

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 July 2020
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 August 21st, 2020

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.

July 2020

Some minor flooding occurred during the month of July. The minor flooding was due to culverts and ditches filling up with water and some ponding on roads in portions of southwest Penobscot and northwest Penobscot County on July 30th. A Flood Advisory was issued for that event.

The month of July came in well above normal with temperatures averaging from 2 to 4.5 degrees above normal. It was the second warmest July on record for Caribou, with July 2018 being the warmest. It ranked as the 2nd all-time warmest month in Caribou since records began in 1939. In Bangor it was 12th warmest July on record, while Houlton had the 11th warmest July on record. There were 20 days with a high of 80 degrees or warmer in Caribou, which is the 2nd most on record behind only 2018 when there were 21 days above 80 degrees. Millinocket also had 20 days of 80 degrees or warmer, which was the 9th most on record. Bangor and Houlton did not even rank in the top ten for the number of 80 degree days. Interestingly enough, Bangor did record 2 days where the temperature reached 90 degrees or warmer, with 92 degrees on the 20th, and 90 degrees on the 28th. Caribou, Houlton and Millinocket recorded only one day in July with 90 degrees or warmer. Caribou recorded 90 degrees on the 10th. Houlton recorded 90 degrees on the 20th, and Millinocket recorded 90 degrees on the 10th. Frenchville did not have any 90 degree days in July.

Rainfall was a bit more frequent during the month of July. Precipitation totals varied across the region. Some areas such as the Maine Central Highlands and the southern Penobscot region came in with above normal rainfall, while from Houlton to the Northern Maine border, precipitation was well below normal. Bangor recorded 4.21 inches of precipitation, which was 0.75 inches above normal. Two(2) inches of rainfall was recorded in Banger covering the 2 day period of the 26th and 27th. Millinocket recorded 4.02 inches, which was 0.17 inches above normal. The biggest deficits continued to be across Northern Maine. Caribou recorded only 3.04 inches of precipitation, which was 1.04 inches below normal. Frenchville recorded only 1.90 inches of precipitation, which was 2.41 inches below normal. Houlton faired a bit better with a monthly total of 3.51 inches of precipitation, but still below normal by 0.53 inches. The total monthly evaporation recorded at Caribou was 5.14 inches, which offset the 3.04 inches of rainfall recorded at the NWS office.

Streamflows across the HSA were much below normal for July. A number of river gages recorded near Record Low flows. The river gage at Fort Kent hit Low flow in July, which was right at record low readings for the month. Some rivers such the Aroostook River at Washburn and Nine Mile Bridge saw stages drop below 1 foot for a time.

Groundwater levels fluctuated some during the month of July, thanks to some needed rainfall. Some wells across the Maine Central Highlands and Northern Maine showed below normal levels. Clayton Lake in NW Aroostook County remained at below normal levels, as did Kenduskeag in S Penobscot County. Interestingly enough, Fort Kent’s water levels remained at near normal for the month of July. Groundwater levels across the Downeast region, especially toward eastern Washington County and coastal Hancock County were near normal. The exception to this was Amherst in interior Hancock County, where groundwater levels were well below normal.

In regards to Drought monitoring, the HSA saw conditions worsen from Moderate Drought(D1) category to **Severe Drought(D2)** across Northern and Northwest Aroostook County. Moderate Drought(D1) was expanded across the rest of the HSA due to the continued dry and very warm conditions.

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	1.90	4.31	-2.41	NA	NA	NA	NA
Caribou	3.04	4.08	-1.04	0.0	0.0	0.0	0
Houlton	3.13	3.66	-0.53	NA	NA	NA	NA
*Millinocket	4.02	3.85	+0.17	NA	NA	NA	NA
Bangor	4.21	3.46	+0.75	0.0	0.0	0.0	0

*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	754 – 1780	647	0.56	Below Normal	1341	69
St. John River at Fort Kent	3900 - 8700	2040	0.40	Low	5929	93
Aroostook River at Washburn	752 - 1700	339	0.24	Much Below Normal	1654	89
Narraguagus River at Cherryfield	100 – 219	76	0.39	Below Normal	227	72

E Br Penobscot River at Grindstone	828 – 1560	596	0.82	Much Below Normal	837	117
Mattawamkeag nr Mattawamkeag	474 - 1480	273	0.22	Much Below Normal	1418	85
Piscataquis River nr Dover-Foxcroft	94.6 - 292	129	0.50	Normal	298	117

Groundwater Levels

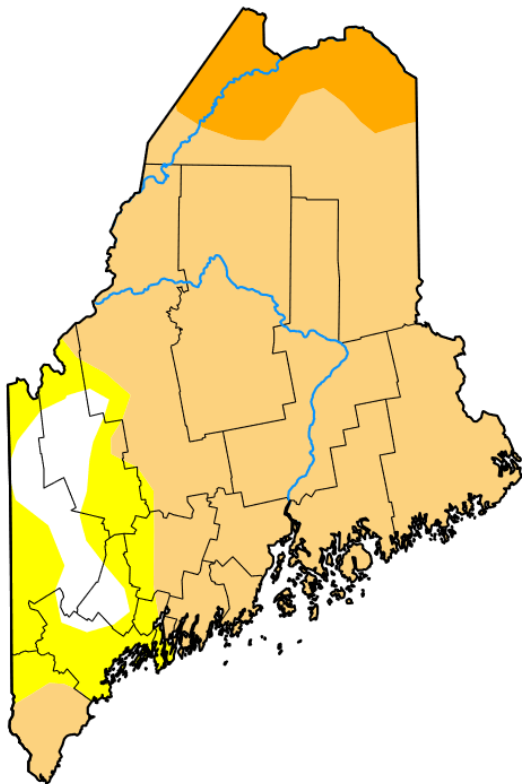
Station	Normal Range (ft)	Mean Water Level Below Land-sfc Datum (ft)	Departure from Month-end Median (ft)	Percentile Class	Years of Record
Amherst	20.60 – 19.80	23.40	1.80	Much Below Normal	30
Crooked Road	NA	NA	NA	NA	15
Hadley Lakes	5.98 – 4.83	5.55	0.34	Normal	34
Kenduskeag	23.30 – 21.90	23.95	1.35	Much Below Normal	42
Calais	3.60 – 1.57	2.31	-0.31	Normal	20
Millinocket	9.83 – 8.66	9.86	0.72	Below Normal	26
Clayton Lake	15.60 – 15.00	16.43	1.13	Much Below Normal	41
Fort Kent	9.89 – 7.38	8.82	0.23	Normal	42

Flow or Water Level	Percentile Range	Explanation
Record 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.
Very Low	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.
Low	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.
High	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.
Very High	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.
Record 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.

Drought Conditions for July

U.S. Drought Monitor Maine

July 7, 2020
(Released Thursday, Jul. 9, 2020)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	6.60	93.40	80.44	8.40	0.00	0.00
Last Week <small>06-30-2020</small>	0.00	100.00	39.07	0.00	0.00	0.00
3 Months Ago <small>04-07-2020</small>	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year <small>12-31-2019</small>	100.00	0.00	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>07-09-2019</small>	100.00	0.00	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>

Author:

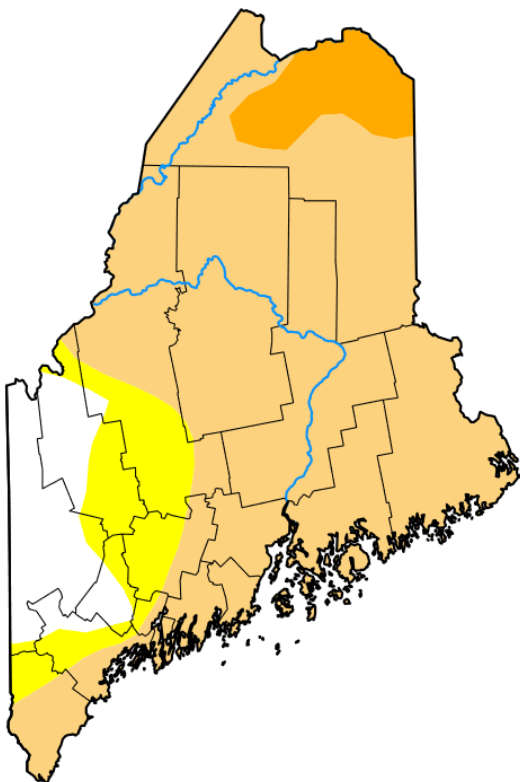
David Miskus
NOAA/NWS/NCEP/CPC



droughtmonitor.unl.edu

U.S. Drought Monitor Maine

July 28, 2020
(Released Thursday, Jul. 30, 2020)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	10.78	89.22	77.76	6.33	0.00	0.00
Last Week <i>07-21-2020</i>	8.43	91.57	77.76	6.33	0.00	0.00
3 Months Ago <i>04-28-2020</i>	100.00	0.00	0.00	0.00	0.00	0.00
Start of Calendar Year <i>12-31-2019</i>	100.00	0.00	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>07-30-2019</i>	100.00	0.00	0.00	0.00	0.00	0.00

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