

<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
		<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		REPORT FOR: MONTH                      YEAR July                                      2016
		SIGNATURE /s/ Robert L Deal, Meteorologist WFO BTW DATE 8/9/2016

*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.

July was a continuation of the previous couple of months in that the drought status continued to heighten. With another month of above average temperature and below average precipitation (Figure 1-2) the Abnormally Dry (D0) Drought conditions continued to remain in effect for nearly all of Northern New York except for the Saint Lawrence valley, and all of the Burlington HSA for Vermont except for portions Windsor that have been upgraded to Moderate Drought (D1) (Figure 3). The continued long term drying trend lead to normal to below normal stream flows for most of the HSA with rivers in Saint Lawrence County lower in the below normal to low range as shown in Figure 4.

The first significant precipitation event of July was over central and southern Vermont as a cold front brought widespread 0.5-1.0 inch of rain to the area on July 1st. The resultant precipitation map is shown by Figure 5 produced 1-2 feet increases in river levels across central Vermont however rivers stayed within banks with no flooding occurring.

The patterned turned slightly active during July 7-9 as the North Country experienced a series of cold fronts producing widespread rainfall across Vermont on July 7<sup>th</sup> totaling 0.4-1 inches, an additional 0.5-1 inch across the western Champlain Valley in New York on the 8<sup>th</sup>, and the heaviest rainfall of 1-2 inches in the Saint Lawrence Valley on the 9<sup>th</sup> (Figure 6). The combination of these three events lead to river rises across the North Country but caused no reported flooding with water staying within the river banks. The 1-2 inches in the Saint Lawrence Valley was enough to drop the northwestern portion of Saint Lawrence County out of Abnormally Dry drought conditions.

From there dry and hot weather returned as the next precipitation event was on the 14<sup>th</sup> of July as a warm front lifted north. Most of the rainfall from this event was confined to east central Vermont where as much as 1.3 inches of rain fell along the border of Orange and Caledonia Counties in Vermont. A frontal passage again brought rainfall to the North Country on the 18<sup>th</sup> however this time the bulk of the precipitation was mainly isolated to Northern Vermont where along the VT/Canadian border 1-2 inches fell over Orleans and Essex Vermont.

Ultimately, the combined rainfall over the month was below normal for most of the area as shown in Figure 2 and this resulted in Lake Champlain continuing to be below normal running between 0.75 – 1 feet below normal for July (Figure 7).

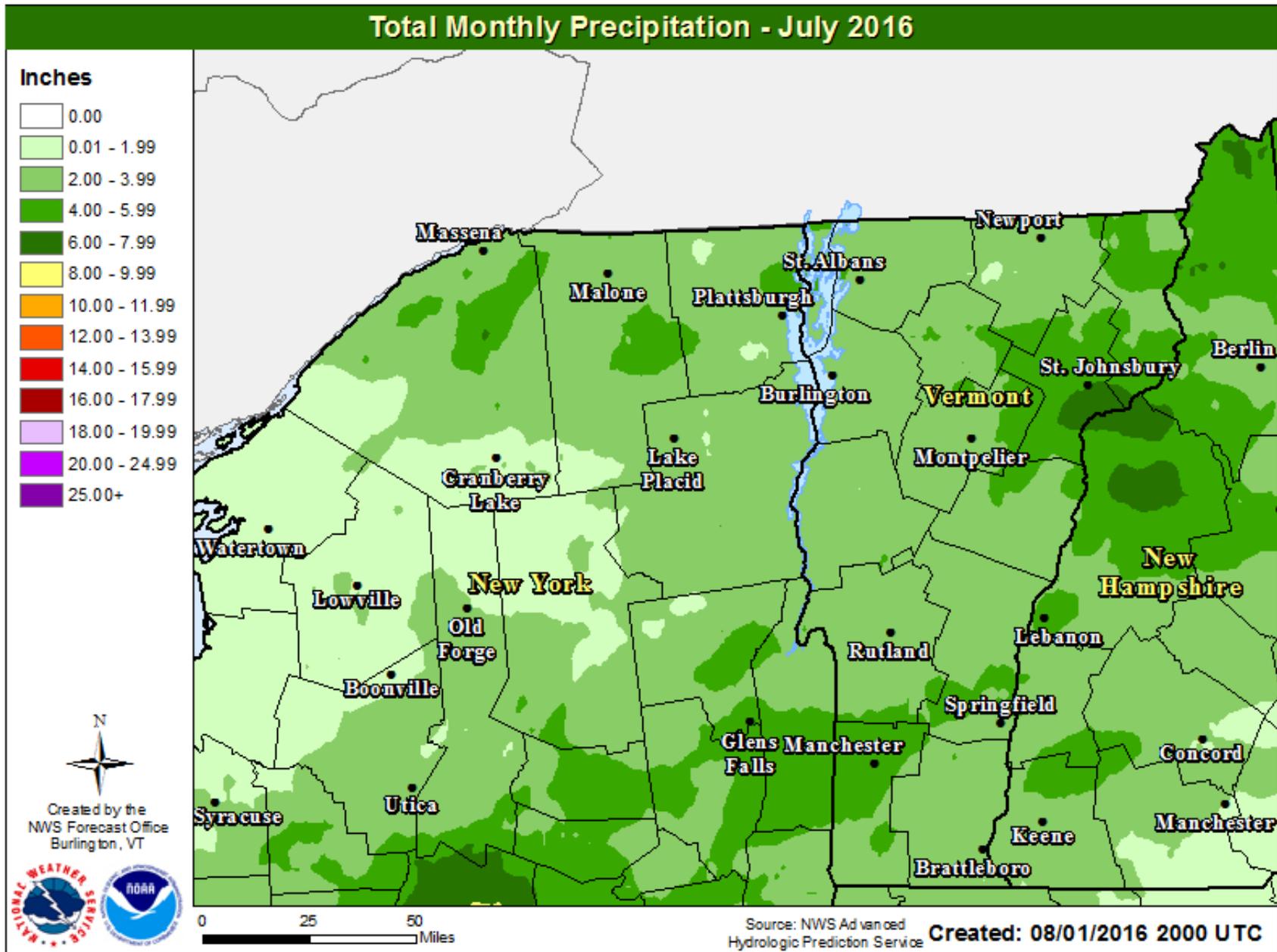


Figure 1: Total rainfall for the month of July.

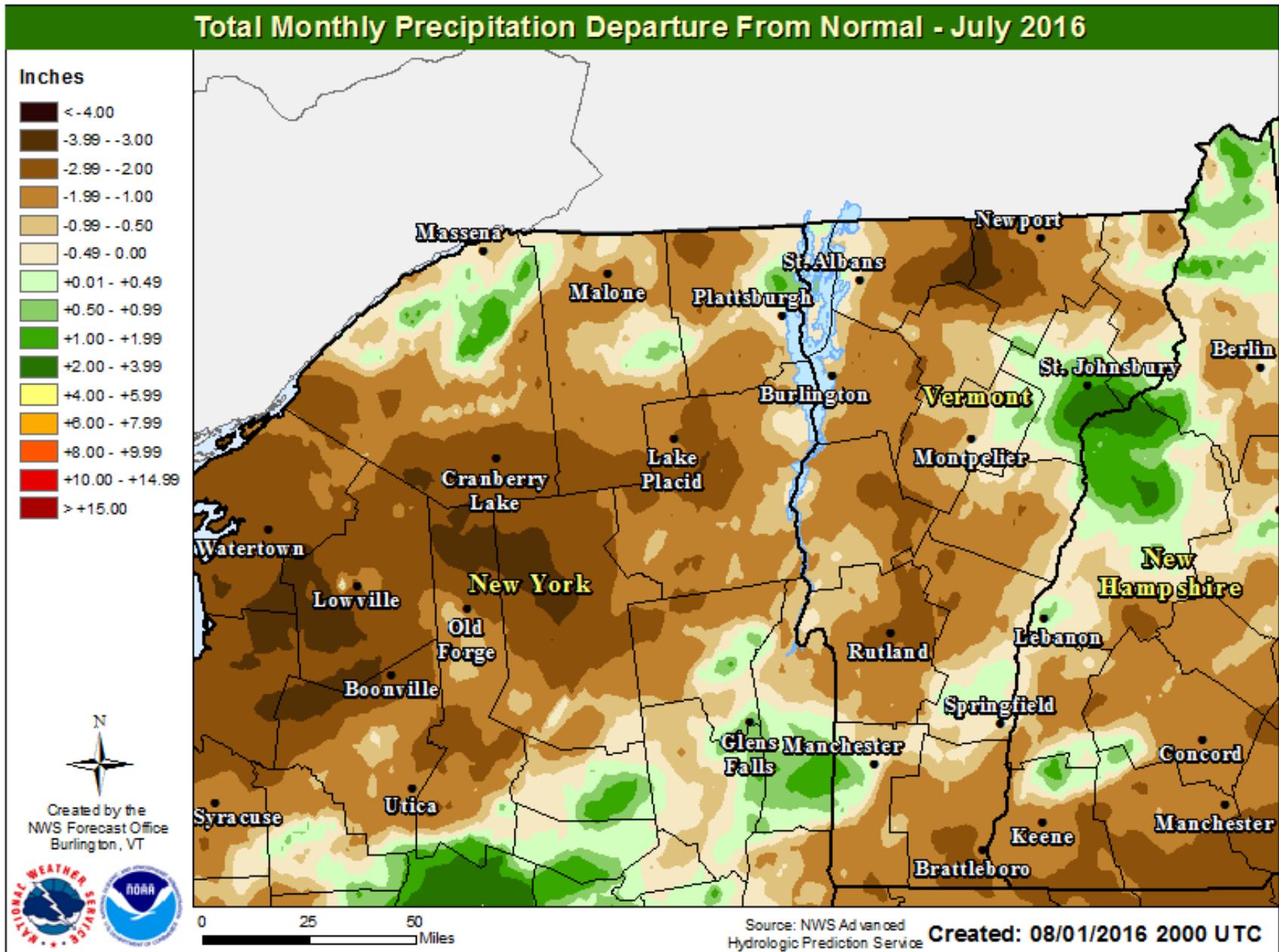


Figure 2: Precipitation departures from normal for the month of July.

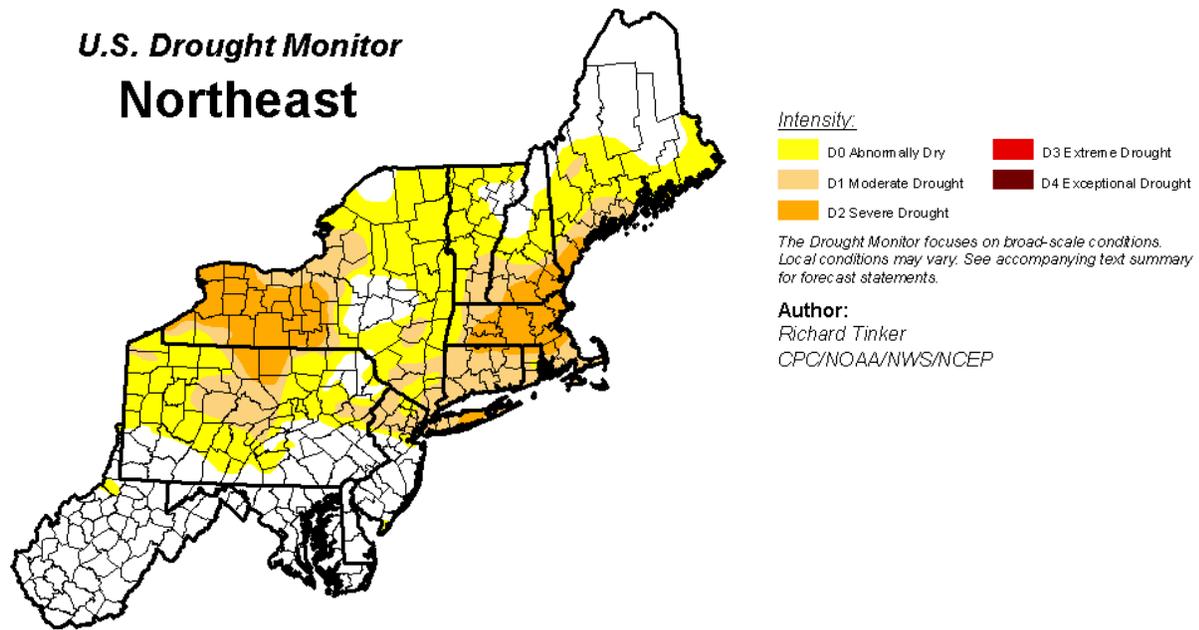


Figure 3: The US Drought Monitor centered over the Northeast US

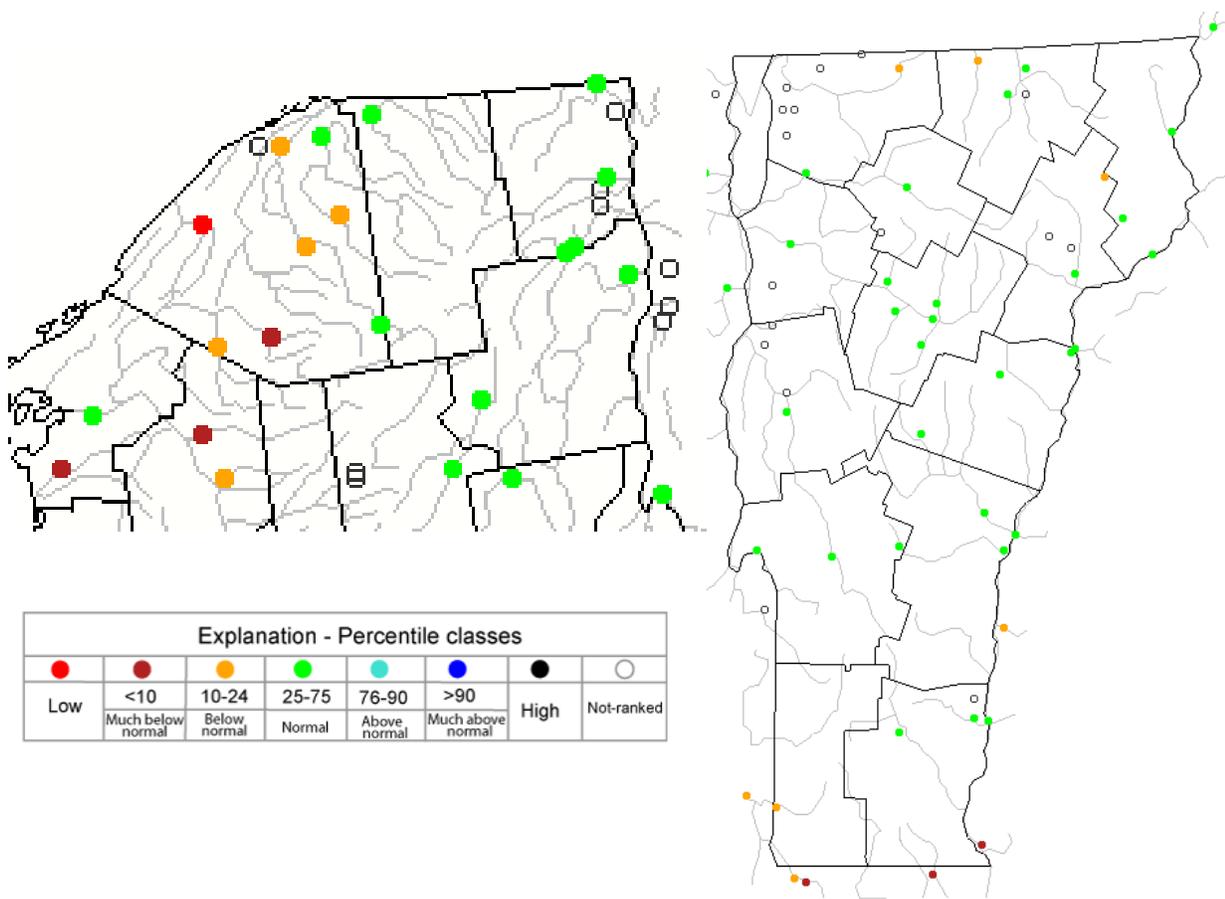
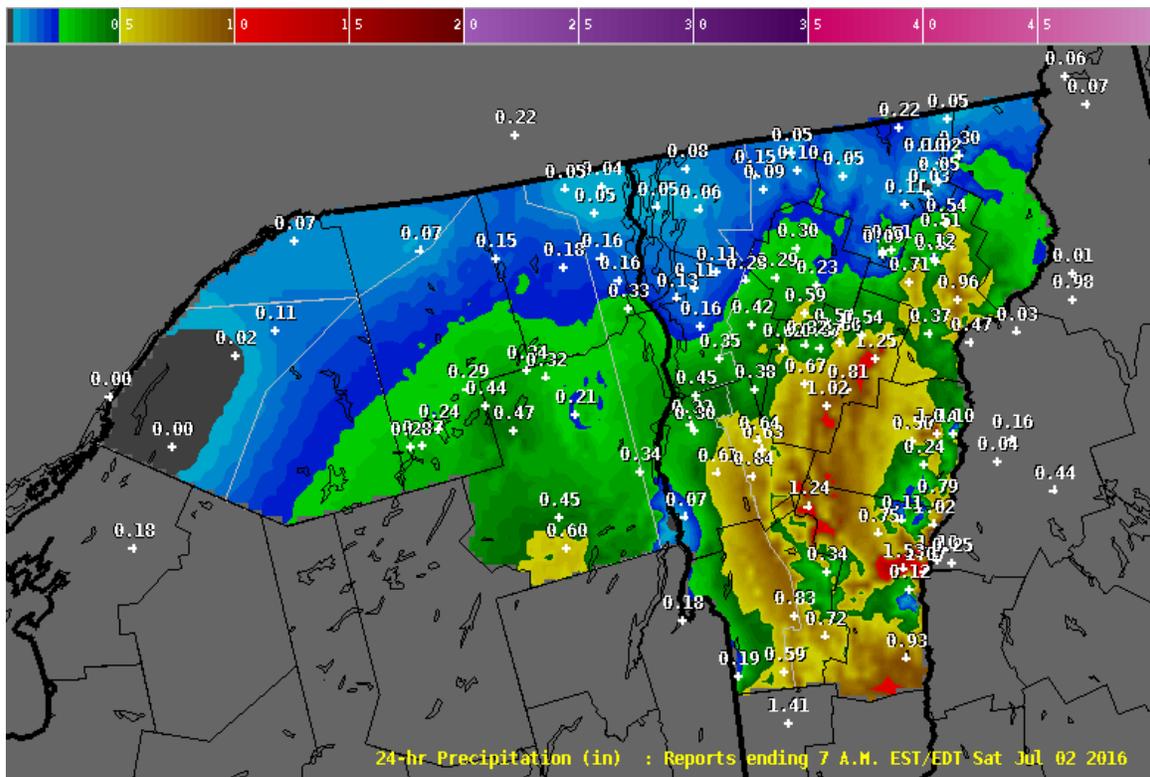


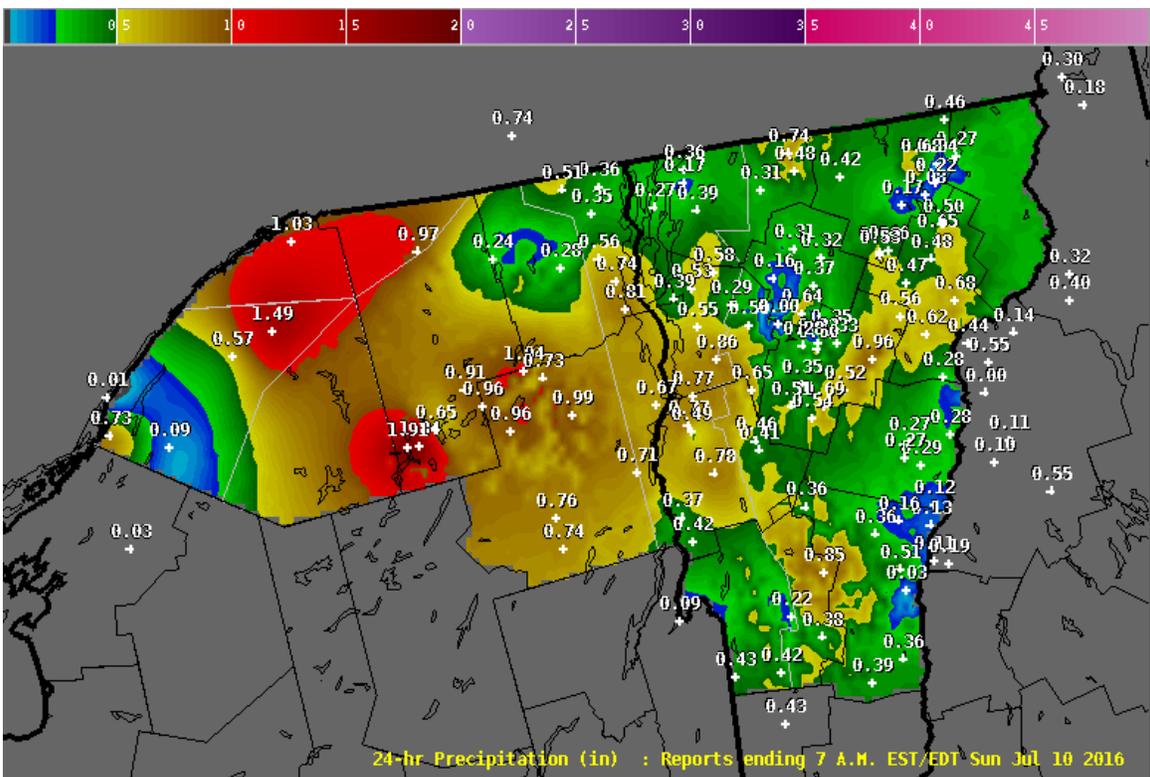
Figure 4: Streamflow data for July 2016 from the USGS for both Northern New York and Vermont



NOAA / National Weather Service Burlington, Vermont  
 Graphic created: Sat Jul 02 2016 12:00 PM EDT



Figure 5: Total rainfall from a frontal passage July 1<sup>st</sup>.



NOAA / National Weather Service Burlington, Vermont  
 Graphic created: Sun Jul 10 2016 10:42 AM EDT



Figure 6: Total rainfall from a frontal passage on July 9<sup>th</sup> which took Northern Saint Lawrence County out of the D0 Drought Status.

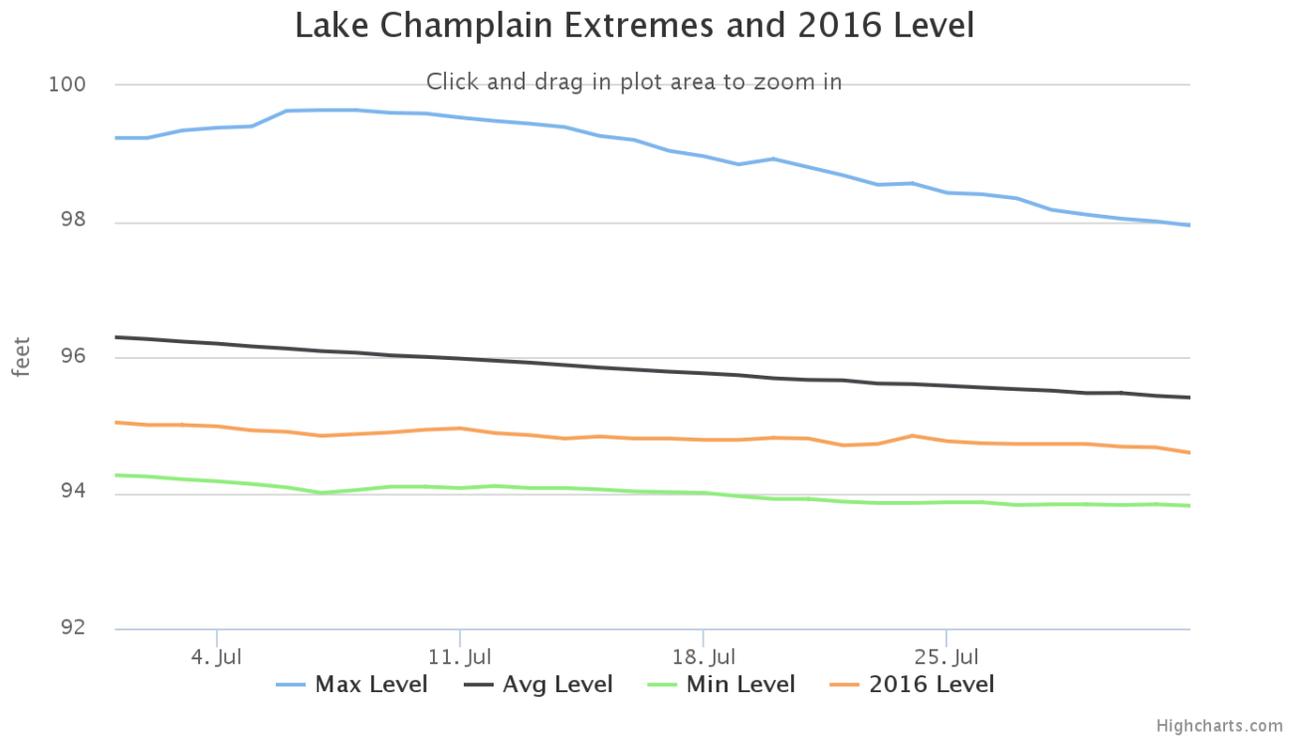


Figure 7: Lake Champlain Lake level from the Ferry Dock with max, min, average and current levels plotted for the month of July