



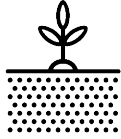
**SWATMAPS**

***Unlock Your Soil Potential***

FARMER BROCHURE | 2026

## WHAT ARE SWAT MAPS?

Soil, Water, and Topography (SWAT) MAPS are high-resolution soil foundation maps used to execute variable rate fertilizer, seed, soil amendment, pesticide, or precision water management. They are created using the patented SWAT MAPS process.



### Soil

Factors such as soil texture, organic matter, topsoil depth, and salinity can all impact yield and fertilizer response.



### Water

Water has the biggest influence on yield potential and fertilizer response. SWAT MAPS identifies water shedding and water collecting areas in your field(s) as well as differences in water holding capacity. This provides crucial information on the movement of mobile nutrients and areas where extremes in dry or wet areas occur.



### Topography

Topography is described by landscape positions in a field (hilltops, mid-slopes, depressions). It can influence soil moisture, erosion, organic matter levels, pH, and soil fertility levels.

***“The soil approach of SWAT MAPS for creating VR zones makes complete sense to me and has proven to create more even, consistent crops, and reduced salinity on my farm by putting the fertility and seed where it needs to be. Something a satellite-only approach could not accomplish.”***

- Derek B., Canadian Farmer

## THE SWAT ZONES

### Zones 1 & 2

Eroded knolls, hills, sandy soils, lower organic matter, dry areas (water shedding).

### Zones 5 & 6

Mid-slopes, flat areas, field average.

### Zones 9 & 10

Depressions, saline areas, higher clay content, peat/muck, high organic matter, wet (water collecting).

1

2

3

4

5

6

7

8

9

10

### Zones 3 & 4

Shoulder slopes, upper slopes, water runs off.

### Zones 7 & 8

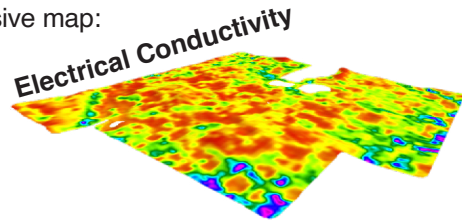
Toe slopes, lower flats.

## THE LAYERS

The following layers of data can be combined to make one cohesive map:

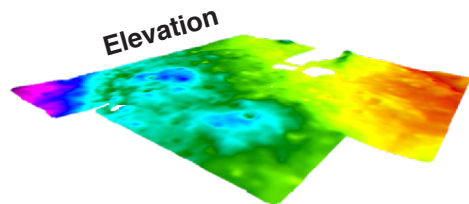
### Electrical Conductivity

Electrical conductivity (EC) is related to the variability of dissolved salts, moisture, and texture differences in your soil.



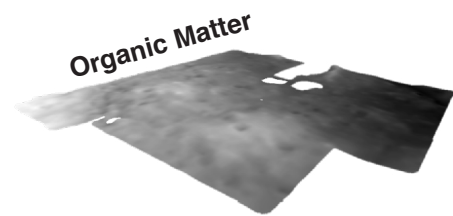
### Elevation

Elevation maps show your field's distance above sea level. It is used to determine water flow paths, water accumulation, and as a base layer for a topography model.



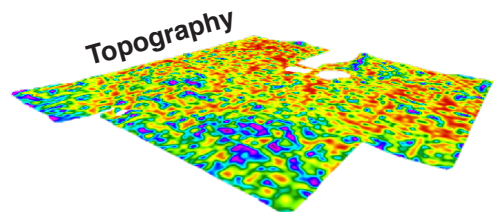
### Organic Matter

Soil organic matter is the component of your soil that consists of plant and animal tissue at various stages of decomposition, substances that soil microbes synthesize. It is important for water holding capacity and nutrient supply in season.



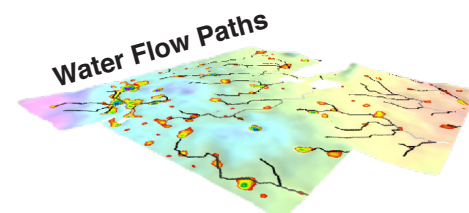
### Topography

Topography is a detailed representation of the natural shapes and features in your field(s), including hills or knolls, mid-slopes, and depression areas that determine where water sheds or collects.



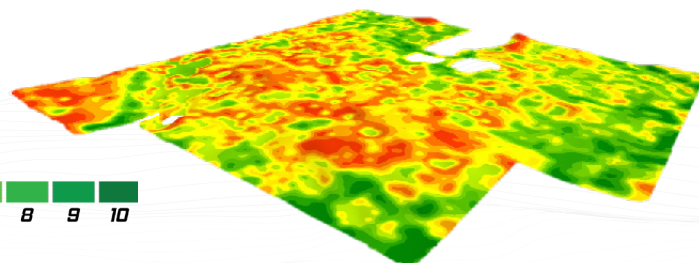
### Water Flow Paths

Water flow paths show the direction that water flows and where water accumulates in your field(s). This can be used to help identify areas where you could experience extremes in dry or wet conditions.



**SWATMAPS**

**Zones**



## THE PROCESS

Unlock your soil potential with the SWAT MAPS process. The soil potential process is based on creating high-resolution soil foundation maps used to execute variable rate fertilizer, seed, soil amendment, pesticide, or precision water management. Understanding soils is the core of a successful fertility program. Your SWAT MAPS service provider will execute this 6-step process so you can start unlocking your soil potential today.

### 1 SWAT BOX

The first step is collecting the quality data needed to create your SWAT MAP. A SWAT MAPS service provider will drive your field(s) in 80ft (24m) passes, using their SWAT BOX. The SWAT BOX is a patented autonomous soil mapping system that can be mounted to many different vehicles, most commonly trucks, ATVs or other off-road vehicles, but also seeders or planters.

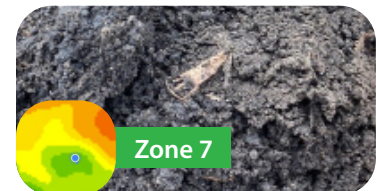


### 2 SWAT MAPS

The raw data collected by the SWAT BOX automatically gets uploaded and sent to our SWAT RECORDS software and is ready for our team of experts to analyze, its then used it to create multiple potential SWAT MAPS.

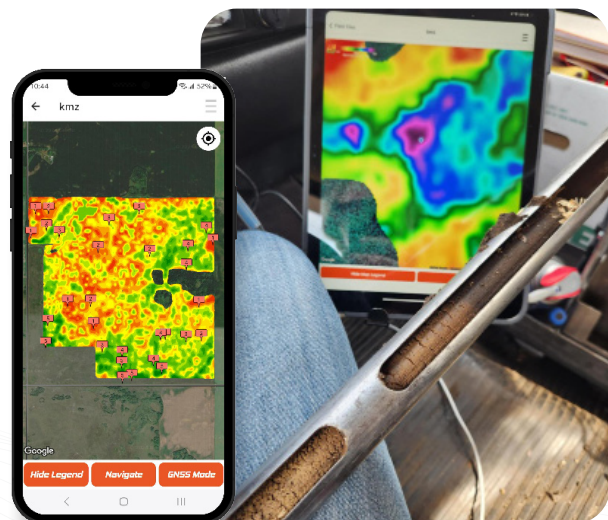
### 3 GROUND TRUTHING

With several potential SWAT MAPS created and uploaded to SWAT RECORDS, your service provider will return to the field(s) to ground-truth the maps and select the one that best represents your field. This one map becomes your permanent SWAT MAP to be used year after year. This is an essential step in the process, it ensures your SWAT MAP accurately depicts the soil and water variability in your field(s).



### 4 SOIL SAMPLING

Once your SWAT MAP is ground-truthed, it's time to soil sample your field(s) by zone. Multiple cores are taken at from 5 of the 10 SWAT zones of the field. Based on cost vs benefit, we've found this to be the best sampling intensity. The number of samples taken per zone is defined by your service provider. Your soil sample results will be uploaded to the SWAT RECORDS app when they are complete. Soil samples are taken every year after harvest at the same geo-referenced locations to track nutrient levels and ensure your prescriptions are meeting your yield targets, accounting for soil mineralization and any nutrient losses.

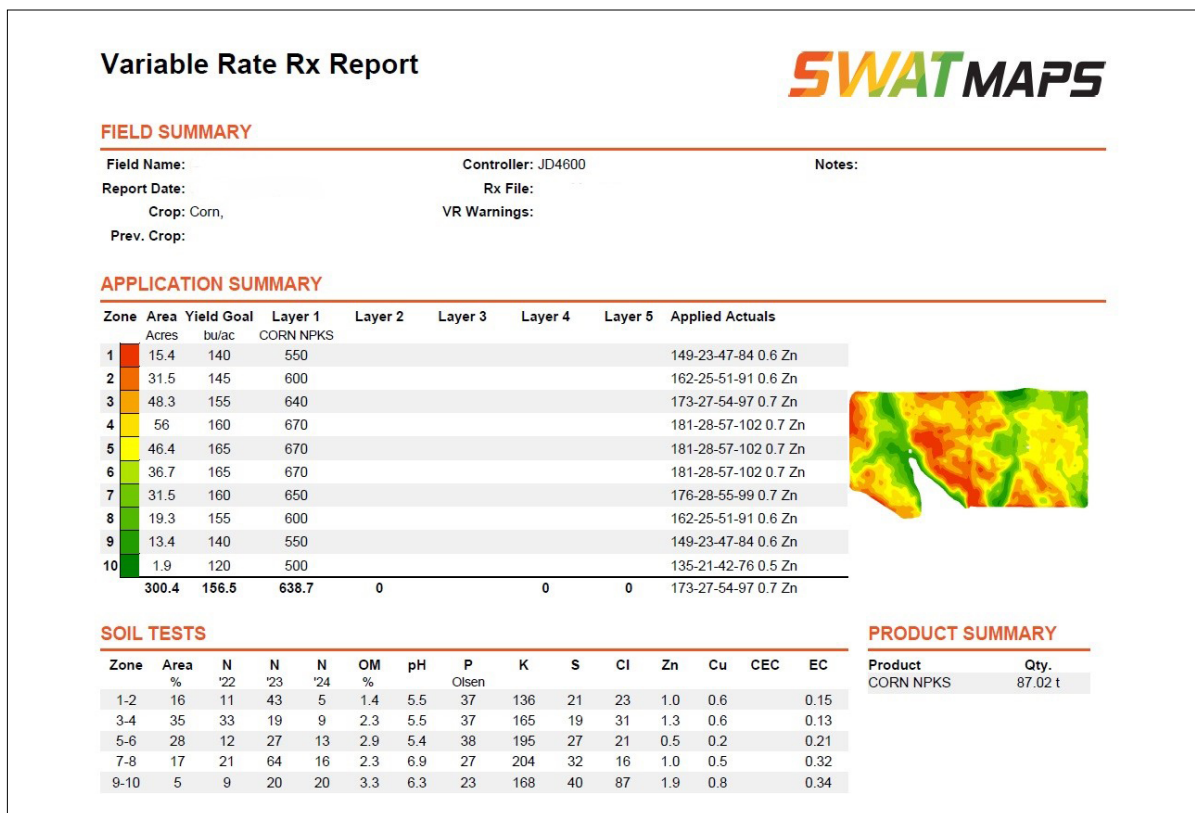


## 5 SOIL PRESCRIPTIONS

Next, your SWAT MAPS service provider will create variable rate prescriptions for seed, fertilizer, soil amendments, or soil-applied herbicides based on your SWAT MAP zones and soil test results. This step turns data into actionable value. SWAT MAPS allow agronomists to consider multiple properties that drive input response, including texture, relative water availability, mineralization, and nutrient loss potential by zone.

Farm logistics, equipment specifications, and efficiency are also considered to generate prescriptions that balance agronomy with on-farm capability.

Throughout the season, your service provider may follow up with assessments such as plant counts, tissue testing, and visual observations of crop health. This data helps to measure outcomes and adjust future plans to suit each field and management zone.



## 6 SOIL ANALYTICS

The last step in the soil potential process is to analyze nutrient, texture, and soil carbon data. Soil data can be connected to soil survey databases to assess varietal or hybrid crop responses to nutrients based on soil type.

***“Our whole farm has been mapped with SWAT MAPS. Our soil and available water changes in short distances on our land and the SWAT MAPS mapping system delivers high definition maps representing our fields.”***

- Colin R., Canadian Farmer

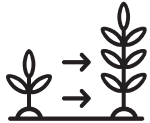
## THE BENEFITS

So much of the variable rate market is fixated on aerial imagery-based solutions. What sets SWAT MAPS technology apart is its focus on soil-based maps. SWAT MAPS are so much more than a map. They're part of a SWAT ECOSYSTEM and when implemented correctly, can unlock your soil and yield potential. The SWAT ECOSYSTEM paired with your SWAT MAPS service provider's agronomy background is an unbeatable combination.



### **Increase Your Return on Investment**

Based on the SWAT MAP developed, an agronomist will prescribe a rate of nutrients where you'll get the best response and decrease rates where soil nutrient supply is sufficient, excessive, or where the crop is unresponsive. The goal is to put nutrients where they have the highest potential for a return on investment.



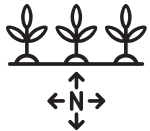
### **Maximize Yield Potential**

Variable rate seeding by zone is one way to maximize your yield potential. Increase seeding rates to increase plant competition with weeds. Achieve even emergence, maturity, and the full genetic potential of your hybrids by matching seeding rates to soil and water potential.



### **Reduce Lodging**

Address your specific nutrient balances in each zone and achieve targeted plant stands with variable rate seeding. Only use plant growth regulators in your high-risk zones.



### **Prevent Nitrogen Loss**

SWAT MAPS identifies zones that are prone to nitrogen loss due to leaching or denitrification. Using nitrogen stabilizers in these zones can decrease the risk of nitrogen loss and your fertilizer costs when compared to a flat rate application.



### **Manage Salinity and Drainage**

In saline areas, cut your nutrient application. You're less likely to see a return on investment due to the limited yield potential and high nutrient availability. Compete with weeds and use excess water by increasing your seeding rate.



### **Manage Soil pH**

Use variable rate prescriptions to apply lime, wood ash, or other soil amendments to manage soil pH and improve nutrient use efficiency.



### **Improve Soil Applied Herbicide Performance**

Soil-applied herbicide rates are based on soil properties, like organic matter and texture, which are mapped and measured through the SWAT MAPS process. Using variable rate methods to apply the correct rate of herbicide in each zone helps maximize weed control and minimize risk of crop injury. Target weed species that are problematic in certain zones.



### **Even Crop Staging, Maturity & Minimize the Risk of Disease**

Achieving a proper plant stand with variable rate seeding minimizes excessive tillers in cereal crops that delay maturity, or increases plant stands in areas with low survivability. In broadleaf crops and high producing areas, minimize the risk of diseases like white mould in soybeans or canola for instance, by decreasing seeding rates.

## THE SWAT RECORDS APP

SWAT RECORDS is our software that runs the entire SWAT ECOSYSTEM think of it as the foundation. Our mobile app is free to download in the App Store and Google Play Store. Use SWAT RECORDS with ease from your phone, tablet, or computer.

### You Own Your Raw Data, Always

We take data privacy seriously and are committed to protecting your privacy. You will always own the raw data you enter into SWAT RECORDS.

### Rural Connectivity

The app works without a cellular or wi-fi signal; any changes made are saved in the app and synchronized when connection is re-established.

### Access All Your SWAT MAPS and Files in One Place

View the SWAT MAPS for each of your fields. The maps can be viewed in the app and are georeferenced for ease of use when scouting. View all the fields and farms you manage on one screen. Colour code your field outlines by crop. Navigate easily for scouting and sampling.

### Farm Record Keeping

Record details for fields, farm equipment, seeding, fertilizing, spraying, harvest and other jobs in the app. Track the history of all your field operations by year.

### Field Scouting and Recommendations

Input your field scouting data for weeds, insects, and diseases and view recommendations from your SWAT MAPS service provider directly in the app.

### View Soil Sample & Tissue Test Results

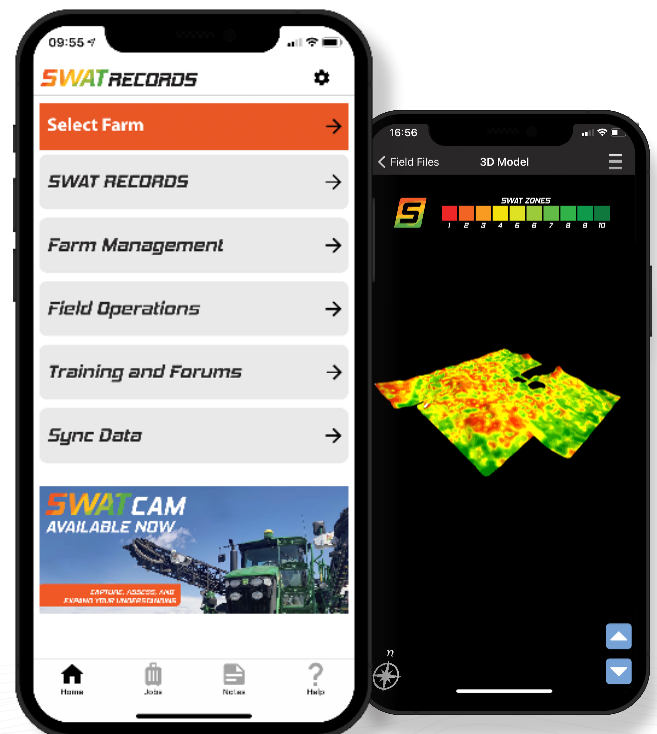
Soil sample and tissue test results will be directly imported to SWAT RECORDS by your lab or service provider. SWAT RECORDS connects with many labs globally, with more labs added regularly.

### Connections

Share your SWAT MAPS, SWAT WATER maps, flow paths and more, learn about our APIs online at [swatmaps.com](http://swatmaps.com). More connections are being added regularly, get the most out of our software and unlock your soil potential today!

### Access the SWAT SUPPORT Portal

View frequently asked questions, quick start guides, blogs, and other SWAT MAPS content directly from your app. Check it out online: [support.swatmaps.com](http://support.swatmaps.com).



Download the FREE app today!





**Next Up, Unlock  
Your  
Yield Potential.**



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