NWS Form E (04-2006) (PRES. BY NWS I	-5 U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION Instruction 10-924) NATIONAL WEATHER SERVICE	Describe of any VT			
MONTHL	Y REPORT OF HYDROLOGIC CONDITIONS	REPORT FOR: MONTH	YEAR		
		July	2024		
TO:	Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283	SIGNATURE /s/ Maureen Hastings, Lead Meteorologist DATE August 24, 2024			
	oding occurs, include miscellaneous river conditions below the small conditions, snow cover, droughts, and hydrologic products issued (NV				
An X i	nside this box indicates that no flooding occurred within this hydro	ologic service area			

Overview

July 2024 was yet another active month across the NWS Burlington forecast area, with 2 separate significant flood events. Wetter-than-normal conditions persisted across northern and central areas, where rainfall totals were 4 to more than 10 inches (Fig 1) while monthly departures were generally 1 to 4 inches. Meanwhile, southern regions continued to trend drier, with monthly rainfall totals of 2 to 5 inches, which is generally 1 to 2 inches below normal (Fig 2). This lead to a continuation in Abnormally Dry (D0) conditions across south-central VT through much of the month (Fig 3).

By far, the two most significant hydrologic events occurred on July 10-11, and then again on the 29th-30th. While the first event prompted numerous Flood and Flash Flood Warnings, the second was more localized, focusing near St Johnsbury into Lyndon and further north toward the international border. Catastrophic flooding was noted with both of these events.

Notable Hydrology

The most notable hydrologic episode of the month occurred on July 10 and 11th, when the remnants of Tropical Cyclone Beryl interacted with a stationary front draped across the region. Unlike the system that caused significant widespread flooding on that exact date last year, the heaviest rain and worst flooding occurred along relatively narrow axis extending from roughly southeastern Essex County, NY, east-northeastward through the central Champlain Valley, and into the Northeast Kingdom. Totals in this band were mainly in the 3 to 7 inch range, with 7.25 inches reported near Walden, VT (Fig 4). This lead to numerous areas of flash flooding, numerous swift water rescues, and significant amounts of damaged or washed out roads. In particular, the town of Plainfield was severely impacted as the Great Brook completely overflowed its banks and cut a swath through the town, washing out bridges and damaging numerous homes and buildings. One apartment building was washed away, with the residents having been evacuated with only minutes to spare (Fig 5). Further east, catastrophic damage also occurred in the towns of Barnet and Peacham, VT, along the South Peacham Brook and Stevens River. The latter of these completely left its banks and scoured out a new channel directly through Barnet, scouring sections down to the bedrock and nearly toppling buildings. (Fig 6). Unfortunately, 2 fatalities occurred during this flooding event, one in Peacham when a gentleman on his ATV was washed away

when a debris jam released, and the other in Lyndon, VT when someone drove around flood barricades. Numerous flood warnings were issued during this event.

The second notable event occurred later in the month, during the overnight hours from the 29th into the 30th. A nearly stationary band of showers and thunderstorms, associated with a departing upper low, light flow, and ample moisture, brought several inches to portions of the Northeast Kingdom over approximately 5 hours. High rainfall rates and the nearly stationary nature of these storms lead to extreme rainfall totals of 3 to 7 inches, with 7.30 inches in East Brighton, and 8.41 inches in St Johnsbury (CoCoRaHs). (Fig 7) The official Cooperative Observer in St Johnsbury reported a 24-hour total of 8.08 inches, the highest 24-hour total ever recorded at that site. Records there go back to 1894. The result of this extreme rainfall was catastrophic flash flooding, particularly in Lyndon, Morgan, and St. Johnsbury. Several rounds of increasingly dire Flash Flood Warnings were issued, ultimately ending in a Flash Flood Emergency. Although many roads, bridges, and buildings were damaged or destroyed, there were no fatalities. (Fig 8)

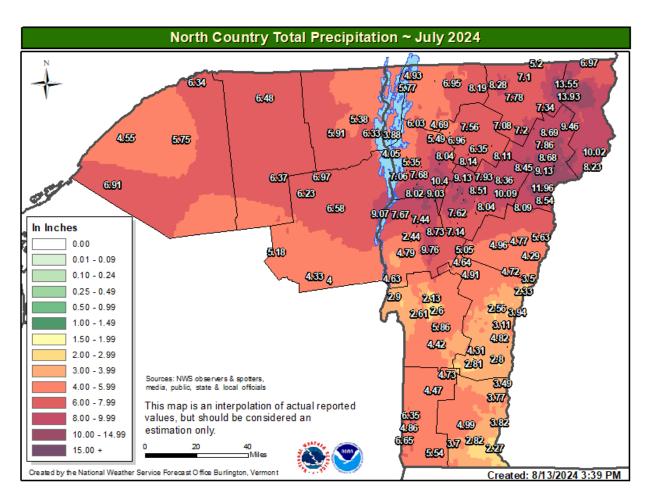


Figure 1: July 2024 precipitation across the NWS Burlington, HSA.

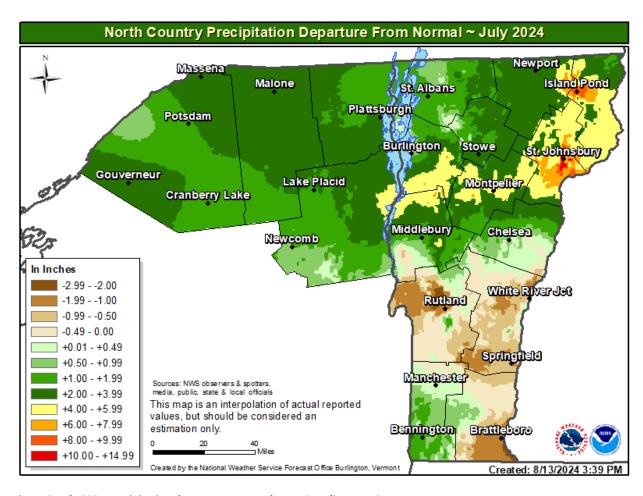


Figure 2: July 2024 precipitation departures across the NWS Burlington HSA.

U.S. Drought Monitor **Burlington, VT WFO**

July 30, 2024 (Released Thursday, Aug. 1, 2024)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4		
Current	91.20	8.80	0.00	0.00	0.00	0.00		
Last Week 07-23-2024	91.20	8.80	0.00	0.00	0.00	0.00		
3 Month's Ago 04-30-2024	100.00	0.00	0.00	0.00	0.00	0.00		
Start of Calendar Year 01-02-2024	100.00	0.00	0.00	0.00	0.00	0.00		
Start of Water Year 09-26-2023	100.00	0.00	0.00	0.00	0.00	0.00		
One Year Ago 08-01-2023	100.00	0.00	0.00	0.00	0.00	0.00		
Intensity:								
None		D2 Severe Drought						
D0 Abnor	D3 Extreme Drought							
D1 Mode	rate Dro	ught	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:

Lindsay Johnson National Drought Mitigation Center









droughtmonitor.unl.edu

Figure 3: US Drought Monitor Map for week of July 30, 2024 showing abnormal dryness, or D0 conditions persisting across southern and eastern Vermont counties of the NWS Burlington HSA.

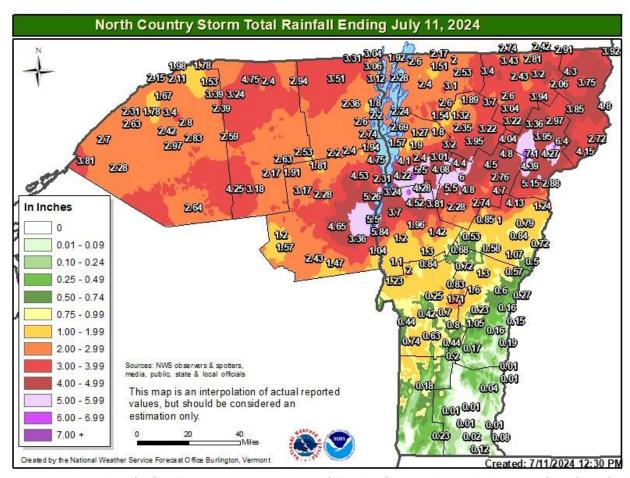


Figure 4: Storm total rainfall for July 10-11, 2024. Excessive rainfall totals of 3 to 7 inches on led to areas of significant flash flooding across portions of north central Vermont.



Figure 5: Significant flash flooding late on July 10 led to catastrophic damage in the Plainfied, VT area, including this apartment building that was almost completely washed away by the Great Brook.



Figure 6: Catastrophic Flooding in Downtown Barnet.

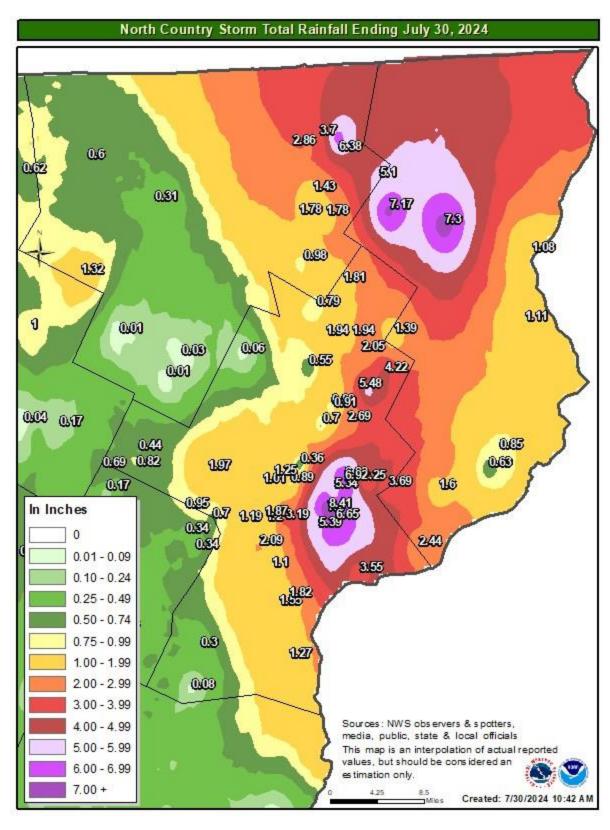


Figure 7. Storm total rainfall across the Northeast Kingdom, from late on July 29 into the early morning of July 30.



Figure 8: Catastrophic flooding washed part of this home in Lyndon away. The resident narrowly escaped with their life, being rescued from flood waters by a neighbor.