

University of Waterloo Weather Station Annual Summary - 2004

The top local weather story of the year was the lack of warm weather during the summer, in fact it never went over 30 degrees Celsius the entire year. Contrast this with the city of Whitehorse in the Yukon where according to Environment Canada they had eight consecutive days of above 30 degree temperatures in June. In our area we never got the typical extended period of hot humid weather that sends people into air conditioned buildings and swimming pools. Although most people complained about the summer a couple of benefits were a reduction in the number of days with smog alerts and generally lush gardens and lawns.

This lack of warm temperatures during the summer can be seen in the summary graph with very few red portions of the temperature graph during the summer months (red indicates higher than average temperatures). But this summer also didn't have an excess of blue portions of the temperature graph (blue indicates lower than average temperatures), this shows that the summer wasn't particularly cold it just wasn't all that hot. In another strange twist, it was warmer in September than it was in August.

Conversely, the cold winter temperatures at the beginning of 2004 can be seen with the large number of blue and few red portions of the temperature graph. Rounding out the seasons, the spring showed near average temperatures and the fall was slightly higher than average.

Even with the cold at the beginning of the year and during the summer, the average daily high temperature of 11.65 °C was only a little below the average of 11.86 °C. And interestingly, the average daily low temperature of 1.86 °C was actually slightly warmer than the average of 1.67 °C. Our highest temperature of the year was 29.3 °C at 4:15 pm on July 15th, while the lowest occurred on December 20th at 7:30 am when it was a bone chilling -28.7 °C.

Looking at the precipitation during 2004, the spring was very wet with an almost record amount of accumulated precipitation by the end of May, however a few dry periods during the summer and early fall brought us back closer to the average. The rest of the fall and early winter were close to average resulting in a final total precipitation of 956.2 mm, slightly above the average of 907.9 mm, but not enough to consider it an above average year for precipitation. The highest precipitation during a single day was the 40.6 mm that fell on July 31st.

There were no extreme temperature, precipitation, or wind events during the year 2004, all the observed values had been previously seen in the 6 year history of the University of Waterloo Weather Station. These extremes are summarized on the next page.

Summary for 2004 (averages from 1970-2000 data for the Waterloo Wellington Airport):

Average Daily High Temperature: 11.65 °C (average 11.86 °C)

Average Daily Low Temperature: 1.86 °C (average 1.67 °C)

Total Precipitation: 956.2 mm (average 907.9 mm)

Extremes for 2004 (all time weather station extreme in brackets):

Highest Temperature:

29.3°C July 13 4:15 pm (35.4°C Aug 8, 2001 4:30 pm)

Highest Humidex:

39.2 July 22 4:30 pm (44.9 July 1, 2002 2:45 pm)

Lowest Temperature:

-28.7°C Dec 20 7:30 am (-32.0°C Jan 27, 2003 6:15 am)

Lowest Windchill:

-32.0 Jan 9, 9:45 am (-37.2 Jan 14, 1999 4:15 am)

Greatest temperature drop in 15 minutes:

-3.9 °C July 22 6:45 pm (-5.1°C Feb 9, 2001 11:15 pm)

Greatest temperature drop in 60 minutes:

-8.9 °C April 19 4:45-5:45 pm (-9.8°C July 17, 1999 11:15-12:15 pm)

Greatest temperature rise in 15 minutes:

3.9 °C Feb 25 5:30 am (8.6°C Jan 2, 2001 6:15 am)

Greatest temperature rise in 60 minutes:

8.6 °C Feb 28 8:30-9:30 am (12.2°C Jan 2, 2001 4:45-5:45 am)

Highest Precipitation in 15 minutes:

7.5 mm July 31 5:15 am (16.2 mm Jun 27, 1999 4:45 pm)

Highest Precipitation in 60 minutes:

22.2 mm July 31 5:00 - 6:00 am (36.7 mm Jun 16, 1998 1:15-2:15 pm)

Highest 15 minute average wind speed:

7.3 m/s April 29 4:30 pm (12.4 m/s March 9, 2002 6:30 pm)

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