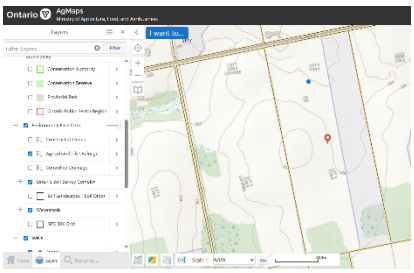
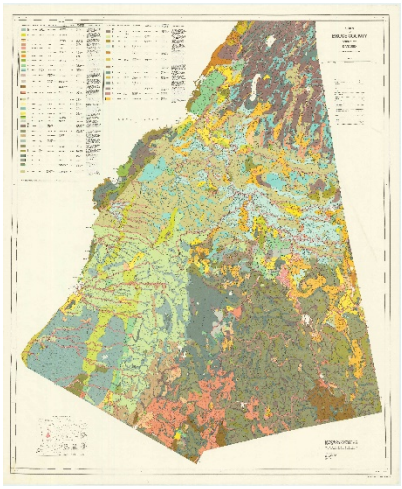
Soil holds a lot of information and only requires some effort and technology to harness it. Farmers use a number of maps to help them manage their operations, from what crops to plant, planting density, chemical applications, to building locations, drainage design, and more.

Let's look into the maps and mapping programs available for people to use.



AGMAPS found at www.ontario.ca (serach AgMaps) provides information for anyone living and working in a community. Some information to find in AgMaps is: land parcels/lots, parks, conservation authority, drainage, soil texture, soil capability, watersheds, wells, crownland. This is a map system that operates like GPS, you search for an address, address is located, and then you can indicate what parameters you are interested in looking at, and voila, there it is.

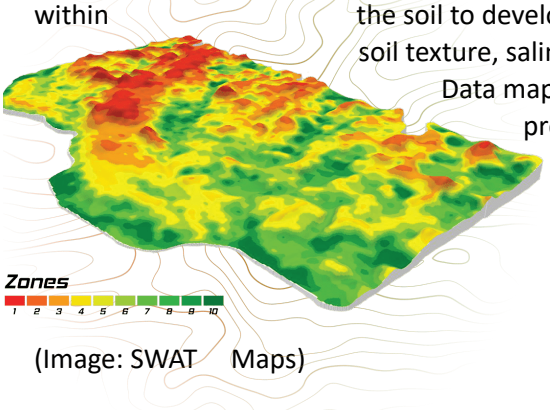


SOIL MAPS – You can find all soil maps for Ontario here: https://sis.agr.gc.ca/cansis/publications/surveys/on/index.html The information provided on the maps is: soil type, soil materials, drainage, topography, stoniness, and soil profile description. These maps are a good place to start to learn about your land, land to purchase, or land that you are renting.

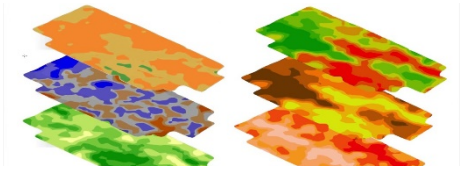
Now onto the more recent and advanced technology maps being used.

SWAT Maps – Found here: https://swatmaps.com/ This system allows people to map soil, water, and topographical data of their land. SWAT Maps uses electrical conductivity to measure various components within the soil to develop maps. Examples of data collected: soil moisture content, soil texture, salinity, topography, organic matter, and more.

Data maps are generated and analysed by zones, which have predetermined characteristics by the SWAT Map creators.

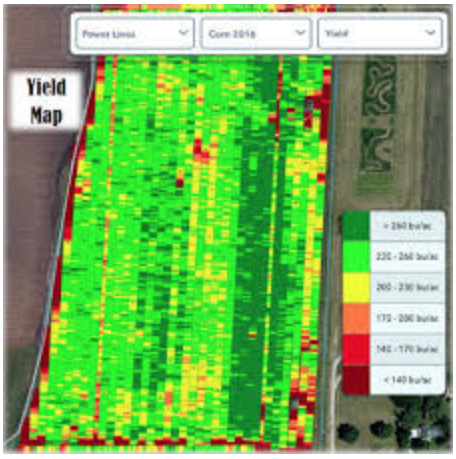


(Image: SWAT Maps)



SOIL OPTIX – https://soiloptix.com/ Land is scanned using soil radiation creating over 25 layers of a soil map. Each layer represents an individual nutrient or physical property: clay, sand, organic matter, calcium, potassium, pH, iron, boron, plant available water, elevation, etc. The goal of Soil Optix is to be able to make management decisions by individual nutrient/physical properties. (Image: Innov8 Ag)

You are likely thinking what is the difference between SWAT Maps and Soil Optix as they are quite similar? Well, there is lots to compare between the two, but overall SWAT Maps produces data and maps that provide a good understanding of soil variability through the use of electrical conductivity and elevation data, while SoilOptix provides a very detailed look at soil composition through the use of natural radiation.



YIELD MAPS – These are generated by the GPS and other programs present in the harvesting equipment. The data collected will indicate ranges of bushels harvested per acre of a crop, telling you where the high levels and low levels of productivity are located, indicating where improvements can be made: different crop variety, increases in fertilization rates, confirming drainage issues or areas of compaction.

These maps and analyses help farmers to improve their practices and their decision-making processes. It ultimately helps them to precision farm, providing exactly what each area of the field needs, requires, and can support, preventing loss for the farmer either in products used or what is produced from the field. Having enough information and the right information will result in success.