

## University of Waterloo Weather Station Annual Summary - 2011

The biggest weather story of the year in the region was that it was a very wet year. With 1146.4 mm of total precipitation it was the 4<sup>th</sup> wettest year since records began in 1914 (the 3 wettest years were 1985-1186.4 mm, 1940-1174.9 mm, and 2008-1159.5 mm).

The only months that were significantly below average were June and July while all the spring and fall months were all very much above average. This included the wettest April ever, the fifth wettest May, and the third wettest October. The single day with the highest precipitation was November 29<sup>th</sup> with 52.1 mm.

In total there was 165.5 cm of snow during the calendar year of 2011, which is just a little more than the average of 159.5 cm. The biggest one day snowfall of 26 cm happened on March 24<sup>th</sup>, this was the snowiest day in 3 years.

Overall the temperature for 2011 was a full degree above average putting it around the 14<sup>th</sup> warmest off all time. However, it is worth looking at how the temperature varied between the first and second half of the year. From January to June the temperature was half a degree colder than average while for July and December it was about 2.5 degrees warmer than average. Each month in the second half of the year it was more than 1.5 degrees warmer than average, making it the warmest July to December period ever seen in the region.

On January 23<sup>rd</sup>, the high temperature during the day of -16.6°C was the coldest daytime high since January 15<sup>th</sup> of 2004. The 35.7°C on July 21<sup>st</sup> was the highest temperature seen since August 8<sup>th</sup>, 2001 when it was 36.5°C. Note that this high temperature was actually recorded at the Waterloo-Wellington Airport as the UW weather station unfortunately had been vandalized and was not accurately reading temperature at this time.

On the morning of October 23<sup>rd</sup> at 4:45 am the temperature went below zero for the first time since the spring and thus the frost free season went from May 1<sup>st</sup> to October 22<sup>nd</sup> which is a total of 175 days. This was the longest frost free season since records began in the region in 1915, just beating out 1941 when there was a stretch of 174 days above zero.

**Summary for 2011 (averages are calculated from 1971-2000 data for the Waterloo-Wellington Airport):**

Average Daily High Temperature: 12.60 °C (average 11.89 °C)

Average Daily Low Temperature: 3.02 °C (average 1.71 °C)

Total Precipitation: 1146.4 mm (average 904.0 mm)

**Extremes for 2010 (all time UW weather station extreme in brackets):**

Highest temperature:

35.7 °C July 21 3:00 pm \*at airport (35.4°C Aug 8, 2001 4:30 pm)

Highest humidex:

46.0 July 21 1:00 pm \*at airport (46.8 Aug 2, 2006 3:45 pm)

Lowest temperature:

-28.8 °C Jan 24 7:05 am (-32.3 °C Jan 27, 2005 7:45 am)

Lowest windchill:

-28.8 Jan 23, 10:45 am (-37.2 Jan 14, 1999 4:15 am)

**Greatest temperature drop in 15 minutes:**

**-7.0 °C Sep 3 2:30 pm (New Extreme)**

**Greatest temperature drop in 60 minutes:**

**-10.4 °C Sep 3 1:45-2:45 pm (New Extreme)**

Greatest temperature rise in 15 minutes:

4.9 °C Jan 24 9:00 am (8.6 °C Jan 2, 2001 6:15 am)

Greatest temperature rise in 60 minutes:

9.4 °C Jan 24 8:15 - 9:15 am (12.2 °C Jan 2, 2001 4:45-5:45 am)

Highest precipitation in 15 minutes:

14.5 mm May 23 6:30-6:45 pm (23.0 mm July 22, 2008 7:30-7:45 pm)

Highest precipitation in 60 minutes:

25.7 mm May 23 6:30 - 7:30 9m (44.8 mm July 23 7:30 - 8:30 am)

Highest Precipitation in 1 day:

52.1 mm Nov 29 (78.0 mm July 11, 2008)

Highest 15 minute average wind speed:

38.9 km/h Apr 27 3:15 pm (44.6 km/h March 9, 2002 6:30 pm)

Last time the temperature went below 0 before the summer:

Apr 30 6:15 am (Has ranged between Apr 29- May 21)

First time the temperature went below 0 after the summer:

Oct 23 5:45 am (Has ranged between Oct 2-28)

**Length of frost-free season**

**175 Days (New long extreme – short extreme 145 – 2009)**

Highest daily low temperature:

21.2 °C Jul 11 (25.3 °C Aug 1, 2006)

Lowest daily high temperature:

-12.6 °C Jan 23 (-16.1 °C Jan 9, 2004)

Largest daily temperature range:

21.5 °C Feb 23 (29.6 °C Feb 19, 2007)

Smallest daily temperature range:

1.4 °C Dec 27 (0.45 °C Dec 7, 2005)

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