



## Niagara - July 2011:

Extremely hot and dry conditions characterized the month of July. Accumulated growing degree days remain ahead of normal values as of the end of July (Fig 1). Day-time and night-time temperatures averaged above normal for the second month in a row (Fig 2-5). Average daily maximum temperatures were a staggering 3.5- 4 °C above normal in July, while average daily minimum temperatures were approximately 1 °C above normal. The maximum temperature surpassed 30 °C on an average of 16 days in Niagara West and 20 in Niagara East (Fig 6 and 7). This is well above the 30 year normal of 5-6 days.

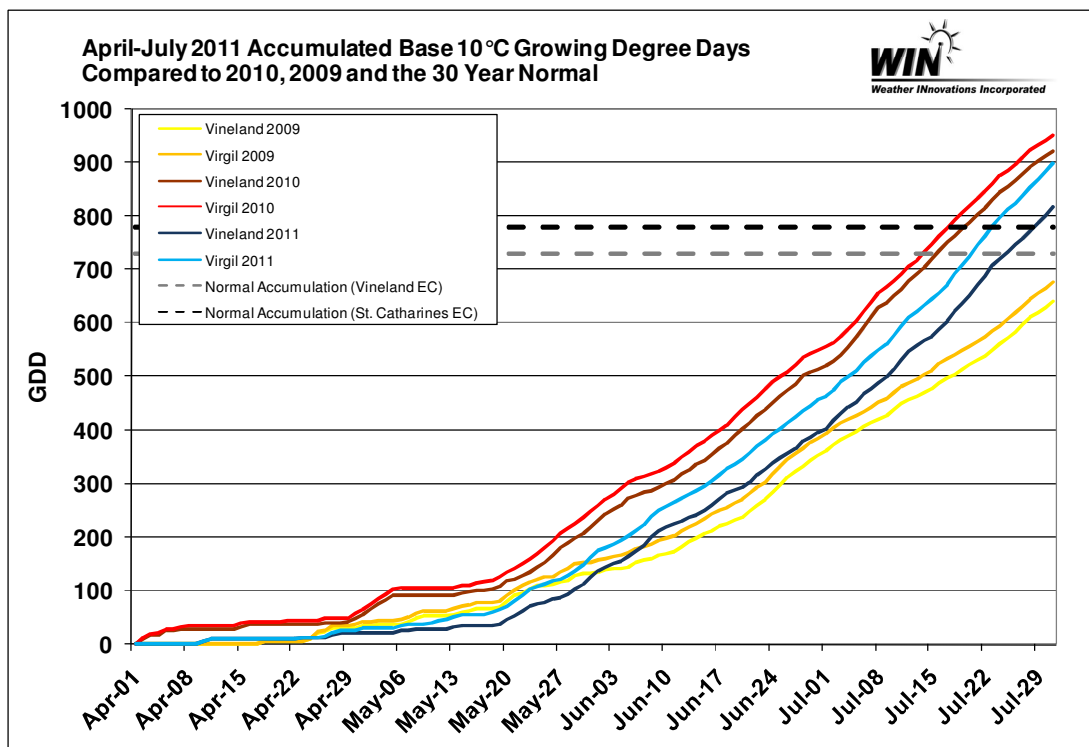


Figure 1: Growing Degree Days

The first 23 days of July went without rainfall in the Niagara region. Most stations experienced 29 consecutive days without significant rainfall beginning June 25<sup>th</sup>! Rainfall totals for the month were evidently below normal, although some areas received more rainfall than others (Fig 8 and 9) at the end of July. On average, the Niagara stations received 50% of normal rainfall for the month. Only Grimsby, Jordan Harbour, St. Catharines Glass Ave and St. Catharines Third Ave received more than 60% of normal rainfall. Consequently, many turned to irrigation to replenish depleting soil moisture at the shallower depths as a result of high evapotranspiration rates and an extreme lack of precipitation. The summer of 2011 thus far brings to mind the last significant 'irrigation year' of 2007. One difference between the two years is that 2007 started off dry before the extreme temperatures arrived. Conversely, a significantly wet spring has kept soil moisture levels suitable for longer into the 2011 growing season.

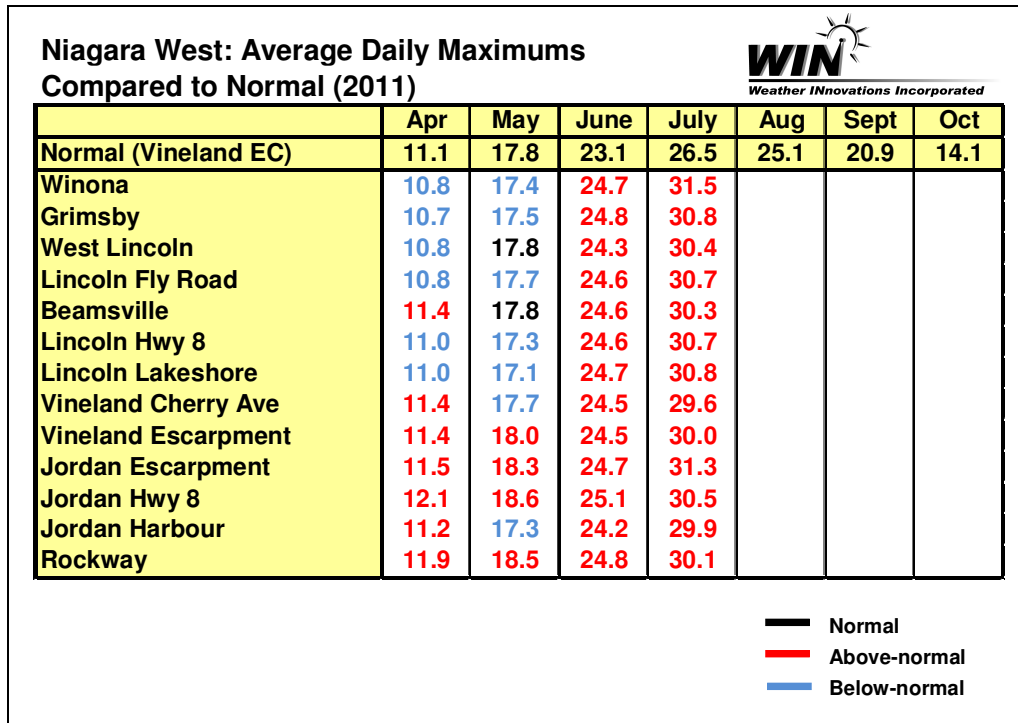


Figure 2: Niagara West – Maximum Temperatures

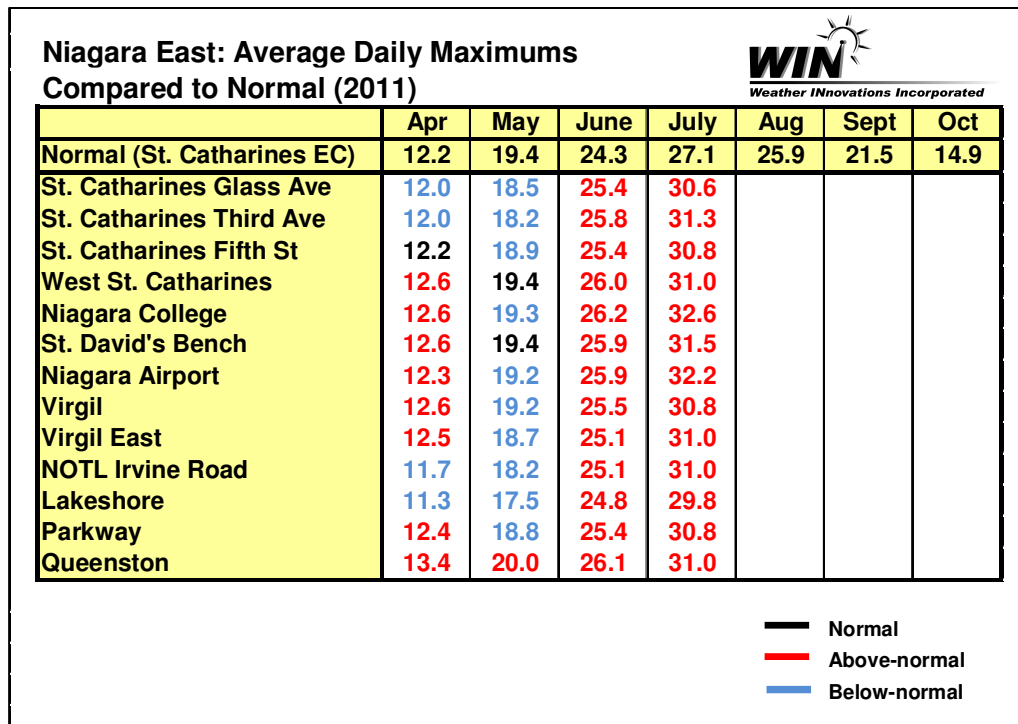


Figure 3: Niagara East - Maximum Temperatures

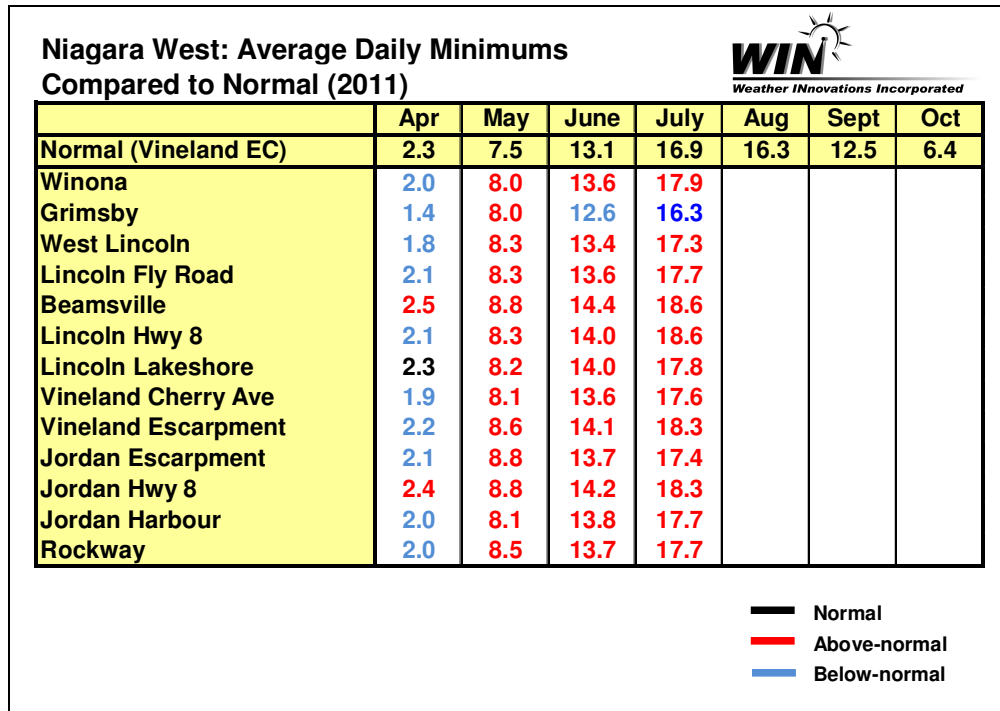


Figure 4: Niagara West - Minimum Temperatures

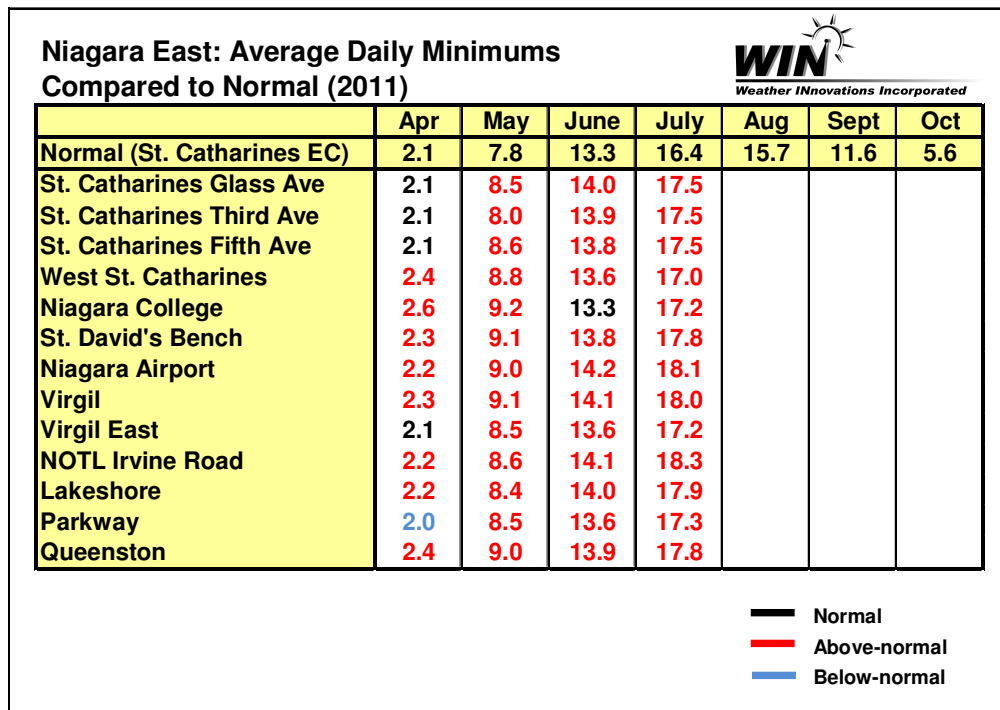


Figure 5: Niagara East - Minimum Temperatures

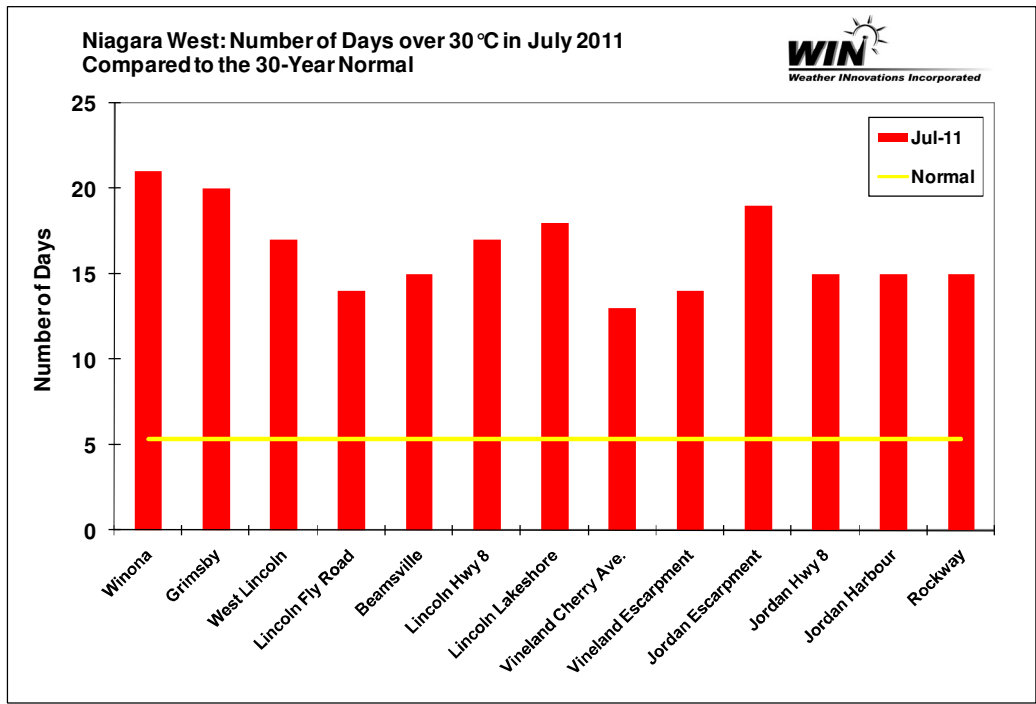


Figure 6: Niagara West - Days with the Maximum Temperature over 30°C

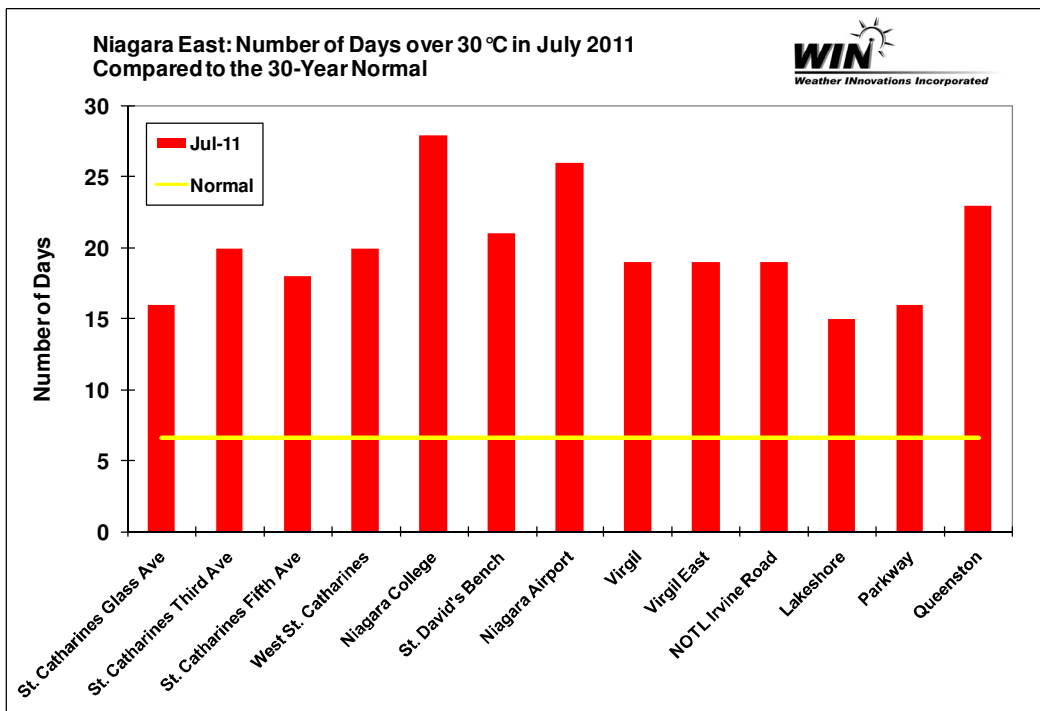


Figure 7: Niagara East - Days with the Maximum Temperature over 30°C

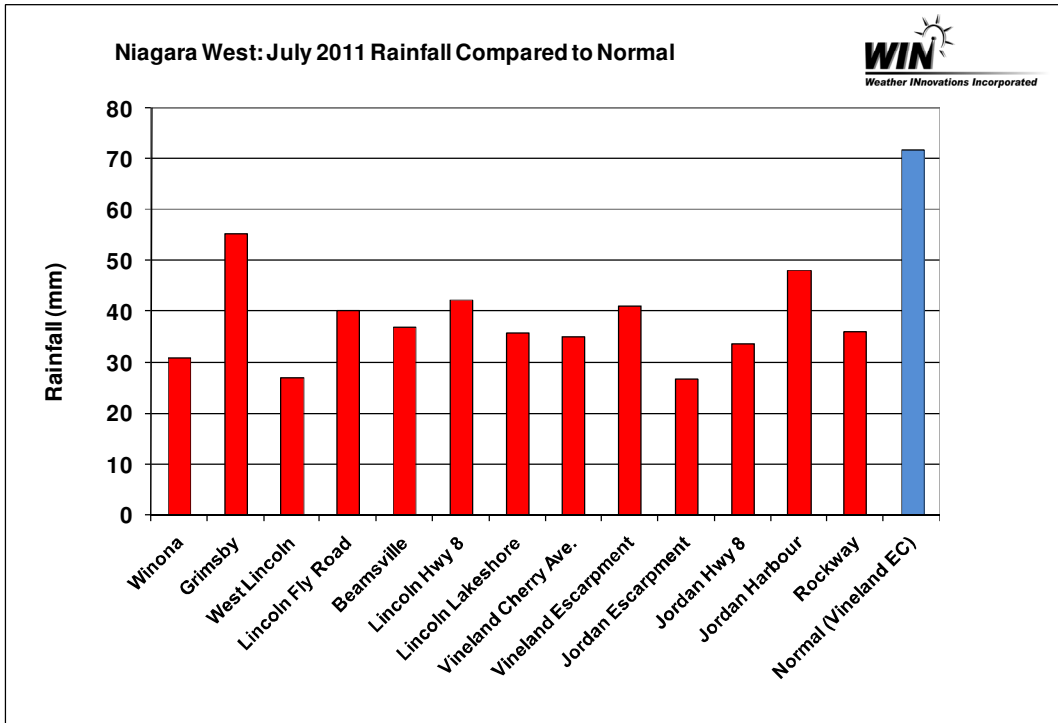


Figure 8: Niagara West – Accumulated Rainfall

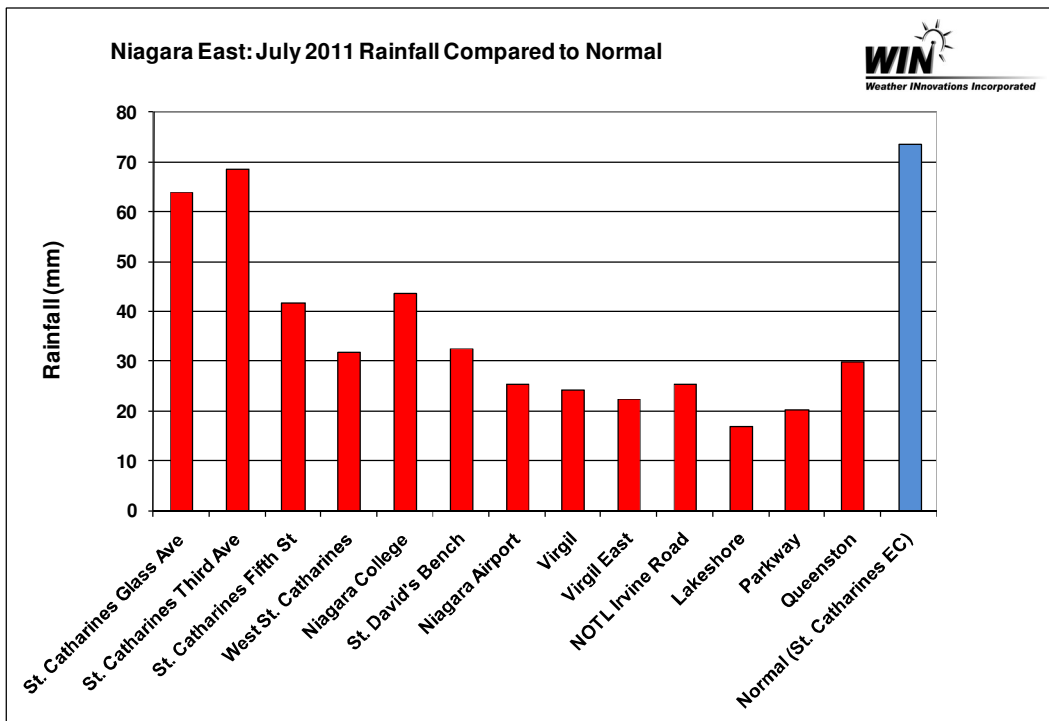


Figure 9: Niagara East – Accumulated Rainfall