NWS Form E-5 (04-2006) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (PRES. BY NWS Instruction 10-924) U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE		TION	HYDROLOGIC SERVICE AREA (HSA) Burlington VT	
MONTHLY REP	ORT OF HYDROLOGIC CONDITIONS	REPORT FOR: MONTH February	YEAR 2024	
NOAA 1325	logic Information Center, W/OS31 v's National Weather Service East West Highway Spring, MD 20910-3283	DATE	/s/ John Goff, Senior Service Hydrologist	

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).

Χ

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

Overview

February 2024 was a quiet month across the NWS Burlington HSA. The overall theme was one of dry and very warm conditions with precipitation and resultant snowfall deficits quite notable. As such, no flooding was observed. Mean 29-day negative precipitation departures averaged in the -0.50 to -2.50 inch range with the largest anomalies noted in the southern Green Mountains into most of southeastern Vermont. In some of these areas less than 20 percent of normal February precipitation was recorded, including the City of Burlington, VT which experienced their driest February on record (Figs. 1 and 2; Table 1). Not surprisingly, snowfall totals also considerably lagged monthly normal values in all areas except in the St. Lawrence Valley, where several lake effect snow events in the middle of the month helped boost amounts (Figs. 3 and 4). As mentioned above, it was a very warm month. In fact, most long-term climate sites across the NWS Burlington HSA recorded their top five warmest Februarys on record with mean 29-day departures in general averaging from 7 to 9 degrees above normal (Figure 5; Table 2). As a result of the anomalous warmth, river ice formation and coverage was at a minimum with only far northern rivers such as the St. Regis and Missisquoi having any notable ice throughout the month. Not surprisingly, without appreciable precipitation and river ice, no ice jams were observed. Despite the overall dryness during the month, moist conditions from earlier in the winter allowed slow runoff and interflow processes to continue. As such, streamflows, water table height and longer-term dryness were not affected and the U.S Drought Monitor at month's end maintained no drought concerns across Vermont and northern New York.

Notable Hydrology

The most impactful weather event of February 2024 was the modestly heavy lake effect snow which affected mainly St. Lawrence County during the 18th and 19th. During this period, moist southwesterly winds allowed a semi-permanent band of lake effect snow to develop downwind of Lake Ontario which pushed into the western half of St. Lawrence County, New York. Areas from Gouverneur and Edwards west to the St. Lawrence River in the towns of Hammond and Ogdensburg were most affected, with storm total snowfall exceeding one foot in some cases (Fig. 6). While fairly localized, this was the biggest hydrological/snow event for the month.

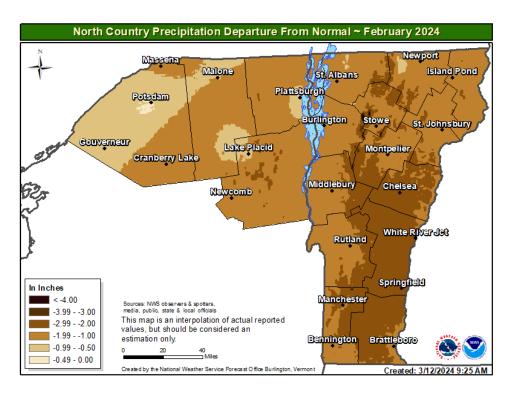


Figure 1: February 2024 monthly precipitation departures from normal across the NWS Burlington, VT HSA. On average, negative anomalies from -0.50 to -2.50 inches below the long term 30-year mean were observed.

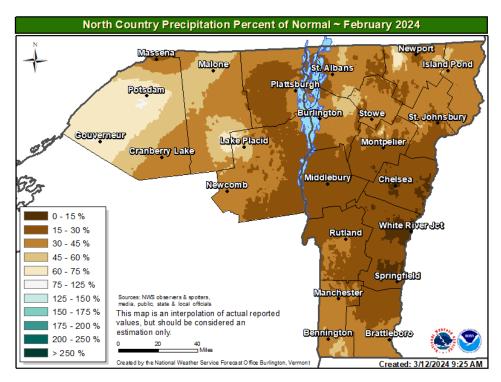


Figure 2: Monthly precipitation percent of normal for February 2024. Many areas saw less than 30 percent of normal monthly values, especially in areas of southern and southeastern Vermont.

SITE	PRECIPITATION	NORMAL	DEPARTURE	% OF NORMAL
Burlington, VT	0.66"*	1.77"	-1.11"	37
St. Johnsbury, VT	0.61"	2.21"	-1.60"	28
Woodstock, VT	0.31"	2.65"	-2.34"	12
Rutland, VT	0.67"	2.16"	-1.49"	31
Lake Placid, NY	1.27"	2.29"	-1.02"	55
Tupper Lake, NY	1.03"	2.65"	-1.62"	39
Gouverneur, NY	1.58"	2.12"	-0.54"	75

Table 1: Observed February 2024 precipitation and monthly departures at selected sites in Vermont and northern New York. *Driest on record for February.

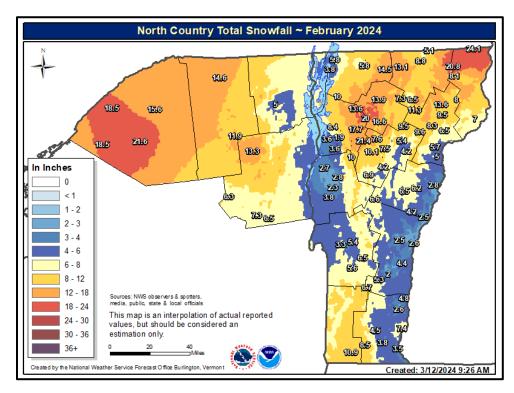


Figure 3: February 2024 snowfall totals across the NWS Burlington HSA. The highest totals occurred across the northern Green Mountains and in the St. Lawrence Valley. While these totals were near normal in the St. Lawrence Valley, values were below normal in all other areas.

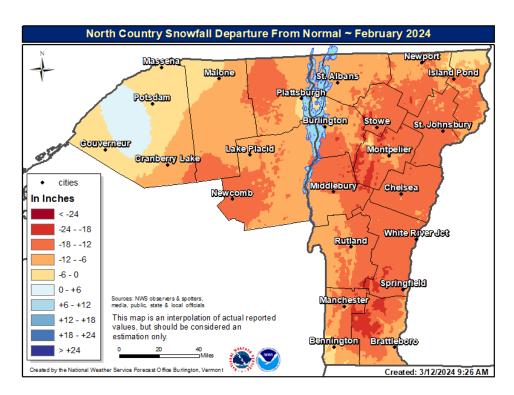


Figure 4: February 2024 snowfall departures from normal (in inches) for the NWS Burlington HSA. Other than a portion of the St. Lawrence Valley of New York, all areas saw significant negative departures for the month.

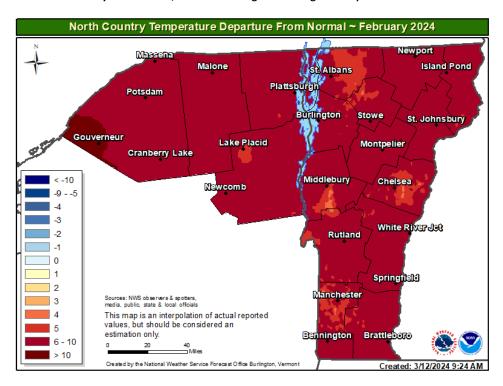


Figure 5: Anomalously warm temperatures complemented the lack of overall precipitation during February 2024 across the NWS Burlington HSA. Positive 29-day departures generally ran from +7.0 to +9.0 degrees above the long term climatological mean which allowed many areas to record their mildest, or second mildest Februarys on record.

SITE (ASOS)	MEAN AVERAGE MONTHLY	DEPARTURE FROM	HISTORICAL
	TEMPERATURE (°F)	NORMAL (°F)	RANK
Burlington, VT	30.2	+7.3	1
Montpelier, VT	26.0	+7.1	2
St. Johnsbury, VT	28.1	+8.7	1
Springfield, VT	30.8	+7.9	1
Plattsburgh, NY	27.7	+6.7	1
Saranac Lake, NY	22.5	+7.2	2
Massena, NY	26.3	+8.5	2

Table 2: Average monthly temperatures, departures from normal and historical rank for February 2024 at selected sites in the NWS Burlington HSA.

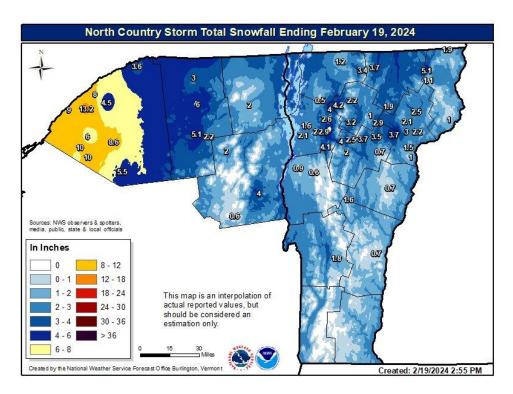


Figure 6: Storm total snowfall ending February 19, 2024. A two-day bout of lake effect snow across St. Lawrence County, NY produced locally heavy totals, in some cases greater than one foot.