



Niagara - September 2011:

Above-normal temperatures and rainfall characterized the month of September. Accumulated growing degree days continue to remain ahead of normal values (Fig 1). Day-time temperatures averaged above normal for the fourth month in a row. Daily maximum temperatures averaged 1-2°C above normal in September; minimums stayed near normal (Fig 2-5).

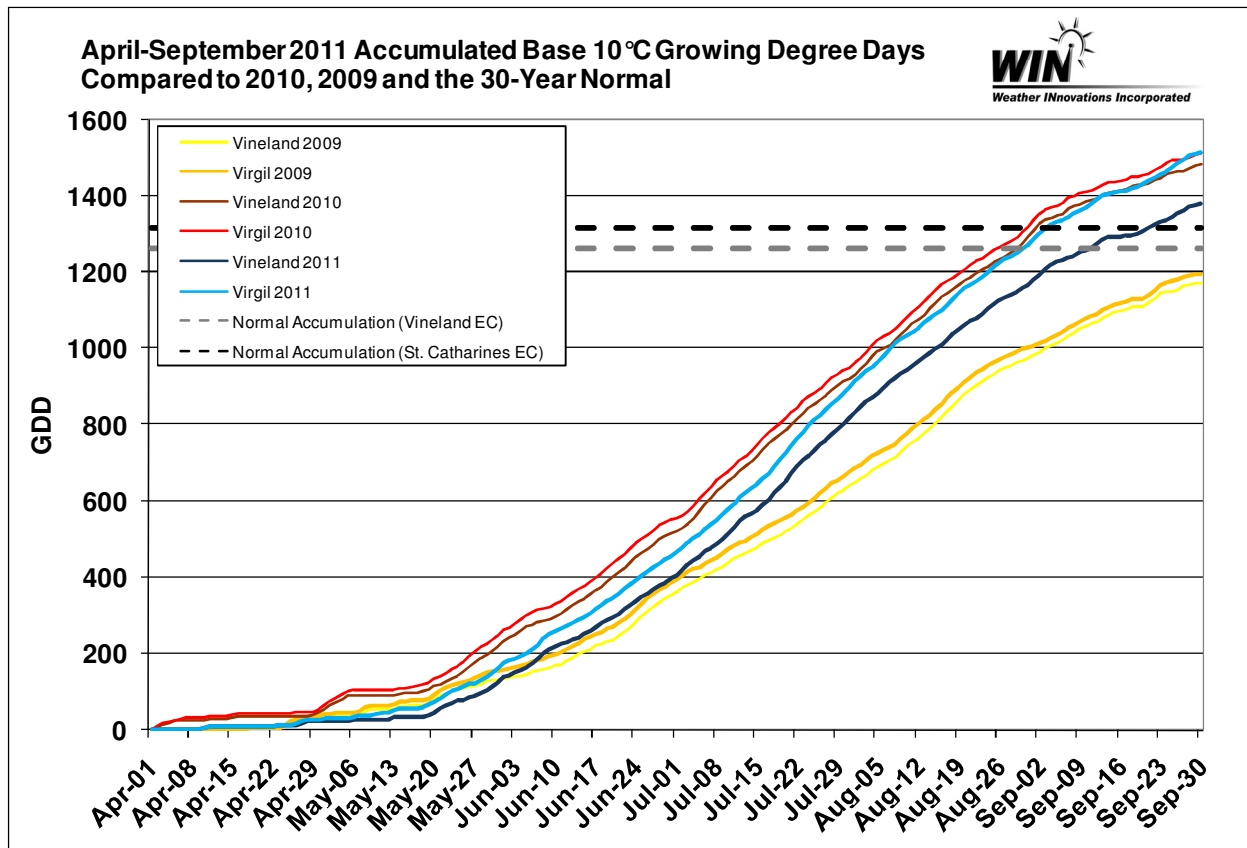



Figure 1: Growing Degree Days


The month of September brought an above-normal number of rain events: an average of 4 days above normal in Niagara West and 3 days above normal in Niagara East (Fig 6 and 7). Most stations received approximately 120mm this month. The St. Catharines Fifth St. and West St. Catharines stations, however, received an additional 50mm of rainfall during an isolated event on September 11th. Totals for the month ranged from 103% of normal at both Virgil East and Queenston to 193% of normal at St. Catharines Fifth St (Fig 8 and 9). Overall, monthly rainfall averaged 131% of normal for Niagara West and 132% of normal for Niagara East.



| Niagara West: Average Daily Maximums Compared to Normal (2011) | |  Weather INnovations Incorporated | | | | | |
|--|------|---|------|------|------|------|------|
| | 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 | 10.8 | 17.4 | 24.7 | 31.5 | 28.2 | 23.1 | |
| Grimsby | 10.7 | 17.5 | 24.8 | 30.8 | 27.3 | 22.4 | |
| West Lincoln | 10.8 | 17.8 | 24.3 | 30.4 | 27.0 | 22.2 | |
| Lincoln Fly Road | 10.8 | 17.7 | 24.6 | 30.7 | 27.4 | 22.4 | |
| Beamsville | 11.4 | 17.8 | 24.6 | 30.3 | 27.1 | 22.3 | |
| Lincoln Hwy 8 | 11.0 | 17.3 | 24.6 | 30.7 | 27.4 | 22.1 | |
| Lincoln Lakeshore | 11.0 | 17.1 | 24.7 | 30.8 | 27.8 | 22.4 | |
| Vineland Cherry Ave | 11.4 | 17.7 | 24.5 | 29.6 | 26.6 | 22.1 | |
| Vineland Escarpment | 11.4 | 18.0 | 24.5 | 30.0 | 27.3 | 22.3 | |
| Jordan Escarpment | 11.5 | 18.3 | 24.7 | 31.3 | 28.2 | 23.0 | |
| Jordan Hwy 8 | 12.1 | 18.6 | 25.1 | 30.5 | 27.5 | 22.7 | |
| Jordan Harbour | 11.2 | 17.3 | 24.2 | 29.9 | 27.3 | 22.4 | |
| Rockway | 11.9 | 18.5 | 24.8 | 30.1 | 27.3 | 22.6 | |

— Normal
— Above-normal
— Below-normal


Figure 2: Niagara West – Maximum Temperatures

| Niagara East: Average Daily Maximums Compared to Normal (2011) | |  Weather INnovations Incorporated | | | | | |
|--|------|---|------|------|------|------|------|
| | 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 | 18.5 | 25.4 | 30.6 | 27.5 | 23.0 | |
| St. Catharines Third Ave | 12.0 | 18.2 | 25.8 | 31.3 | 27.9 | 23.2 | |
| St. Catharines Fifth St | 12.2 | 18.9 | 25.4 | 30.8 | 27.7 | 23.0 | |
| West St. Catharines | 12.6 | 19.4 | 26.0 | 31.0 | 28.1 | 23.2 | |
| Niagara College | 12.6 | 19.3 | 26.2 | 32.6 | 28.7 | 23.7 | |
| St. David's Bench | 12.6 | 19.4 | 25.9 | 31.5 | 28.4 | 23.5 | |
| Niagara Airport | 12.3 | 19.2 | 25.9 | 32.2 | 28.4 | 23.4 | |
| Virgil | 12.6 | 19.2 | 25.5 | 30.8 | 28.0 | 23.0 | |
| Virgil East | 12.5 | 18.7 | 25.1 | 31.0 | 27.6 | 22.9 | |
| NOTL Irvine Road | 11.7 | 18.2 | 25.1 | 31.0 | 27.6 | 22.4 | |
| Lakeshore | 11.3 | 17.5 | 24.8 | 29.8 | 27.2 | 22.2 | |
| Parkway | 12.4 | 18.8 | 25.4 | 30.8 | 27.6 | 23.0 | |
| Queenston | 13.4 | 20.0 | 26.1 | 31.0 | 27.9 | 23.4 | |

— Normal
— Above-normal
— Below-normal


Figure 3: Niagara East - Maximum Temperatures



| Niagara West: Average Daily Minimums Compared to Normal (2011) | |  Weather INnovations Incorporated | | | | | | |
|--|-----|---|------|------|------|------|-----|--|
| | Apr | May | June | July | Aug | Sept | Oct | |
| Normal (Vineland EC) | 2.3 | 7.5 | 13.1 | 16.9 | 16.3 | 12.5 | 6.4 | |
| Winona | 2.0 | 8.0 | 13.6 | 17.9 | 16.2 | 12.8 | | |
| Grimsby | 1.4 | 8.0 | 12.6 | 16.3 | 14.2 | 11.2 | | |
| West Lincoln | 1.8 | 8.3 | 13.4 | 17.3 | 14.8 | 11.9 | | |
| Lincoln Fly Road | 2.1 | 8.3 | 13.6 | 17.7 | 15.6 | 12.6 | | |
| Beamsville | 2.5 | 8.8 | 14.4 | 18.6 | 17.0 | 13.5 | | |
| Lincoln Hwy 8 | 2.1 | 8.3 | 14.0 | 18.6 | 16.6 | 12.9 | | |
| Lincoln Lakeshore | 2.3 | 8.2 | 14.0 | 17.8 | 16.2 | 12.9 | | |
| Vineland Cherry Ave | 1.9 | 8.1 | 13.6 | 17.6 | 16.0 | 12.2 | | |
| Vineland Escarpment | 2.2 | 8.6 | 14.1 | 18.3 | 16.6 | 13.1 | | |
| Jordan Escarpment | 2.1 | 8.8 | 13.7 | 17.4 | 15.6 | 12.6 | | |
| Jordan Hwy 8 | 2.4 | 8.8 | 14.2 | 18.3 | 16.7 | 13.1 | | |
| Jordan Harbour | 2.0 | 8.1 | 13.8 | 17.7 | 15.6 | 12.2 | | |
| Rockway | 2.0 | 8.5 | 13.7 | 17.7 | 16.1 | 12.6 | | |

█ Normal
█ Above-normal
█ Below-normal

Figure 4: Niagara West - Minimum Temperatures

| Niagara East: Average Daily Minimums Compared to Normal (2011) | |  Weather INnovations Incorporated | | | | | | |
|--|-----|---|------|------|------|------|-----|--|
| | Apr | May | June | July | Aug | Sept | Oct | |
| Normal (St. Catharines EC) | 2.1 | 7.8 | 13.3 | 16.4 | 15.7 | 11.6 | 5.6 | |
| St. Catharines Glass Ave | 2.1 | 8.5 | 14.0 | 17.5 | 15.7 | 12.6 | | |
| St. Catharines Third Ave | 2.1 | 8.0 | 13.9 | 17.5 | 15.9 | 12.6 | | |
| St. Catharines Fifth Ave | 2.1 | 8.6 | 13.8 | 17.5 | 15.8 | 12.5 | | |
| West St. Catharines | 2.4 | 8.8 | 13.6 | 17.0 | 15.6 | 12.6 | | |
| Niagara College | 2.6 | 9.2 | 13.3 | 17.2 | 16.1 | 13.1 | | |
| St. David's Bench | 2.3 | 9.1 | 13.8 | 17.8 | 16.3 | 13.0 | | |
| Niagara Airport | 2.2 | 9.0 | 14.2 | 18.1 | 16.2 | 13.3 | | |
| Virgil | 2.3 | 9.1 | 14.1 | 18.0 | 16.0 | 13.2 | | |
| Virgil East | 2.1 | 8.5 | 13.6 | 17.2 | 15.4 | 12.6 | | |
| NOTL Irvine Road | 2.2 | 8.6 | 14.1 | 18.3 | 16.6 | 13.3 | | |
| Lakeshore | 2.2 | 8.4 | 14.0 | 17.9 | 16.1 | 13.2 | | |
| Parkway | 2.0 | 8.5 | 13.6 | 17.3 | 15.9 | 13.0 | | |
| Queenston | 2.4 | 9.0 | 13.9 | 17.8 | 15.9 | 13.2 | | |

█ Normal
█ Above-normal
█ Below-normal

Figure 5: Niagara East - Minimum Temperatures

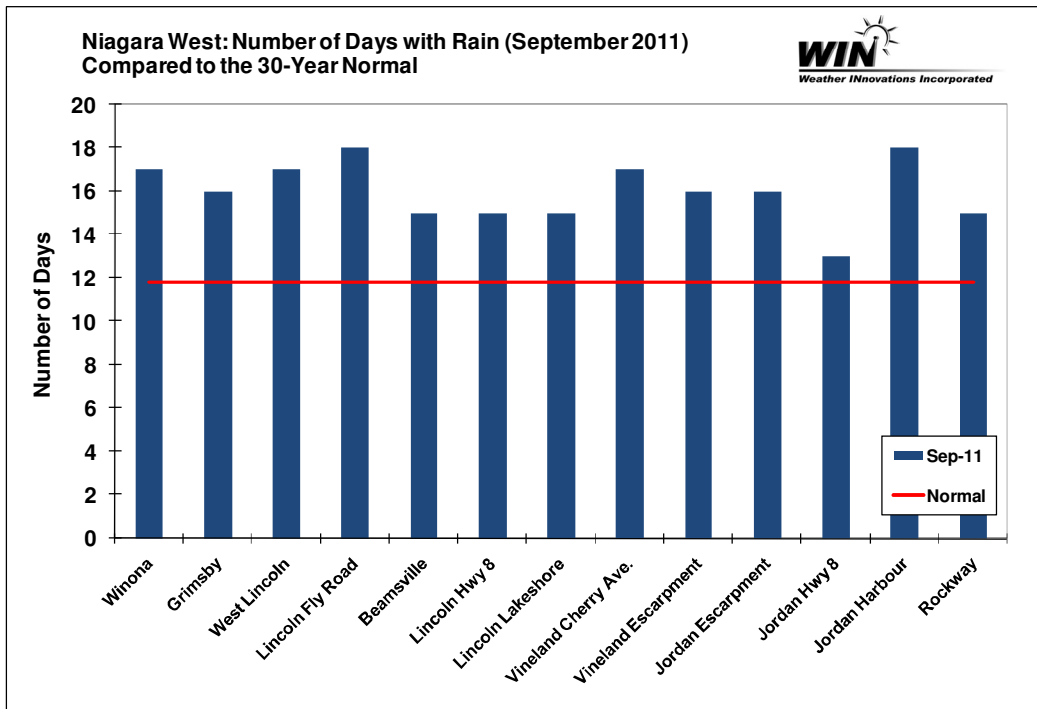


Figure 6: Niagara West - Days with Rainfall

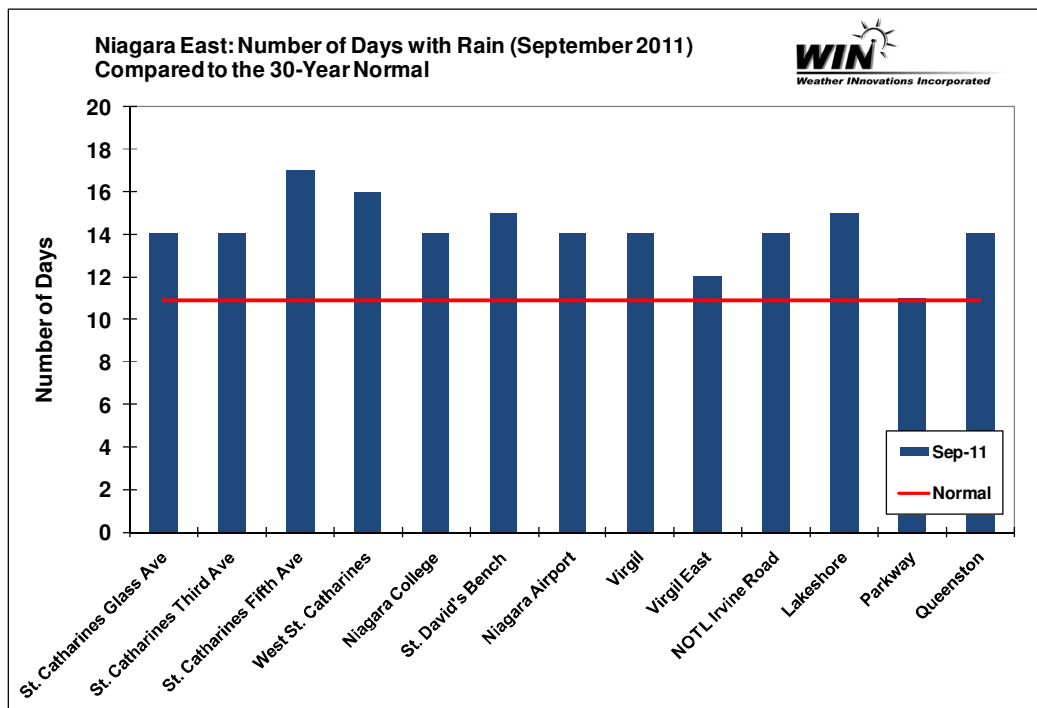


Figure 7: Niagara East - Days with Rainfall

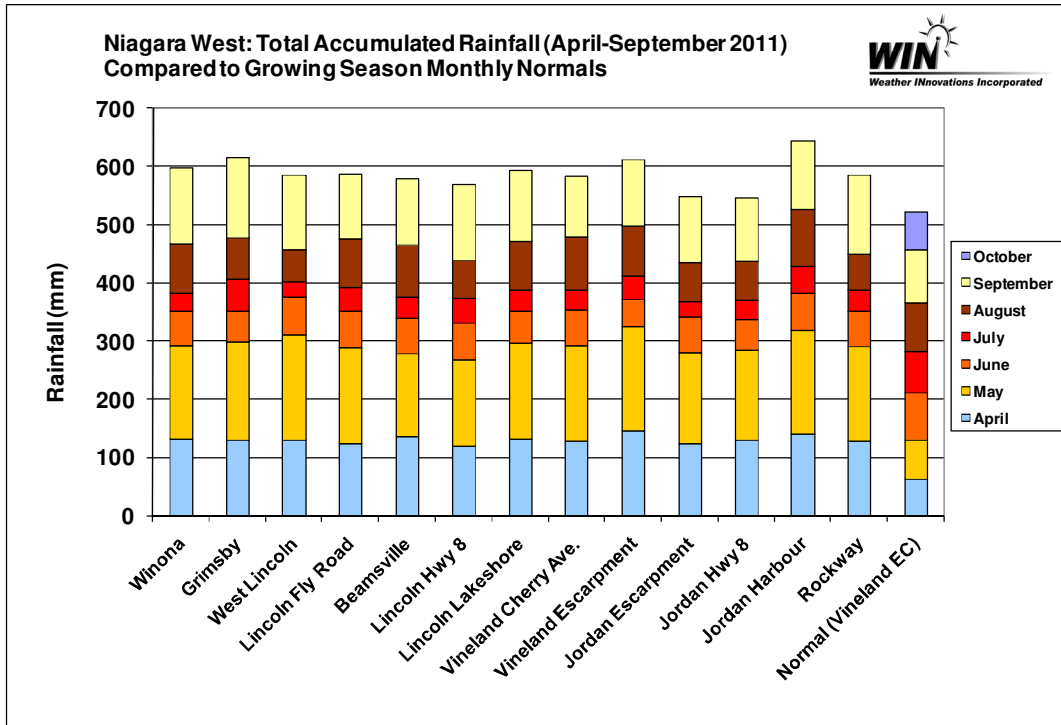


Figure 8: Niagara West – Accumulated Rainfall

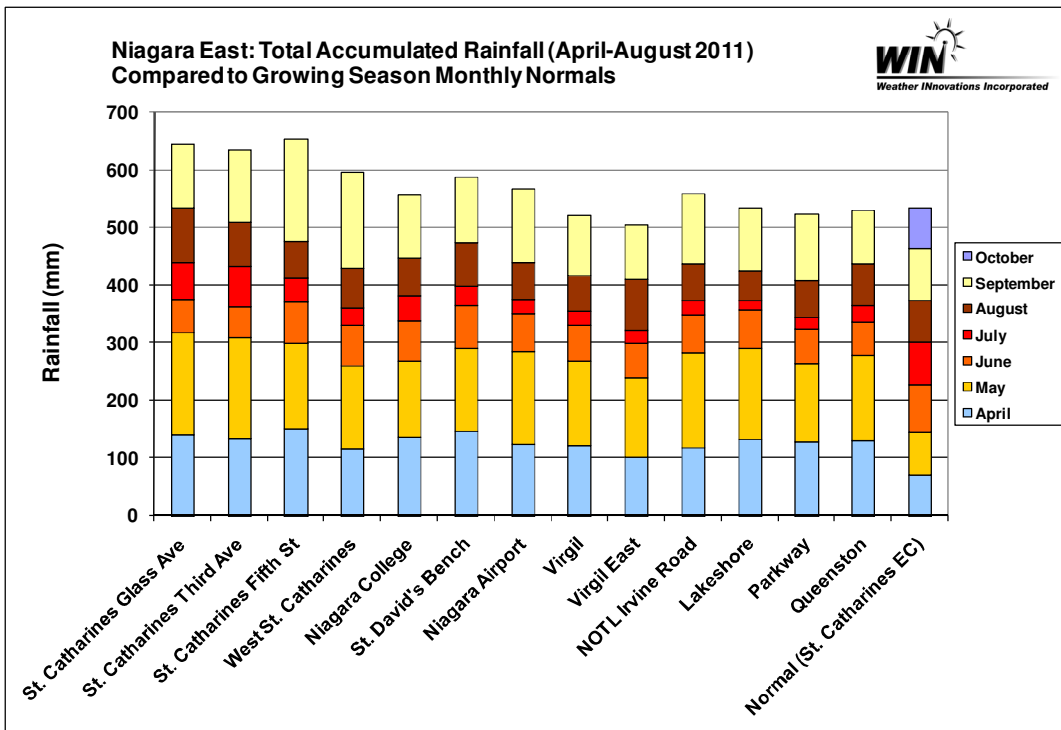


Figure 9: Niagara East – Accumulated Rainfall