

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
November 2019

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
December 21, 2019

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.

No major flooding was reported in November. There was some high water issues on November 1st due to culverts filling up.

November came in with below normal temperatures for the region. Temperatures ranged from 3 to 4 degrees below normal across the region. The month started off with record warmth on the 1st with the NWS in Caribou recording a pre-dawn high temperature of 68 degrees. This tied the all time record high temperature for the month of November, last set on November 1st, 1956. Temperatures dropped sharply during the day on the 1st and below average temperatures continued much of the time through the 18th. There was a cold snap that occurred from the 12th to the 18th with well below average temperatures. The NWS in Caribou recorded a low temperature of -1F on the 17th.

Precipitation came in slightly below normal by about 0.25 inches, with the exception of Northeast Aroostook County and the NW Woods, which had precipitation slightly above normal. Caribou recorded 3.78 inches of precipitation, which was 0.15 inches above normal. Bangor came with 3.97 inches, which was 0.23 inches below normal.

Snowfall for the month of November was above normal across the HSA. Caribou recorded 23 inches of snow for the month, which was 10.5 inches above normal. Bangor came with 4.7 inches of snow for the month, which was 2.3 inches above normal. Caribou's highest snow depth was 15 inches on the 25th. There were 10 inches of snow on the ground at the end of the month. Bangor's highest snow depth was 2 inches from the 12th to the 15th, with one inch of snow left on ground at the end of the month. A series of storms brought abundant snowfall to the region during the month of November. The first snowfall of season took place on the 7th, with most of Northern and Eastern Maine receiving an inch or less of snow. The exception to this was across SE Aroostook County down into N Washington County, where up to 5 inches of snow fell. A bigger event came in on the 11th and 12th with up to a foot of snow was recorded in the St. John Valley. Across the rest of Northern Maine and the Maine Central Highlands, 4 to 8 inches of snow was recorded. Downeast areas saw 1 to 3 inches from this event. Another event came along on the 19th, which brought 4 to 7 inches of snow across N and NW Aroostook County. Yet, another event came in on the 24th and 25th, which produced 3 to 10 inches of snow north of the Millinocket region, with the highest snowfall to the west of the Caribou/Presque Isle area. Finally, on the 27th and 28th, a foot

of snow fell across SE Aroostook County, with 4 to 8 inches north of Bangor. Interestingly enough, north of Presque Isle, an inch or less of snow was recorded with this event.

Ice did develop on the rivers, including the Penobscot and Piscataqujs Rivers, thanks to the below normal temperatures and snow. There were many open sections on the rivers across the HSA. The greatest ice cover was across the northern rivers including the Big Black, St. John and Aroostook River, with 60% ice coverage. Ice thickness was estimated to be < 12 inches. Frost depth was estimated to be around 2 to 3 inches, thanks to the early snow cover.

Streamflows across the HSA were near normal across the central and Downeast basins, while the northern Maine basins including the St. John and Aroostook River were well above normal.

Groundwater conditions were above normal levels across much of the HSA. The exception was Millinocket, which recorded groundwater levels below normal for November.

In regards to Drought Monitoring, conditions for the entire HSA continued in the normal range.

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	2.61	2.94	-0.33	NA	NA	NA	NA
Caribou	3.78	3.63	+0.15	23.0	10.5	+12.5	15
Houlton	3.59	4.01	-0.42	NA	NA	NA	NA
*Millinocket	3.97	4.43	-0.46	NA	NA	NA	NA
Bangor	3.97	4.20	-0.23	4.7	2.3	+2.4	2

*Millinocket snowfall measured at wastewater treatment plant, not the ASOS site. Data was not available at this time.

Stream Flows for Selected Rivers

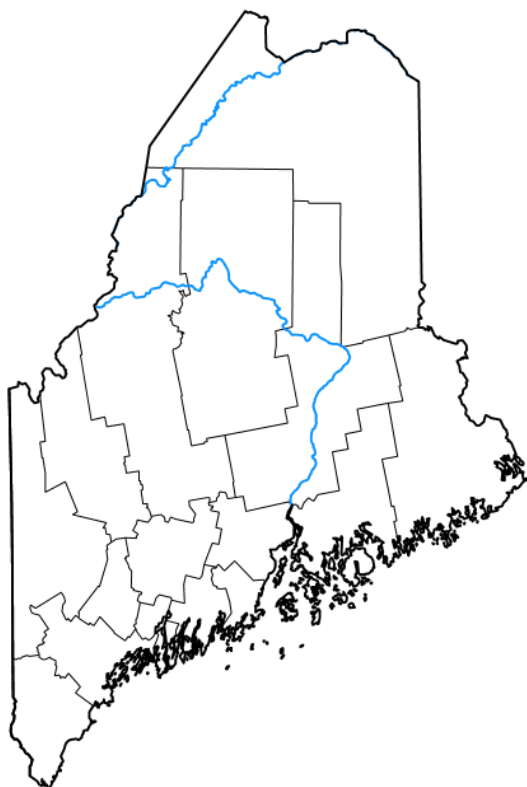
River	Normal Flow (cfs)	Monthly Mean Flow (cfs)	Monthly Mean (in)	Percentile Class	Drainage (mi ²)	Years of Record
St. John River at Ninemile Bridge	NA	NA	NA	NA	1341	69
St. John River below Fish River at Fort Kent	5370 – 12100	16100	3.03	Much Above Normal	5929	93
Aroostook River at Washburn	NA	NA	NA	NA	1654	89
Narraguagus River at Cherryfield	333- 883	724	3.56	Normal	227	71
E Br Penobscot River at Grindstone	NA	NA	NA	NA	837	117
Mattawamkeag River near Mattawamkeag	1540 – 4230	3280	2.58	Normal	1418	85
Piscataquis River nr Dover-Foxcroft	333-950	510	1.91	Normal	298	117

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
McFarland Hill	NA	NA	NA	NA	15
Amherst	22.50 - 17.60	17.03	-1.97	Much Above Normal	29
Hadley Lakes	600 – 4.48	4.61	-0.56	Normal	34
Kenduskeag	25.80 – 21.20	20.21	-3.10	Above Normal	41
Calais	1.69 – 0.53	-0.68	-1.69	High	20
Millinocket	10.80 – 9.34	10.94	0.63	Below Normal	25
Clayton Lake	15.00 – 13.90	13.64	-0.96	Above Normal	41
Fort Kent	11.60 – 9.50	7.19	-3.22	Above Normal	41

Drought Conditions for November 2019

U.S. Drought Monitor Maine



November 5, 2019
(Released Thursday, Nov. 7, 2019)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.00	0.00	0.00	0.00	0.00	0.00
Last Week <small>10-29-2019</small>	93.21	6.79	0.00	0.00	0.00	0.00
3 Months Ago <small>08-06-2019</small>	96.76	3.24	0.00	0.00	0.00	0.00
Start of Calendar Year <small>01-01-2019</small>	94.48	5.52	0.00	0.00	0.00	0.00
Start of Water Year <small>10-01-2019</small>	87.45	12.55	0.00	0.00	0.00	0.00
One Year Ago <small>11-06-2018</small>	87.97	12.03	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. See accompanying text summary for forecast statements.

Author:

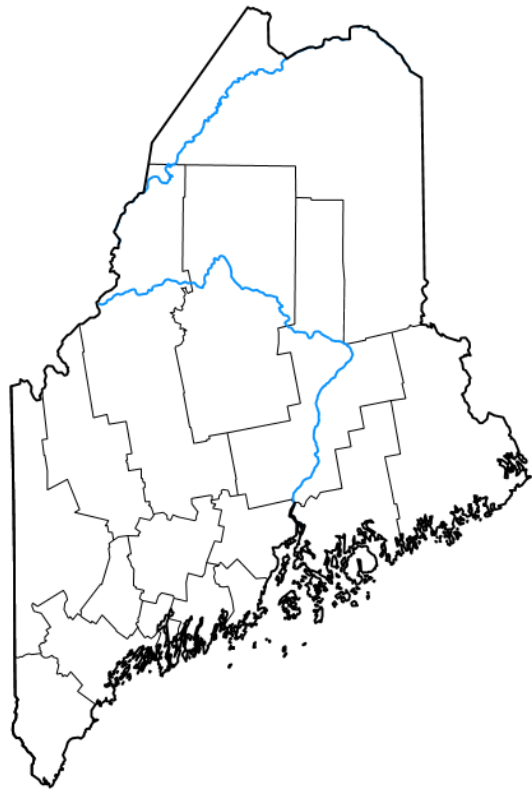
David Simeral
Western Regional Climate Center



droughtmonitor.unl.edu

U.S. Drought Monitor Maine

November 26, 2019
(Released Wednesday, Nov. 27, 2019)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	100.00	0.00	0.00	0.00	0.00	0.00
Last Week <i>11-19-2019</i>	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago <i>08-27-2019</i>	92.76	7.24	0.00	0.00	0.00	0.00
Start of Calendar Year <i>01-01-2019</i>	94.48	5.52	0.00	0.00	0.00	0.00
Start of Water Year <i>10-01-2019</i>	87.45	12.55	0.00	0.00	0.00	0.00
One Year Ago <i>11-27-2018</i>	90.47	9.53	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>

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droughtmonitor.unl.edu