



# **SWAT WATER WEATHER STATION PROGRAM**

## Answers to Frequently Asked Questions

### ***Where should my station be installed?***

It depends, on the type of sensors your station is equipped with, your farm management style and what you hope to learn from collecting moisture data. There are two main strategies. Both are correct. Choose what will work best for you.

**Strategy One:** Pick a representative field and keep installing the station there year after year. The advantage to this strategy is that you get long term data from a single field. You can see how the roots of different crops respond to your soil texture and how different environmental conditions effect yield.

**Strategy Two:** Move the station every year to follow crops where top dressing and fungicide applications will occur. The advantage to this strategy is that you always have the station where you are likely to make high stakes decisions.

Once the field is chosen, the exact placement of the sensors and station can be left to us. We use the SWAT MAP, a map of water flow paths and topography to find an ideal location. We also consider access (by road or foot) in the event the station needs to be visited in season.

### ***When will my station get installed?***

Once the field has been seeded and we have clearance from utilities to dig, our technician will come out and install the station. We aim to have the station installed within 7-10 of seeding.

### ***How do I see my station data?***

You will receive a login and password for your weather station on [FieldClimate](#). You can also download the FieldClimate app from the App Store and Google Play. Weather and rainfall data will update every 15-minutes and soil moisture data will update every hour. If you have purchased a Crop Intelligence subscription, you will also receive a login for there. Your station will then send data to both platforms.

### ***Why does my soil moisture drop so rapidly in the first week?***

If you have a soil moisture probe that was installed with a slurry, the initial recordings will be saturated. It will drop over the next 3-5 days as the excess water drains away from the slurry and moisture levels equalize.



### ***How do I use my soil moisture data?***

Your moisture data is converted into Plant Available Water (PAW) based on your soil texture. The amount of PAW you have in your soil profile will indicate whether you have enough water to reach or exceed your yield goal. This is also dependent on the depth of PAW and the root activity of your crop. Your agronomist will be able to work with you to interpret your soil moisture readings.

### ***Where do I find my SWAT WATER maps?***

Your SWAT WATER maps will start generating within 10 days of installation. You can access them in SWAT RECORDS through both the app and the desktop version.

### ***How do I know my soil textures?***

During installation our technician will take soil samples at 30, 60 and 90cm to submit for lab analysis or texture classification by a soil expert.

### ***What if my rain recordings look inaccurate or not recording at all?***

The rain sensor tips every 0.2 mm of rain. A small sprinkle may not be enough to tip the sensor. If major rain events have not been recorded check to see if there is debris in the rain bucket. We use bird spikes to deter nest building but wind could blow dirt and debris into the rain bucket. If it's clean, try tipping the sensor until you hear it click a few times. If that still does not record, call your agronomist or technician for assistance.

Keep in mind that rainfall across a region can be variable. Neighbouring stations will not always record the same amount of rainfall.

The rain tipping mechanism is sensitive to movement. The station will often record rainfall during installation and maintenance when it is being moved and positioned. Please disregard readings from the first two hours after the station comes online or if a technician is making an in-season check. We modify the stations to reduce wind interference with the rain sensor.

### ***What happens if it snows or freezes?***

The rain gauge is not designed to record snow. The tipper can record snow captured in the bucket when it melts if the tipping mechanism is not frozen. Freezing temperatures will not damage the station and it will resume normal function again when temperatures rise. The soil moisture probe will respond as snow melt moves through the soil profile. The moisture will still be captured even if it is not recorded as rainfall.



### ***Why am I only seeing readings once an hour?***

If the station battery starts to run low, it will default to send data every hour instead of every 15 minutes. It still records data every 10 minutes but to conserve power it will reduce the amount of time the modem is running. This can be common at the beginning or end of the season when the days are shorter, and the solar panel isn't getting enough sun. This can also happen after an extended period of cloudy days. When the sun returns it will resume normal function.

### ***When will my station be removed?***

We aim to leave the stations in the ground until late October. This allows the station to record fall rains and give you an idea of how much the soil profile has recharged before winter. This data can help with planning for the next season.

Please be careful when harvesting around the weather station. We place a flag next to the soil moisture probe in the ground. For fall seeded crops please seed around the station. When we re-install it the following year, we will shift the location so it is in the crop row.

A technician will come and remove the station. It will be stored in our facility over winter where it will be cleaned and tested before installation the following season.