

## Rose Garden

I beg your pardon  
 I never promised you a rose garden  
 Along with the sunshine  
 There's gotta be a little rain sometime.

as sung by Lynn Anderson (by Joe South)

### *August 2024*

The story of August this year was gloomy cold, clouds, and rain. At least, that's what people will remember. What happened?

Daily temperatures are shown in Fig. 2. The historical averages (since 2002) are shown with a heavy dashed line. It's clear that though there were some hot days for most of the month the daily average temperature (orange) was below expectations. This always seems to divide Victoria into those born here and those from other places. Since most Canadians live along or south of the 49° north, most people grow up with hot summer weather. For those who grow up here, Victoria's moderate temperatures seem to condition them to be opposed to hot summer days. It's important to remember though that older housing in Victoria isn't typically that well insulated and doesn't have access to air conditioning. Those homes can get very hot.

To counter the few hot days, we saw a couple of real North Pacific ocean days. On August 28 the morning low temperature was 8.2 °C, and the next day the low as 10 °C. Both of those days warmed up, to 18.9 °C and 22.1 °C respectively. There was some humorous mention of "Augtober"<sup>1</sup>

I've prepared histograms of daily temperature in Table 1. These show counts of the days in August where the temperature exceeded high and low temperature thresholds. I selected greater than or equal to 29 °C for the high temperature limit to reflect the Heat warning criteria for the Victoria region. The low temperature I chose is 10 °C. That's a good value for gardeners who like the nighttime temperature to be warmer than that, and it's a bit cooler than the average temperature of October at UVic. This year we recorded only one "hot" day (August 2).



Figure 1: Lynn Anderson.

<sup>1</sup> See the summary for 2024-06 for discussion of "January".

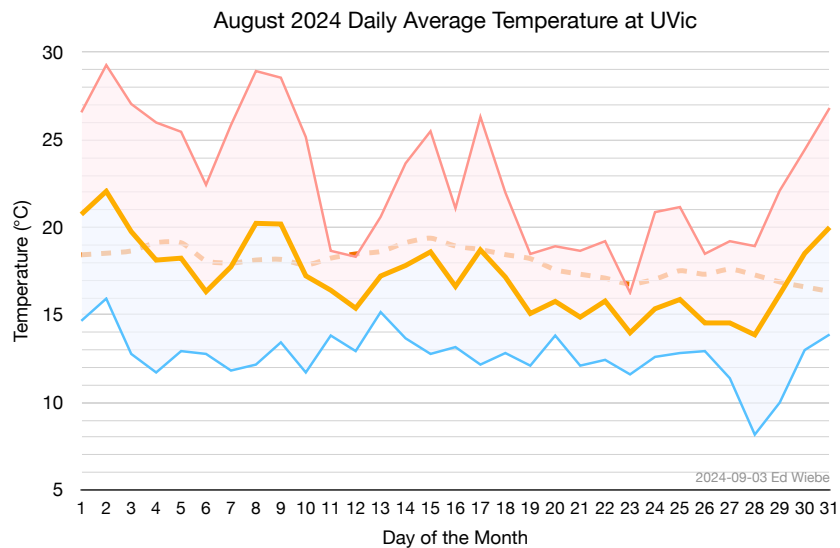


Figure 2: August daily averages.

Days	Hot ( $\geq 29^{\circ}\text{C}$ )		Cold ( $\leq 10^{\circ}\text{C}$ )	
	Count	Fraction (%)	Count	Fraction (%)
0	4	17.4	15	65.2
1	6	26.1	3	13.0
2	1	4.3	2	8.7
3	3	13.0	1	4.3
4	3	13.0	1	4.3
5	3	13.0	0	0.0
6	2	8.7	0	0.0
7	0	0.0	1	4.3
8	1	4.3	0	0.0
<b>Totals</b>	<b>23</b>	<b>100.0</b>	<b>23</b>	<b>100.0</b>

Table 1: Histograms: Number of hot and cold days in August at UVic (since 2002).

## Insolation

Figure 3 gives the total available energy (from the sun) for each day in August at UVic (since 2002). 2024 values are shown with larger red circles. The average values are shown with a blue line, and a linear best-fit has been drawn as well, to give a sense of the trend. Remember, the sun reached it's highest noon elevation way back in June. Since then, it's a bit lower each day and the day-length is correspondingly shorter as well. That explains the trend downward to the right on the graph. For most days, the majority of observations are clustered near the maximum possible. These are days that were sunny overall. Cloudy days show up lower on the scale. There have been a few really dark ones. For comparison, a bright mid-January day provides up to about  $6 \text{ MJ m}^{-2}$ . August 23 this year reached only  $3.2 \text{ MJ m}^{-2}$ . That's really not the kind of August weather we want!

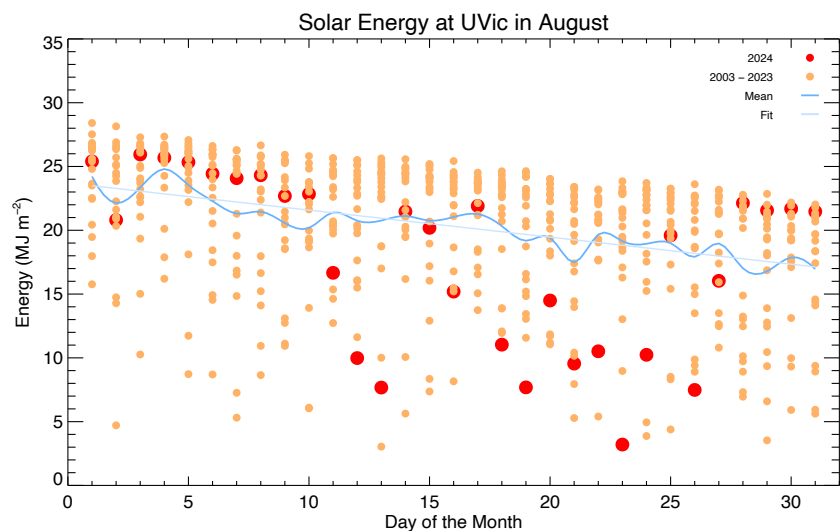


Figure 3: August insolation.

## Rain

The monthly total rain in August this year, 46.2 mm, is greater than 86% of monthly totals for August, since 1899.<sup>2</sup> Most of this rain came in only a few events; that's the way it usually happens. The dominant pattern of blocking high pressure systems broke down in the second half of the month. The low pressure systems that passed over during a span of about 10 days brought the rain. The earlier system delivered 11 mm over three days. The later system brought a lot more, 35 mm over four days. Most of that, 19 mm arrived on the 18<sup>th</sup>. See Fig. 4 for the daily observations from this year, and the overall averages for each day. The columns labelled "Maximum" are the observations from 2024.

<sup>2</sup> Mekis, É and L.A. Vincent, 2011: An overview of the second generation adjusted daily precipitation dataset for trend analysis in Canada. *Atmosphere-Ocean* 49(2), 163-177.

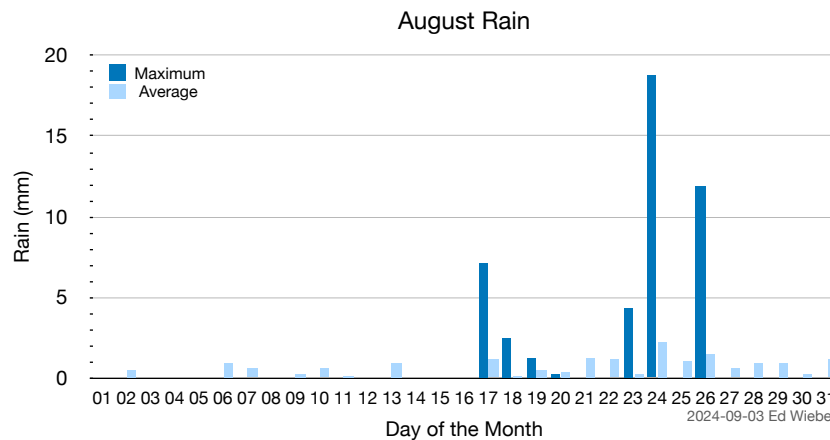


Figure 4: Average August rain.

We can't really call it a rainy month, since rain only fell on seven days, and there were a lot of very nice days, but it was rainier than we'd like in summer. Fig. 5 summarises the total rain and the days with rain. It was the second wettest month overall.

I'll conclude with the summer rain totals. Fig.6 shows summer rain totals since 2002 at UVic. This year was wetter than usual, which is overall a benefit, even if it spoils some camping opportunities. Summer is the dry season in Victoria. Many native plants are surviving here because they can tolerate both wet winters and dry summers. Some of these are at the limit of their range (*e.g.* Garry Oak, Arbutus, Red cedar). It's not clear from these data but overall there has been a trend toward drier summers along the coastal regions bordering Georgia Strait. This trend is driven by climate change. We expect, in general, that drier places will get drier and wetter will get wetter. This is not a universal truth, but a helpful rule of thumb. Among the local species,

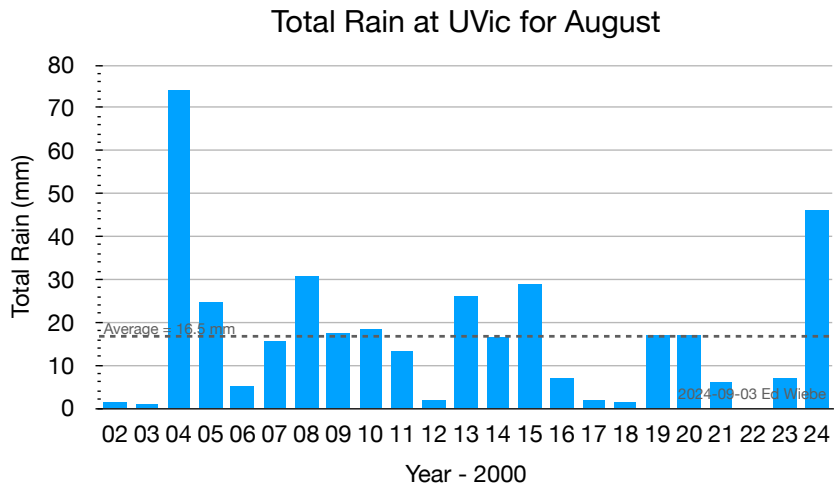
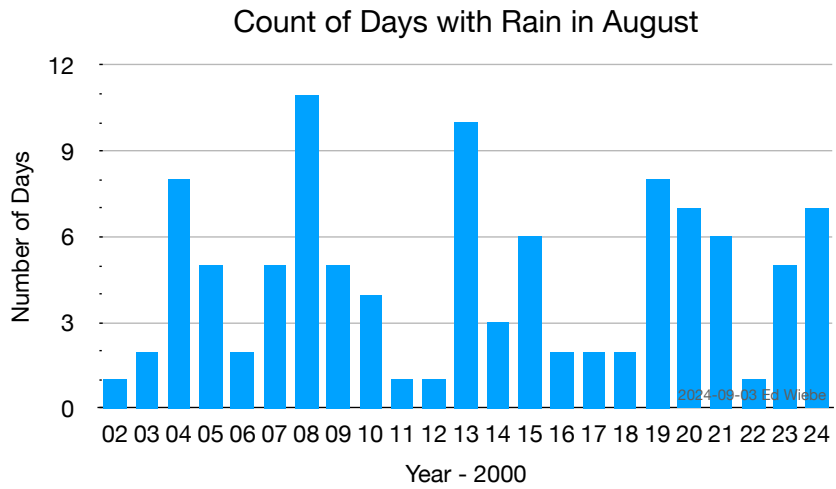


Figure 5: August rain.



those in the Coastal Douglas-fir forest biogeoclimatic zone (that's us!) are threatened by human activities and climate change. There's not a lot we can do about the drier summers but we can bear in mind they increase the threat of wildfire in the region, and plan accordingly.

You can learn more about the Coastal Douglas-fir ecoregion from the CDFCP, The Coastal Douglas-fir & Associated Ecosystems Conservation Partnership.

A brochure from the CDFCP

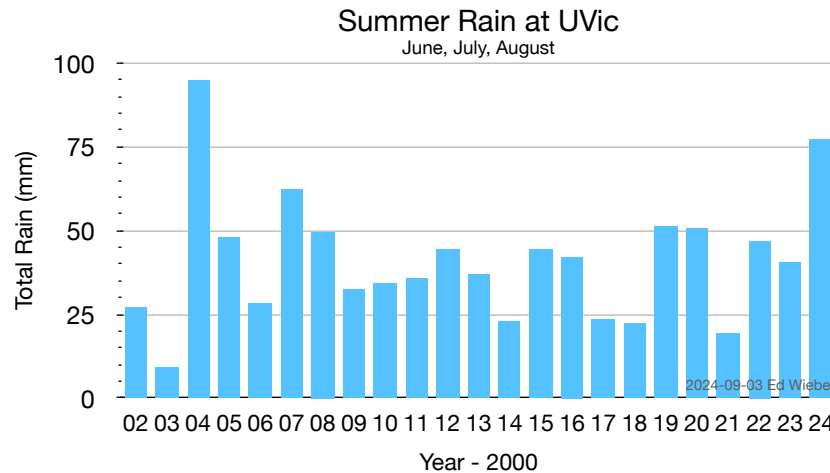


Figure 6: Summer rain.