

University of Waterloo Weather Station Annual Summary - 2012

The weather story for the region in 2012 was the consistent warmth we saw during the entire year. In particular, the incredibly hot March that was over 7.5 degrees warmer than average making it the warmest ever in the region since records began back in 1914. It also included a week of temperatures above 20 degrees and the high temperature of 26.4°C on the 22nd was the warmest March temperature on record.

Although many people enjoyed this early taste of spring, many trees and plants that started to come out of hibernation during this period were damaged when more typical temperatures came back in April.

Overall, it was the second warmest year we have seen in the region with an average temperature of 8.93°C. This was only slightly less than the record set back in 1998 of 8.98°C. However, the period between July of 2011 and June of 2012 was the warmest 12 month period ever with an average temperature of 9.33°C.

Other notable temperature stories from the year were: February being the second warmest on record, only 2 colder than average days in July, and November being the end of 19 months in a row of warmer than average months.

On the precipitation side, 6 of the 7 months between February to August were all drier than average, so although we had a few wetter than average months during the fall, overall it was a dry year. We had 782.7 mm compared to the average of 904.0 mm making it the driest year since 2007. It may have been a close to a record dry year if not for September at 120.5 mm and the second wettest October ever in the region at 156.4 mm.

The wettest day of the year was June 1st with 56.7 mm of precipitation, this was more than came down during any month between February to August (if you take the first out of the total for June).

With the warm temperatures and low precipitation it is not surprising that the snowfall total at 86.5 cm was a just a little over half of the average of 159.5 cm. This was the least snowy calendar year since 1982 when we only had 77.8 cm.

One thing to keep in mind is that the kind of year we saw in 2012 might be something we will have to get used to in the future. According to many of the future climate models what we saw this year (warmer temperatures and drier summers) will be more common. Not that every year will be exactly like this, but the unique weather this year may not be so unique in the future.

Summary for 2012 (averages are calculated from 1971-2000 data for the Waterloo-Wellington Airport):

Average Daily High Temperature: 14.31 °C (average 11.89 °C)

Average Daily Low Temperature: 4.32 °C (average 1.71 °C)

Total Precipitation: 782.7 mm (average 904.0 mm)

Extremes for 2012 (all time UW weather station extreme in brackets):

Highest temperature:

33.5 °C July 17 2:45 pm (35.7 °C July 21 3:00 pm)

Highest humidex:

46.9 July 4 4:15 pm (47.0 July 21 1:00 pm)

Lowest temperature:

-18.3 °C Jan 3 7:00 pm (-32.3 °C Jan 27, 2005 7:45 am)

Lowest windchill:

-25.8 Jan 3 12:45 am (-37.2 Jan 14, 1999 4:15 am)

Greatest temperature drop in 15 minutes:

-5.9 °C Aug 27 11:45 pm (-7.0 °C Sep 3 2:30 pm)

Greatest temperature drop in 60 minutes:

-8.1 °C May 21 6:15-7:15 pm (-10.4 °C Sep 3 1:45-2:45 pm)

Greatest temperature rise in 15 minutes:

4.0 °C Apr 14 6:15 am (8.6 °C Jan 2, 2001 6:15 am)

Greatest temperature rise in 60 minutes:

7.8 °C May 15 7:00 - 8:00 am (12.2 °C Jan 2, 2001 4:45-5:45 am)

Highest precipitation in 15 minutes:

9.9 mm July 15 2:30-2:45 pm (23.0 mm July 22, 2008 7:30-7:45 pm)

Highest precipitation in 60 minutes:

17.6 mm Jun 1 5:15 - 6:15 (44.8 mm July 23 7:30 - 8:30 am)

Highest Precipitation in 1 day:

56.7 mm Jun 1 (78.0 mm July 11, 2008)

Highest 15 minute average wind speed:

41.8 km/h Mar 3 2:30 am (44.6 km/h March 9, 2002 6:30 pm)

Last time the temperature went below 0 before the summer:

Apr 30 10:00 am (Has ranged between Apr 29- May 21)

First time the temperature went below 0 after the summer:

Oct 12 10:30 am (Has ranged between Oct 2-28)

Length of frost-free season

164 Days (Has ranged between 146-175 days)

Highest daily low temperature:

23.5 °C Jun 20 (25.3 °C Aug 1, 2006)

Lowest daily high temperature:

-10.7 °C Jan 3 (-16.1 °C Jan 9, 2004)

Largest daily temperature range:

23.5 °C May 19 (29.6 °C Feb 19, 2007)

Smallest daily temperature range:

0.90 °C Jan 25 (0.45 °C Dec 7, 2005)

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