

NWS Form E-5 (04-2006) (PRES. BY NWS Instruction 10-924)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE	HYDROLOGIC SERVICE AREA (HSA) Burlington VT	
		MONTHLY REPORT OF HYDROLOGIC CONDITIONS	
TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283		REPORT FOR: MONTH YEAR December 2015	
		SIGNATURE /s/ Robert Deal, Meteorologist WFO BTW	DATE January 13, 2016

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.

December 2015 saw very atypical winter conditions with an above normal amount of precipitation through the month and a well below normal snowpack. The well above normal temperatures saw very little formation of any river ice or ice formation on Lake Champlain.

There were three light to moderate rain events producing largely above normal rainfall through the month. The total rainfall for the month is shown in Figure 1 which depicts widespread 3.5 to 5 inches of liquid water. Figure 2 just below shows that most of the area saw between a half and one inch above normal precipitation. The first moderate event occurred at the onset of December from the 2st-3rd as a frontal system stalled out over the area and brought one to two inches of rainfall across the region. The heaviest totals were across north and central Vermont, while the Saint Lawrence valley only saw around one quarter of an inch. The effect on the rivers was to produce a 2-3 foot river level rises across most of our main stem rivers.

We then moved to a period of high pressure that saw very little precipitation across the area. The above normal temperature through this period significantly reduced the overall snow pack in the mountains and there was very little snow coverage at sites below 3000' feet. The lack of precipitation through this time allowed the rivers to relax and run normal to low through mid-December.

December 22-23 brought the next significant rainfall event brought an additional 1 to 2 inches of rain as a stalled front brought an average of 0.5 to 1 inches of rain across north central Vermont on the 22nd. Precipitation totals from the 22nd are shown in Figure 3. On the 23rd, an addition one half to one inch of rain fall across south central Vermont and the combination of events produced sharp rises of 1-3 feet in all rivers from the Adirondacks east and the highest jump at the white river in west Hartford where a 4 foot jump occurred.

The final hydrologically significant event occurred from the 27th through the 29th as an active period of systems brought an average of 1 to 2 inches of total precipitation with much of that falling as snow, sleet, and a mix of freezing rain and rain on the 28th. This snowfall created our first widespread 2-3 inches of snow depth across the region ended the month with an average of 2-4 of snow on the ground. This was a very small snowpack and is evident even more so in Figure 4 as the area was some 1-2 feet below normal of snow on the ground to end December.

The final figure (Figure 5) in shows the monthly streamflow data and the above normal streamflow is highly likely due to the lack of frozen precipitation in the month. Given the above normal rainfall and lack of snowpack to absorb the liquid, or an ice on the main stem rivers, much of northern Vermont was above normal to well above normal with northern New York at or just below normal for the month.

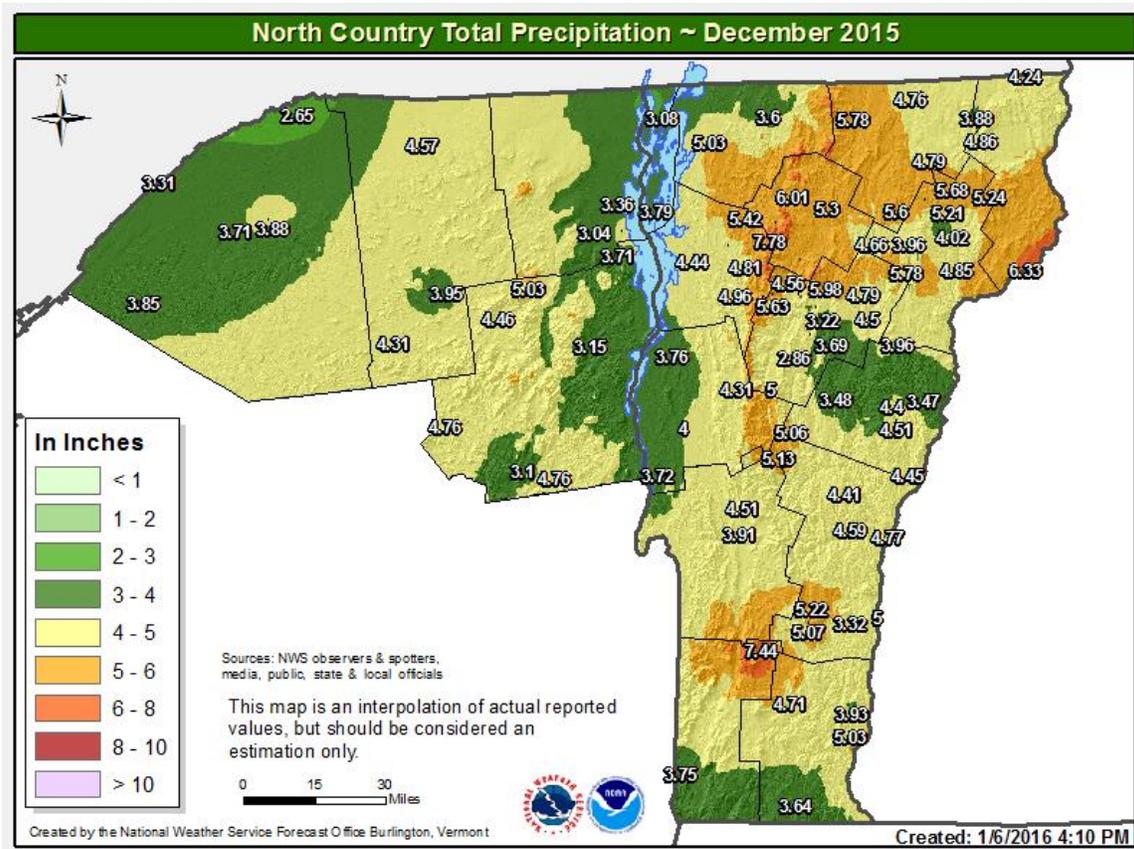


Figure 1: Total Liquid Precipitation across the Burlington HSA for the month of December 2015.

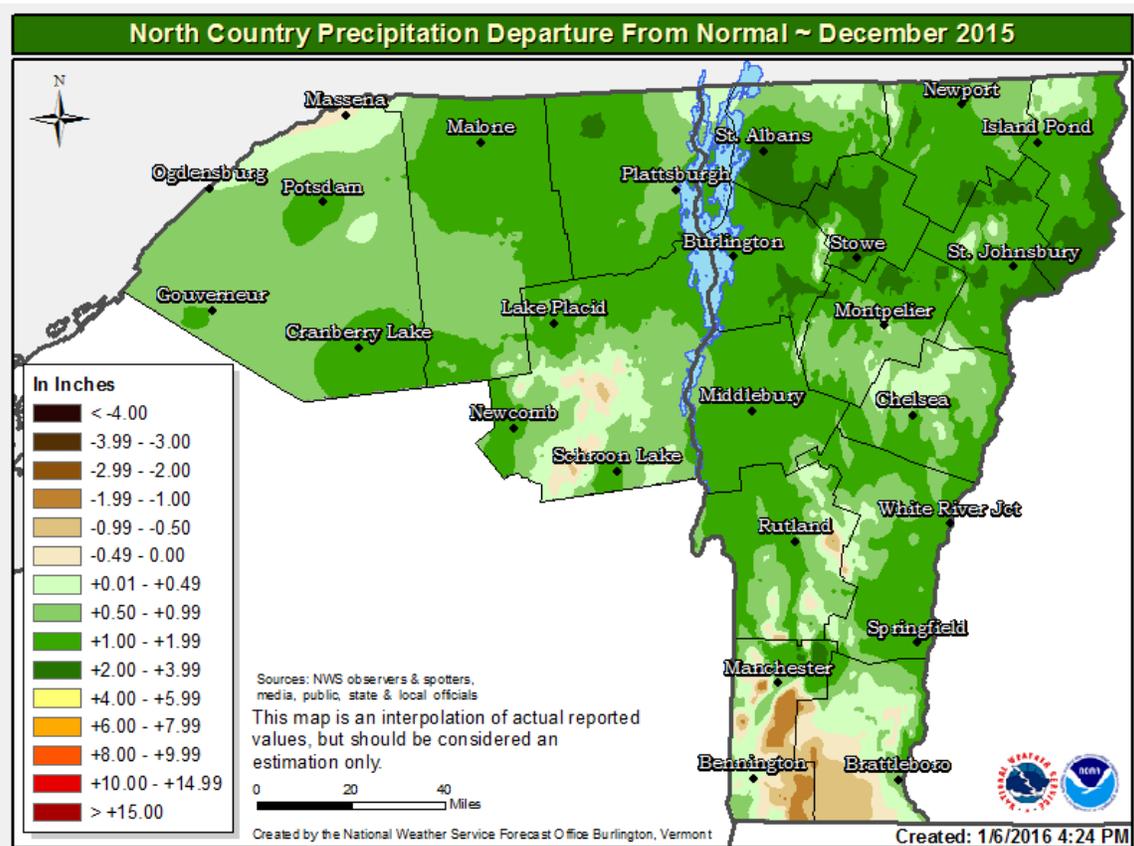
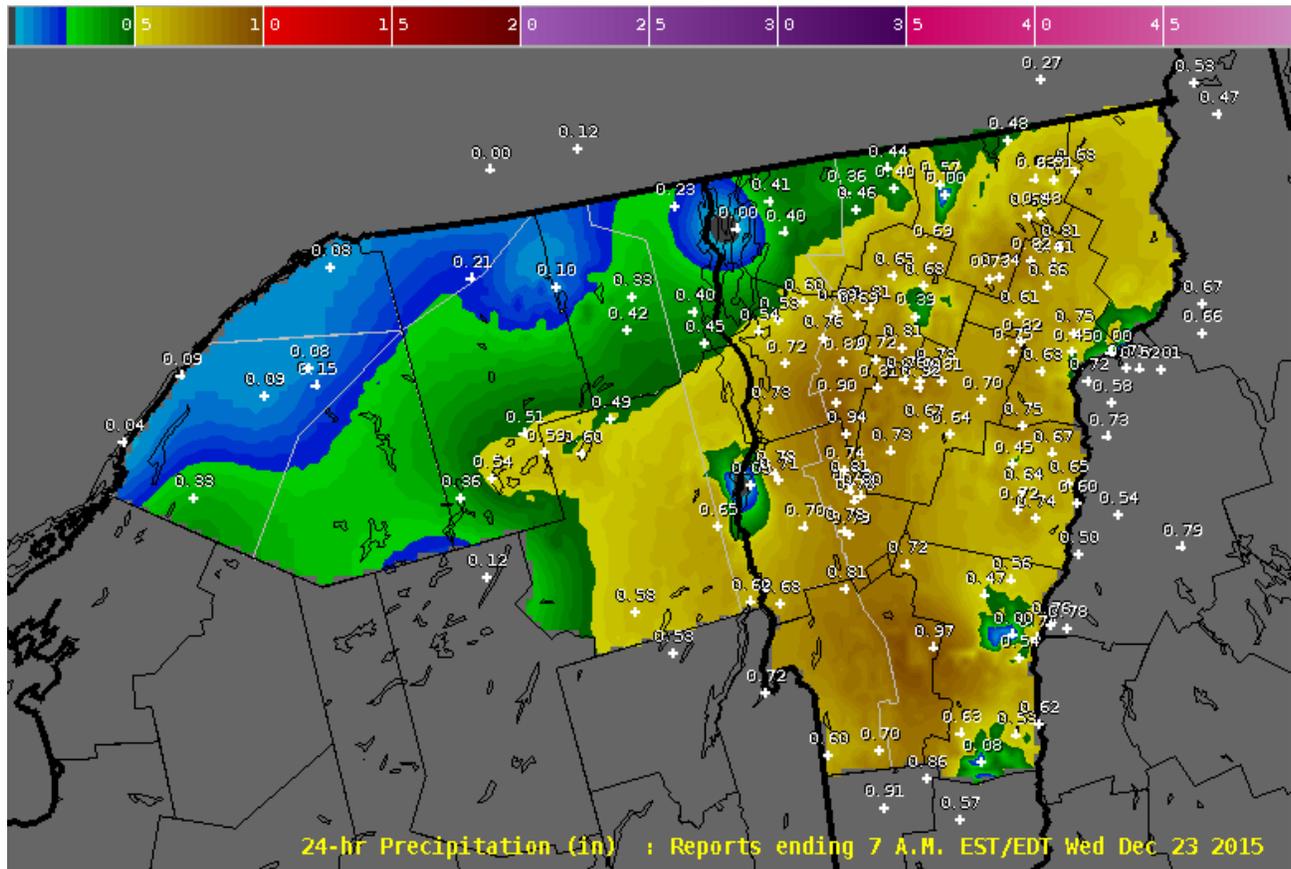


Figure 2: Total Liquid Precipitation departure from normal for the Burlington HSA for the month of December 2015



NOAA / National Weather Service Burlington, Vermont
 Graphic created: Wed Dec 23 2015 11:25 AM EST



Figure 3: Total Rainfall from Tuesday Dec 22nd

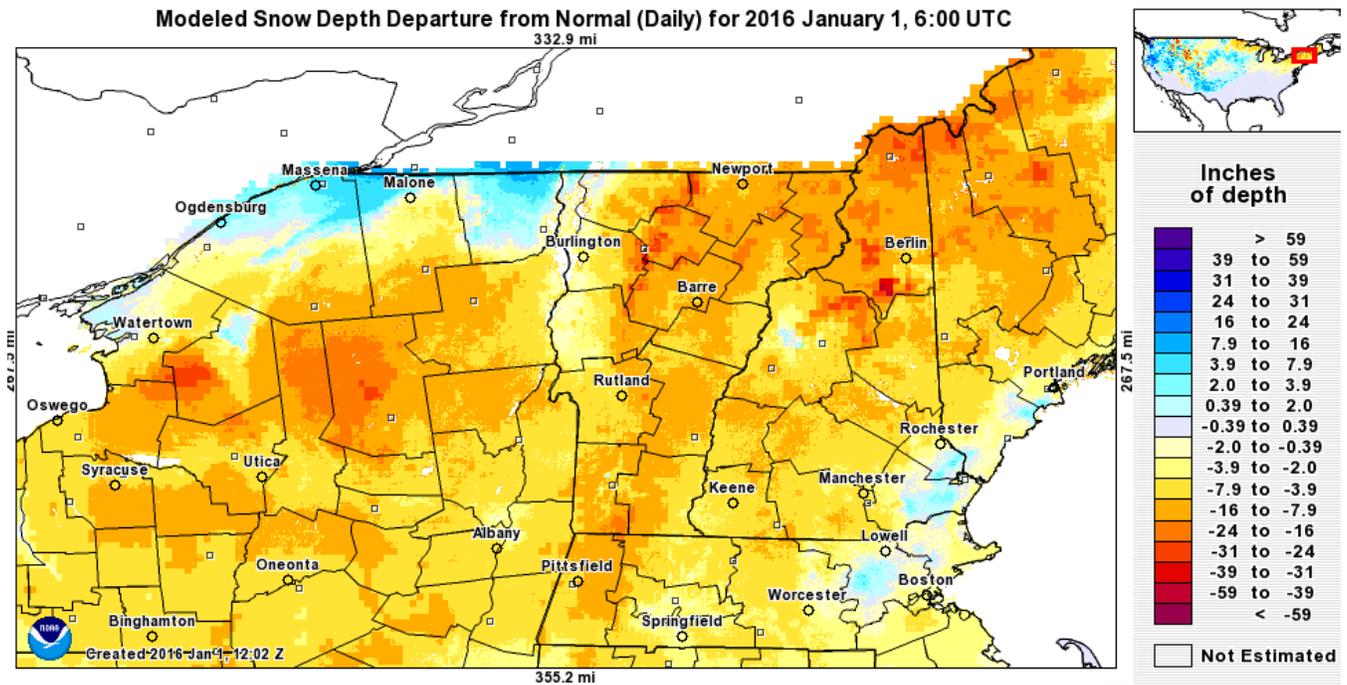


Figure 4: Snow depth on the ground departure from normal ended on December 31.

December 2015

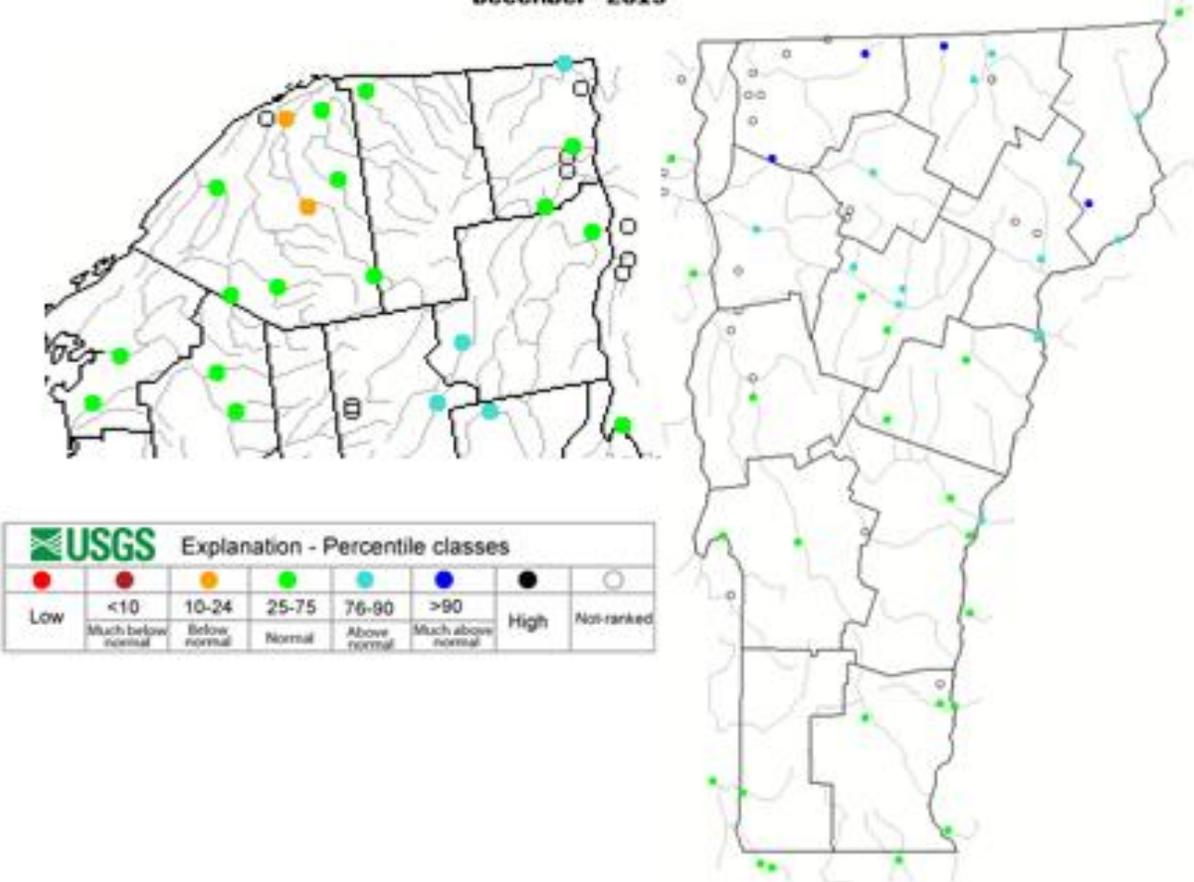


Figure 5: Monthly Mean Streamflow for Northern New York and Vermont.