

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 April 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 May 27, 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.

April 2019

There was flooding during the month of April. More on this below.

April came in colder than normal with a series of snow events through the 10th and then a couple of rain events followed toward the end of the month. These rain events along with snowmelt led to some flooding, mainly across the northern portion of the HSA by late April.

Ice broke up on the Piscataquis River, and along the northern Branch of the Penobscot and Mattawamkeag River by mid-April and flushed out with no significant flooding problems. Across the northern rivers such as the Aroostook, St. John, Fish and Allagash River, ice broke up and flushed out between the 18th and 20th. A Flood Watch was issued for this set up. Ice jams set up on the Aroostook River near Washburn and Fort Fairfield with some flooding and roads being closed. The largest ice jam was on the Aroostook River from Washburn to Crouseville. Ice thickness with the jam was estimated to be around 3 feet. The river level rose to near the bottom of the Castle Hill Bridge in Washburn, which was measured at 19.5 feet. Flood stage is 11 feet. The jam let go and flushed out downstream overnight on the 20th with portions of route 164 closed as ice moved up across the road.

There were a number of rivers in the CAR HSA that went above Flood Stage, mainly open water flooding, which prompted Flood Watches and River Flood Warnings. The Mattawamkeag River at Mattawamkeag(MATM1) went above flood stage on the 17th and crested at 15.6 ft(Minor Flood stage) on the 24th. The river finally went below flood stage on the 29th. The Bancroft Road was closed due to flooding and the route 2 bridge near Island Falls was closed for a time due to the high water. Further north, the Big Black River(BBRM1) went above flood stage on the 20th. Flood stage is 12.0 feet. The river crested at 14.03 feet on the 21st. This was due to an ice jam. The river dropped below flood stage on the 24th. Nine Mile Bridge(NINM1) peaked at 19.0 feet on the 22nd, which put the river in Minor Flood stage. This was due to an ice jam. Flood stage is 15.0 feet. The peak streamflow was 47,700 cfs on the 22nd. This ranked at #1 for highest streamflow in 67 years of record. The St. John River at Fort Kent went above flood stage(22.5 feet) on the 22nd and peaked at 23.4 ft(Minor Flood stage) on 23rd. Some flooding did occur in town, mostly minor flooding. The St. John River drop below flood stage on

the 24th. The Fish River above Fort Kent had two crests with the first one coming on the 23rd, when the river crested at 10.95 feet. Flood stage is 11.0 feet. This prompted the closing of Main Street bridge that crosses the Fish River which drains into the St. John River. The river receded for a time and then rose again on the 27th and 28th with some heavy rainfall. The river went above flood stage on the 28th and crested at 11.22 feet. Some of the Fish River chain lakes, such as Portage Lake had some flooding. Soldier Pond had some flooding with the west approach of the Soldier Pond Bridge closed due to high water. The Fish River dropped below flood stage on the 29th. The East Branch of the Penobscot River crested at 12.6 feet on the 28th. Flood stage is 13.0 feet. Some minor flooding was reported near Grindstone along route 11.

Basin managers increased their flows during the month, especially late in the month. This led to increased flows on the Penobscot and along the St. Croix River in Washington County. The St. Croix River at Vanceboro recorded the largest streamflow since 1984. This was the 3rd largest streamflow in the 89 years of record.

Temperatures for the month of April were near to slightly below normal across the HSA. Temperatures were about 1 degree below normal for the month. There was variance in temperatures during the month of April as the first 10 days of the month, followed by a surge above normal through the 22nd, and then another drop below normal by the end of the month. Bangor's average temperature for the month was 42.5 degrees, which was near normal. Caribou's average temperature for the month was 37.6 which was 1.0 degree below normal. The warmest of the month were observed on the 13th, 21st and 22nd, when most inland areas had highs in the low to mid 60s.

Precipitation was well above normal across the HSA for the month of April. Caribou recorded 4.84 inches of precipitation which was 2.18 inches above normal. This ranked as the 3rd wettest April on record. At Bangor, 5.53 inches of precipitation was recorded, which was 1.91 inches above normal. This ranked as the 9th wettest April on record. Houlton recorded 4.38 inches, which ranked as the 6th wettest April on record.

April came in well above normal for snowfall with just about all the snow being observed during the first 10 days of the month. Bangor recorded 10.2 inches for the month. This made it the snowiest April since 2011, and was the 11th snowiest April on record. Caribou recorded only 11.4 inches of snow was observed, which was also the snowiest April since 2011. This April ranked at the 19th snowiest on record. The largest snowfall events all occurred early in the month. On the 3rd, many areas in Southeast Aroostook County and Northern Washington County observed 8 to 10 inches of snow. Another event brought 4 to 8 inches across Northern and Eastern Maine. One last event followed on the 9th and 10th, which delivered 2 to 6 inches across the region. Through April 30th, a total of 165.4 inches of snow was observed for the 2018-2019 season at Caribou, which was 57.2 inches above average and the 3rd snowiest on record. At Bangor, 79.9 inches of snow was observed for the 2018-2019 season, which was above the average of 66.1 inches.

Streamflows across the HSA were above to well above normal for April. Nine Mile Bridge(NINM1) recorded its highest streamflow of 47,700 cfs in 67 years of record on the 22nd. The St. Croix River at Vanceboro recorded its 3rd largest streamflow(6,630 cfs) in 89 years of record. It was the largest streamflow since 1984.

Groundwater conditions remained at near to above normal levels for April. Clayton Lake and Calais recorded high groundwater levels for the month.

In regards to Drought Monitoring, condition for the entire HSA remained in 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	2.70	2.81	-0.11	NA	NA	NA	NA
Caribou	4.84	2.66	+2.18	11.4	7.4	+3.7	27
Houlton	4.38	3.88	+0.50	NA	NA	NA	NA
*Millinocket	5.09	3.56	+1.53	NA	NA	NA	NA
Bangor	5.53	3.60	+1.93	10.2	3.7	+6.5	7

*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	68
St. John River at Fort Kent	18800 - 35300	43700	8.22	Above Normal	5929	92
Aroostook River at Washburn	NA	NA	NA	NA	1654	88
Narraguagus River at Cherryfield	931 – 1490	2010	9.88	Much Above Normal	227	70
E Br Penobscot River at Grindstone	NA	NA	NA	NA	837	116
Mattawamkeag nr Mattawamkeag	7030 – 10200	14600	11.49	High	1418	84
Piscataquis River nr Dover-Foxcroft	1540 - 2500	3390	12.69	Much Above 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	NA	NA	NA	NA	15

Crooked Road	NA	NA	NA	NA	15
Hadley Lakes	4.18 – 3.45	3.11	-0.66	Much Above Normal	33
Kenduskeag	19.10 – 17.80	17.80	-0.60	Normal	41
Calais	0.67 – -0.11	-0.81	-1.15	High	19
Millinocket	9.37 – 7.35	8.61	0.13	Normal	24
Clayton Lake	12.80 – 10.50	9.05	-2.56	High	40
Fort Kent	10.50 – 6.85	7.59	-1.00	Normal	40

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.

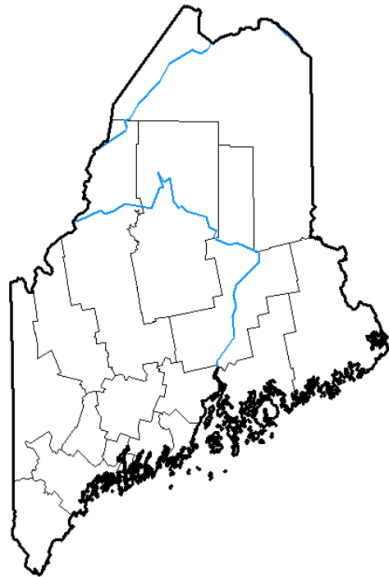
**Non-Routine Hydrologic Products
April 2019
WFO Caribou, ME**

PIL	TIME (UTC)	Date	Description
PWMFLSCAR	0144	4/14/19	Areal Flood Advisory for Small Stream Flooding, Fort Fairfield
PWMFFACAR	0651	4/15/19	Flood Watch for River and Stream Flooding
PWMFLSCAR	1951	4/15/19	Areal Flood Advisory for Minor Flooding, Bridgewater
PWMFLSCAR	1422	4/16/19	Areal Flood Advisory for Minor Flooding, Island Falls

Drought Conditions for April

April 2nd, 2019

U.S. Drought Monitor Maine



April 2, 2019

(Released Thursday, Apr. 4, 2019)

Valid 8 a.m. EDT

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 03-26-2019	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago 01-01-2019	94.48	5.52	0.00	0.00	0.00	0.00
Start of Calendar Year 01-01-2019	94.48	5.52	0.00	0.00	0.00	0.00
Start of Water Year 09-25-2018	41.90	58.10	4.89	0.00	0.00	0.00
One Year Ago 04-03-2018	100.00	0.00	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:

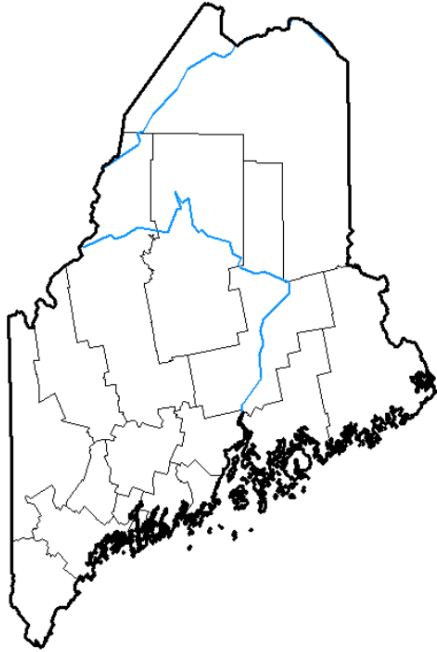
Curtis Riganti
National Drought Mitigation Center



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

April 30th, 2019

U.S. Drought Monitor
Maine



April 30, 2019
 (Released Thursday, May. 2, 2019)
 Valid 8 a.m. EDT

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>04-23-2019</small>	100.00	0.00	0.00	0.00	0.00	0.00
3 Months Ago <small>01-29-2019</small>	100.00	0.00	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>09-25-2018</small>	41.90	58.10	4.89	0.00	0.00	0.00
One Year Ago <small>05-01-2018</small>	100.00	0.00	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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 U.S. Department of Agriculture



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