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SUBJECT: Late winter ice conditions on northern New England rivers
DATE: 15 March 2005

On 14 March 2005, Andy Tuthill checked ice conditions by air on the following rivers:

White River: South Royalton, VT to mouth
 First Branch White R. near Tunbridge, VT
Winooski River: Middlesex to Marshfield, VT
 Jail Branch and Stevens Branch near Barre, VT
Lamoille River: Hardwick, VT
Connecticut River, Lancaster, NH to Brattleboro, VT
Israel River, Jefferson to Lancaster, NH
Ammonoosuc River, Bethlehem to Woodsville, NH
Black River, N. Springfield, VT to mouth
Williams River, Chester to mouth
West River, Londonderry to mouth
Ashuelot River, Marlow to KeenE, NH
Sugar River, Newport to Claremont, NH

In general, the rivers in the northern half of the region are very winter-like in appearance with nearly complete ice covers under thick unconsolidated snow, with open few open leads visible. In the southern half of the region, river ice conditions are more typical for mid-March, with open water sections and open leads prevalent.

The *White River* has significant open leads in the vicinity of Hartford, VT that continue into the Connecticut which is open at the confluence (Figs. 2&3). Above Hartford, the White River has a mid-winter appearance, with open leads comprising less than 10 percent of the ice cover area. On the *First Branch of the White River*, the ice cover is nearly complete and blanketed in snow, with only minor open leads showing.

The *Jail Branch* and *Stevens Branch* of the Winooski in the vicinity of Barre, VT are relatively open, as is the Dog River below Montpelier. In the Montpelier area, with the exception of an open channel below Levesque Station, the *Winooski River* ice cover is nearly complete and competent-looking (Fig. 4).

The *Lamoille River* at Hardwick, VT is almost completely ice covered, under fresh snow, with very little open water showing (Fig. 5). The same is true for the *Israel River* at Lancaster, NH and upstream (Fig. 6).

The *Ammonoosuc River* ice cover is nearly complete and very winter-like in appearance from Bethlehem, NH downstream to Woodsville, NH. Short sections of open water are visible below the dams at Littleton, Lisbon and Bath, NH.

The *Connecticut River* is open from McIndoe Falls Dam down to North Haverhill (Fig. 7). Fresh-looking snow covers the sheet ice from North Haverhill down to Wilder Dam. The Connecticut is open for about 7 miles below Wilder Dam, past the White River confluence to foot of Sumner Falls. The river is then ice covered as far downstream as Vernon Dam, with the exception of about 4 miles of open water below the dam at Bellows Falls. In most places, the snow on the ice cover is still relatively fresh-looking and unconsolidated (Fig. 8).

The Vermont-side tributaries, the *Black, Williams and West Rivers* are surprisingly open. The *Black River* is open from N. Springfield Reservoir to the milldams in Springfield, then open again to within about 1 mile of the mouth. The *Williams River* is mostly open from Chester downstream to just above the confluence. The *West River* is mostly open downstream of South Londonderry with the exception of ice covers upstream of the Ball Mountain and West Townsend Dams (Fig. 9).

On the New Hampshire side, the *Ashuelot River* is relatively open from Marlow downstream through Keene. The *Sugar River* ice cover is fairly complete from the foot of the rapids below Newport, NH to the milldams at Claremont, NH.

Conclusions

Although the first half of the winter was extremely warm, since mid January, air temperatures have been well below average in northern New England (Fig. 1). Comparing this mid-March ice situation to previous years, ice cover extent and thickness is above somewhat above average in the northern portion of the recon-area and about average in the southern portion.

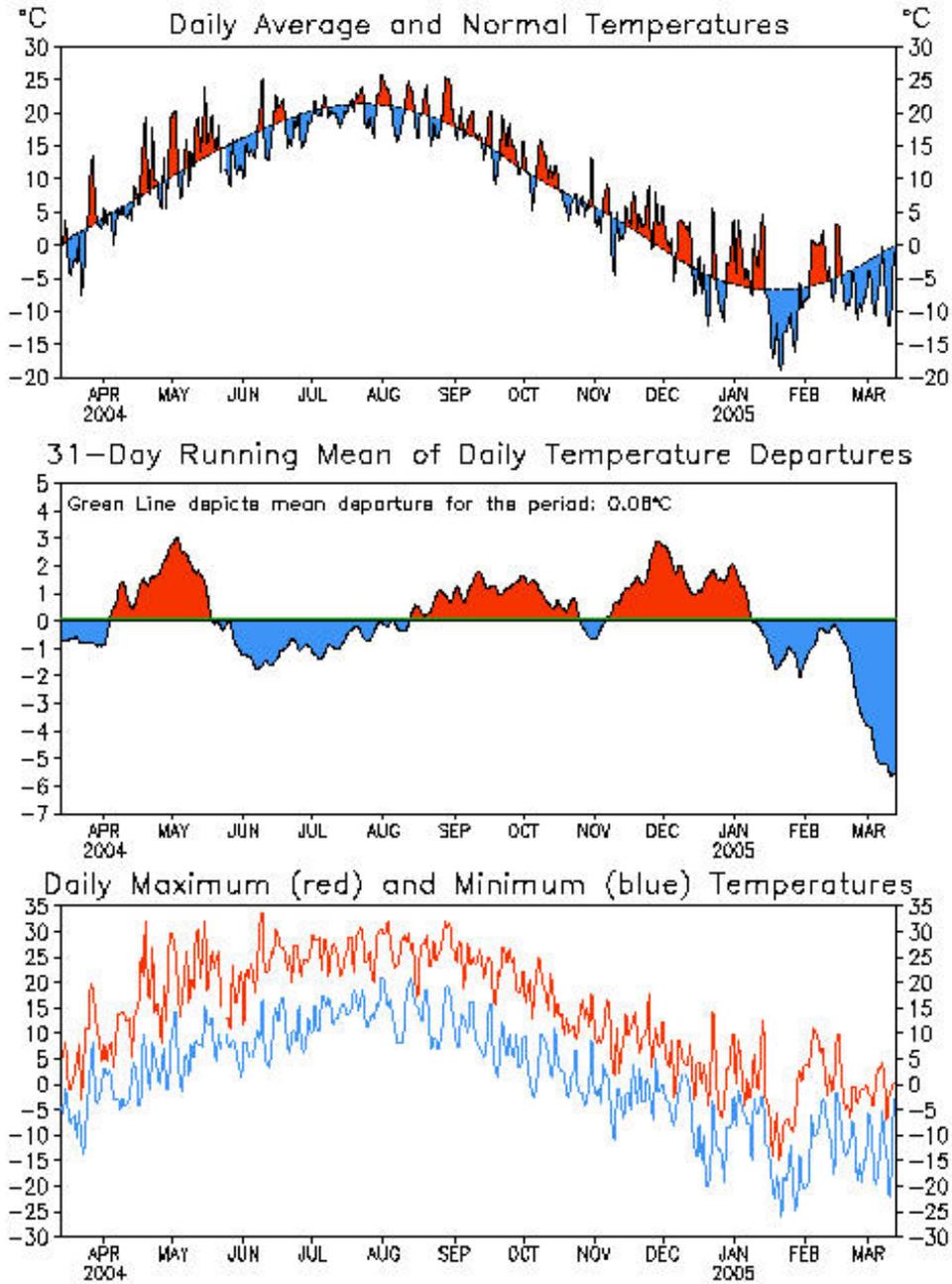
For the next seven days, the forecast in northern New England is for partly to mostly cloudy, with highs of around 40 and night-time lows around 20 °F. No appreciable precipitation is expected. This weather will serve to consolidate the snow cover and slowly thin the ice cover enlarging the open water areas. The ice situation is quite stable right now and, barring a major warm front with several inches of rain, the ice jam potential is low.

Respectfully Submitted,

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Data updated through 12 MAR 2005

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Fig. 1 Daily average air temperatures compared to long-term averages.



Fig. 2. Connecticut River-White River confluence at West Lebanon, NH



Fig. 3. Lower White River.



Fig. 4. Winooski River at Montpelier, VT, site of the March 12, 1992 ice jam flood.



Fig. 5. Lamiolle River at Hardwick, VT.

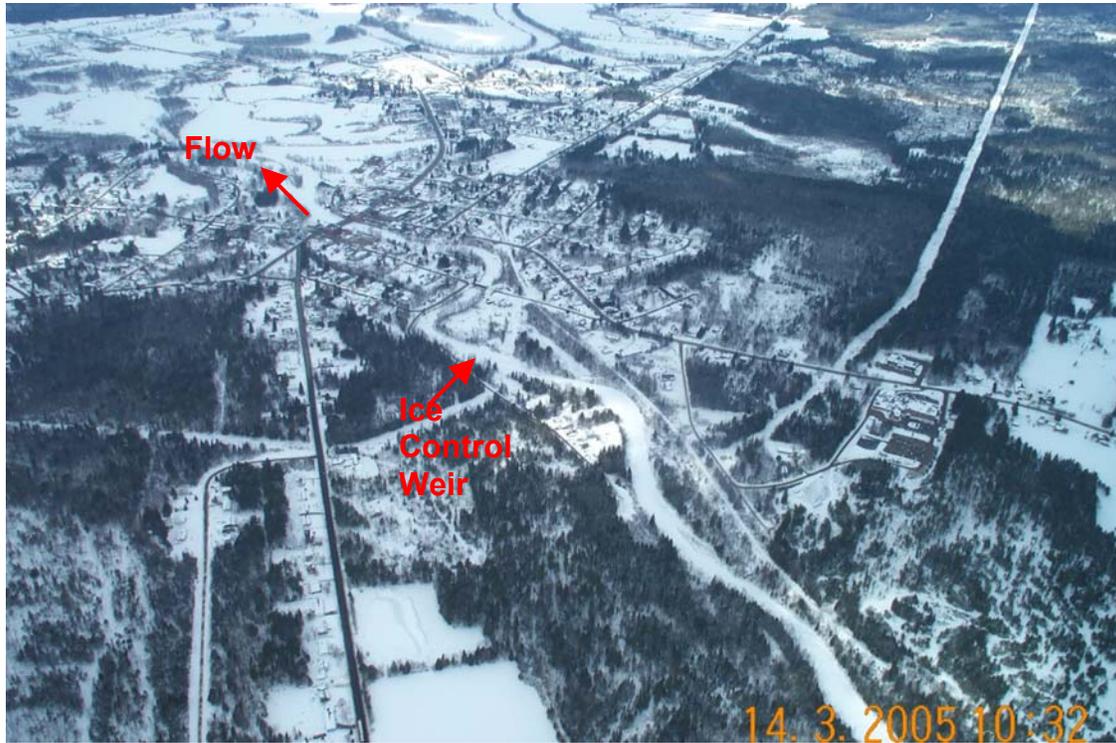


Fig. 6. Israel River at Lancaster, NH.



Fig. 7. Open water on the Connecticut River, near Woodsville, NH.



Fig. 8. Common ice jam location on the Connecticut River below Windsor, VT.



Fig. 9. Open water on the West River near Newfane, VT.