

July 2013:

Close-to-normal temperatures in June continued into July. The first half of the month was seasonal, with one extremely hot and humid week between July 14th and 19th, where daily maximum temperatures exceeded 30°C. Seasonably cooler temperatures followed, however, and continued into the beginning of August. July daily maximums averaged only 0.6°C above normal in Niagara West and 0.4°C above normal in Niagara East. Daily minimums were close to normal as well. The seasonal growing-degree-day accumulation continues to slow down and has fallen behind the three most recent growing seasons as of the end of July. The growing-degree-day accumulation at the end of June was equal to the 2011 growing season but has now fallen behind the 2011 growing season. Overall, the growing degree day accumulation remains only slightly ahead of normal thus far.

The month of July brought above-normal rainfall across Niagara. The 8-day consecutive hot and dry period from July 11th to 18th, followed by intense thunderstorms during the overnight hours between July 19th and 20th is particularly noteworthy. These thunderstorms brought between 2-4 inches of rainfall and hail to various parts of Niagara. Normal rainfall for the entire month of July is approximately 3 inches. Consequently, July rainfall averaged 146% of normal across Niagara West and 141% of normal across Niagara East.

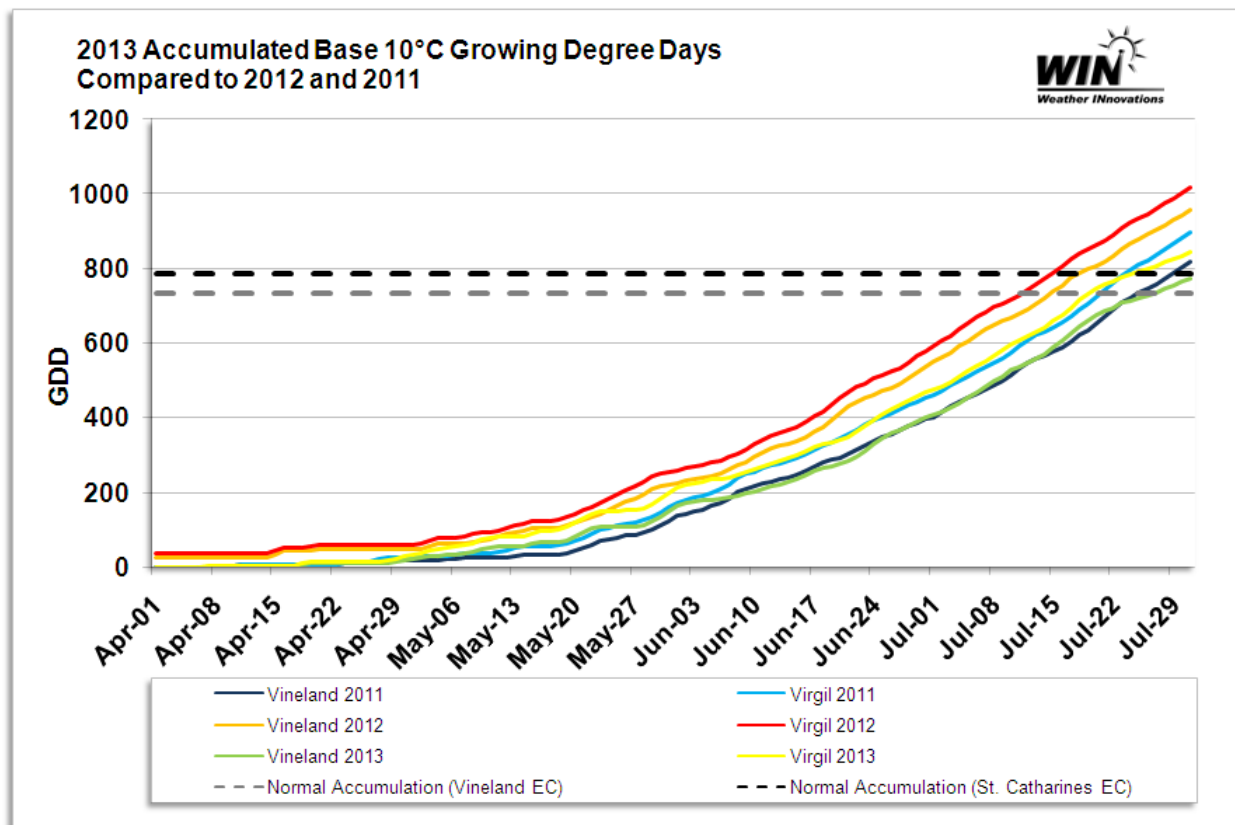


Figure 1: Growing Degree Days

Niagara West: Average Daily Maximums Compared to Normal (2013)

	Apr	May	June	July	Aug	Sept	Oct
Normal (Vineland EC)	11.1	17.8	23.1	26.5	25.1	20.9	14.1
Winona	11.2	20.4	24.2	28.5			
Grimsby	11.0	20.6	23.1	26.3			
West Lincoln	11.2	21.3	22.9	26.3			
Lincoln Fly Road	11.1	21.1	23.5	27.2			
Beamsville	11.6	21.4	23.3	27.1			
Lincoln Hwy 8	11.1	20.6	23.3	27.2			
Lincoln Lakeshore	11.2	20.2	23.7	28.4			
Vineland Cherry Ave	11.5	20.9	23.1	26.8			
Vineland Escarpment	11.5	21.4	23.3	26.8			
Jordan Escarpment	11.6	21.7	23.7	27.0			
Jordan Hwy 8	12.2	21.9	23.7	26.9			
Jordan Harbour	11.5	20.3	23.1	27.4			
Rockway	11.9	21.8	23.3	26.7			

— Normal
 — Above-normal
 — Below-normal

Figure 2: Niagara West - Maximum Temperatures

Niagara East: Average Daily Maximums Compared to Normal (2013)

	Apr	May	June	July	Aug	Sept	Oct
Normal (St. Catharines EC)	12.2	19.4	24.3	27.1	25.9	21.5	14.9
St. Catharines Glass Ave	12.0	21.9	23.9	27.2			
St. Catharines Third Ave	12.0	22.1	23.8	27.3			
St. Catharines Fifth Ave	12.1	22.0	23.4	26.8			
West St. Catharines	12.7	22.8	24.3	27.9			
Niagara College	12.6	22.2	23.5	27.3			
St. David's Bench	12.6	22.6	24.1	28.0			
Niagara Airport	12.5	22.6	24.3	28.1			
Virgil	12.7	22.5	23.8	27.1			
Virgil East	12.4	22.2	23.6	27.1			
NOTL Irvine Road	11.7	21.4	23.8	27.6			
Lakeshore	11.7	21.1	23.5	27.0			
Parkway	12.2	21.8	23.4	26.9			
Queenston	13.6	23.6	24.7	28.1			

— Normal
 — Above-normal
 — Below-normal

Figure 3: Niagara East - Maximum Temperatures

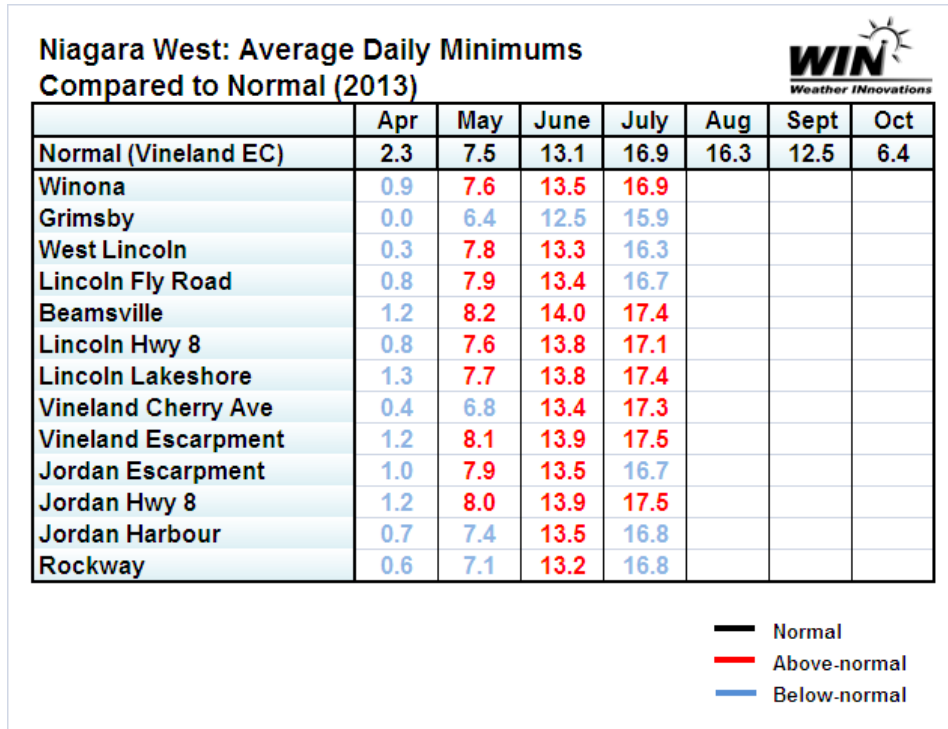


Figure 4: Niagara West - Minimum Temperatures

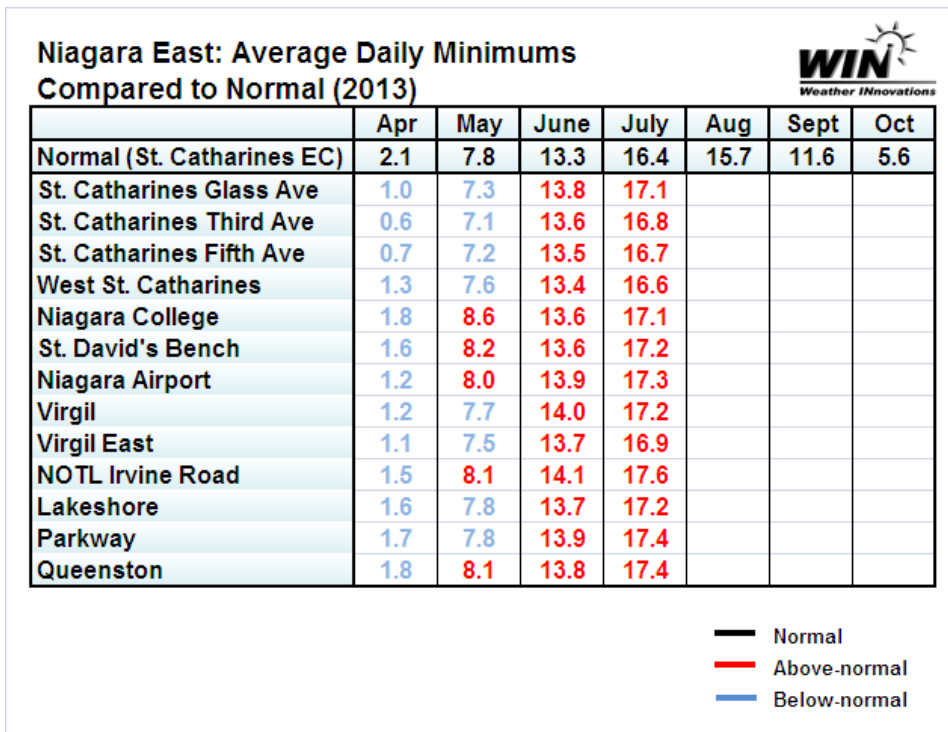


Figure 5: Niagara East - Minimum Temperatures

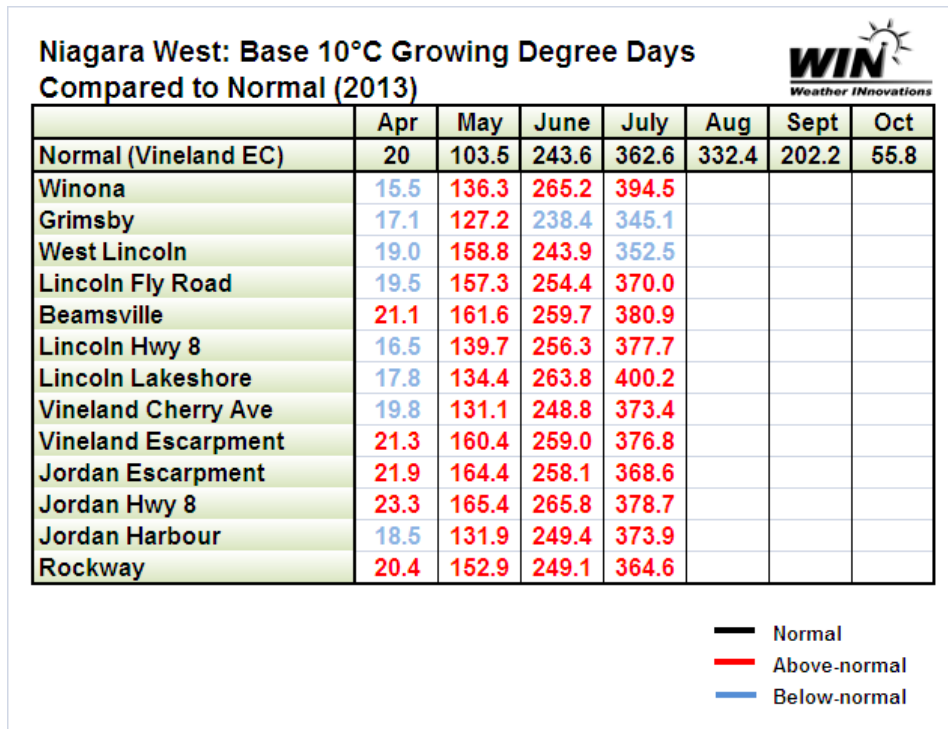


Figure 6: Niagara West – Growing Degree Days

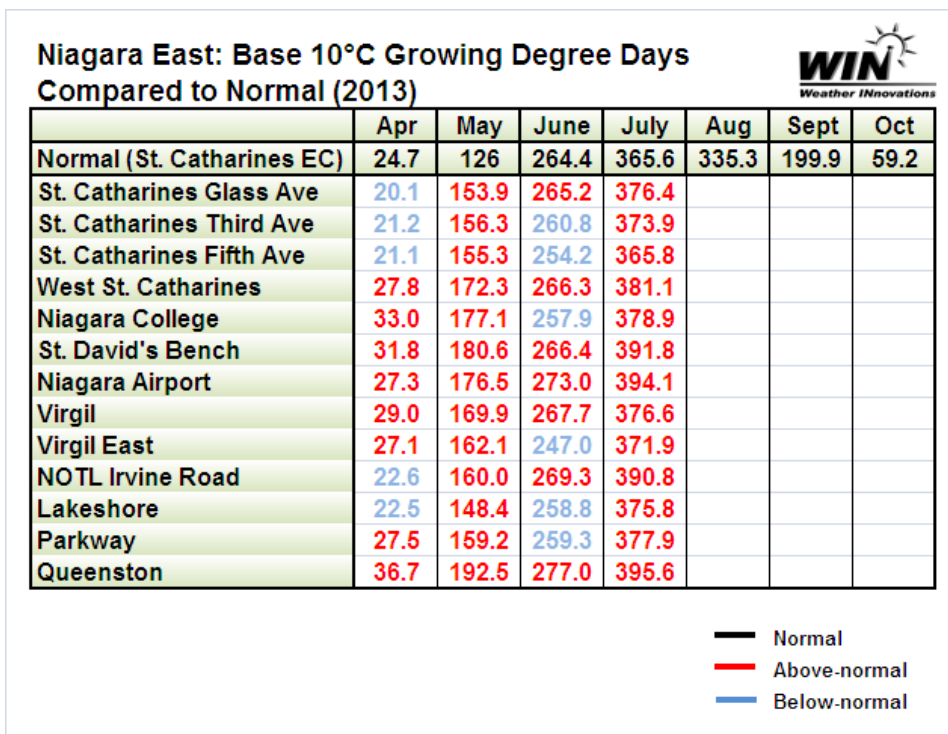


Figure 7: Niagara East – Growing Degree Days

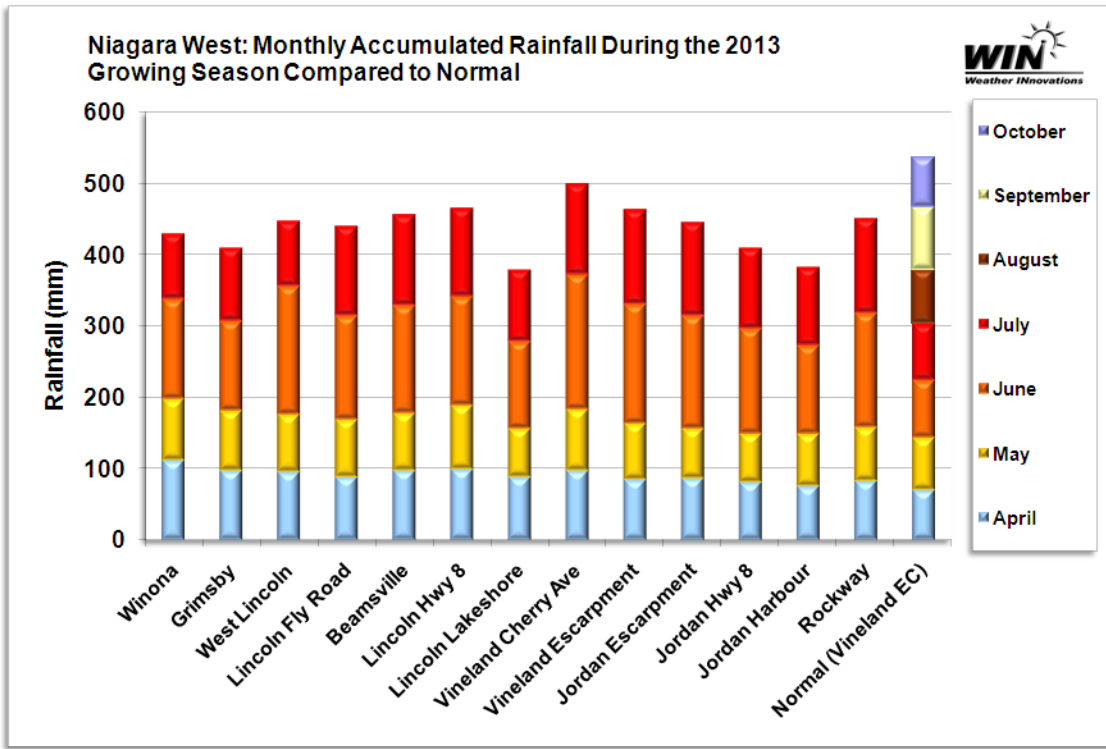


Figure 8: Niagara West - Rainfall

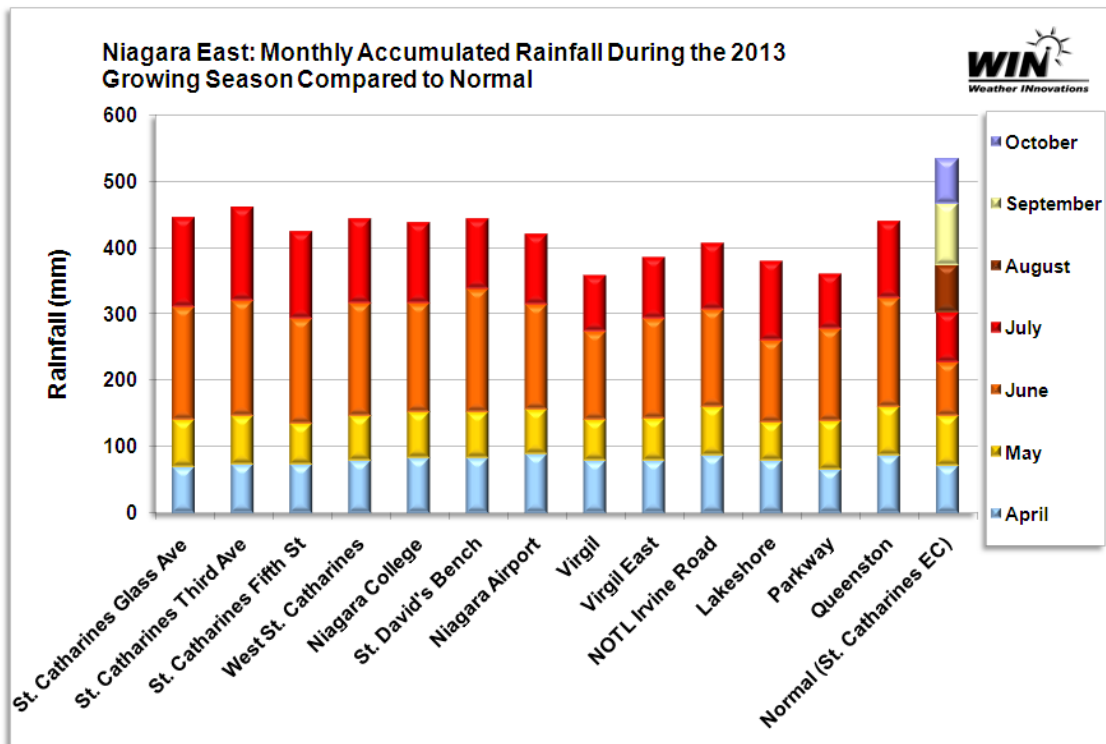


Figure 9: Niagara East - Rainfall