

# Trends in Historical Temperature and Heat Wave Duration

Cited by the [Greenhouse Gas Progress Report 2016: Facing Climate Change](#) by the Environmental Commissioner of Ontario

- Ontario's *annual mean* temperature has increased more than 1°C since 1900<sup>1</sup>;
- Decadal averages<sup>2</sup> of both *summer mean* and *maximum* temperatures have been rising in general at Toronto<sup>3</sup> (Fig. 1).
- Heat wave<sup>4</sup> duration (total number of heat wave days) also has an upward trend since 1850s as well as in the recent 4 decades at Toronto (Fig. 2).

Fig. 1 Trends in Decadal Average Summer Temperature at Toronto

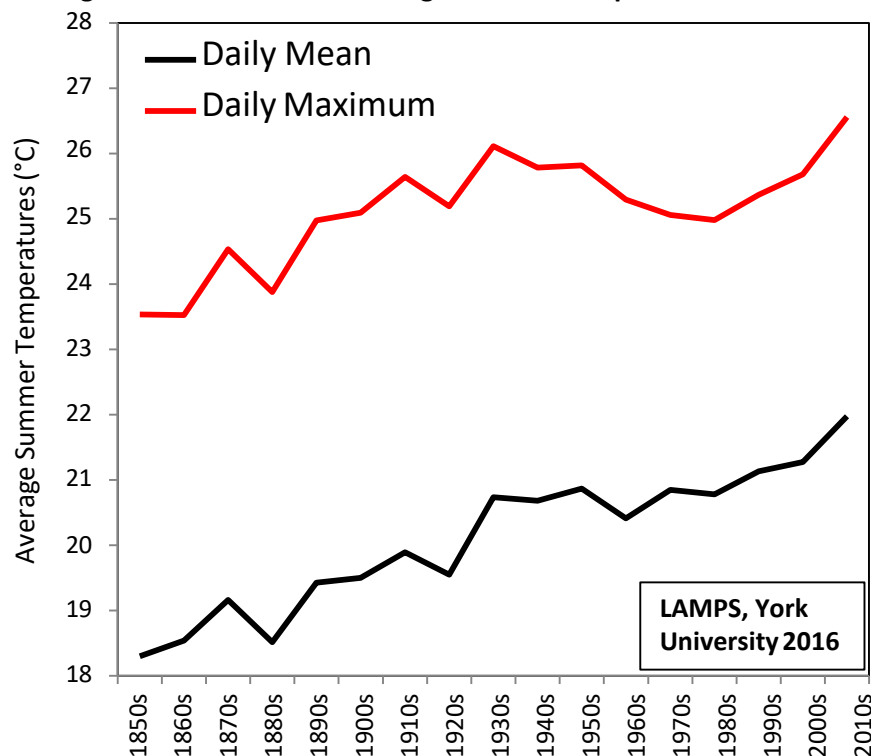
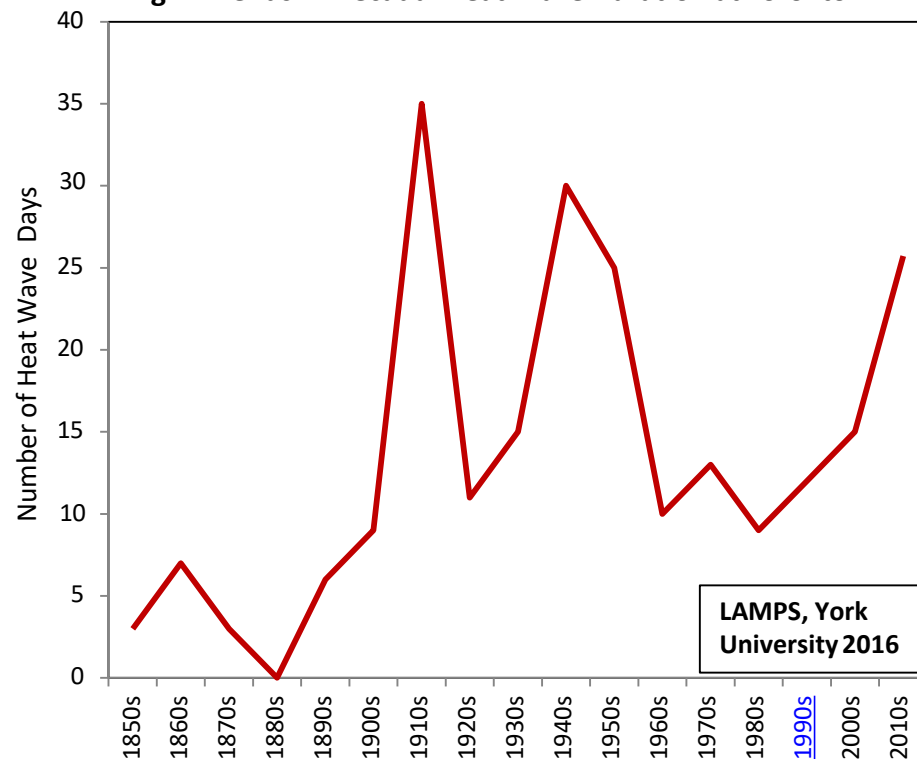


Fig. 2 Trends in Decadal Heat Wave Duration at Toronto



Analyses were carried out by the LAMPS group at York University with scientific advice from MOECC.

1. <http://lamps.math.yorku.ca/WorldClimate/OntarioClimate/PDFs/TemperatureChangefor1900to2100relativeto1986-2005.pdf>.
2. The most recent decade refers as 2010s is from January 01 2010 to August 13 2016, the latest available data from Environment and Climate Change Canada (ECCC).
3. As one of the few stations in Ontario have long term complete observation data, Toronto was taken as an example to illustrate the trends.
4. A heat wave is three or more consecutive days when the maximum temperature is 32°C or more, defined by ECCC. <https://ec.gc.ca/meteoaloeil-skywatchers/default.asp?lang=En&n=7884CDEA-1&def=hide1BED14A34#BED14A34>