**Predictive Model Variables**

**Outcome variable**: Current day E. coli concentration

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| **Toronto** | **Source** |  | |
| Average previous day air temperature | https://toronto.weatherstats.ca/charts/temperature-daily.html |  | |
| Rain in previous 48 hours | https://toronto.weatherstats.ca/charts/rain-daily.html |  | |
| Previous day E. coli concentration | PHU to input |  | |
| Maximum previous day UV | https://toronto.weatherstats.ca/charts/forecast\_uv-daily.html |  | |
| Turbidity | PHU to input |  | |
| Stream discharge \*\*Note: this is pulling from a graph so I am concerned about it but let me know your thoughts! | https://wateroffice.ec.gc.ca/report/real\_time\_e.html?stn=02HC024 |  | |
| Average windspeed | https://toronto.weatherstats.ca/charts/wind\_speed-daily.html |  | |
| Water fowl count | PHU to input |  | |
| **Niagara (named variable in model)** | **SOURCE** | | **INTERVALS/STATES** | |
| Average previous day air temperature  (meantemp24) | https://niagarafalls.weatherstats.ca/charts/temperature-daily.html | | 7.3-17.2, 17.2-24, 24-32.1 | |
| Rain in previous 48 hours (rain48) \*Muzz, note this source is different than other locations | https://www.wunderground.com/history/daily/ca/niagara-on-the-lake/CYSN/date/2023-4-11 | | 0-2.5, 2.5-7.6,7.6-240 | |
| Previous day E. coli concentration (geomean24) | PHU to input | | 1-50,50-100,100-200,200-2072.7 | |
| Maximum previous day UV (Max24UV) | https://niagarafalls.weatherstats.ca/charts/forecast\_uv-daily.html | | 0-5.98, 5.98-7.1, 7.1-7.92, 7.92-12 | |
| Turbidity (turbidity) | PHU to input | | 0-5, 5-10, 10-713 | |
| Shore wave height (avgwh24) OR waveheight??? | PHU collected | | 0-0.19,0.19-0.37,0.37-2  STATES FOR WAVE HEIGHT = 0-5,5-10, 10-60 | |
| Water temperature (watertemp) | PHU collected | | 0-15,15-23.44, 23.44-30 | |
| Average windspeed (avgwspd) | https://niagarafalls.weatherstats.ca/charts/wind\_speed-daily.html | | 0-3.15, 3.15-4.2, 4.2-5.6, 5.6-11.12 | |
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| **Winnipeg** | **SOURCE** | | **INTERVAL** | |
| Average previous day air temperature (meantemp24) | https://winnipeg.weatherstats.ca/charts/temperature-daily.html | | 1.3-6.54,6.54-11.78,11.78-22.26, 22.26-27.5 | |
| Rain in previous 48 hours (rain48) | https://winnipeg.weatherstats.ca/charts/rain-daily.html | | 0-2.5,2.5-7.6,7.6-93 | |
| Previous day E. coli concentration (prevgeomean) | PHU Collected | | 0-50, 50-100,100-200,200-1000,1000-7400 | |
| Maximum previous day UV (maxuv24) | https://winnipeg.weatherstats.ca/charts/forecast\_uv-daily.html | | 0-4.55, 4.55-5.52, 5.52-6.3, 6.3-10 | |
| Days since last rainfall (dayssincerain) | PHU Collected | | NOTE: SOMETHING GOING ON WITH THE STATES FOR THIS- CANNOT BE CORRECT They are listed as a “labeled” node. See below:  0-3,07-Mar, 14-Jul, 14-18 | |
| **Vancouver** | **SOURCE** | | **INTERVAL** | |
| Average previous day air temperature (meantemp24) | https://vancouver.weatherstats.ca/charts/temperature-daily.html | | 5.8-15.3, 15.3-18.7, 18.7-26 | |
| Rain in previous 48 hours  (rain48x) | https://vancouver.weatherstats.ca/charts/rain-daily.html | | 0-2.5,2.5-7.6, 7.6-76.5 | |
| Previous day E. coli concentration (prevgeomean10) | PHU Collected | | 0-50,50-100, 100-200,200-1000,1000-24196 | |
| Maximum previous day UV (maxuv24) | https://vancouver.weatherstats.ca/charts/forecast\_uv-daily.html | | 0.08-5.98,5.98-7.1, 7.1-7.92,7.92-12 | |
| Mean salinity (meansalinity) | PHU collected | | NOTE: SOMETHING GOING ON WITH THE STATES FOR THIS- CANNOT BE CORRECT They are listed as a “labeled” node. See below:  16-21,0-11, 16-Nov, 21-35 | |
| Previous day wave height (waveht24) | https://www.ndbc.noaa.gov/station\_page.php?station=46304 | | 0.015-0.28, 0.28-1.28,1.28-3 | |
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