

A hot June with lots of rain

Before everybody scratches their heads thinking that it didn't seem like a particularly hot June, I have to explain how we calculate the average temperature for a month: For each day we only look at the highest and the lowest temperatures, the average of those two readings is the average temperature for that day and then these numbers are averaged to get a number for the entire month.

We can then look at the average of all the high temperatures (0.3° below average in June), the average of all the low temperatures (2.9° above average in June), and the average of the average temperatures (1.3° above average in June).

Most people are probably more aware of the high temperature of the day as we are usually awake at the time and the low temperature occurs just before sunrise when most people are asleep. Thus in June the measure that most people can identify with was below average, but using the average temperature method it was an above average month for temperature.

Just one last point on this, a more exact method would be to take an average of all 2976 temperature readings for the month (1 every 15 minutes). But unfortunately we only have this kind of information at the UW weather station and thus we don't have a long enough record to make meaningful averages.

One of the factors that makes the night time temperature warmer is the amount of cloud and as it turns out this was a cloudy month. To prove it I'll give you the average incoming shortwave radiation comparison (something I don't normally do, but it is relevant this time). The incoming shortwave radiation is a measure of how much of the sun's energy gets to the sensor, a higher reading means more sun. This June the average was 221 Watts per square metre compared to the average of 242. Of course this reflects the amount of clouds in the daytime, but I'm assuming that there is a correlation between the amount of clouds during the day and the amount of clouds at night.

Up until the last few days of the month I kept telling people that although it felt like a really wet month the total precipitation was about average. I think that the fact there were 18 days when we had at least a little bit of rain made it seem wetter than it really was. However, on the 28th my theory was thrown out the window as we got an amazing 28.0 mm of rain putting us well above the average.

The 106.4 mm of rain we got this month made it the wettest June in the 10 year history of the UW weather station. Another wet month means that the total precipitation for the year (486.5 mm) is still well above the average for this time of year (416.1 mm).

Environment Canada prediction of temperature for the month: Above average
Actual Temperature: Above average

Summary for June 2008:

Maximum Temperature 30.4 °C

Minimum Temperature 8.3 °C

Average Daily High Temperature 23.2 °C (Long term average 23.5 °C)

Average Daily Low Temperature 14.1 °C (Long term average 11.2 °C)

Total Precipitation 106.4 mm (Long term average 80.0 mm)

(Long term averages based on 1970-2000 data for the Waterloo Wellington Airport)