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		REPORT FOR: MONTH: September YEAR: 2015
TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283		SIGNATURE: /s/ John M. Goff, METEOROLOGIST WFO BTV DATE: October 5, 2015

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).

X An X inside this box indicates that no flooding occurred within this hydrologic service area.

September 2015 was characterized by extremes across the Burlington, VT HSA. In general, dry conditions continued deep into the month as strong high pressure remained the dominant influence on regional weather. As late as September 29 the U.S. Drought Monitor showed abnormally dry (D0) conditions or worse across much of the region (Figure 1), continuing trends established earlier in the summer. The dry ground conditions combined with ample monthly sunshine and high pressure allowed surface temperatures to trend well above normal in most climate monitoring sites across Vermont and northern New York. By months end, Burlington, VT had experienced its warmest September on record, with the average monthly mean of 67.4°F shattering the old monthly record by nearly 2 degrees (Figure 2).

However, statistics can be misleading. Despite the fact that the majority of the month was dry and very warm, an extremely anomalous and wet frontal system slowly trudged through the region during the 29th and 30th of the month. Ahead of this well forecast event, Flood Watches were issue for most of the region. Two day rainfall totals ending on 30 September, 2015 ranged from 2 to 5 inches from the Adirondack Mountains eastward across Vermont. Slightly lesser totals from 1 to 2 inches were observed across the St. Lawrence Valley (Figure 3). The very dry antecedent conditions prevented flooding from the heavy rainfall. Soils were very dry and river flows were low enough to have sufficient capacity to absorb the runoff. Rivers saw moderate rises of 3 to 5 feet, but remained below flood stage.

As a result of this one event, monthly rainfall totals ended up tallying at or above average in most locales, which helped alleviate much of the short term drought discussed above (Figure 4).

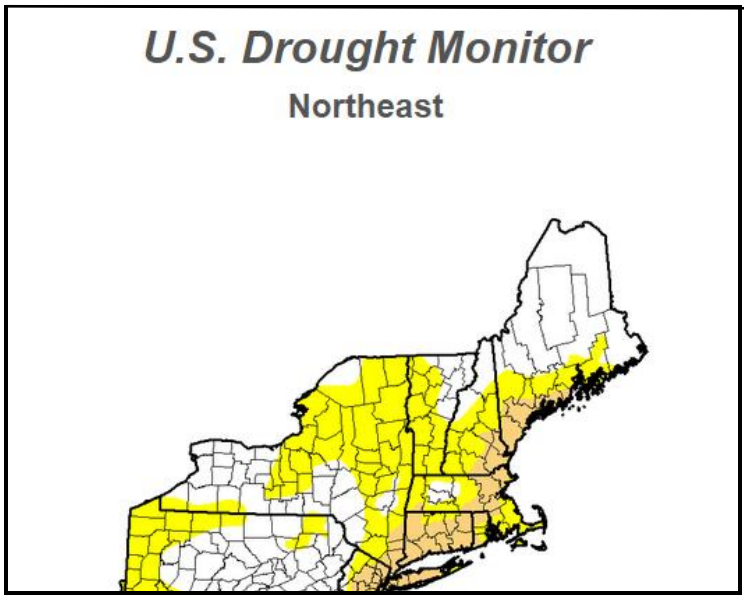

Figure 1. U.S. Drought Monitor map for the Northeast (valid 9 September, 2015) showing widespread D0 to D1 conditions across New York, Vermont and southern New England.

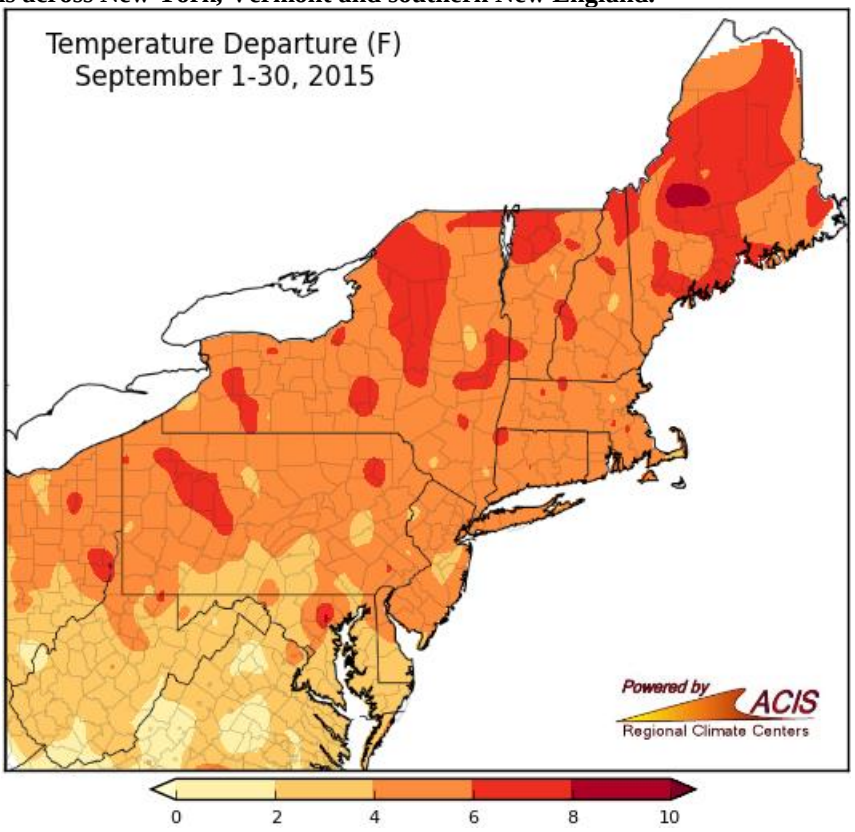

Figure 2. Average temperature departures for the month of September 2015. Average temperatures were generally 2°F to 8°F above normal across the Northeast (map courtesy of the Northeast Regional Climate Center).

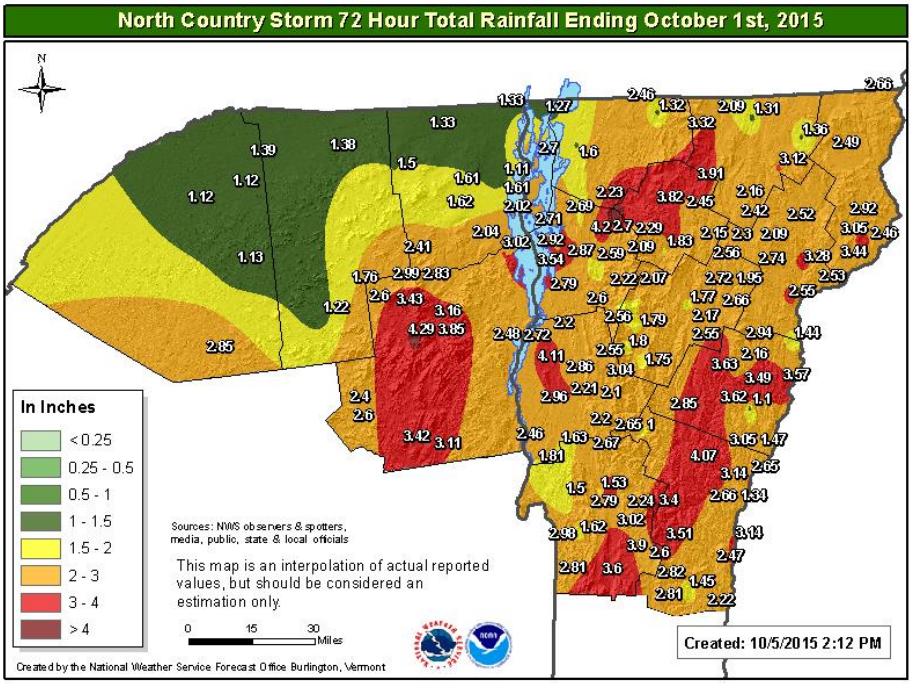

Figure 3. 48 hour rainfall ending at 7am local time on 30 September, 2015. This was the heaviest precipitation event of the month with a swath of 2 to 5 inch rainfall amounts observed from the Adirondack Mountains east across much of Vermont.

Location	ID	Total	Normal	Departure	% of Normal
Burlington, VT	KBTV	4.86	3.64	+1.22	134
Montpelier, VT	KMPV	5.29	3.12	+2.17	170
Springfield, VT	KVSF	6.45	3.76	+2.69	172
St. Johnsbury, VT	K1V4	5.49	3.39	+2.10	162
Rutland, VT	KRUT	5.27	n/a	n/a	n/a
Plattburgh, NY	KPBG	3.46	n/a	n/a	n/a
Saranac Lake, NY	KSLK	3.25	3.29	-0.04	99
Massena, NY	KMSS	3.82	3.65	+0.17	105

Figure 4. Observed and percent of normal rainfall for September 2015 for selected sites in the Burlington, VT HSA. Despite dry conditions for most of the month, the heavy rainfall event of 29-30 September brought monthly averages to at or above normal for most locales.