NWS Form E-5 U.S. DEPARTMENT OF COMMER   (04-2006) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION   (PRES. BY NWS Instruction 10-924) NATIONAL WEATHER SERVITION				HYDROLOGIC SERVICE AREA (HSA)	
MONTHL	Y REPORT OF HYDR	OLOGIC CONDITIONS	REPORT FOR: MONTH	YEAR	
			June	2024	
TO:		lydrologic Information Center, W/OS31 IOAA's National Weather Service		SIGNATURE /s/ John Goff, Senior Service Hydrologist	
	1325 East West Highway Silver Spring, MD 20910-3283		DATE	uly 18, 2024	

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.

## Overview

June 2024 was an active month from a hydrological perspective across the NWS Burlington HSA, with several minor high water episodes and one more significant event, described below. Overall, two separate weather regimes were noted, with central and northern counties trending very wet while southernmost counties in the HSA remaining on the drier side. This is illustrated guite clearly from the June 2024 rainfall map across the region showing monthly totals averaging from 4 to 8 inches across central and northern counties, while totals from 2.5 to 4.5 inches were more common in the south (Fig. 1). Not surprisingly, average precipitation departures showed similar disparities with central/northern counties observing positive anomalies of 1 to 4+ inches with some variability, while southernmost counties observed negative anomalies of 0.50 to 2 inches (Fig. 2). This led to these latter areas remaining in abnormally dry, or D0 conditions on the United States Drought Monitor map throughout the month (Fig. 3). Several significant rainfall events occurred during the 30-day period, each of which dropped on average between 0.25 and 1.5 inches of rain across central and northern counties, especially in Vermont. These occurred on June 6, 20, 23 and 29 respectively. Locally heavier rainfall footprints within these events prompted Flood Warnings for nuisance high water on the evening of the 6<sup>th</sup> across Franklin County, VT and again on the afternoon of the 20<sup>th</sup> for minor, poor drainage urban flooding in the City of Burlington.

## **Notable Hydrology**

The most notable hydrological episode of the month occurred on the evening of the 23<sup>rd</sup> when a narrow band of training thunderstorms affected portions of Chittenden, Lamoille and Washington Counties in Vermont. In this region, reliable rainfall estimates of 2 to 4 inches were observed leading to areas of significant flash flooding, especially in the towns of Stowe, Elmore, Worcester and Cabot (Fig. 4). Numerous road washouts and severe damage to several bridges were observed and a Flash Flood Warning was promptly issued for this area (Figs. 5 and 6).

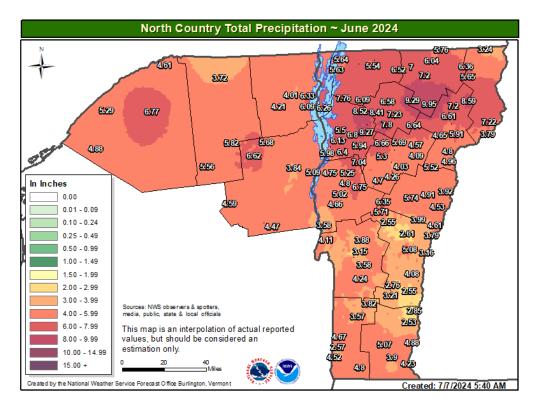


Figure 1: June 2024 precipitation across the NWS Burlington, HSA. Values generally ranged between 4 and 8 inches across central/northern counties, and 2.5 to 4.5 inches in southernmost counties with some customary variability.

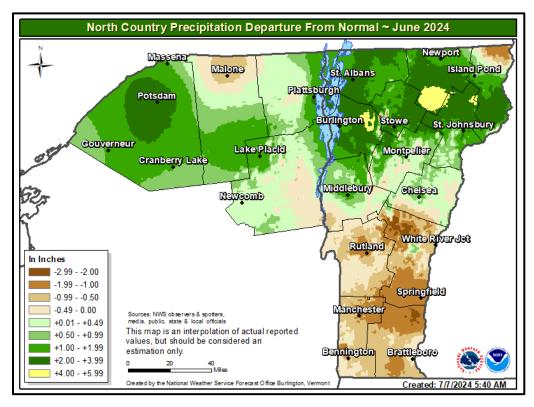


Figure 2: June 2024 precipitation departures across the NWS Burlington HSA. Widespread positive anomalies of 1 to 4+ inches were observed in central/northern counties, while southernmost counties showed negative anomalies of 0.50 to 2 inches.

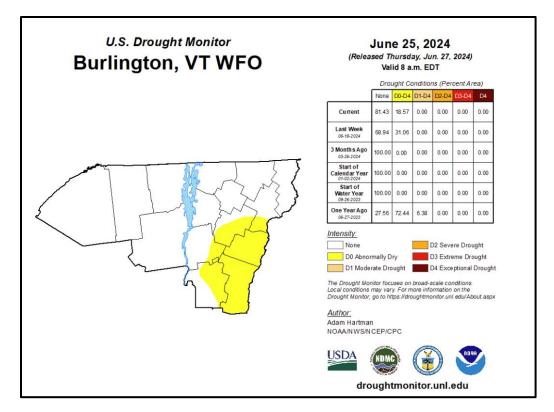


Figure 3: US Drought Monitor Map for week of June 25, 2024 showing abnormal dryness, or D0 conditions persisting across southern and eastern Vermont counties of the NWS Burlington HSA.

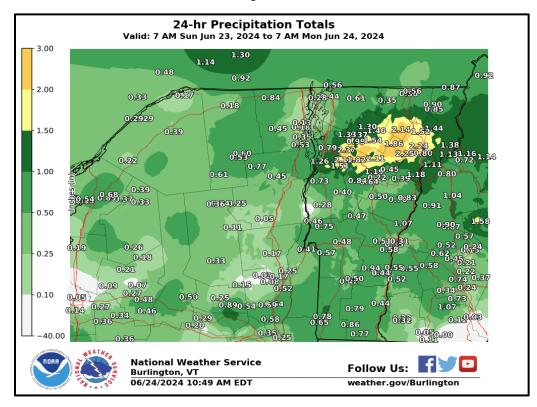


Figure 4: 24-hour rainfall ending at 700 am local time on Monday, June 24, 2024. Excessive rainfall totals of 2 to 4 inches on the evening of the 23<sup>rd</sup> led to areas of significant flash flooding across portions of north central Vermont.



Figure 5: Significant flash flooding on the evening of June 23, 2024 led to numerous road washouts in the Stowe, VT area, including Moss Glen Falls Road, shown here (picture courtesy Stowe, VT Public Works).

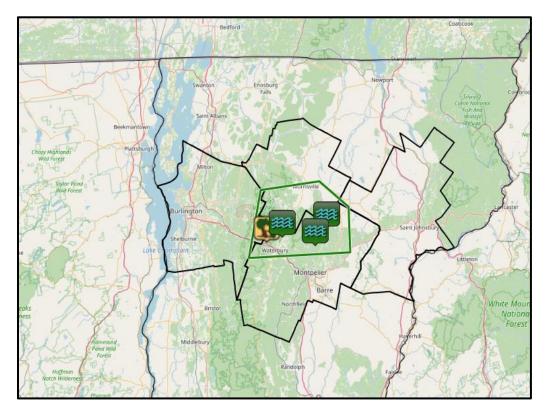


Figure 6: Flash Flood Warning polygon from NWS Burlington on the evening of June 23, 2024.