

Accessing Open Data from *Controlled Tile Drainage: Calculating Your Benefits*

The map data used in the Controlled Tile Drainage: Calculate Your Benefits Tools (<https://demo.gatewaygeomatics.com/ctd/>) can be accessed as open data.

ACCESSING CTD DATA USING QGIS:

1. Install QGIS. QGIS is a free and Open Source GIS platform, available from <https://qgis.org/en/site/forusers/download.html>
 - a. Windows users should download the latest "QGIS Standalone Installer"
2. Open QGIS, and Add WMS layer (in menu: Layer/Add Layer/Add WMS Layer)
3. Click "New"
4. Enter a name (e.g. "CTD Shared Services")
5. In "URL", enter: <https://demo.gatewaygeomatics.com/cgi-bin/ctd?>
6. Click "OK"
7. In your browser panel (left of map) under the "WMS" section, you should see a branch named "CTD Shared Services". Expand branch.
8. 22+ layers with metadata will be available:
 - a. You can add any of those layers
 - b. You can query any of our layers. Make sure the layer you want to query is active (click on the text/title of the layer in the "Layers" panel on left, so it is selected) then click on the little information icon above, and click anywhere on the map layer.

AVAILABLE LAYERS:

- Slope Classes (%)
- Total Precipitation 2006, May to August (mm)
- Total Precipitation 2007, May to August (mm)
- Total Precipitation 2008, May to August (mm)
- Corn Yield Difference 2006, May to August (%)
- Corn Yield Difference 2007, May to August (%)
- Corn Yield Difference 2008, May to August (%)
- Soybean Difference 2006, May to August (%)
- Soybean Difference 2007, May to August (%)
- Soybean Difference 2008, May to August (%)
- Rainfall: Environment Canada Climate Normals for weather station
- Temperature: Environment Canada Climate Normals for weather station
- Soil Drainage Classes
- Potential Areas
- Weather Stations (Ontario)
- Spatial Clusters of Corn Yield Difference 2006
- Spatial Clusters of Corn Yield Difference 2007
- Spatial Clusters of Corn Yield Difference 2008
- Spatial Clusters of Soybean Yield Difference 2006
- Spatial Clusters of Soybean Yield Difference 2007
- Spatial Clusters of Soybean Yield Difference 2008

DATA SOURCES:

Soil Drainage and slope data were obtained from Land Information Ontario (LIO) (www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home).

Weather Stations, Precipitation and Temperature data were obtained from Environment Canada (climate.weather.gc.ca/prods_servs/cdn_climate_summary_e.html).

All other datasets were created during the analysis phase of the project, documented in Kaur, Kross et al. (2018).

Gurpreet Kaur, Angela Kross, Daihany Callegari, Mark Sunohara, Laura Van Vliet, Harold Rudy, David Lapen, Heather McNairn (2018). *Spatial Decision Support System: Controlled Tile Drainage – Calculate Your Benefits*. In Proceedings of the 14th International Conference on Precision Agriculture (unpaginated, online). Monticello, IL: International Society of Precision Agriculture.