

Climate Primer for Grey & Bruce Counties

Temperature

From the 1880s to the 1980s annual normal temperatures were 6.6 oC, ranging from a low of 6.2 oC in the 1910s to a high of 6.9 oC in the 1960s. Currently, in the 2010s, our normal annual temperature is 7.0 oC, the warmest 'normal' in 130 years.

We have been getting steadily warmer since the early 1970s, and it is going to keep getting warmer for decades to come. Models estimate that in the 2020s our normal average temperature will be 7.4 oC and by the 2040s it will be a whopping 8.4 oC. That is an entirely new climate different than anything we, or our ancestors, have experienced.

Also consider "hot days", days in which our temperatures exceed 30 oC. Hot days are a human health risk, a negative impact on agriculture and on our natural habitats. In the 1950s, we only experienced two hot days each year. Currently, in the 2010s, we are experiencing four hot days each year. And by the 2040s we expect to get nine to ten hot days each year.

Warming temperatures promise to bring many changes to our world, from agriculture to human health to the livability of our communities for many decades to come.

Precipitation

From the 1880s to the 1980s average normal precipitation (rain + snow) was 925 mm each year, ranging from a low of 834 mm y-1 (1940s) to a high of 1004 mm y-1 (1980s). We have been getting steadily wetter for decades. In the 1990s, normal precipitation was 1043 mm y-1, in the 2000s it rose to 1088 mm y-1 and now, in the 2010s, we expect 1095 mm each year.

The trend of increasing precipitation will continue for decades to come. By the 2020s we can expect on average 1130 mm y-1 and future projections just keep getting wetter.

The increased precipitation has resulted in some of our heaviest snowfall years in recorded history. From the 1880s to the 1960s we averaged three meters of snowfall each year. Now, we expect on the order of four meters of snow each year.

And while the average annual precipitation values demonstrate we are getting forever wetter, often the rainfall and snowfall "events" occur over short time periods resulting in record flooding and power outages.

Forecast

The trends of increasing temperature and precipitation will happen no matter what we do, or do not do, about carbon emissions from fossil fuel burning and landuse practices. This is climate change in Grey and Bruce counties. It is here, it will continue and it will result in a very different climate than anything that humans have experienced in Bruce and Grey counties.

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