NWS Form E-5 U.S. DEPARTMENT OF COMMERCE HYDROLOGIC SERVICE AREA (HSA) NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (04-20.06) Burlington VT NATIONAL WEATHER SERVICE (PRES. BY NW S Instruction 10-924) REPORT FOR: MONTHLY REPORT OF HYDROLOGIC CONDITIONS MONTH YEAR 2024 January SIGNATURE Hydrologic Information Center, W/OS31 TO: /s/ John Goff, Senior Service Hydrologist NOAA's National Weather Service DATE 1325 East West Highway Silver Spring, MD 20910-3283 February 15, 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

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January 2024 was a relatively quiet month from a hydrological perspective across the NWS Burlington HSA. Frequent frontal passages and mainly weak low pressure systems brought enough regular precipitation to foster mainly positive monthly departures from +0.50 to +2.50 inches. Conditions were somewhat drier across the far northern tier of counties where departures were closer to normal (Fig. 1). No flooding was reported. January also maintained trends from December 2023 in that mean average temperatures were extremely mild, driven largely by overnight low temperatures which frequently held some 5 to greater than 10 degrees above normal due to persistent cloud cover and a general lack of deeper snow cover (Fig. 2). Given these trends, a significant portion of monthly precipitation fell in mixed-phase or liquid form, especially in the broad valleys. As such, by months-end portions of the HSA, including the Champlain Valley reported bare ground with no snow cover Fig. 3).

Notable Hydrology

The most impactful weather event of January 2024 was the modestly heavy snowstorm which occurred on the 7th and 8th. During this period, low pressure tracked from the southeastern U.S to offshore south of New England while interacting with a fairly potent upper trough. By the morning of the 8th, 6 to 12 inches of snow were observed across a wide area with some totals in excess of one foot across portions of east central and northeastern Vermont (Fig. 4). Given the majority of the precipitation with this event fell in the form of snow, no hydrological impacts were noted.



Figure 1: January 2024 monthly precipitation departures from normal across the NWS Burlington, VT HSA. On average values ran from 0.50 to 2.50 inches above the long term 30-year mean with slightly lower totals across portions of far north/northeastern VT.



Figure 2: Monthly temperature departures from normal for January 2024 across the NWS Burlington, VT HSA. It was an extremely mild month with positive anomalies from 6 to 10 degrees commonplace.



Figure 3: Observed snow depth across the NWS Burlington HSA on January 31, 2024. While many mountain locales reported values in the 6-12 inch range, valleys had considerably less, especially in the Champlain Valley where some locales observed bare ground.



Figure 4: The most impactful weather event in the NWS Burlington HSA during January 2024 was the snowstorm during the 7th and 8th. During the event, widespread 6-12 inch totals were observed with local amounts in excess of one foot across portions of east-central and northeastern Vermont.