Appendix B: Climate Change Projections for Manitoulin Island

Climate Change Indicator	Climate Characteristic	BASE PERIOD 1976-2005	FUTURE PROJECTIONS 2021-2050	FUTURE PROJECTIONS 2051-2080
Temperature	Mean Temperature	Mean	Mean	Mean
Hot Weather	Number of +30C days per year	1	5.4	18.9
	Number of +20C Nights per year (Tropical Nights)	0.9	6.9	22.1
Cold Weather	Freeze Thaw Cycles	62.4	58.8	53
	Icing Days	70.8	50.1	31.1
Precipitation	Heavy Precipitation (10mm)	20.9	23.1	24.3
	Heavy Precipitation (20mm)	4.7	5.9	6.6
Agriculture	Date of first frost	October 22	November 5	November 19
	Date of last Spring frost	May 3	April 21	April 10
	Growing Degree Days (Base 10C)	903.9	1239	1616

Notes:

1. The projection data presented here is taken largely from the Climate Atlas of Canada (www.climateatlas.ca/), but also from the Wind Research page of the National Renewable Energy Laboratory (United States) web site (www.nrel.gov/wind/data-tools.html), and the PIEVC Program. Effective March 30, 2020, ownership and control of the PIEVC Program has been transferred to a partnership consisting of the Institute for Catastrophic Loss Reduction (ICLR), the Climate Risk Institute (CRI) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH (www.pievc.ca/protocol/how-to-access-the-pievc-protocol/).
2. For the Climate Atlas of Canada data, Canada is divided into regions. Manitoulin Island falls within two regions: Alpena and Tobermory, with most of the island falling in the Alpena region. Therefore, the Alpena region was for the data presented above.
3. This table represents one set of projections. There are many sources and presentations of climate change projections, all with varying assumptions, underlying research, and data analysis/depiction. This table is presented simply to provide one example of the kinds of climate change that Manitoulin may expect, in the medium and long-term, if the factors contributing to the change are left unmitigated and current well-documented trends continue.