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***Weather INnovations Incorporated***

## **Niagara Report**

**FEBRUARY 2008:**

# **Temperature and Ice Wine Hours Summary**

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## OVERVIEW

February 2008 temperatures fluctuated around historical normals for the entire month. Although most grapes were likely harvested in January, there were a number of opportunities that arose in February. The coldest average daily temperatures occurred on the 10<sup>th</sup> to the 11<sup>th</sup>, and the 28<sup>th</sup> to the 29<sup>th</sup>. The warmest mean daily temperatures occurred on the 5<sup>th</sup> and from the 17<sup>th</sup> to the 18<sup>th</sup>. The maximum temperature reached during this warm spell was 10.3°C at Queenston on February 17<sup>th</sup>, followed by 10.1°C at Virgil. The normal daily mean for February is -3.6°C, based on Environment Canada's 30-year normal for Vineland. Thus, daily means in February were quite normal, ranging from -3.3°C to -4.7°C across the 13 NAWN stations.

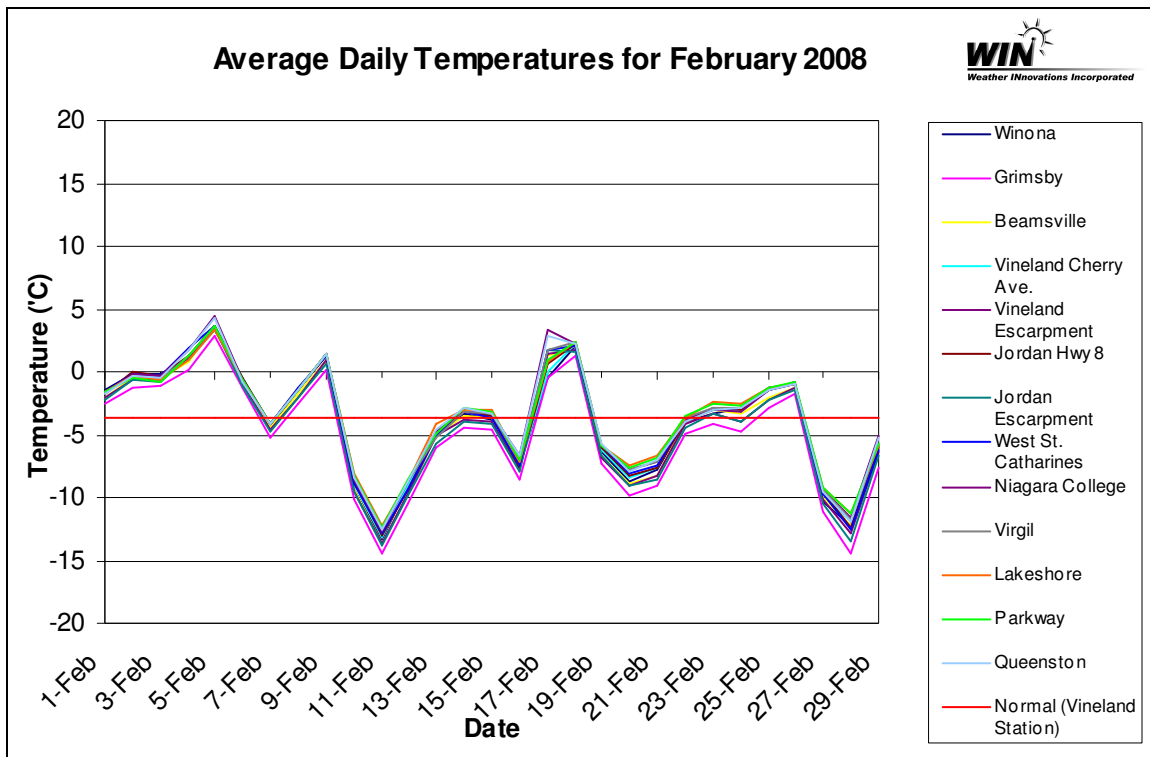



Figure 1: Average Daily Temperatures

This summary will examine minimum February 2008 temperatures, as well as the ice wine harvest opportunities that arose. In each case, comparisons are made between the 13 NAWN stations. For the purpose of this report, ice wine hours are defined as instances when the average hourly temperature was between -8.0°C and -12.0°C, inclusive. Thus, factors such as high average daily temperatures preceding these ice wine hours were not taken into account.

## TEMPERATURE ANALYSIS:

The coldest minimum temperatures were reached on 4 different days: February 10, 11, 28 and 29. Grimsby experienced the absolute coldest minimum temperature for February 2008, reaching  $-22.2^{\circ}\text{C}$  on the 28<sup>th</sup>. The warmest extreme minimum December temperature was  $-16.2^{\circ}\text{C}$  at Lakeshore. There were seventeen days when temperatures at one or more stations dipped into ice wine temperature ranges.

February 2008 Daily Minimums for the NAWN Stations													
													
Date	Winona	Grimsby	Beamsville	Vineland Cherry Ave.	Vineland Escarpment	Jordan Hwy 8	West St. Catharines	Niagara College	Virgil	Lakeshore	Parkway	Queenston	
1-Feb	-3.5	-4.9	-4.7	-4.2	-4.8	-4.2	-4.8	-4.2	-4.2	-4	-3.7	-3.9	-4.2
2-Feb	-1.2	-2.3	-1.5	-1.2	-1.7	-1.3	-1.8	-1.5	-1.1	-1.3	-1.1	-1.4	-1.1
3-Feb	-1.8	-2.5	-1.8	-2.2	-2	-2.1	-2.2	-1.6	-2.1	-5	-5.2	-5.6	-4.2
4-Feb	-1	-2.6	-1.5	-2	-1.3	-1.4	-1.9	-1.3	-1.5	-5.1	-3.1	-4.8	-2.4
5-Feb	0.8	0.1	0.4	0.8	0.4	0.8	0.2	0.6	0.6	0.8	0.8	0.9	0.7
6-Feb	-1.1	-2.1	-1.6	-1.3	-1.8	-1.3	-1.9	-1.3	-1.5	-1.4	-1.4	-1.5	-1.6
7-Feb	-6.1	-7.4	-6.4	-6	-6.6	-7.4	-7.4	-5.8	-5.9	-8.1	-7.6	-9.1	-7.2
8-Feb	-4	-4.6	-4.3	-4.1	-4.5	-4.2	-4.4	-4	-3.9	-3.9	-4.1	-4.2	-4.1
9-Feb	-0.2	-1.5	-0.7	-0.2	-0.8	-0.2	-0.9	-0.4	-0.2	-0.3	-0.6	-0.6	-0.1
10-Feb	-17.5	-18.4	-17.6	-17	-17.7	-17	-17.6	-16.9	-16.6	-16.4	-16.2	-16.4	-16.6
11-Feb	-17.5	-18.5	-17.7	-17.1	-17.8	-17.1	-17.6	-16.9	-16.7	-16.4	-16	-16.3	-16.6
12-Feb	-14	-16.8	-15.1	-14.4	-14.5	-14.5	-14.6	-14.2	-13.4	-13.6	-12.7	-12.5	-13.4
13-Feb	-8.8	-11.4	-8.4	-9.2	-8.8	-9	-10.4	-8.7	-10	-13.8	-10.4	-12	-11.8
14-Feb	-7	-8	-7.2	-6.7	-7.7	-7.1	-8	-7.9	-6.9	-7	-6.3	-6.7	-6.4
15-Feb	-8.2	-8.9	-8.3	-7.6	-8.3	-7.7	-8.5	-8.2	-7.4	-7.2	-6.3	-6.7	-7.3
16-Feb	-12	-13.9	-11.9	-11.1	-12.1	-11.4	-12.5	-13.2	-11.1	-11.5	-12.7	-11.5	-11.1
17-Feb	-11.4	-12.5	-9.3	-12.2	-9.4	-10.9	-10.2	-9	-4.2	-10.4	-10.5	-11.5	-5.7
18-Feb	-2.3	-3.1	-2.4	-1.9	-2.5	-2	-2.7	-2.1	-2	-1.8	-1.6	-1.7	-1.8
19-Feb	-8.4	-9.2	-8.8	-8.4	-9.1	-8.4	-8.9	-8	-8	-8.3	-7.8	-8	-7.5
20-Feb	-11.6	-13	-11.6	-11	-11.5	-10.9	-11.8	-10.5	-10.5	-10.4	-10.2	-10.3	-10.4
21-Feb	-11.6	-13.3	-12	-11	-12	-11.6	-12.3	-11.7	-10.9	-10.7	-10.1	-10.3	-10.4
22-Feb	-6.9	-7.6	-6.9	-6.5	-7	-6.6	-7.2	-6.5	-6.3	-6.3	-6.3	-6.3	-6.4
23-Feb	-6.3	-8.2	-6.5	-6.1	-6.7	-5.7	-6.8	-6.1	-5.2	-5.2	-4.5	-4.7	-4.7
24-Feb	-7.4	-10.7	-8.1	-7.1	-8.2	-7.2	-8.7	-7.4	-7.7	-8	-7	-7.3	-7.2
25-Feb	-4.3	-6.1	-5	-4.4	-5.2	-4.6	-5.4	-4.4	-4.6	-4.7	-4.4	-4.5	-4.5
26-Feb	-4.6	-5.1	-4.2	-3.8	-4.3	-3.7	-4.1	-3.2	-3.4	-3.2	-2.9	-3	-3.3
27-Feb	-14.4	-15.1	-13.7	-12.1	-13.2	-12.2	-14	-12.3	-11.8	-11.7	-11.6	-11.6	-12
28-Feb	-15.2	-22.2	-15.6	-14.7	-17.9	-17.6	-19.2	-18	-14.1	-16.3	-15.1	-14.1	-14.6
29-Feb	-14	-22.1	-14.6	-15.6	-17.5	-17.5	-17.9	-18	-13.2	-15.1	-14.8	-15.5	-13.6

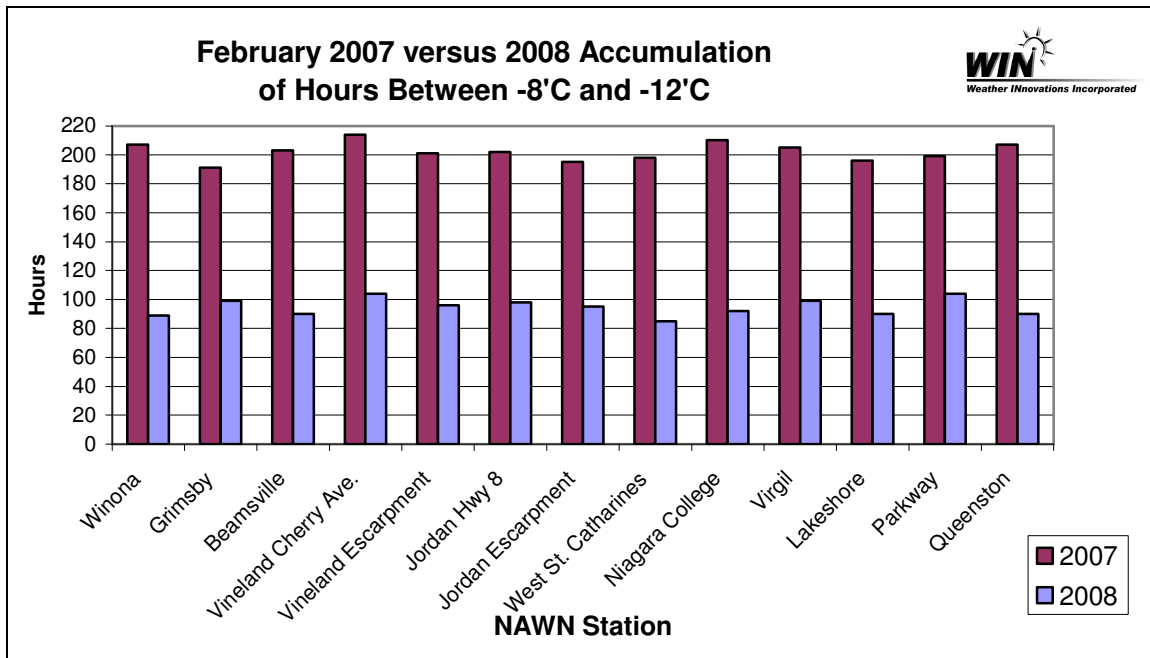
Legend:

<span style="background-color: #e0f0ff; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	Days with Ice Wine Temperatures
<span style="background-color: #0070c0; color: white; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span>	Extreme Monthly Minimum

Figure 2: Daily Minimum Temperatures

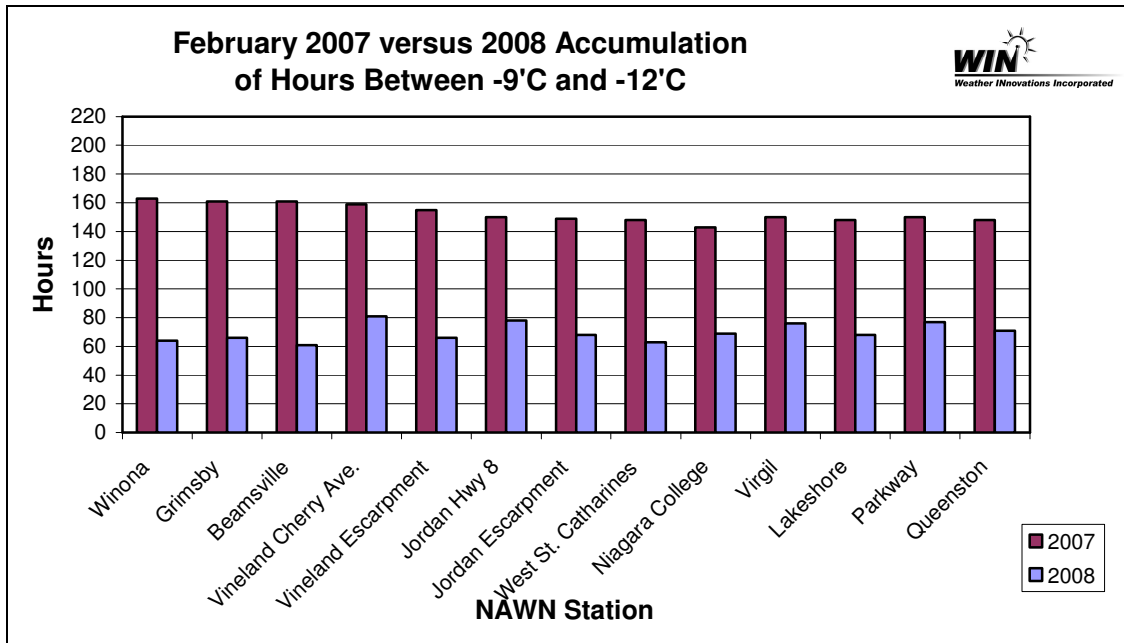
## ICE WINE HOURS ANALYSIS:

Almost all of the NAWN stations recorded between 85 and 104 ice wine hours in February 2008. Vineland Cherry Avenue and the Parkway accumulated the greatest number of ice wine hours, while West St. Catharines experienced the least amount. Remarkably, all of the stations only experienced approximately half of the hours accumulated in February 2007.



**Figure 3: Hours Between -8°C and -12°C**

As can be seen in Figure 3, all of the NAWN stations accumulated much fewer ice wine hours in 2008, than in the previous year. A slight change to the upper temperature threshold (Figure 4) lowers the yearly accumulated recorded ice wine hours equally. For each location, there were significantly more ice wine harvesting opportunities in January 2008 than in January 2007.



**Figure 4: Hours Between -9°C and -12°C**

The ice wine hours between -8°C and -12°C were accumulated during 13 ice wine “opportunities” in February. Although there was likely sufficient time for grape harvesting in January, all events are shown explicitly in the following tables.



Date/ Time													
	Winona	Grimsby	Beamsville	Vineland Cherry Ave.	Vineland Escarpment	Jordan Hwy 8	Jordan Escarpment	West St. Catharines	Niagara College	Virgil	Lakeshore	Parhway	Queenston
<b>Possible Icewine Opportunity #1: Feb 10</b>													
02/10 9:00	-6.5	-7.4	-6.5	-5.8	-6.3	-5.5	-6.4	-5.2	-4.5	-4.8	-4.4	-4.4	-4.4
02/10 10:00	-8.2	-8.8	-7.8	-7.3	-7.9	-7.1	-7.9	-7	-6.6	-6.3	-5.8	-6	-6.4
02/10 11:00	-8.7	-9.5	-8.5	-8.4	-9	-8.2	-9.3	-8.3	-7.9	-7.5	-6.9	-7	-7.5
02/10 12:00	-9.8	-10.4	-9.9	-9.4	-10.2	-9.4	-10.4	-9.5	-8.7	-8.3	-8.2	-8.1	-8.2
02/10 13:00	-10.7	-11	-10.2	-10.1	-10.6	-9.7	-11.2	-10	-9.4	-9.3	-9.3	-9.2	-9.1
02/10 14:00	-11.6	-12	-11.5	-10.9	-11.8	-11	-12.1	-11.2	-10.2	-10.3	-10.3	-10.3	-10
02/10 15:00	-12.6	-13.1	-12.2	-11.8	-12.6	-11.9	-13.1	-12.2	-11.1	-11.1	-11.1	-11.1	-11
02/10 16:00	-13.6	-14.3	-13.5	-13.1	-13.7	-13	-13.8	-12.9	-12.5	-12	-12.1	-12.1	-11.9
02/10 17:00	-14.5	-15.4	-14.5	-14.1	-14.7	-14.1	-14.9	-14	-13.6	-13.2	-12.8	-13.4	-13.3
<b>Possible Icewine Opportunity #2: Feb 11-12</b>													
02/11 10:00	-13.5	-15	-14.2	-13.7	-14.3	-13.5	-14.5	-13.3	-13.4	-13	-12.6	-13	-13.1
02/11 11:00	-12	-13.1	-12.4	-12.3	-12.8	-12	-13	-12	-11.8	-11.8	-11.6	-11.7	-11.8
02/11 12:00	-10.9	-11.9	-11.3	-11.1	-11.6	-10.9	-12.2	-10.6	-10.6	-10.6	-10.6	-10.5	-10.4
02/11 13:00	-10.4	-10.9	-10.6	-10.4	-10.6	-10.1	-11.1	-9.6	-9.8	-9.9	-9.9	-9.8	-9.6
02/11 14:00	-9.9	-10.5	-9.8	-9.7	-10	-9.5	-10.4	-9.1	-9	-9	-9.3	-8.8	-8.9
02/11 15:00	-9.8	-10.6	-9.6	-9.4	-9.7	-9.2	-10.1	-9	-8.7	-9	-8.7	-8.5	-8.6
02/11 16:00	-9.7	-10.7	-9.7	-9.5	-9.7	-9	-10.1	-9.1	-8.8	-8.8	-8.8	-8.7	-8.7
02/11 17:00	-9.9	-10.8	-9.9	-9.7	-10.1	-9.3	-10.3	-9.5	-9.2	-9.2	-9	-9	-9.1
02/11 18:00	-10.9	-11.9	-10.9	-10.4	-11	-10.3	-11.2	-10.4	-10.2	-10	-9.9	-9.9	-10.1
02/11 19:00	-11.6	-12.6	-11.6	-11	-11.7	-11.1	-11.7	-11.1	-10.9	-10.6	-10.6	-10.5	-10.8
02/11 20:00	-12	-13	-12.1	-11.6	-12.1	-11.6	-12.2	-11.5	-11.3	-11.1	-11	-11	-11.3
02/11 21:00	-12.1	-13.3	-12.4	-11.8	-12.4	-11.7	-12.5	-11.8	-11.6	-11.4	-11.1	-11.2	-11.6
02/11 22:00	-12.4	-13.7	-12.6	-11.9	-12.6	-12.1	-12.7	-12.2	-11.9	-11.6	-11.2	-11.4	-11.8
02/11 23:00	-12.7	-14.1	-13	-12.1	-13	-12.5	-13.1	-12.5	-12	-12	-11.7	-11.7	-12.1
02/12 0:00	-12.9	-14.6	-13.3	-12.1	-13.1	-12.5	-13.1	-12.6	-12.2	-12.2	-12	-11.8	-12.2
02/12 1:00	-13.1	-14.8	-13.2	-12	-13.2	-12.6	-13.4	-13	-12.2	-12.3	-12.2	-12.2	-13
02/12 2:00	-13	-14.4	-13.4	-12	-13.3	-12.9	-13.5	-13.1	-12.5	-12.4	-12.4	-12.2	-12.6
02/12 3:00	-13.2	-15.1	-13.5	-12.4	-13.5	-12.9	-13.7	-13.1	-12.8	-13	-12.5	-12.3	-13.1
02/12 4:00	-13.5	-15.7	-14.1	-13.5	-14.1	-13.9	-14.1	-13.8	-13	-13.3	-12.2	-11.6	-12.3
02/12 5:00	-13.7	-16.3	-14.9	-13.8	-14	-14.5	-14.5	-14.1	-12.4	-12.1	-12	-11.2	-11.2
02/12 6:00	-13.7	-16.6	-14	-12.8	-13.7	-14	-13.7	-14	-12.1	-11.4	-11.5	-10.8	-10.8
02/12 7:00	-12.8	-15	-13.2	-11.7	-12.6	-12.2	-12.8	-13.2	-11.5	-10.7	-10.9	-10.5	-10.9
02/12 8:00	-11.6	-13	-11.9	-11	-11.8	-11.2	-11.8	-12.1	-11.2	-10.3	-10.4	-10.5	-10.9
02/12 9:00	-10.2	-11.4	-10.9	-10.2	-10.7	-10.4	-11.1	-10.7	-10.4	-10	-10.2	-10.1	-10.2
02/12 10:00	-8.9	-10	-9.6	-9.3	-9.7	-9.4	-10.2	-9.4	-8.8	-9	-9.2	-8.8	-9
02/12 11:00	-7.9	-8.7	-8.6	-8.2	-8.7	-8.1	-8.9	-8	-7.8	-7.9	-7.9	-7.6	-7.6
02/12 12:00	-6.9	-7.8	-7.6	-7.2	-7.5	-7.3	-7.9	-7.2	-6.9	-7.1	-7.2	-6.9	-6.8

Figure 5: Ice Wine Hours from Feb 10-12

February 10 provided 4 or 5 harvesting hours for each location. However, temperatures quickly dropped below -12°C. Temperatures rose back into ice wine range on the morning of February 11, leading into the second ice wine opportunity for the month. All stations then saw at least a seven-hour window of ice wine temperatures before temperatures dropped below -12°C again during the overnight hours. Another opportunity took place on the morning of the 12<sup>th</sup> as temperatures rose.

Date/ Time													
	Winona	Grimsby	Beamsville	Vineland Cherry Ave.	Vineland Escarpment	Jordan Hwy 8	Jordan Escarpment	West St. Catharines	Niagara College	Virgil	Lakeshore	Parkway	Queenston
<b>Possible Icewine Opportunity #3: Feb 12</b>													
02/12 15:00	-6.8	-7.7	-7.5	-7.3	-7.8	-7.4	-8	-7.3	-7.3	-7.2	-7.1	-7	-7.3
02/12 16:00	-7.3	-8.3	-7.8	-7.5	-7.8	-7.5	-7.9	-7.3	-7.3	-7.5	-7.4	-7.3	-7.2
02/12 17:00	-7	-8.3	-7.8	-7.5	-7.8	-7.4	-7.7	-7.2	-7.2	-7.3	-7.5	-7.4	-7.2
02/12 18:00	-6.8	-8.2	-7.8	-7.5	-7.8	-7.3	-7.7	-7.1	-7.2	-7.3	-7.4	-7.4	-7.2
02/12 19:00	-6.7	-8.1	-7.8	-7.4	-7.8	-7.3	-7.6	-7.1	-7.1	-7.2	-7.3	-7.2	-7.2
02/12 20:00	-6.4	-7.9	-7.6	-7.4	-7.6	-7.2	-7.5	-6.9	-6.9	-7.1	-7.2	-7.2	-7
<b>Possible Icewine Opportunity #4: Feb 13-14</b>													
02/13 18:00	-4.6	-5	-5.5	-4.2	-5.2	-5.1	-5.6	-5.6	-5.1	-6.4	-4.4	-4.9	-5.6
02/13 19:00	-7	-7.4	-6.7	-8.1	-6.4	-8.5	-9.2	-7.5	-9.4	-12.3	-7.1	-9.1	-10.6
02/13 20:00	-7.8	-8.9	-6.7	-7	-6.9	-6.3	-8.6	-7.7	-8.3	-12.6	-9.8	-10.8	-9.4
02/13 21:00	-8.1	-9.9	-7.1	-7.4	-6.9	-6.3	-8.2	-7	-8.8	-9.2	-4.9	-9.5	-7.4
02/13 22:00	-7.8	-10.1	-7.7	-7.5	-7.5	-6.7	-8.3	-7.1	-8.7	-8.3	-3.5	-9.2	-7.9
02/13 23:00	-7.6	-10	-8.2	-8.1	-8.3	-7.4	-9.6	-7.7	-8.3	-7.5	-3.7	-4.7	-7
02/14 0:00	-7.2	-8.3	-7.7	-7	-8	-7.1	-9.1	-8.2	-7.5	-7.3	-4.5	-6.7	-6.6
02/14 1:00	-6.4	-7.9	-7	-6.4	-7.6	-6.9	-7.8	-7.4	-6.7	-6.9	-6.2	-6.6	-6.2
<b>Possible Icewine Opportunity #5: Feb 15-16</b>													
02/15 18:00	-6.6	-7.3	-6.4	-6	-6.5	-5.8	-6.5	-6	-5.5	-5.3	-5.2	-5.3	-5.5
02/15 19:00	-7.4	-8.4	-7.7	-7.3	-7.8	-7.2	-7.9	-7.3	-6.6	-6	-5.3	-5.6	-6.1
02/15 20:00	-7.8	-8.7	-7.9	-7.2	-7.8	-7.2	-8.1	-7.5	-7.1	-6.7	-5.7	-6.5	-6.9
02/15 21:00	-8.1	-8.8	-8.1	-7.4	-8	-7.3	-8.3	-7.7	-7.2	-6.8	-6.2	-6.5	-7.1
02/15 22:00	-7.6	-8.7	-8	-7.5	-8	-7.3	-8.4	-7.7	-7.1	-6.7	-6.3	-6.6	-7.1
02/15 23:00	-7.6	-8.7	-8	-7.3	-8	-7.3	-8	-7.6	-7.1	-6.7	-6.2	-6.5	-7
02/16 0:00	-7.4	-8.5	-8	-7.5	-8.3	-7.7	-8.4	-8.1	-7.3	-6.7	-6.2	-6.4	-7.2
02/16 1:00	-7.9	-8.8	-8.1	-7.5	-8.2	-7.8	-8.3	-8.3	-7.5	-7.2	-7.1	-7.1	-7.4
02/16 2:00	-8.6	-9.7	-8.7	-7.8	-8.7	-8.1	-8.8	-8.6	-8.5	-7.5	-7.4	-7.3	-8
02/16 3:00	-9.7	-10.8	-9.9	-8.9	-9.9	-9.4	-10.2	-10	-9.2	-8	-7.5	-7.5	-8.5
02/16 4:00	-10.7	-12	-10.8	-9.3	-10.6	-10.2	-11.1	-10.6	-9.4	-9.3	-8.6	-8.5	-9.2
02/16 5:00	-10.8	-12.6	-11.2	-10	-11	-10.6	-11.7	-11.5	-9.6	-9.7	-9.4	-9.4	-9.7
02/16 6:00	-11.3	-12.8	-11.2	-10.4	-11.1	-10.8	-12	-12	-10	-9.9	-10.1	-9.8	-9.5
02/16 7:00	-11.5	-13.5	-11.6	-11	-11.6	-11.1	-12.2	-12.5	-10.9	-11.1	-11.5	-10.5	-10.2
02/16 8:00	-11.8	-13.7	-11.8	-10.9	-11.9	-11.3	-12.2	-11.7	-10.8	-11.2	-12.4	-11.3	-10.8
02/16 9:00	-10.5	-12	-10.6	-9.6	-10.3	-9.6	-11.2	-9.4	-9.2	-9.6	-9.7	-9.5	-8.7
02/16 10:00	-8.2	-9.5	-8.4	-7.6	-8.2	-7.2	-9.1	-7.1	-7	-7.3	-6.8	-7	-6.6
02/16 11:00	-5.9	-7.2	-6.3	-6	-6.4	-5.5	-7.1	-5.3	-5.6	-5.8	-5.2	-5.3	-5

**Figure 6: Ice Wine Hours from Feb 12-16**

The third opportunity occurred only at the Grimsby location with temperatures barely dipping below  $-8^{\circ}\text{C}$ . The fourth opportunity was very sporadic, with Grimsby, Jordan Escarpment, Niagara College and the Parkway experiencing the greatest harvesting windows. The fifth opportunity provided at least 6 hours for most locations, although started earlier for the Grimsby, Beamsville, Vineland Escarpment and Jordan escarpment locations. Temperatures briefly dipped slightly below  $-12^{\circ}\text{C}$  at a few locations.


Date/ Time													
	Winona	Grinsby	Beansville	Vineland Cherry Ave.	Vineland Escarpment	Jordan Hwy 8	Jordan Escarpment	West St. Catharines	Niagara College	Virgil	Lakeshore	Parkway	Queenston
<b>Possible Icewine Opportunity #6: Feb 16-17</b>													
02/16 18:00	-5.1	-5.9	-5.1	-4.8	-5.7	-4.9	-5.7	-5.8	-5.1	-5.4	-5	-4.8	-4.9
02/16 19:00	-6.7	-7.5	-7.4	-7.8	-7.6	-6.9	-7.1	-7.2	-6.4	-8	-7.1	-7.3	-6.8
02/16 20:00	-8.6	-9	-8.1	-9.9	-8.3	-9	-8.1	-7.3	-6.3	-8.7	-7.8	-9	-7.3
02/16 21:00	-8.1	-8.7	-7.9	-9.6	-8.3	-9.6	-8.2	-8.1	-6.4	-8.8	-8.1	-9.3	-7.3
02/16 22:00	-6.9	-8.3	-7.1	-9.7	-7.5	-10	-7.7	-7.8	-6.6	-8.1	-7.7	-8.6	-6.8
02/16 23:00	-6.3	-7.6	-6.8	-8.4	-7	-9.3	-7.1	-7.4	-5.8	-7.5	-8	-8.1	-5.9
02/17 0:00	-6.2	-7.9	-6.9	-8.4	-6.8	-9.3	-6.6	-7.3	-5.5	-6.9	-8.8	-8.4	-5.8
02/17 1:00	-7	-8	-6.6	-9.6	-6.3	-9.6	-6.1	-7	-3.6	-5.9	-7	-8.3	-5.5
02/17 2:00	-9.5	-9.1	-6.3	-9.9	-6.1	-9.5	-5.2	-7.1	-2.8	-6.9	-8.7	-10	-4.7
02/17 3:00	-11.3	-11.4	-7.7	-11.5	-7.8	-10.1	-5.1	-6.9	-2.5	-9.5	-8.9	-10.9	-4.5
02/17 4:00	-10.8	-12.1	-9	-11.6	-7.5	-10.2	-7.3	-7.9	-2.3	-10	-9.9	-10.8	-4.7
02/17 5:00	-10.2	-11.8	-8.7	-11.6	-8.2	-10.4	-8.6	-8.2	-2.1	-8.6	-10.3	-11.2	-3.7
02/17 6:00	-9.7	-11.6	-5.8	-11	-5.2	-10	-5.6	-5.7	-1.4	-8.7	-10.4	-10.4	-2.2
02/17 7:00	-9.2	-9.9	-3.3	-9.5	-2.9	-8.9	-1.7	-3.5	-0.9	-4.4	-9.5	-6.3	-1.8
02/17 8:00	-6.8	-2.7	-1.5	-7.1	-0.8	-6.6	-0.2	-0.6	0.1	0.6	-7.1	-1.9	-1
<b>Possible Icewine Opportunity #7: Feb 19</b>													
02/19 5:00	-7.1	-7.7	-6.9	-6.4	-7	-6.4	-6.8	-6	-6.1	-6.4	-6	-6.4	-5.9
02/19 6:00	-7.8	-8.5	-7.6	-7.3	-7.7	-6.9	-7.3	-6.6	-6.5	-6.5	-6.4	-6.5	-6.1
02/19 7:00	-8.2	-9.1	-8.4	-8	-8.5	-7.7	-8.3	-7.3	-7.2	-7.5	-7.2	-7.3	-6.7
02/19 8:00	-8.3	-9.2	-8.7	-8.4	-9	-8.4	-8.8	-7.8	-7.9	-8.2	-7.8	-7.9	-7.4
02/19 9:00	-7.4	-8.6	-8.2	-8	-8.5	-7.7	-8.2	-6.9	-6.9	-7.4	-7.5	-7.5	-6.7
02/19 10:00	-7.2	-8	-7.1	-7	-7.4	-6.6	-7.4	-6.2	-6.2	-6.5	-6.5	-6.5	-6.1
02/19 11:00	-6.7	-7.6	-6.9	-6.7	-7.5	-6.3	-7.5	-6	-5.6	-6.3	-6	-6.1	-5.6
<b>Possible Icewine Opportunity #8: Feb 19-20</b>													
02/19 22:00	-6.8	-7.9	-7	-6.7	-7.1	-6.5	-7.2	-6.5	-6.4	-6.3	-6.3	-6.3	-6.3
02/19 23:00	-7.1	-8.3	-7.4	-6.9	-7.3	-6.7	-7.3	-6.7	-6.7	-6.4	-6.7	-6.4	-6.6
02/20 0:00	-7.3	-8.7	-7.8	-7.3	-7.7	-7.2	-7.7	-6.9	-7	-6.8	-7	-6.8	-6.9
02/20 1:00	-8.2	-9.2	-8.3	-7.9	-8.3	-7.6	-8.2	-7.5	-7.4	-7.2	-7.2	-7.1	-7.3
02/20 2:00	-8.8	-10	-9	-8.6	-9.1	-8.4	-9	-8.3	-8.2	-8	-7.5	-7.8	-8
02/20 3:00	-9.6	-10.7	-9.5	-9	-9.4	-8.7	-9.2	-8.7	-8.5	-8.4	-8	-8.3	-8.4
02/20 4:00	-10.2	-11.2	-10	-9.5	-10	-9.2	-9.9	-9.2	-9	-8.8	-8.4	-8.7	-8.8
02/20 5:00	-10.5	-11.7	-10.6	-10.1	-10.5	-9.8	-10.5	-9.7	-9.6	-9.3	-8.9	-9.2	-9.4
02/20 6:00	-10.8	-12.1	-10.9	-10.4	-10.8	-10.2	-10.8	-10.1	-10	-9.8	-9.5	-9.6	-9.8
02/20 7:00	-11.3	-12.7	-11.3	-10.8	-11.2	-10.5	-11.1	-10.4	-10.3	-10.3	-10	-10.1	-10.1
02/20 8:00	-11.4	-12.9	-11.4	-10.9	-11.3	-10.5	-11.1	-10.3	-10.4	-10.1	-10.1	-10.2	-10.2
02/20 9:00	-10	-11.9	-10.4	-10	-10.4	-9.4	-10.2	-9	-9	-9	-8.6	-9	-9.2
02/20 10:00	-8.9	-10.4	-9.3	-9	-9.3	-8.4	-9.1	-7.5	-7.5	-7.9	-7.7	-7.8	-7.8
02/20 11:00	-7.6	-8.8	-8.1	-8	-8.5	-7.6	-8.3	-7.2	-6.8	-7	-7.3	-7	-7.1
02/20 12:00	-7.1	-7.7	-6.9	-7	-7.7	-6.9	-7.7	-6.6	-6.2	-6.4	-6.7	-6.5	-6.4

Figure 7: Ice Wine Hours From Feb 16-20

February 16-17 provided a very sporadic window of opportunity across the locations, with Vineland Cherry Avenue, Jordan Hwy 8 and the Parkway experiencing the longest opportunities. In contrast, Niagara College and Queenston remained slightly too warm. The morning of February 19 only offered a small opportunity for the western Niagara regions, while the early morning hours of February 20 provided at least a 7-hour window for all stations.




Date/ Time													
	Winona	Grimsby	Beansville	Vineland Cherry Ave.	Vineland Escarpment	Jordan Hwy 8	Jordan Escarpment	West St. Catharines	Niagara College	Virgil	Lakeshore	Parkway	Queenston
<b>Possible Icewine Opportunity #9: Feb 20-21</b>													
02/20 17:00	-6.3	-7.3	-6.7	-6.2	-7	-6.2	-7.2	-6.3	-5.8	-5.8	-5.9	-6	-6.3
02/20 18:00	-6.9	-8.1	-7.6	-7.2	-8	-7.4	-8	-7.2	-6.4	-6.4	-6.2	-6.3	-6.5
02/20 19:00	-7.7	-8.6	-8.4	-7.5	-8.5	-7.8	-8.8	-8	-7.5	-6.9	-6.1	-6.6	-7.4
02/20 20:00	-8.5	-9.5	-8.8	-7.8	-8.7	-8.1	-9	-8.3	-7.4	-6.8	-6.6	-6.6	-7.4
02/20 21:00	-9.4	-10.4	-9.5	-8.5	-9.4	-8.6	-9.5	-8.6	-7.8	-7.8	-7.6	-7.5	-8
02/20 22:00	-10.2	-11	-10.2	-8.9	-9.9	-9	-10.3	-9.1	-8.6	-8.5	-8.3	-8.4	-8.7
02/20 23:00	-10.5	-12.1	-11	-10	-10.8	-10	-11.3	-10.1	-8.5	-8.3	-7.9	-8.2	-8.6
02/21 0:00	-10.7	-12.4	-11.2	-10.1	-11.2	-10.6	-11.6	-10.3	-9.6	-8.6	-7.7	-8	-8.9
02/21 1:00	-10.9	-12.4	-11.2	-10.5	-11.3	-10.5	-11.5	-10.5	-9.8	-9.1	-8.2	-8.8	-9.2
02/21 2:00	-10.7	-13	-11.4	-10.6	-11.3	-10.5	-11.4	-10.6	-9.7	-9.3	-7.4	-8.8	-9.3
02/21 3:00	-10.6	-11.9	-11.3	-10.2	-11.2	-10.1	-11.4	-10.3	-9.7	-9.1	-7.4	-7.8	-9.4
02/21 4:00	-11.1	-12.2	-10.9	-10.2	-11	-10.2	-10.9	-10.1	-9.7	-9	-7.1	-7.9	-9.1
02/21 5:00	-11.1	-12.7	-11.5	-10.8	-11.4	-10.6	-11.4	-10.5	-10.1	-9.5	-8.3	-8.9	-9.3
02/21 6:00	-11.4	-13	-11.7	-10.8	-11.7	-10.9	-12	-11.4	-10.7	-10.4	-9.8	-10	-10.3
02/21 7:00	-11.4	-13.3	-11.9	-10.6	-11.8	-11.2	-12.1	-11.6	-10.7	-10.6	-10	-10.1	-10.2
02/21 8:00	-11	-13.1	-11.8	-10.3	-11.8	-11.1	-11.9	-11.1	-10.2	-10.1	-10	-9.9	-9.5
02/21 9:00	-8.5	-11.4	-10.2	-9.5	-10.1	-9	-10.2	-8.8	-8.5	-8.5	-7.8	-8.4	-8.4
02/21 10:00	-6.9	-8.6	-8.1	-7.8	-8.4	-7.4	-8.3	-7.1	-6.7	-6.6	-6.2	-6.5	-6.7
02/21 11:00	-6.2	-7	-6.2	-6.2	-6.9	-6.3	-7.3	-6	-5.6	-5.7	-5.4	-5.4	-5.7
<b>Possible Icewine Opportunity #10: Feb 24</b>													
02/24 0:00	-6.1	-7.9	-6.4	-5.2	-6.7	-5.7	-6.7	-5.9	-5	-5	-3.7	-4.6	-4.4
02/24 1:00	-6.7	-8.7	-6.6	-5.5	-6.8	-6.1	-6.6	-6.6	-6.1	-5.5	-4	-5.1	-4.9
02/24 2:00	-6.8	-10	-6.6	-6.5	-7	-6.3	-6.8	-6.8	-6.3	-5.8	-5.3	-5.5	-5.2
02/24 3:00	-6.8	-10.4	-6.8	-6.6	-7.8	-6.7	-7.2	-7.1	-6.2	-6	-6	-5.8	-5.9
02/24 4:00	-7.1	-10.4	-7.5	-6.6	-8	-6.9	-8.1	-7	-6.7	-6.8	-6.4	-6.3	-6.6
02/24 5:00	-7.1	-10	-8	-6.8	-8	-7	-8.4	-7.2	-7.1	-7.7	-6.7	-7.2	-6.5
02/24 6:00	-6.9	-9.6	-7.5	-6.1	-7.9	-6.9	-7.7	-6.9	-7.1	-6.8	-6.8	-7.1	-6.4
02/24 7:00	-7.1	-9.6	-7.3	-6.3	-8	-7	-7.6	-6.9	-7.6	-7	-6.9	-7	-7
02/24 8:00	-6.5	-9	-7.2	-6.3	-7.7	-6.9	-7.7	-6.5	-7.5	-6.9	-6.5	-6.7	-6.8
02/24 9:00	-4.8	-6.5	-5.6	-4.9	-5.9	-4.7	-5.7	-3.8	-5.6	-4.9	-4.3	-4.5	-5.3
<b>Possible Icewine Opportunity #11: Feb 27-28</b>													
02/27 2:00	-6.6	-7	-6.2	-5.8	-6.3	-5.8	-6.2	-5.5	-5.1	-4.7	-4.6	-4.9	-5
02/27 3:00	-7.8	-8.7	-7.6	-7.1	-7.6	-7	-7.6	-6.9	-6.7	-6.4	-6.2	-6.2	-6.2
02/27 4:00	-8.5	-9.5	-8.5	-8.2	-8.7	-8.1	-8.7	-8.1	-7.9	-7.8	-7.6	-7.5	-7.7
02/27 5:00	-9.4	-10.3	-9.3	-8.9	-9.4	-8.7	-9.3	-8.9	-8.6	-8.4	-8.4	-8.4	-8.6
02/27 6:00	-10.6	-11.4	-10.4	-9.9	-10.3	-9.7	-10.2	-9.8	-9.6	-9.5	-9.4	-9.5	-9.5
02/27 7:00	-11.5	-12.2	-11.1	-10.6	-11.2	-10.4	-11.1	-10.6	-10.4	-10.5	-10.4	-10.2	-10.3
02/27 8:00	-12	-12.6	-11.3	-11	-11.4	-10.9	-11.5	-10.9	-10.7	-11.2	-11.1	-10.8	-11
02/27 9:00	-12	-12.7	-11.4	-11.4	-11.5	-11.2	-11.8	-11	-10.8	-11.2	-11.2	-10.8	-11.1
02/27 10:00	-11.6	-12.6	-11.3	-11.5	-11.4	-11.5	-12	-11.2	-11	-11.1	-11.1	-10.7	-11.2
02/27 11:00	-11.3	-12	-10.7	-11.3	-11.2	-11.2	-12	-11.2	-11.3	-11.1	-11.2	-11	-11.2

Figure 8: Ice Wine Hours from Feb 20-28

February 20-21 offered at least another significant opportunity for harvest at all locations, except Lakeshore, which remained slightly too warm for ice wine temperatures and Grimsby, which remained slightly too cold. February 24 primarily offered an opportunity for Grimsby. February 27 marked the start of a significant cooling trend, with ice wine temperatures continuing until the end of the month. However, these


Date/ Time													
	Winona	Grimsby	Beansville	Vineland Cherry Ave.	Vineland Escarpment	Jordan Hwy 8	Jordan Escarpment	West St. Catharines	Niagara College	Virgil	Lakeshore	Parkway	Queenston
<b>Possible Icewine Opportunity #11 Continued...</b>													
02/27 12:00	-10.1	-11.4	-10.4	-10.6	-10.4	-10.7	-11.5	-10.8	-11	-11.2	-11.1	-11	-11.3
02/27 13:00	-8.8	-9.7	-9.4	-9.7	-9.8	-9.9	-10.9	-10	-10.4	-10.6	-10.2	-10.4	-10.7
02/27 14:00	-8.3	-8.8	-7.7	-8.3	-8.6	-8.5	-9.5	-8.7	-9.2	-9.3	-9	-9.2	-9.8
02/27 15:00	-8.2	-8.7	-7.9	-8	-8.1	-8	-9.1	-8.3	-8.1	-8.4	-7.8	-8.1	-8.6
02/27 16:00	-8.6	-9.1	-8	-8.1	-8.5	-8.2	-9.1	-8.4	-8.3	-8.4	-8	-8.1	-8.5
02/27 17:00	-9.6	-10.1	-8.7	-8.4	-8.9	-8.2	-9.2	-8.6	-8.4	-8.7	-8.3	-8.4	-8.8
02/27 18:00	-10.5	-11.3	-10.2	-9.8	-10.3	-9.5	-10.4	-9.5	-8.9	-9	-8.6	-8.9	-9.2
02/27 19:00	-11.5	-12.3	-11.4	-10.6	-11.2	-10.4	-11.4	-10.5	-9.6	-9	-9	-9.2	-9.3
02/27 20:00	-12.2	-13.3	-12.2	-11.5	-12.1	-11.3	-12.3	-11.4	-10.4	-9.9	-9.7	-9.8	-9.9
02/27 21:00	-12.7	-13.5	-12.4	-11.3	-12.1	-11.4	-12.7	-11.9	-11	-10.7	-10.6	-10.7	-10.7
02/27 22:00	-13	-14.3	-12.7	-11.7	-12.4	-11.6	-12.4	-11.6	-11.4	-11.2	-11	-11.2	-11.4
02/27 23:00	-13.4	-14.3	-12.7	-12.1	-12.7	-12.1	-13.3	-12.1	-11.6	-11.6	-11.3	-11.4	-11.7
02/28 0:00	-14	-14.9	-13.5	-11.9	-12.8	-12	-13.2	-12	-11.7	-11.6	-11.5	-11.6	-11.9
02/28 1:00	-14.6	-15.5	-13.8	-11.8	-13.4	-11.8	-14	-11.9	-11.9	-11.7	-11.7	-11.8	-12.2
02/28 2:00	-12.8	-14	-13	-12.4	-13	-12.5	-13.4	-12.7	-12	-12	-11.9	-12	-12.5
02/28 3:00	-14.1	-15.1	-14.5	-12.4	-14.3	-13.6	-15.2	-14.3	-13.1	-12.9	-12.4	-12.8	-13.5
<b>Possible Icewine Opportunity #12: Feb 28</b>													
02/28 8:00	-13.8	-15	-14.1	-13.7	-14.5	-13.6	-15	-13.7	-12.5	-12.4	-12.4	-12.4	-12.8
02/28 9:00	-13.3	-14.1	-12.7	-12.3	-12.7	-12.3	-13.5	-12.4	-12.1	-12	-12.1	-11.9	-12.3
02/28 10:00	-12.3	-13.3	-12	-11.7	-11.8	-11.7	-12.6	-11.5	-11.6	-11.6	-11.8	-11.3	-11.8
02/28 11:00	-11.3	-12	-11	-11.1	-11.4	-11.3	-12.1	-11	-11.4	-11.4	-11.4	-11	-11.4
02/28 12:00	-10.4	-11.2	-9.8	-10.8	-10.7	-10.9	-11.7	-10.3	-10.9	-11	-11	-10.8	-11.3
02/28 13:00	-8.9	-9	-9	-10.2	-10.1	-10.3	-11.2	-10.1	-10.6	-10.8	-10.7	-10.6	-11.4
02/28 14:00	-7.8	-9.3	-8.9	-8.8	-9.7	-9.3	-10.2	-9.4	-9.5	-10.3	-10.1	-10.1	-10.4
02/28 15:00	-8	-9.3	-8.6	-7.9	-9.2	-8.8	-10.1	-9	-8.8	-9.4	-9.5	-9.2	-9.8
02/28 16:00	-8.1	-9.3	-8.4	-8.7	-8.9	-8.4	-9.7	-8.7	-8.4	-9.1	-8.6	-8.5	-9.2
02/28 17:00	-8.5	-9.4	-8.4	-8.7	-9.1	-8.4	-9.5	-8.9	-8.9	-9	-8.9	-9.3	-9.1
02/28 18:00	-9.5	-10.4	-9.5	-9.4	-10	-9.3	-10.2	-9.5	-9.5	-9.2	-9	-9.1	-9.4
02/28 19:00	-11.9	-13.4	-12.3	-10.9	-11.6	-10.6	-11.9	-11.1	-11	-9.7	-9.3	-9.3	-10.8
02/28 20:00	-14.1	-17.5	-14	-13.6	-13.7	-13.8	-14.6	-13	-12.1	-10.9	-9.5	-9.7	-11.7
02/28 21:00	-14.4	-19.4	-13.8	-13.6	-15.2	-15.9	-16.1	-15	-12.9	-13.5	-10.8	-11.1	-12.5
02/28 22:00	-14.5	-21.1	-13.4	-13.2	-15.9	-16.7	-15.8	-16.7	-13.1	-14	-12.7	-12.4	-12.9
<b>Possible Icewine Opportunity #13: Feb 29</b>													
02/29 3:00	-12.5	-18.6	-13.7	-12.4	-14.2	-13.3	-15.2	-14.9	-12.4	-14.4	-13.7	-14.6	-12.4
02/29 4:00	-12.3	-15	-13.3	-11.8	-13.1	-12.3	-14.1	-13.3	-12.3	-13	-13.4	-12.9	-11.9
02/29 5:00	-12.5	-13.9	-12.8	-12	-12.8	-12.6	-12.7	-13	-11.4	-11.5	-11.7	-11.2	-11.3
02/29 6:00	-12.4	-13.8	-12.8	-13	-13.1	-13.7	-13.9	-13	-11.5	-11.2	-11.2	-11.2	-11.3
02/29 7:00	-12.4	-14.2	-13.1	-13.9	-13.1	-15	-13.4	-13.5	-10.8	-12.4	-11.6	-11.8	-12.1
02/29 8:00	-11.9	-13.5	-12.4	-11	-12.3	-12	-13.1	-12.5	-10.5	-12	-11.9	-11.8	-11.4
02/29 9:00	-10.4	-11.4	-10.6	-9.7	-10.4	-9.7	-10.8	-10.2	-8.6	-8.8	-9.3	-8.9	-9.9
02/29 10:00	-7.9	-8.5	-8.1	-7.1	-7.7	-7	-8.1	-7.4	-6.1	-6.6	-7.1	-6.9	-7
02/29 11:00	-6.1	-6.8	-6	-5.1	-5.9	-4.9	-6	-4.9	-3.6	-4.9	-5.6	-4.8	-4.1

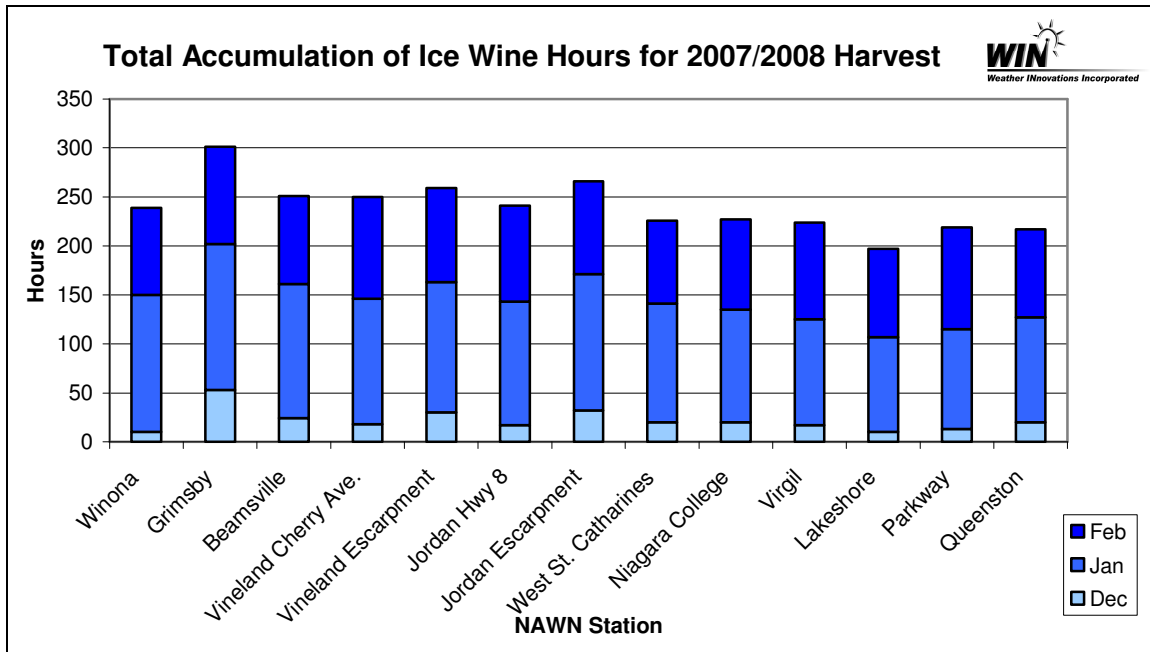
Figure 9: Ice Wine Hours From Feb 27-29

opportunities were interrupted by the temperatures dipping below -12°C during the overnight hours. Temperatures then warmed up quickly in the morning on February 29.

## SUMMARY

In general, February temperatures were very close to the 30-year normal, yet very different from February 2007. Compared to February 2007, there were significantly fewer ice wine hours. Overall, there was approximately half the time available for harvest this February. Most growers, however, likely received ample time in January to harvest all of their grapes for ice wine. Of the 13 NAWN stations, the coldest January temperature reached was  $-22.2^{\circ}\text{C}$ , occurring at Grimsby on February 28<sup>th</sup>. Vineland Cherry Avenue and the Parkway accumulated the greatest number of ice wine hours in February, while West St. Catharines accumulated the least.

For each location, the majority of ice wine hours for the 2007/2008 ice wine season were accumulated during the month of January. As can be seen in Figure 11, the month of December only contributed a small portion to the total number of ice wine hours, while February contributed a moderate number of ice wine hours.



**Figure 10: Seasonal Accumulation of Ice Wine Hours for 2007/2008**

This year's ice wine season was quite different from last year. As can be seen in Figure 11, the two seasons started out alike, as the number of hours was similar for both December 2006 and December 2007. In fact, January only brought a slight difference between the two years, as there were more ice wine hours accumulated this season than during the 2006/2007 season. However, February brought a significant difference between the two seasons. Although the 2007/2008 season initially appeared to be accumulating more hours than the year before, February 2008 contributed fewer hours than in the 2006/2007 season. In fact, February 2007 accumulated approximately 200 ice wine hours for each location, while February 2008 only accumulated 100 or less! Figure 12 shows the overall ice wine season totals for both years, displaying the lack of total ice wine hours as compared to last year.

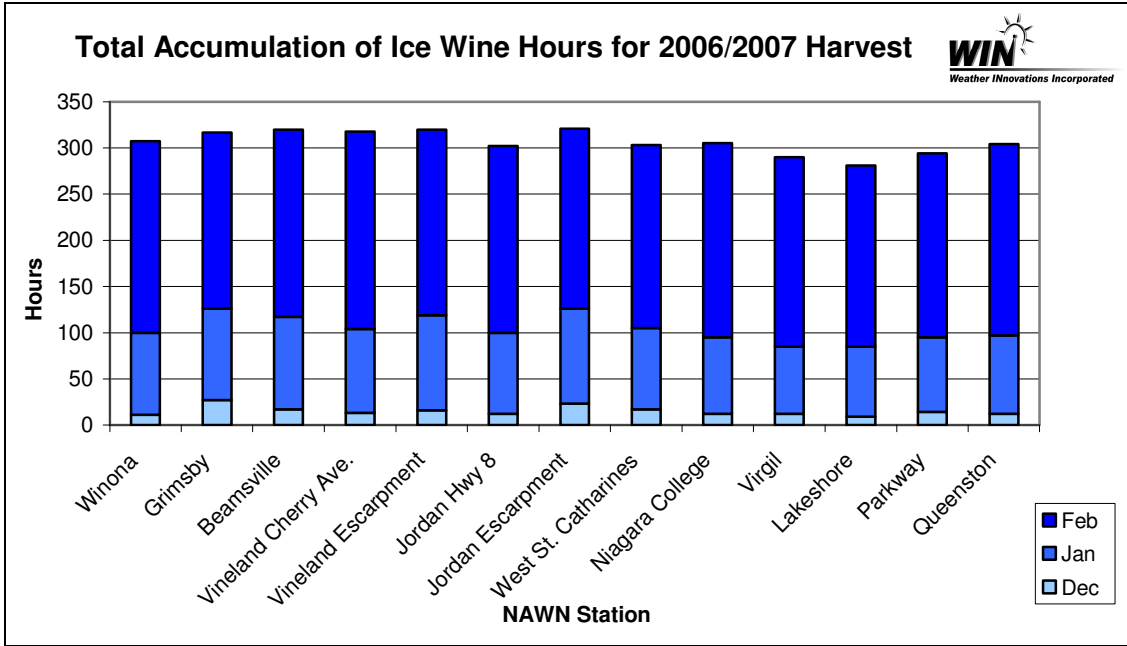


Figure 11: Seasonal Accumulation of Ice Wine Hours for 2006/2007

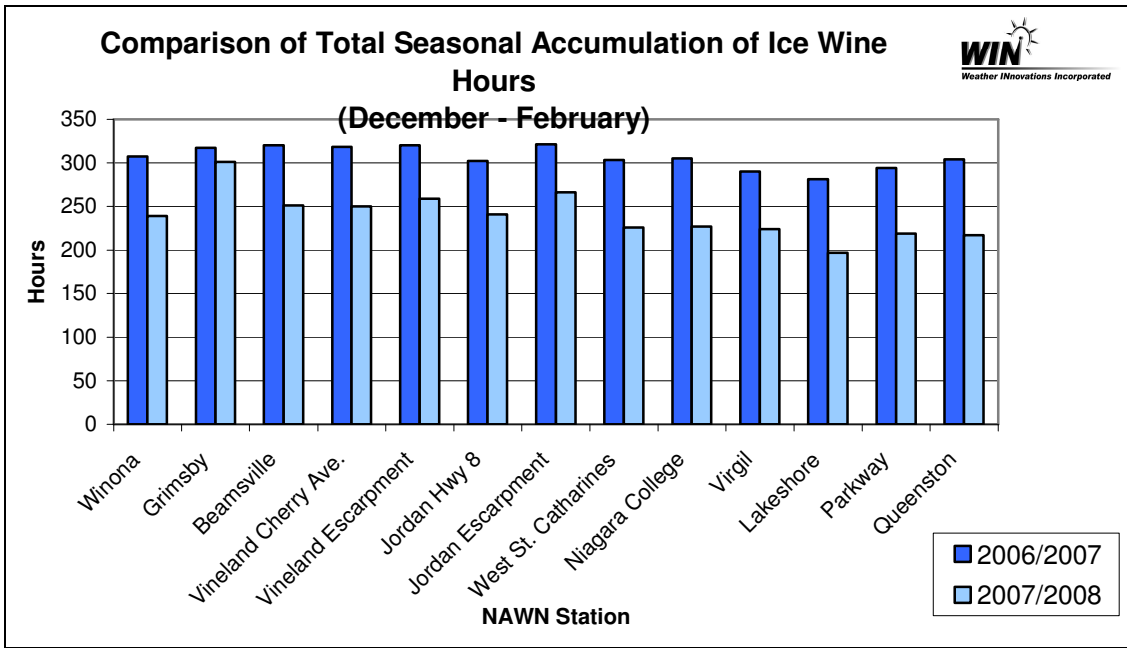


Figure 12: 2006/2007 and 2007/2008 Ice Wine Season Comparison