

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 YEAR
December 2014

TO: Hydrologic Information Center, W/OS31
NOAA's National Weather Service
1325 East West Highway
Silver Spring, MD 20910-3283

SIGNATURE
/s/ Gregory A. Hanson, SH WFO BTW

DATE
January 8, 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).

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

December was a transition month into winter as a series of cold fronts early in the month brought periodic light precipitation to the region. A winter storm dumped one to two feet of very wet heavy snow over the area on December 9-10, and warmer temperatures and rainfall around Christmas melted much of the snowpack and caused isolated flooding on the Otter Creek at Center Rutland. Monthly precipitation totals were two to five inches of rain (Figure 1), and in general the area received below normal precipitation for December, except above normal in the Champlain Valley (Figure 2).

Rivers were near their base flows for the first three weeks of December as cold temperatures inhibited runoff and most precipitation was in the form of snow. Later in the month with snowmelt and rainfall river flow increased, and the monthly average flow was near to above normal (Figure 3).

On December 9 a low pressure system moved up the Atlantic coast and stalled over the northeast through the 12th. Snowfall amounts ranged from one to two feet across the area, containing two to four inches of liquid equivalent. Deeper snow and higher water content amounts fell in Vermont, tapering off into the St. Lawrence valley. The snowfall provided a good base snowpack to the region.

Higher river flows and a minor flood event took place late in the month, when a warm front lifted northeast through the HSA. The front was preceded by a few inches of new snowfall, then temperatures warmed into the 30s on Dec 23. Warm air continued to surge northward on the 24th with rain in the afternoon continuing overnight into the 25th. All snow cover melted in the low elevations, and only a few inches remained in higher elevations. A cold front arrived the morning of the 25th preceded by a band of rain showers. Temperatures remained above freezing however and snowmelt continued into the 26th.

Rivers saw sharp rises and a flood watch was posted for the entire area. Some river gages indicated movement and breakage of river ice, although no jams were reported. A flood warning was issued for the East Branch Ausable at Ausable Forks on the 25th; however the river crested below flood stage. Otter Creek at Center Rutland exhibited a double crest (Figure 4), the first occurring with the rainfall on the 25th, and the second a day later as snowmelt runoff reached the gage from further south. A flood warning was issued on the 26th of Otter Creek at Center Rutland.

The month ended with an arctic cold front on December 29 bringing very cold air to the region that would remain into January.

Lake Champlain levels were below normal for the first part of the month, then a significant rise occurred as a result of the Christmas rain and snowmelt event. The lake rose 1 ½ feet in just a few days, from around 95 feet to 96.5 feet (Figure 5).

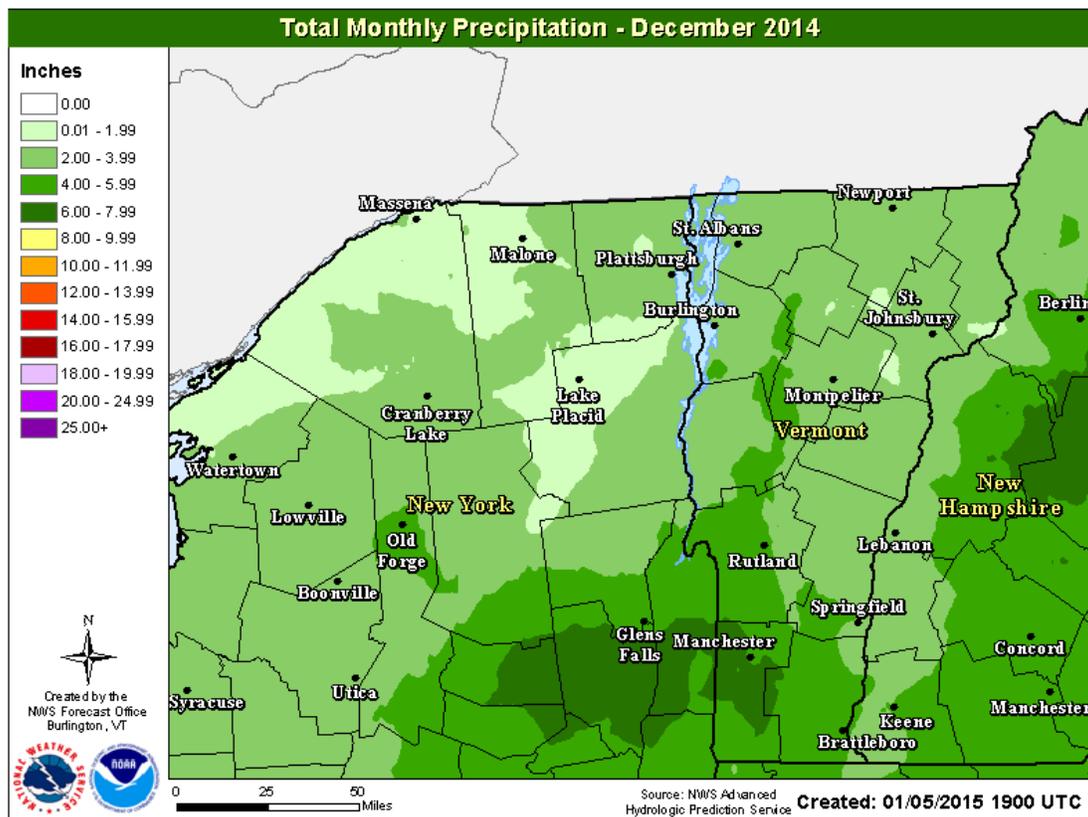


Figure 1

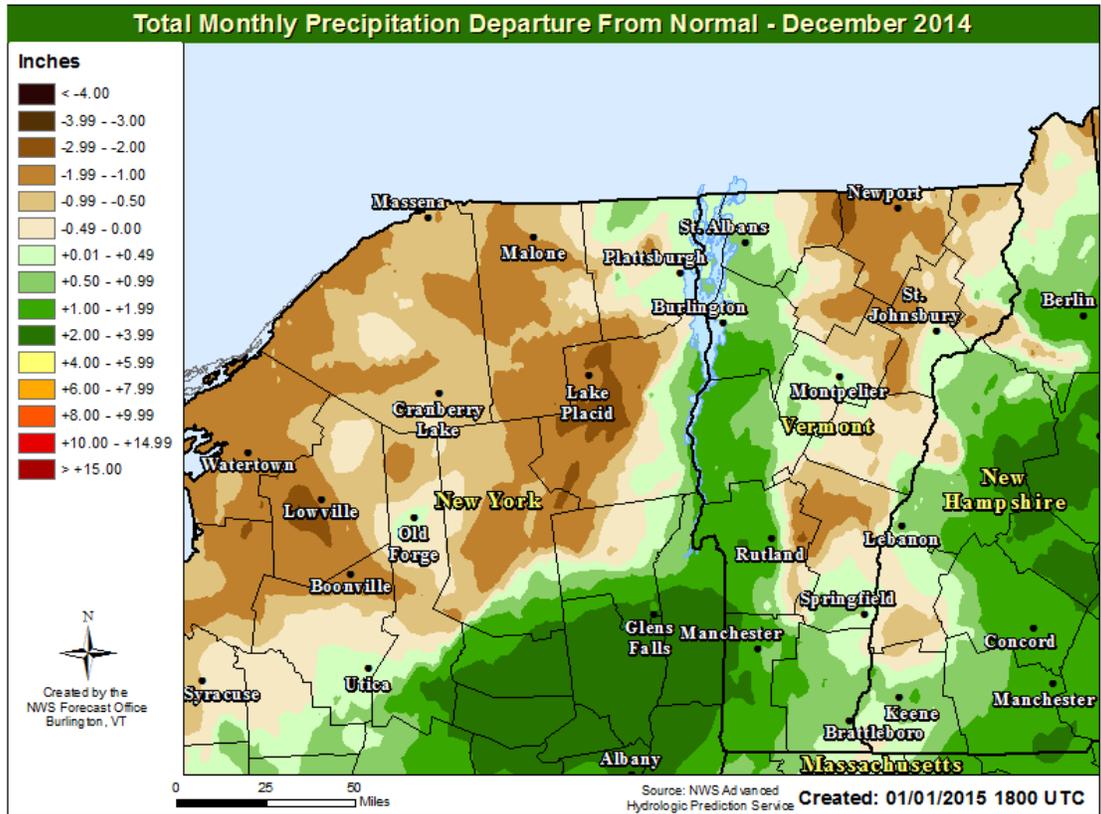


Figure 2

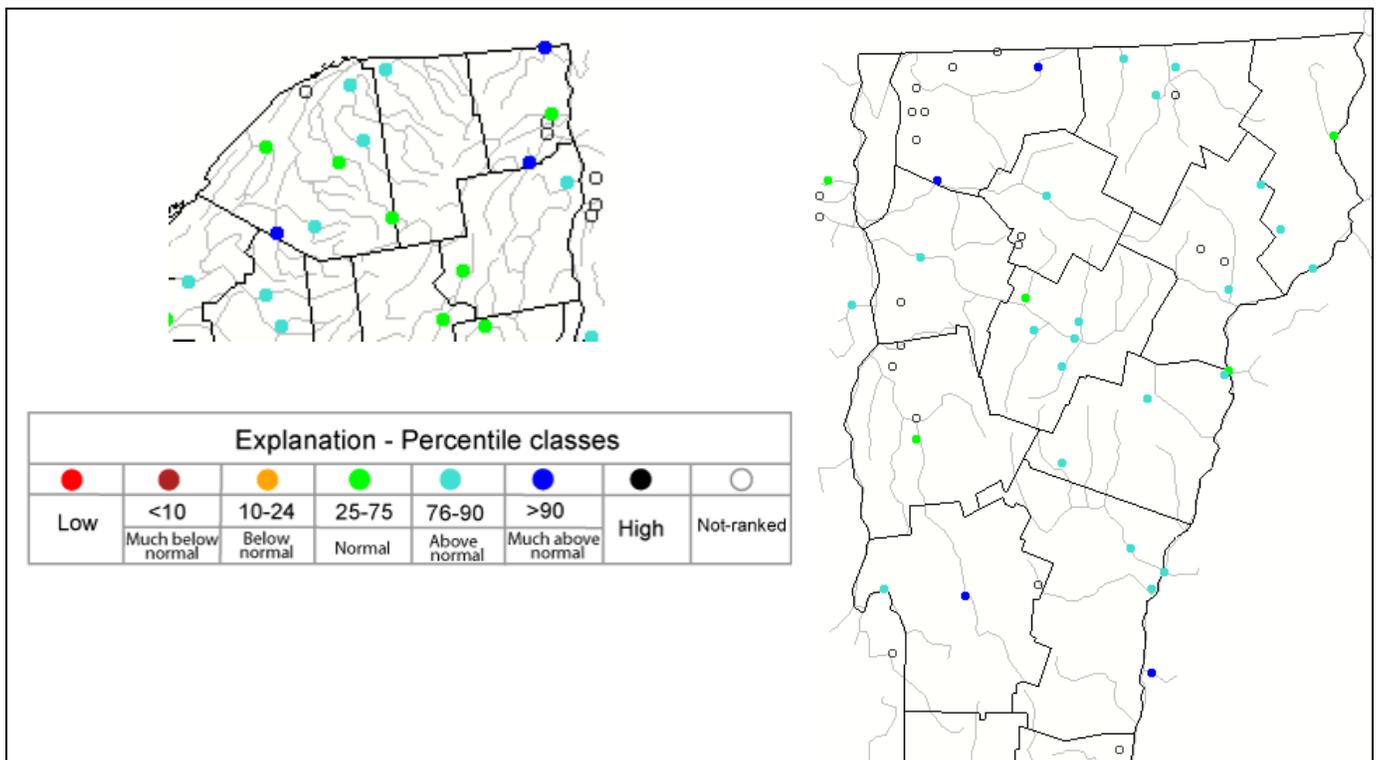


Figure 3, Monthly average river flows for December 2014 (USGS)

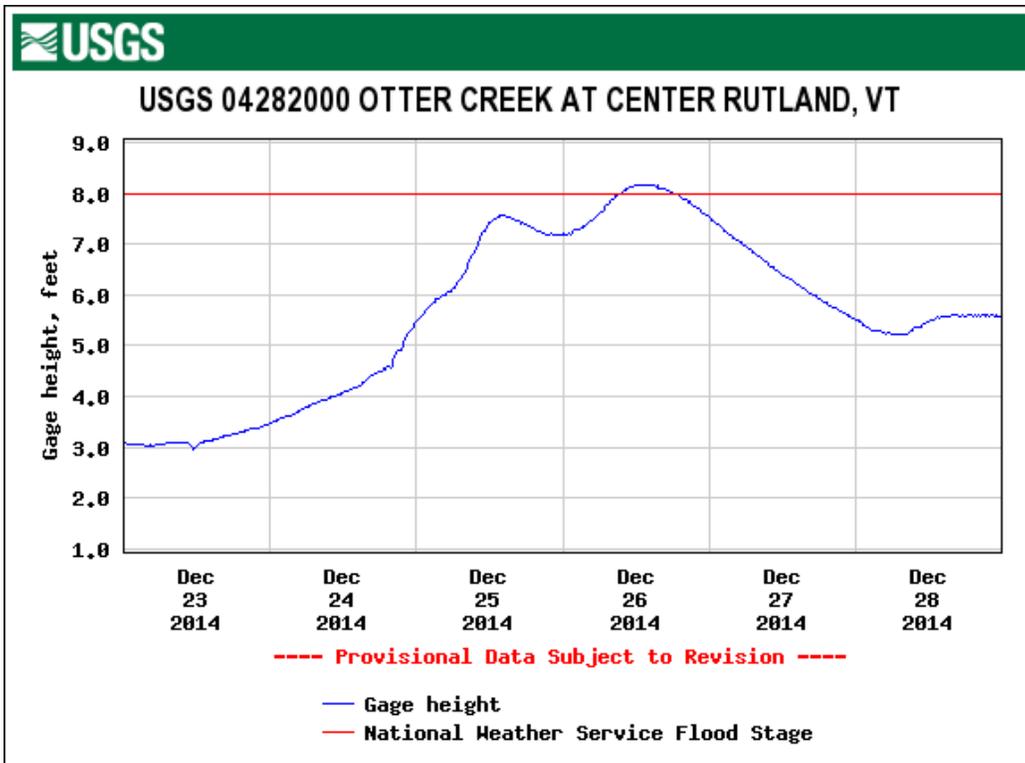


Figure 4

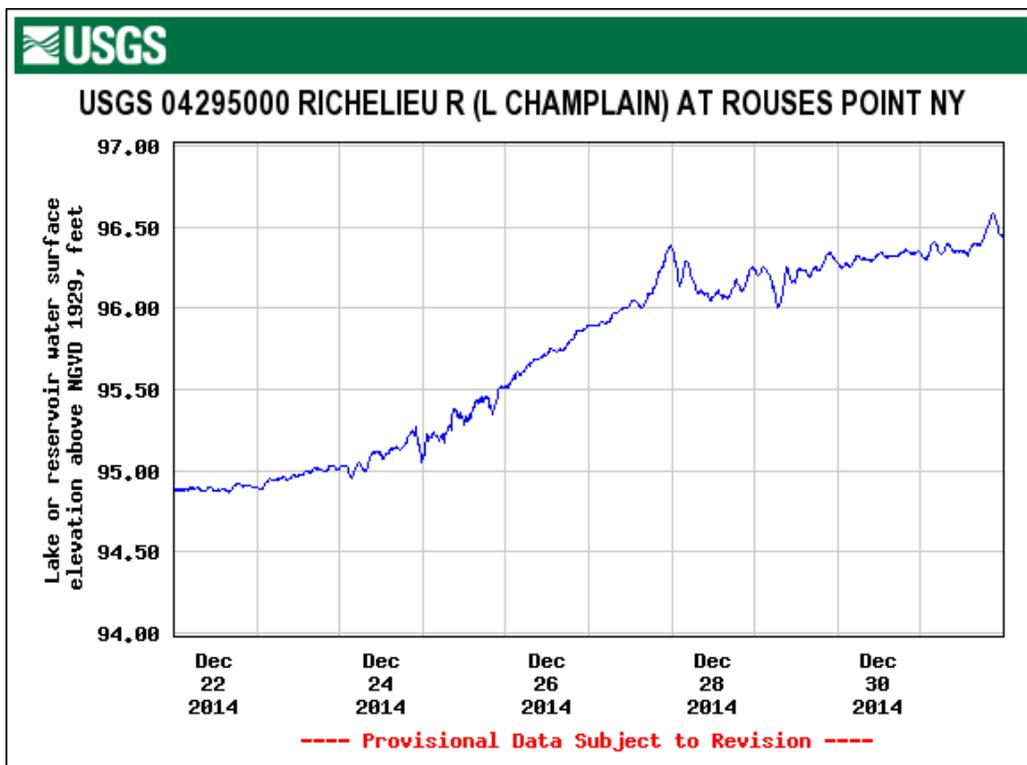


Figure 5

**Significant River Crests
July 2011
WFO Burlington VT**

Location	NWSLI	Crest	Flood Stage	Date	Time (UTC)
Otter Creek @ Center Rutland VT	CENV1	8.18	8.0	12/26/14	18:15
White @ West Hartford VT	WEHV1	10.35	18.0	12/25/14	20:45
Ottawaquechee nr West Bridgewater VT	OTQV1	5.96		12/25/14	18:45
Mad River @ Moretown VT	MOOV1	7.05	9.0	12/25/14	16:15
Winooski River @ Essex Junction VT	ESSV1	8.76	12.0	12/26/14	01:00
Lamoille River @ Jeffersonville, VT	JVLV1	447.04	450.0	12/25/14	20:45
Missisquoi nr East Berkshire VT	EBKV1	10.33	13.0	12/25/14	16:00
Missisquoi nr North Troy VT	NTYV1	7.36	9.0	12/25/14	14:45
Barton River nr Coventry VT	COVV1	7.71	8.0	12/26/14	16:15
East Branch Ausable at Ausable Forks NY	ASFN6	6.50	7.0	12/25/14	16:45