

# Clarington Climate Design Zones



Environment Canada  
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Reference Number

ClaringtonMunicipal2026Feb

## Zone 1 (Courtice-Maple Grove-Bowmanville), ON

Latitude: 43 ° 54 ' 36 " N Longitude: 78 ° 40 ' 48 " W Elevation (Metres): 140

Design element	Design value
January 2.5% design dry bulb temperature °C	-20
January 1% design dry bulb temperature °C	-22
July 2.5% design dry bulb temperature °C	30
July 2.5% design wet bulb temperature °C	23
Annual total degree days below 18 °C	3,860
Maximum 15 minute rainfall (mm)	23
Maximum one day rainfall (50 years) (mm)	86
Annual rainfall (mm)	760
Annual total precipitation (mm)	830
Moisture Index	0.90
Driving Rain wind pressure 1/5 years (Pa)	160
Ground snow load, snow component S <sub>s</sub> (30 years) (kPa)	
Ground snow load, rain component S <sub>r</sub> (30 years) (kPa)	
Ground snow load, snow component S <sub>s</sub> (50 years) (kPa)	1.4
Ground snow load, rain component S <sub>r</sub> (50 years) (kPa)	0.4
Hourly wind pressure 1/10 (kPa)	0.37
Hourly wind pressure 1/30 years (kPa)	
Hourly wind pressure 1/50 years (kPa)	0.48
Hourly wind pressure 1/100 years (kPa)	

Please note that the recommended values may differ from the legal requirements established by the municipal or provincial (territorial) building authorities. The design values may have been interpolated from calculated values at surrounding locations with subjective modification. Topographic effects may introduce local variations in the design values. Environment Canada has not made and does not make any representation or warranties, either expressed or implied, arising by law or otherwise, respecting the accuracy of climatic information. In no event will Environment Canada be responsible for any prejudice, loss or damage which may occur as the result of the use of climatic information.

March 5, 2026



**Zone 2 (Newcastle-Clarington), ON**

**Latitude: 43 ° 35 ' 12 " N      Longitude: 78 ° 34 ' 48 " W      Elevation (Metres): 115**

<b>Design element</b>	<b>Design value</b>
January 2.5% design dry bulb temperature °C	<b>-20</b>
January 1% design dry bulb temperature °C	<b>-22</b>
July 2.5% design dry bulb temperature °C	<b>30</b>
July 2.5% design wet bulb temperature °C	<b>23</b>
Annual total degree days below 18 °C	<b>3,960</b>
Maximum 15 minute rainfall (mm)	<b>23</b>
Maximum one day rainfall (50 years) (mm)	<b>86</b>
Annual rainfall (mm)	<b>760</b>
Annual total precipitation (mm)	<b>830</b>
Moisture Index	<b>0.90</b>
Driving Rain wind pressure 1/5 years (Pa)	<b>160</b>
Ground snow load, snow component Ss (30 years) (kPa)	
Ground snow load, rain component Sr (30 years) (kPa)	
Ground snow load, snow component Ss (50 years) (kPa)	<b>1.5</b>
Ground snow load, rain component Sr (50 years) (kPa)	<b>0.4</b>
Hourly wind pressure 1/10 (kPa)	<b>0.37</b>
Hourly wind pressure 1/30 years (kPa)	
Hourly wind pressure 1/50 years (kPa)	<b>0.48</b>
Hourly wind pressure 1/100 years (kPa)	

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**March 5, 2026**



**'Zone 3 (N of Bowmanville - Orono), ON**

**Latitude: 43 ° 57 ' 0 " N      Longitude: 78 ° 42 ' 30 " W      Elevation (Metres): 160**

<b>Design element</b>	<b>Design value</b>
January 2.5% design dry bulb temperature °C	<b>-20</b>
January 1% design dry bulb temperature °C	<b>-22</b>
July 2.5% design dry bulb temperature °C	<b>30</b>
July 2.5% design wet bulb temperature °C	<b>23</b>
Annual total degree days below 18 °C	<b>3,990</b>
Maximum 15 minute rainfall (mm)	<b>23</b>
Maximum one day rainfall (50 years) (mm)	<b>86</b>
Annual rainfall (mm)	<b>760</b>
Annual total precipitation (mm)	<b>830</b>
Moisture Index	<b>0.90</b>
Driving Rain wind pressure 1/5 years (Pa)	<b>160</b>
Ground snow load, snow component S <sub>s</sub> (30 years) (kPa)	
Ground snow load, rain component S <sub>r</sub> (30 years) (kPa)	
Ground snow load, snow component S <sub>s</sub> (50 years) (kPa)	<b>1.8</b>
Ground snow load, rain component S <sub>r</sub> (50 years) (kPa)	<b>0.4</b>
Hourly wind pressure 1/10 (kPa)	<b>0.37</b>
Hourly wind pressure 1/30 years (kPa)	
Hourly wind pressure 1/50 years (kPa)	<b>0.48</b>
Hourly wind pressure 1/100 years (kPa)	

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**March 5, 2026**



**Zone 4 (Newtonville), ON**

**Latitude: 43 ° 56 ' 30 " N      Longitude: 78 ° 29 ' 40 " W      Elevation (Metres): 160**

<b>Design element</b>	<b>Design value</b>
January 2.5% design dry bulb temperature °C	<b>-20</b>
January 1% design dry bulb temperature °C	<b>-22</b>
July 2.5% design dry bulb temperature °C	<b>30</b>
July 2.5% design wet bulb temperature °C	<b>23</b>
Annual total degree days below 18 °C	<b>3,950</b>
Maximum 15 minute rainfall (mm)	<b>23</b>
Maximum one day rainfall (50 years) (mm)	<b>86</b>
Annual rainfall (mm)	<b>760</b>
Annual total precipitation (mm)	<b>830</b>
Moisture Index	<b>0.90</b>
Driving Rain wind pressure 1/5 years (Pa)	<b>160</b>
Ground snow load, snow component S <sub>s</sub> (30 years) (kPa)	
Ground snow load, rain component S <sub>r</sub> (30 years) (kPa)	
Ground snow load, snow component S <sub>s</sub> (50 years) (kPa)	<b>1.8</b>
Ground snow load, rain component S <sub>r</sub> (50 years) (kPa)	<b>0.4</b>
Hourly wind pressure 1/10 (kPa)	<b>0.37</b>
Hourly wind pressure 1/30 years (kPa)	
Hourly wind pressure 1/50 years (kPa)	<b>0.48</b>
Hourly wind pressure 1/100 years (kPa)	

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**March 5, 2026**



**Zone 5 (Solina-Tyrone-Leskard-Kendal), ON**

**Latitude: 44 ° 0 ' 38 " N      Longitude: 78 ° 43 ' 3 " W      Elevation (Metres): 220**

<b>Design element</b>	<b>Design value</b>
January 2.5% design dry bulb temperature °C	<b>-20</b>
January 1% design dry bulb temperature °C	<b>-23</b>
July 2.5% design dry bulb temperature °C	<b>30</b>
July 2.5% design wet bulb temperature °C	<b>23</b>
Annual total degree days below 18 °C	<b>4,260</b>
Maximum 15 minute rainfall (mm)	<b>23</b>
Maximum one day rainfall (50 years) (mm)	<b>86</b>
Annual rainfall (mm)	<b>800</b>
Annual total precipitation (mm)	<b>945</b>
Moisture Index	<b>0.90</b>
Driving Rain wind pressure 1/5 years (Pa)	<b>160</b>
Ground snow load, snow component Ss (30 years) (kPa)	
Ground snow load, rain component Sr (30 years) (kPa)	
Ground snow load, snow component Ss (50 years) (kPa)	<b>2.3</b>
Ground snow load, rain component Sr (50 years) (kPa)	<b>0.4</b>
Hourly wind pressure 1/10 (kPa)	<b>0.35</b>
Hourly wind pressure 1/30 years (kPa)	
Hourly wind pressure 1/50 years (kPa)	<b>0.45</b>
Hourly wind pressure 1/100 years (kPa)	

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**March 5, 2026**



<b>Latitude: 44 ° 3 ' 18 " N      Longitude: 78 ° 47 ' 46 " W      Elevation (Metres): 315</b>	
<b>Design element</b>	<b>Design value</b>
January 2.5% design dry bulb temperature °C	<b>-22</b>
January 1% design dry bulb temperature °C	<b>-24</b>
July 2.5% design dry bulb temperature °C	<b>30</b>
July 2.5% design wet bulb temperature °C	<b>23</b>
Annual total degree days below 18 °C	<b>4,420</b>
Maximum 15 minute rainfall (mm)	<b>23</b>
Maximum one day rainfall (50 years) (mm)	<b>93</b>
Annual rainfall (mm)	<b>770</b>
Annual total precipitation (mm)	<b>905</b>
Moisture Index	<b>0.90</b>
Driving Rain wind pressure 1/5 years (Pa)	<b>160</b>
Ground snow load, snow component Ss (30 years) (kPa)	
Ground snow load, rain component Sr (30 years) (kPa)	
Ground snow load, snow component Ss (50 years) (kPa)	<b>2.6</b>
Ground snow load, rain component Sr (50 years) (kPa)	<b>0.4</b>
Hourly wind pressure 1/10 (kPa)	<b>0.34</b>
Hourly wind pressure 1/30 years (kPa)	
Hourly wind pressure 1/50 years (kPa)	<b>0.45</b>
Hourly wind pressure 1/100 years (kPa)	

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