

<b>NWS Form E-5</b> (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) <b>WFO Caribou, Maine</b>
<b>MONTHLY REPORT OF HYDROLOGIC CONDITIONS</b>		REPORT FOR: MONTH            YEAR <b>November      2018</b>
TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283		SIGNATURE <b>Joseph Hewitt, HPM</b>  DATE <b>December 29th, 2018</b>

*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.

### November 2018

No flooding occurred during the month of November.

Temperatures for the month of November were 4 to 6 degrees below average. It was the 9<sup>th</sup> coldest November for Caribou and the 4<sup>th</sup> coldest for Houlton. It was 2<sup>nd</sup> coldest November in Bangor. The coldest spell occurred from the 10<sup>th</sup> through the 23<sup>rd</sup>, which included sub-zero low temperatures on both the 18<sup>th</sup> and 19<sup>th</sup> for Houlton. Houlton reached a morning low of -8F on the 19<sup>th</sup>, which broke the previous record of 1F set back in 1992. Caribou recorded 0F on the 19<sup>th</sup>, which broke the previous record of 1 F in 1992. Caribou also recorded 6 degrees on the 15<sup>th</sup>, which broke the previous record of 8F set in 1971. Bangor also set some record temperatures with a record low temperature of 11F on the 15<sup>th</sup>, which broke the previous record low temperature of 12F set in 1971. Another record low temperatures at Bangor was set on the 19<sup>th</sup> with a low of 5F. This broke the previous record for the date of 11F set in 1978. Thanksgiving Day was a brutally cold day, with Caribou recording a high temperature of 13 degrees, which was 22 degrees below the normal of 35 for the date. Bangor recorded a high temperature of 14F on the 22<sup>nd</sup>, which was 25 degrees below normal for the date.

In regards to precipitation, amounts ranged from 7.00 inches at Bangor, to 5.04 inches in Caribou and 5.26 inches in Millinocket. Precipitation overall was above normal for the month of November. The exception to this was across the St. John Valley back to the Northwest Woods as precipitation was slightly below normal. Frenchville recorded 2.43 inches, which was 0.51 inches below normal for November. The heaviest precipitation event came on the 2<sup>nd</sup> and 3<sup>rd</sup> with warm temperatures in the 50s and rainfall amounts of 1.50 to 2+ inches across the CWA.

A number of snowfall events occurred during the month of November with significant snow events on the 10<sup>th</sup>, 13<sup>th</sup>, 16-17<sup>th</sup> as well as the 27<sup>th</sup> and 29<sup>th</sup>. Caribou recorded a monthly snowfall of 29.3 inches, which was 18.8 inches above normal. The biggest snow event for Caribou was on the 16<sup>th</sup> and 17<sup>th</sup> where up to 10 inches of snow fell with some areas across Aroostook County seeing over a foot of snow. Caribou's highest snow depth was 14 inches from the 13<sup>th</sup> to the 20<sup>th</sup>. Bangor recorded 15.9 inches of snow for the month, which was 13.6 inches above normal. The biggest snow event for the Bangor region occurred on the 20<sup>th</sup> and 21<sup>st</sup>, where up to 7 inches of snow fell in the Bangor areas. Bangor's highest snow depth was 8 inches recorded on the 21<sup>st</sup>.

Ice developed on the Northern Maine rivers such as the St. John and Aroostook River late in the month with some breakup and freeze up jams. Ice measurements have not been recorded in November.

Streamflows across much of the HSA normal to slightly above normal for November, with the above normal flows being recorded across eastern river basins such as the St. Croix River and northern Branch of the Penobscot River.

Groundwater conditions were at normal or slightly above normal levels. The exception to this was across the interior Downeast, as a few sites such as the Acadia region recorded High levels.

In regards to Drought monitoring, conditions continued to improve across the region. The USDM improved conditions across the region with much of the region seeing near normal conditions with the exception of far Northern and Northwest Maine. This area was still ranked as Abnormally Dry(D0) through November 30<sup>th</sup>.

**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	2.43	2.94	-0.51	NA	NA	NA	NA
Caribou	5.04	3.63	+1.41	29.3	10.5	+18.8	14
Houlton	4.88	4.01	+0.87	NA	NA	NA	NA
*Millinocket	5.26	4.43	+0.83	NA	NA	NA	NA
Bangor	7.00	4.20	+2.80	15.9	2.3	+13.6	8

\*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 <sup>2</sup> )	Years of Record
St. John River at Ninemile Bridge	NA	NA	NA	NA	1341	68
St. John River at Fort Kent	5340 – 12200	8320	1.57	Normal	5929	92
Aroostook River at Washburn	NA	NA	NA	NA	1654	88
Narraguagus River at Cherryfield	327 - 828	1000	4.91	Above Normal	227	70

E Br Penobscot River at Grindstone	NA	NA	NA	NA	837	116
Mattawamkeag nr Mattawamkeag	1540– 4180	4780	3.76	Above Normal	1418	84
Piscataquis River nr Dover-Foxcroft	328 - 973	913	3.42	Normal	298	116

### 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	10.50 – 0.56	-1.02	-4.33	High	15
Crooked Road	5.67 – 4.91	4.17	-0.80	High	15
Hadley Lakes	6.00 – 4.53	4.27	-1.04	Above Normal	33
Kenduskeag	25.80 – 21.30	20.04	-3.37	Above Normal	41
Calais	1.78 – 0.62	0.10	-0.98	High	19
Millinocket	10.80 – 9.32	10.79	0.48	Normal	24
Clayton Lake	15.00 – 13.90	13.62	-0.99	Above Normal	40
Fort Kent	11.60 – 9.50	10.37	-0.04	Normal	40

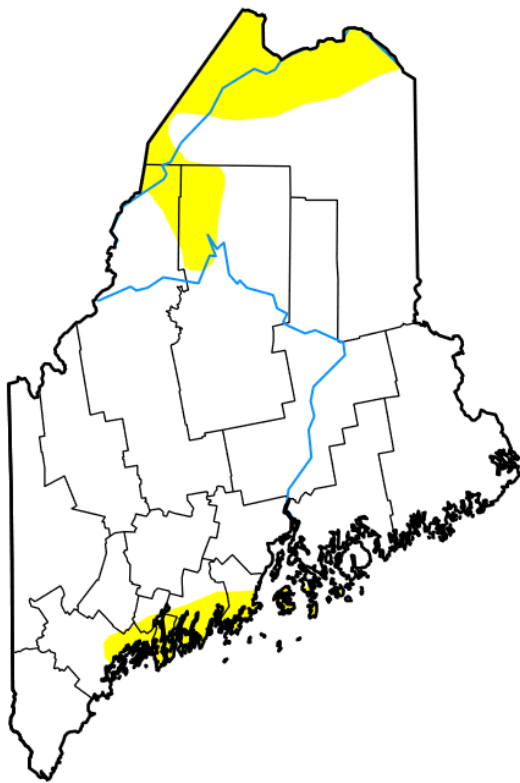
Flow or Water Level	Percentile Range	Explanation
Record Low	0 <sup>th</sup>	The monthly mean streamflow or median water level during this month is the lowest ever recorded during the period of record for this site.
Very Low	0 <sup>th</sup> to 10 <sup>th</sup>	The monthly mean streamflow or median water level during this month is less than the 10 <sup>th</sup> percentile when compared to all of the months during the period of record for this site.
Low	10 <sup>th</sup> to 25 <sup>th</sup>	The monthly mean streamflow or median water level during this month is between the 10 <sup>th</sup> and 25 <sup>th</sup> percentiles when compared to all of the months during the period of record for this site.
Normal	25 <sup>th</sup> to 75 <sup>th</sup>	The monthly mean streamflow or median water level during this month is between the 25 <sup>th</sup> and 75 <sup>th</sup> percentiles when compared to all of the months during the period of record for this site.
High	75 <sup>th</sup> to 90 <sup>th</sup>	The monthly mean streamflow or median water level during this month is between the 75 <sup>th</sup> and 90 <sup>th</sup> percentiles when compared to all of the months during the period of record for this site.
Very High	90 <sup>th</sup> to 100 <sup>th</sup>	The monthly mean streamflow or median water level during this month is greater than the 90 <sup>th</sup> percentile when compared to all of the months during the period of record for this site.
Record High	100 <sup>th</sup>	The monthly mean streamflow or median water level during this month is the highest ever recorded during the period of record for this site.






# Drought Conditions

## U.S. Drought Monitor Maine



**November 6, 2018**

(Released Thursday, Nov. 8, 2018)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	87.97	12.03	0.00	0.00	0.00	0.00
<b>Last Week</b> <i>10-30-2018</i>	81.85	18.15	0.00	0.00	0.00	0.00
<b>3 Months Ago</b> <i>08-07-2018</i>	52.08	47.92	7.39	0.00	0.00	0.00
<b>Start of Calendar Year</b> <i>01-02-2018</i>	92.38	7.62	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> <i>09-25-2018</i>	41.90	58.10	4.89	0.00	0.00	0.00
<b>One Year Ago</b> <i>11-07-2017</i>	75.21	24.79	0.00	0.00	0.00	0.00

Intensity:

- 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:

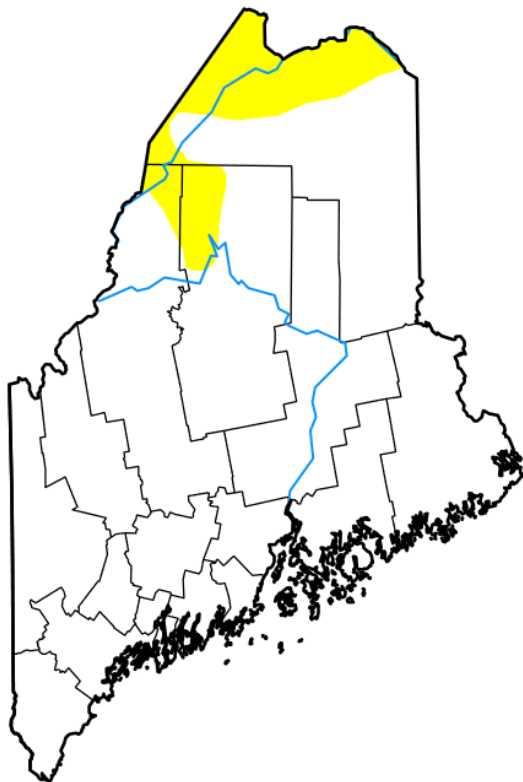
David Simeral  
Western Regional Climate Center



<http://droughtmonitor.unl.edu/>

# U.S. Drought Monitor Maine

**November 27, 2018**  
(Released Thursday, Nov. 29, 2018)  
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	90.47	9.53	0.00	0.00	0.00	0.00
<b>Last Week</b> <i>11-20-2018</i>	90.47	9.53	0.00	0.00	0.00	0.00
<b>3 Months Ago</b> <i>08-28-2018</i>	54.81	45.19	7.39	0.00	0.00	0.00
<b>Start of Calendar Year</b> <i>01-02-2018</i>	92.38	7.62	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> <i>09-25-2018</i>	41.90	58.10	4.89	0.00	0.00	0.00
<b>One Year Ago</b> <i>11-28-2017</i>	92.38	7.62	0.00	0.00	0.00	0.00

Intensity:

- 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.*

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<http://droughtmonitor.unl.edu/>