

Winter Chill Roundup, 2001  
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I love the "horse race" aspect of winter chilling. I always look forward to pulling together data from around the country and seeing what surprises are lurking (read on, that was foreshadowing!).

Figure 1 shows a comparison of winter chilling (measured as hours below 7°C) around the country over the past three seasons. Winter chilling is higher this season in all areas except Central Otago which is approximately similar to 1999. This is very good news, especially for the lower chill areas such as Northland and the East Coast of the North Island. Higher winter chilling can be expected to lead to better tree and vine performance through the spring period all other things being equal.

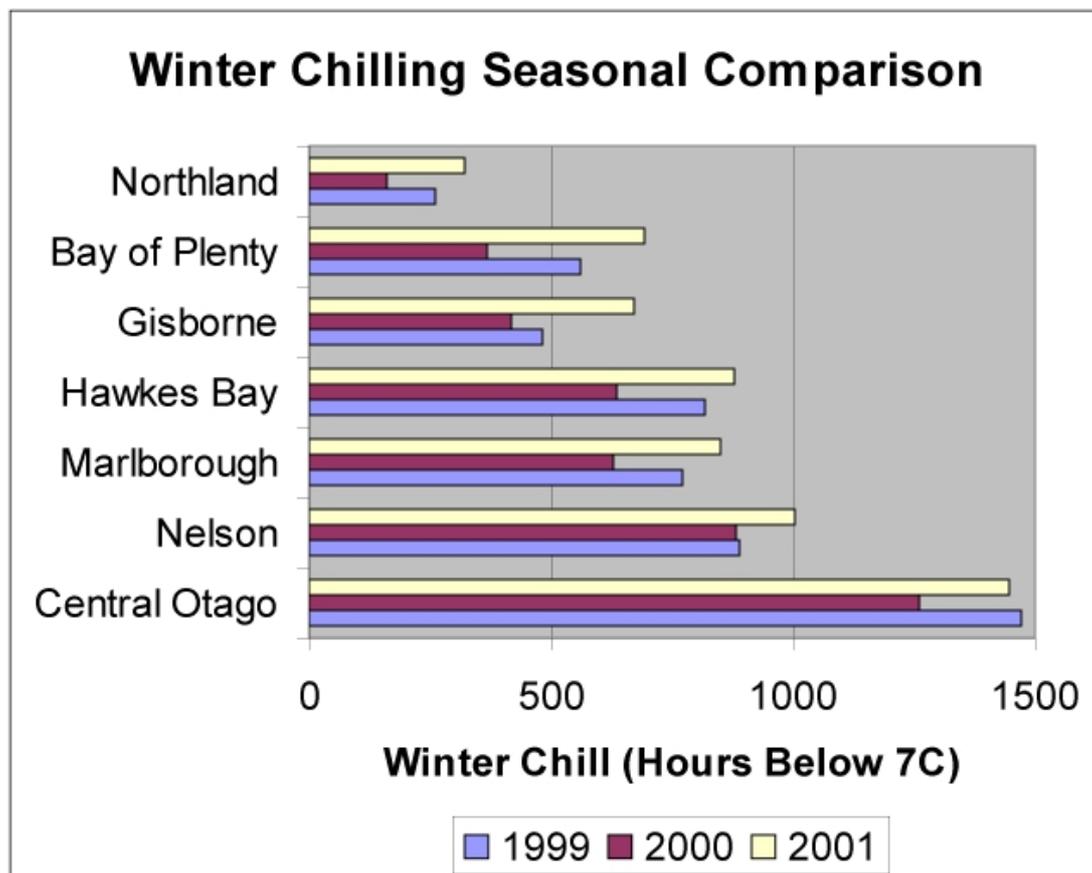


Figure 1. Inter-Seasonal comparison of winter chilling around New Zealand.

If you think back to last month's Weather Sense we looked at various ways in which winter chilling can be measured. The following two figures show winter chilling accumulation through this past winter at sites throughout the country calculated (a) as hours below 7°C, and (b) Richardson Chill Units. The biggest surprise for most readers will be that as of mid-August, Northland and Central Otago have accumulated approximately the same number of Richard Chill Units!

The very cold spell in Central Otago for the first fortnight of July had daily maximums below 0°C virtually every day - and if you remember back to last month, temperatures below 0 result in no accumulation of Richardson Chill Units.

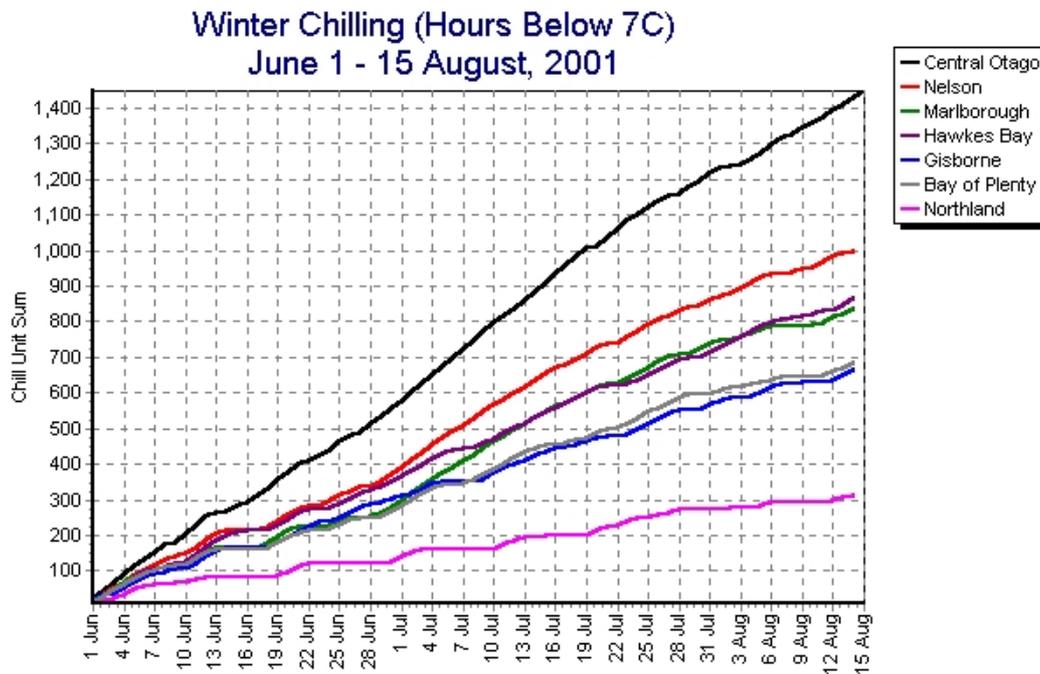


Figure 2a. Winter chilling at sites around New Zealand (Hours below 7°C)

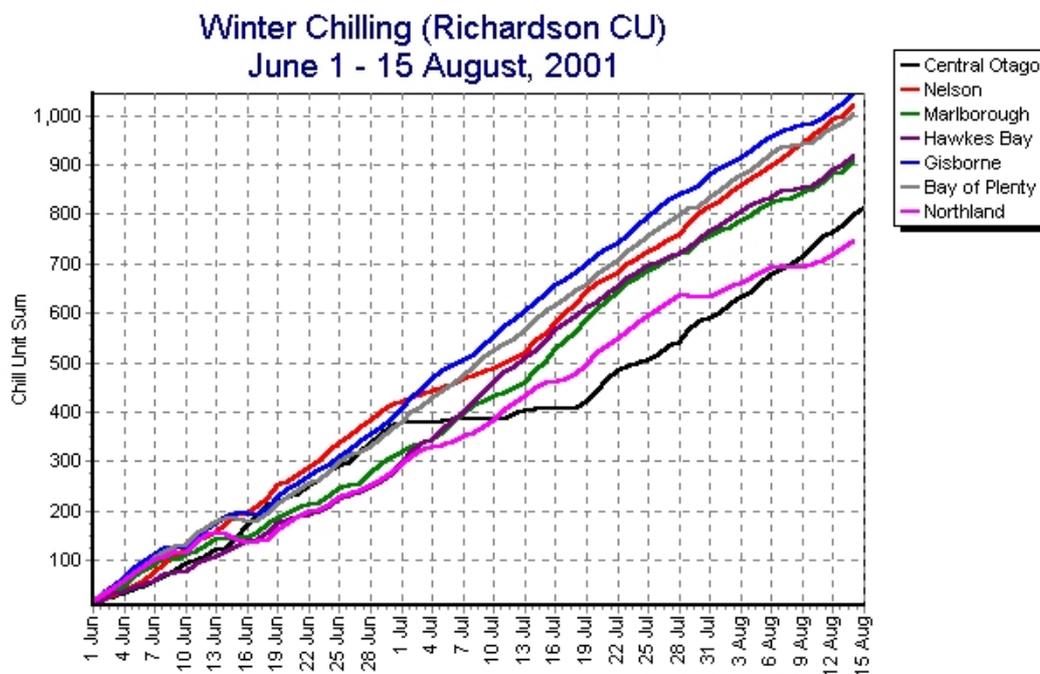


Figure 2b. Winter chilling at sites around New Zealand (Richardson Chill Units)

Depending on how well the graphs reproduce, you may also be able to see negation of Richardson Chill Units early in the winter in Northland during days with high winter temperatures. The only point I really want to make with showing the two different ways of measuring winter chill this way is to highlight that it is a more complex area than most of us think at first glance. Winter chilling is a very significant influence on optimum spring canopy management, and the New Zealand climate is especially tricky when dealing with quantifying winter chilling. While winter chilling information can be used qualitatively by growers, there is still work to be done to create robust tools to deal with winter chilling in our climate, and to integrate this knowledge into rigorous management practices.