53.43	9.15	0.00	0.00
Last Week <small>08-31-2021</small>	26.17	73.83	53.43	9.15	0.00	0.00
3 Months Ago <small>06-08-2021</small>	34.65	65.35	26.89	0.00	0.00	0.00
Start of Calendar Year <small>12-29-2020</small>	91.54	8.46	0.00	0.00	0.00	0.00
Start of Water Year <small>09-29-2020</small>	0.00	100.00	100.00	83.86	7.28	0.00
One Year Ago <small>09-08-2020</small>	0.00	100.00	100.00	37.48	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>

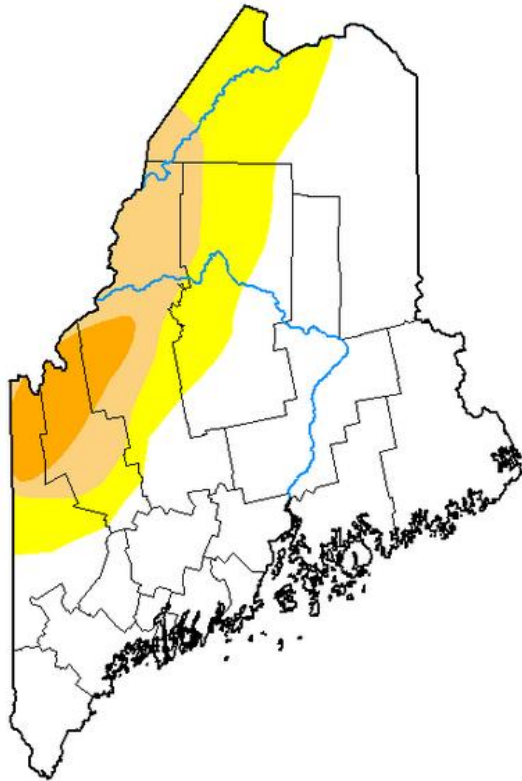
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Western Regional Climate Center



droughtmonitor.unl.edu

U.S. Drought Monitor
Maine



September 28, 2021

(Released Thursday, Sep. 30, 2021)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	66.54	33.46	15.50	4.85	0.00	0.00
Last Week 09-21-2021	45.72	54.28	31.78	4.85	0.00	0.00
3 Months Ago 06-29-2021	0.00	100.00	70.44	20.85	0.00	0.00
Start of Calendar Year 12-29-2020	91.54	8.46	0.00	0.00	0.00	0.00
Start of Water Year 09-29-2020	0.00	100.00	100.00	83.86	7.28	0.00
One Year Ago 09-29-2020	0.00	100.00	100.00	83.86	7.28	0.00

Intensity:

- None
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