

<b>NWS Form E-5</b> (04-2006) (PRES. BY NWS Instruction 10-924)	<b>U.S. DEPARTMENT OF COMMERCE</b> <b>NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION</b> <b>NATIONAL WEATHER SERVICE</b>	HYDROLOGIC SERVICE AREA (HSA) Burlington VT	
		REPORT FOR: MONTH            YEAR November        2019	
<b>MONTHLY REPORT OF HYDROLOGIC CONDITIONS</b>  TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283		SIGNATURE John Goff, Lead meteorologist /s/	
		DATE December 13, 2019	

*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.

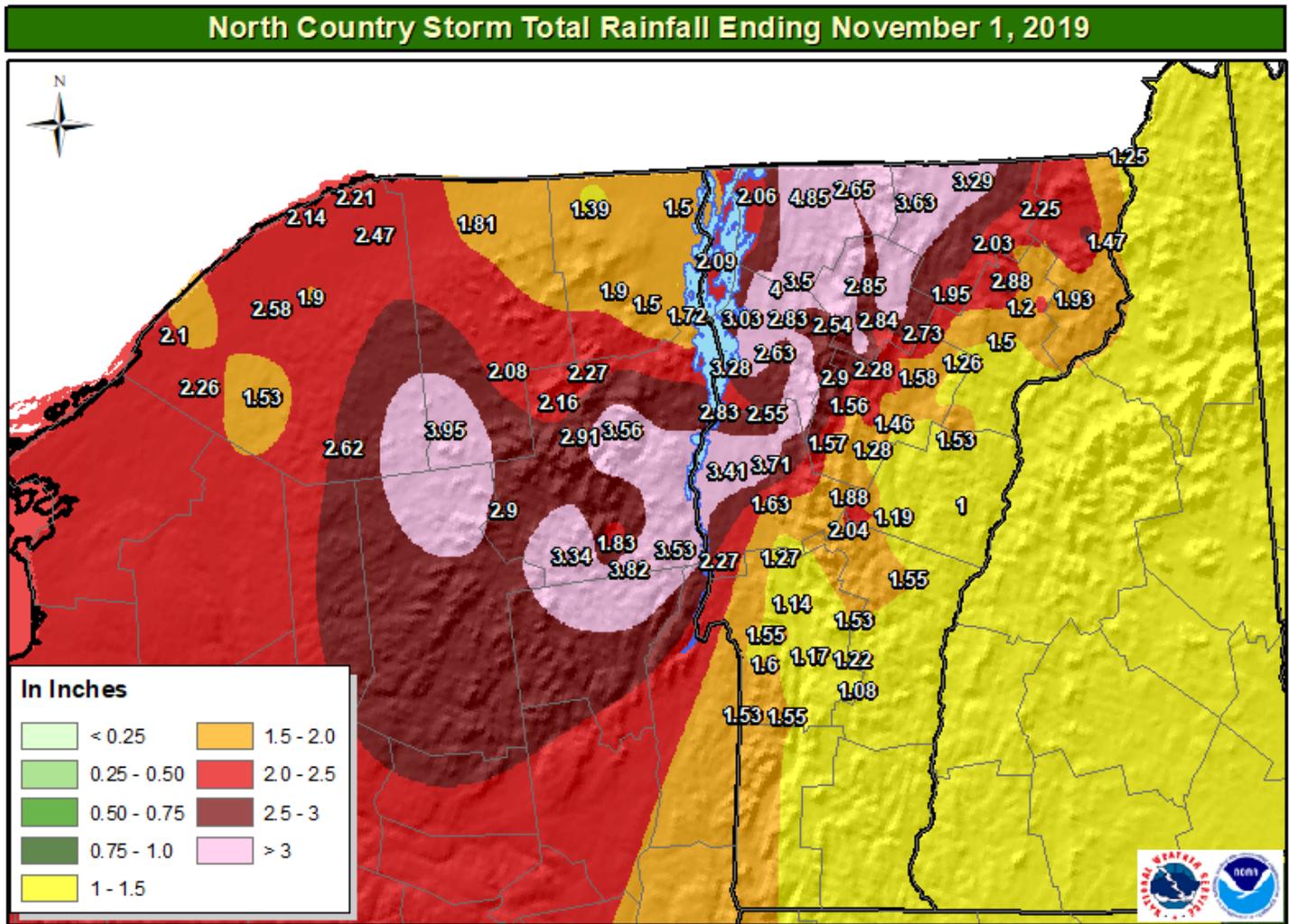
One of the most significant flooding events to occur in the Burlington HSA over the past 5 years occurred on 1 November, 2019 due to a mix of heavy stratiform and convective rainfall. Some of the rainfall actually occurred on the evening of October 31, but was more than enough to push numerous rivers and small streams into flood or flash flood status. An analysis of the event showed that roughly 2 to 4 inches of rainfall fell during an 18 hour period from the evening of the 31<sup>st</sup> to the morning on the 1<sup>st</sup> and was focused in a south-southwest to north-northeast axis across Essex County, NY into the northwestern portions of Vermont (fig. 1). Numerous roads were either closed or washed out due to high water with several bridges also heavily damaged. Essex County, NY alone had more than 40 roads closed due to high water at one point with a state of emergency declared during the morning hours of November 1. The event also impacted commerce with a number of school districts cancelling classes due the damage to road infrastructure. Most main-stem rivers in this region exceeded flood stage, such as the Ausable, Misissquoi, Lamoille and the Winooski. In fact, major flood levels were reached on the Misissquoi at the East Berkshire, VT and North Troy, VT gages, on the Lamoille River at Johnson and Jeffersonville, VT and on the East Branch of the Ausable River at Ausable Forks, NY. The level of 14.72 feet reached at North Troy was a record crest which was particularly significant as the gage's history runs back nearly 90 years to 1931. See table 1 for a selected list of high flow events. The States of Vermont and New York are currently seeking federal disaster status as a result of this event and are working with FEMA officials to assess the scope of the damage at the time of this writing. For further insight a comprehensive write-up of this event is available off the NWS Burlington web page [here](#).

After the 1<sup>st</sup> no high impact hydrological events occurred in the NWS Burlington forecast area for the remainder of the month. Of note however was a trend toward much colder and snowier conditions which arrived during the second and third weeks of the month. During this period daily mean temperature departures generally averaged from 8 to 20 degrees below normal marking the second consecutive year during which winter arrived early for the region. The most significant system during this time arrived during the 11<sup>th</sup> and 12<sup>th</sup> during which an early season moderate to heavy snowfall affected mainly central and northern counties (fig. 2).

The last week of the month was generally uneventful with near normal temperatures and light precipitation. Monthly precipitation departures are shown in figure 3. Note the influence of the 1 November event with considerable departure variability across the main event axis.

Gage ID	River/Stream	Location	FS	Flood Crest	Category	Date/Time
NTYV1	Misissquoi R.	North Troy, VT	9.0'	14.72'	RECORD	11/1 @ 15:45Z
EBKV1	Misissquoi R.	East Berkshire, VT	13.0'	16.49'	Major	11/1 @ 11:45Z
JONV1	Lamoille R.	Johnson, VT	13.0'	17.28'	Major	11/1 @ 15:30Z
JVLV1	Lamoille R.	Jeffersonville, VT	450.0'	454.50'	RECORD	11/1 @ 21:00Z
ESSV1	Winooski R.	Essex Junction, VT	12.0'	16.64'	Moderate	11/2 @ 00:00Z
ASFN6	E. Branch of Ausable R.	Ausable Forks, NY	7.0'	11.27'	Major	11/1 @ 12:00Z

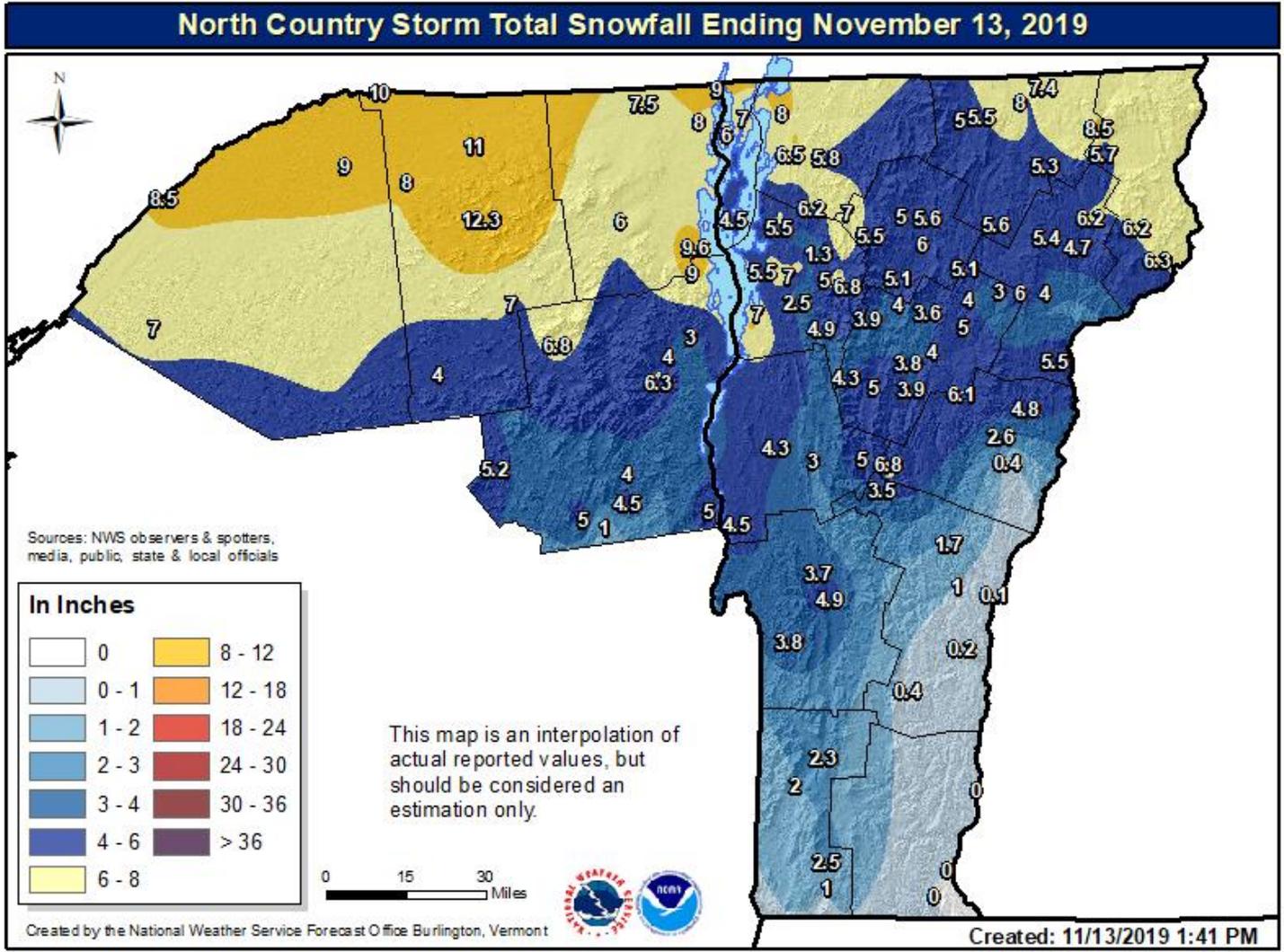
Table 1: A selected list of rivers with significant crests on 1 November, 2019. Record crests were set at North Troy and Jeffersonville, VT.



Created by the National Weather Service Forecast Office Burlington, Vermont  
 Sources: NWS observers & spotters, media, public, state & local officials

Created: 11/1/2019 9:06 AM

Figure 1: Storm total rainfall ending 1 November, 2019. A portion of this rainfall actually occurred during the evening of 31 October, 2019.



**Figure 2: Storm total snowfall from the 11-12 November, 2019 event. This was the most significant snowfall event of November 2019.**

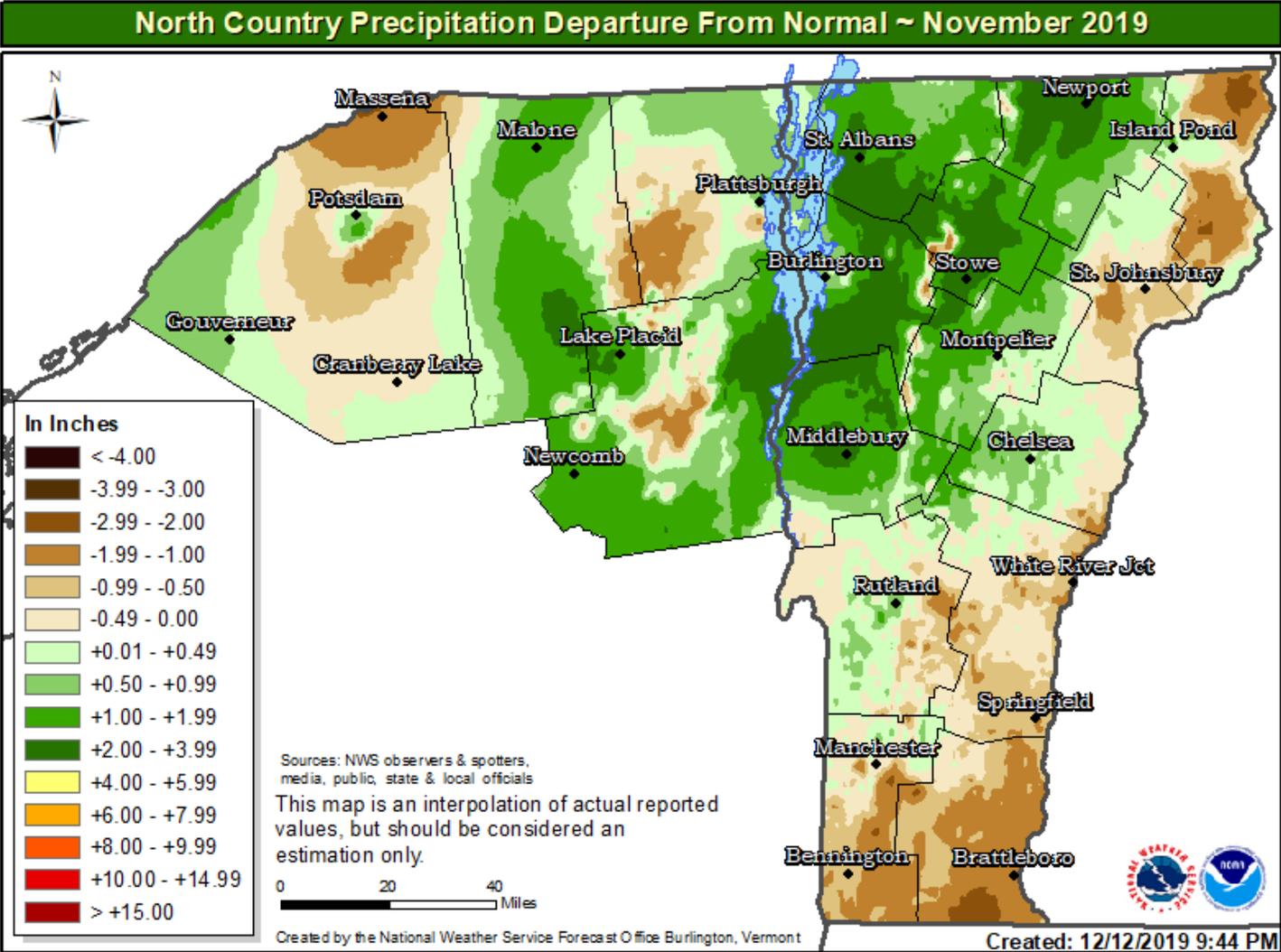


Figure 3: Monthly precipitation departures from normal for November 2019. The large positive departures of 1 to 3 inches from eastern New York into northwestern Vermont were a direct result of the excessive rainfall event on 10/31 and 11/1.