

Burlington VT

MONTHLY REPORT OF HYDROLOGIC CONDITIONS

REPORT FOR:
MONTH YEAR
January 2013

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
February 18, 2013

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.

The month of January was characterized by a continuation of above normal temperatures, though despite a rather progressive weather pattern showed a return to drier conditions that were quite prevalent during 2012. On average positive temperature departures ran in the +0.5 to +3.0 range, with slightly greater values near +4.0 across portions of the Saint Lawrence Valley. Precipitation was light, though evenly distributed throughout the month with the aforementioned progressive flow bringing numerous weak to modestly strong systems into the region. Monthly totals generally ranged from 0.75 to 2.0 inches across the HSA which led to negative departures of -0.50 to -1.50 across the region. These were only 40 to 70% of normal.

Most noteworthy were three distinct thawing periods which led to snowmelt and partial to full ice breakup. These occurred during the periods of 12-14 January, 19-20 January, and 30-31 January, the last of which saw record breaking temperatures and isolated but locally significant ice jam flooding.

Flood Warnings were issued on January 14 for breakup jams on the Ausable and Little Salmon Rivers in New York, and an advisory for the Missisquoi River in Vermont.

The most problematic ice jam occurred along the Salmon River in Malone, NY where a freeze up ice jam developed in bitter cold temperatures in the last week of the month. A local state of emergency was declared and residences were evacuated on Lower Park Street (see pictures below) in Malone. The residences continued to be uninhabited through the end of the month. A flood watch for freeze up ice jams was in effect January 23-25, however the Malone jam was the only freeze up jam to develop.

A return of warm weather and rainfall beginning January 29 caused high flows, releasing the freeze-up jam in Malone but causing breakup jams on other rivers. A Flood Watch for ice jams was issued the morning of January 30, and in effect through the end of the month. Breakup ice jams noted during the large-scale end of month thaw included the East Branch of the Ausable River, Great Chazy River, Missisquoi River, East Branch of the Passumpsic River and the Winooski River. In most of these latter cases only minor field and/or nuisance flooding was observed. However, some of these jams remain in place as of mid-February and thus may provide a focus for additional break-up jams as milder temperatures return in March.

Lake Champlain saw small rises in the middle of the month from the increased inflow, but essentially ended the month at the same level it started, just shy of 96 feet. Lake ice coverage began...with protected bays and inlets icing over.

**Significant River Crests January 2013
WFO Burlington VT**

Location	ID	Date	Time (UTC)	Crest Stage (ft)	Flood Stage (ft)
Otter Cr. at Ctr. Rutland, VT	CENV1	1/31/2013	1830	7.06	8.0
Great Chazy R. at Perry Mills, NY	CZRN6	1/31/2013	2346	9.15**	9.0
E. Br. Ausable R. at Ausable Forks, NY	ASFN6	1/14/2013	1345	6.86*	7.0
---	ASFN6	1/31/2013	1230	8.02*	7.0
Winooski R. at Montpelier, VT	MONV1	1/31/2013	2115	12.19*	15.0

* Gage reading affected by ice

** River crest occurred approximately 6 hours later on 2/1/2013

**Monthly Precipitation Totals and Departures
for Selected Automated Observing Sites
January 2013**

Location	ID	Total	Normal	Departure	% of Normal
Burlington, VT	KBTV	1.11	2.06	-0.95	54
Montpelier, VT	KMPV	0.95	2.45	-1.50	39
Springfield, VT	KVSF	1.33	2.92	-1.59	46
St. Johnsbury, VT	K1V4	2.00	2.51	-0.51	80
Morrisville, VT	KMVL	1.55	2.54	-0.99	61
Rutland, VT	KRUT	1.24	n/a	n/a	n/a
Plattburgh, NY	KPBG	0.75	n/a	n/a	n/a
Saranac Lake, NY	KSLK	1.23	2.13	-0.90	58
Massena, NY	KMSS	1.44	2.18	-0.74	66

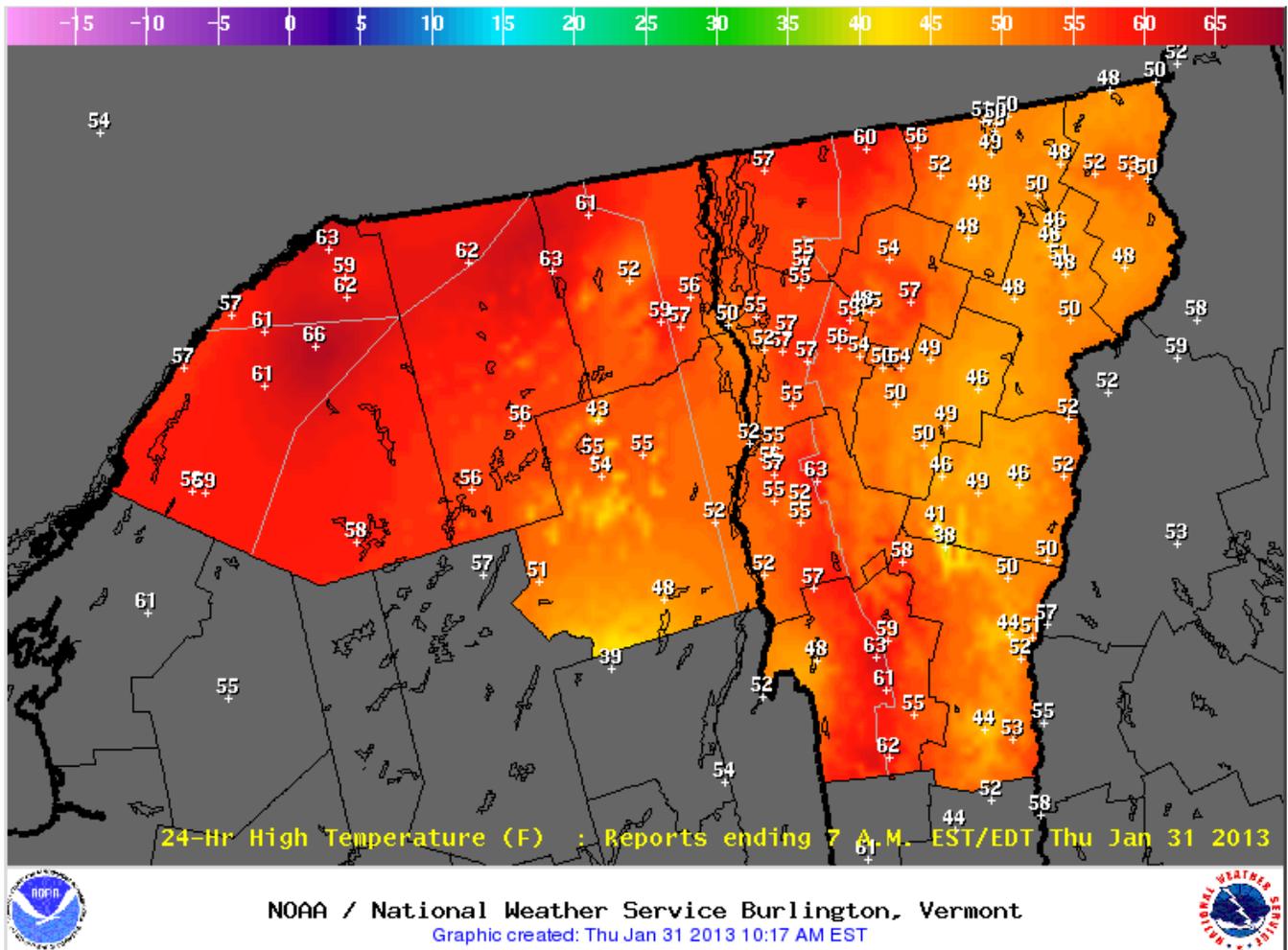


Figure 1. Maximum high temperatures observed on 31 January, 2013 which led to significant thawing and subsequent ice breakup on many rivers across the Burlington, VT HSA.



Figure 2. One of the several homes affected by an ice jam on the Salmon River in Malone, NY.



Figure 3: Yet another casualty of the Salmon River ice jam in Malone, NY.



Figure 4: Another one of the several ice jams that occurred during the significant thawing event of January 31, 2013. Pictured is a jam along the East Branch of the Passumpsic River near East Burke, VT. Only minor field flooding occurred with this jam, though more problematic ice jam flooding did occur in other portions of the Burlington, VT HSA.