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 **February** YEAR **2022**
TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283		SIGNATURE **James Sinko, HPM** DATE **March 14, 2022**

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).

X An X inside this box indicates that no flooding occurred within this hydrologic service area.

February 2022

February ended with temperatures that were not too far from the 1991-2020 normals. The monthly average temperatures ranged from 2 degrees below average to near average across the far north from Caribou north to the St. John Valley. It was 1 to 2 degrees above average across the remainder of Northern and Easter Maine. Temperatures were quite variable during the month with frequent alternating spells of both well above average and well below average temperatures.

Caribou's average monthly temperature was 14.5°, which was 0.3° above normal. Houlton's average monthly temperature was 17.5°, which was 2.7° above normal. Millinocket average monthly temperature was 19.0°, which was 1.4° above average. Bangor's average monthly temperature was 23.2°, which was 2.2° above normal for the month. Lastly, Frenchville's average monthly temperature was 12.0° which was 2.0° above normal for the month.

Bangor set an all-time record high for the month of February on the 23rd with a high of 65 degrees. This broke the monthly record of 60 degrees set on February 21, 1937. In sharp contrast, just 60 hours later on the 26th Bangor set a daily record low temperature of 17 below zero which broke the previous daily record of 15 below set in 1929. In addition, an all-time record warm low temperature for the month was established on the 17th when the low was 42 degrees. This broke the previous monthly record of 41 degrees set on February 21, 1981.

The North Atlantic Oscillation (NAO) monthly mean was around +1 standard deviation with the Pacific North American Pattern (PNA) monthly mean around +0.60 standard deviation. This within the La Nina regime resulted in liquid precipitation for the month of February ranging from 130-200% of average across the region. Snowfall was for the most part above normal across the entire area. In Caribou, a total of 29.2 inches was observed, which was 3.9 inches above average. In Bangor, 20.7 inches was observed,

which was 3.2 inches above average. The heaviest snowfall of the month occurred on the 4th-5th when areas from Bangor north to Caribou observed from 8 to 16 inches of snow. The storm produced significant amounts of sleet along and near the coast with 3.5 inches observed near Ellsworth and 5.3 inches in Eastport. Another storm on the 8th into the 9th produced from 8 to 15 inches of snow from Millinocket north to the St. John Valley.

Snow depth on the 1st ranged from 10 to 18 inches along the coast and from 14 to 32 inches across Aroostook County with the highest amounts across the higher elevations along and to the west of Route 11. By the end of February, the snow depth ranged from 15 to 25 inches across northern areas with local amounts of 30 to 40 inches across the higher terrain to the west of Route 11. In Bangor and along the coast, the snow depth ranged from 2 to 6 inches with the lowest amounts along the immediate coast.

Streamflows across the region were at normal levels except the Narraguagus which was much above normal given multiple rain/melting events. River ice continues to remain thick with several cold days and nights and a deep snowpack insulating the ice. Thick sheet ice filled both the Aroostook River & St. John River's with thickness averaging 1.5 to 3.5 feet with isolated thicker ice in the frozen ice jam areas. The ice jams from December 6th on the St. John River and Aroostook River's that froze in place are hard to find now due to thick snowpack on the ice but still noticeable in spots. The ice jam on the St. John River is estimated to be 15-17 miles long between Dickey Bridge and St. Francis. The ice along the Piscataquis, Penobscot and Mattawamkeag river's were very thick in the beginning of the month especially in the northern & central areas. In the beginning of the month the Penobscot river ice thickened to 1-2 feet in the Bangor/Brewer area prompting ice breaking operations from the United States Coast Guard. In the beginning of the month there was significant ice growth on Downeast rivers including the St. Croix & Narraguagus. By the end of the month ice broke up on the Penobscot with significant rot below the Milford Dam. Ice also rotted along the Kenduskeag Stream resulting in ice shifting downstream. There was ice rot by the end of the month on the Narraguagus and St. Croix rivers. The ice in the Central and Northern Highlands northward remains very thick and has only seen very minimal surface rot with still thick snowpack insulating the ice.

Wells across eastern and northern Maine reported normal levels with Clayton Lake running much below normal and Calais running above normal.

In regards to Drought monitoring, we continued to hold the status quo from the beginning of the month to the end of the month given the winter conditions and frozen grounds. Much of Eastern & Northeastern Maine remained out of drought conditions. Moosehead Lakes region into the North Woods and headwaters of the St. John River remained at Abnormally Dry (D0) / Moderate Drought (D1), there remains a very small Severe (D2) area in Northern Somerset county along the Quebec border. This has been classified as a long-term impacts drought which is typically greater than 6 months impacting both hydrology and ecology.

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	1.65**	0.87	+0.78	NA	NA	NA	NA
Fort Kent	3.75	2.34	+1.41	24.5	21.0	+3.5	30
Caribou	3.58	2.42	+1.16	29.2	25.3	+3.9	23
Houlton	3.00	1.95	+1.05	NA	NA	NA	NA
*Millinocket	2.82	2.13	+0.69	26.5	NA	NA	27
Bangor	3.81	2.38	+1.43	20.7	17.5	+3.2	17
Robbinston	5.39	4.17	+1.22	15.6	21.9	-6.3	19

*Millinocket snowfall measured at wastewater treatment plant, not the ASOS site. No departure data is available.
**Frenchville total precipitation values are likely more than what is listed due to significant blowing and drifting snow events. Blowing and drifting snow made it difficult for the ASOS/AWOS to measure.

February Streamflows 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	70
St. John River at Fort Kent	1550 – 3300	1720	0.30	Normal	5929	95
Aroostook River at Washburn	NA	NA	NA	NA	1654	90
Narraguagus River at Cherryfield	258 – 635	938	4.30	Very High	227	74
E Br Penobscot River at Grindstone	NA	NA	NA	NA	837	118
Mattawamkeag nr Mattawamkeag	590 – 1970	1290	0.95	Normal	1418	87
Piscataquis River nr Dover-Foxcroft	141 – 336	240	0.84	Normal	298	119

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	NA	NA	NA	NA	30
Crooked Road	NA	NA	NA	NA	15
Hadley Lakes	5.12 – 4.44	4.73	-0.07	Normal	36
Kenduskeag	22.20 – 20.80	21.84	0.34	Normal	43
Calais	3.07 – 1.14	0.87	-1.21	High	22
Millinocket	10.40 – 9.36	10.17	0.41	Normal	28
Clayton Lake	15.10 – 14.40	15.59	0.89	Low	43
Fort Kent	11.50 – 9.32	11.22	0.62	Normal	44

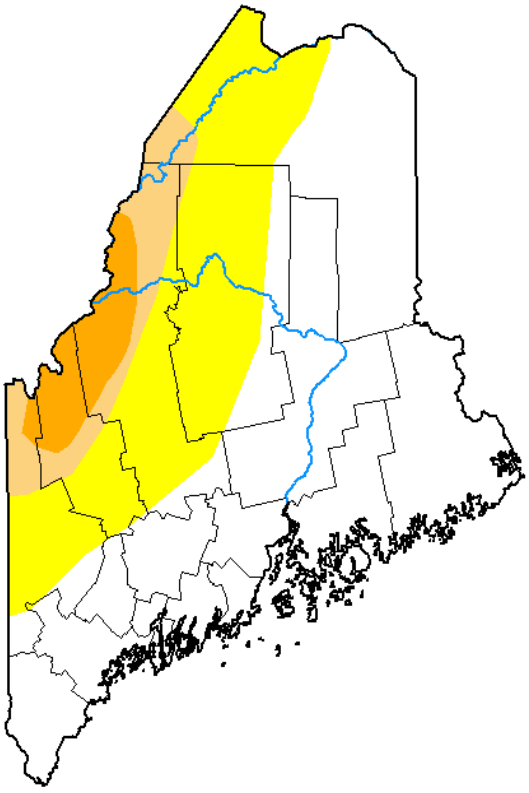
Flow or Water Level	Percentile Range	Explanation
Record Low	0^{th}	The monthly mean streamflow or median water level during this month is the lowest ever recorded during the period of record for this site.
Very Low	0^{th} to 10^{th}	The monthly mean streamflow or median water level during this month 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
February 2022
WFO Caribou, ME

WMO Identifier	Date	Issuance	Name of Product

Drought Conditions for February 2022

U.S. Drought Monitor
Maine



February 1, 2022
(Released Thursday, Feb. 3, 2022)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	59.66	40.34	11.82	5.32	0.00	0.00
Last Week *01-25-2022*	72.42	27.58	11.82	5.32	0.00	0.00
3 Months Ago *11-02-2021*	72.42	27.58	11.82	6.56	0.00	0.00
Start of Calendar Year *01-04-2022*	72.42	27.58	11.82	5.32	0.00	0.00
Start of Water Year *09-28-2021*	66.54	33.46	15.50	4.85	0.00	0.00
One Year Ago *02-02-2021*	91.68	8.32	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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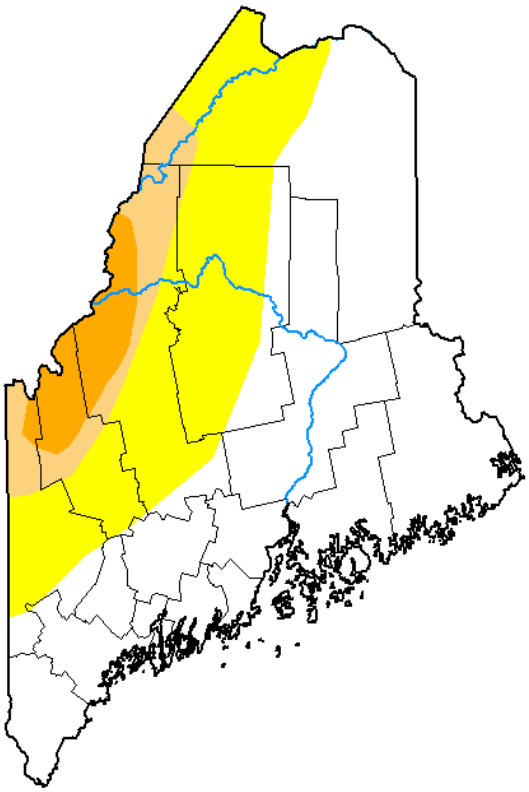
droughtmonitor.unl.edu

U.S. Drought Monitor

Maine



February 22, 2022

(Released Thursday, Feb. 24, 2022)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	59.66	40.34	11.82	5.32	0.00	0.00
Last Week *02-15-2022*	59.66	40.34	11.82	5.32	0.00	0.00
3 Months Ago *11-23-2021*	72.42	27.58	11.82	5.32	0.00	0.00
Start of Calendar Year *01-04-2022*	72.42	27.58	11.82	5.32	0.00	0.00
Start of Water Year *09-28-2021*	66.54	33.46	15.50	4.85	0.00	0.00
One Year Ago *02-23-2021*	92.01	7.99	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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