Florida Property Metrics

A Superintendent's Introduction

Drone Turf Health Management

INSIGHT TO KEEP **YOU ON PAR WITH THE BEST**

Florida Property Metrics leverages specialized sensors to provide comprehensive turf health analytics, uniformity, and manpower management services through an interactive cloud-based platform.

SAVE TIME ON INSPECTIONS & PRIORITIZE RESOURCES

Our mission is to save clients TIME and MONEY while improving turf health by turning drone-based imagery into actionable data.

Is this your day?

You spend up to 6 hours a day inspecting the course, participating in maintenance activities, and planning future tasks for your team.

You spend up to 2 hours communicating tasks to your team and helping to execute those tasks

You spend up to 2 hours completing administrative tasks

You probably work in excess of the above during peak season!

OUR SOLUTION

Our program allows golf course superintendents to spot turf health concerns before they are visible allowing you to act proactive, rather than reactively.

Our patent pending algorithms allows you to track and compare course conditions over time to help you find the most concerning areas before even stepping foot onto the course.

If we can save you, half an hour a day, the program pays for itself just in your time savings!

EARLY STRESS & DISEASE DETECTION

Thermal imagers can detect turfgrass drought stress FIVE days before visual symptoms

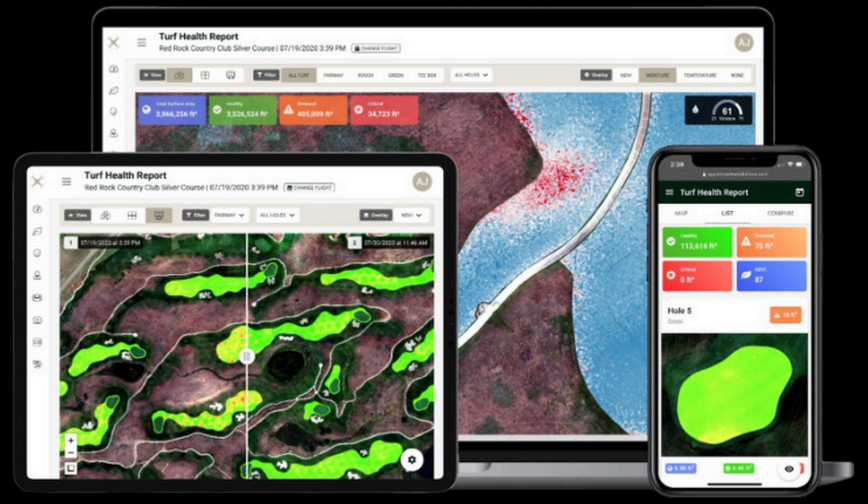
How Does it Work?
A Scientifically-Backed Solution

HOW DOES IT WORK?

Using drone imagery, we analyze the amount of turf chlorophyll and moisture across every visible inch of your course.

We break down the data into manageable pieces that are relevant to you!

Tee Boxes	Greens
Fairways	Rough



What is Remote Sensing?

Seeing the unseen

Using special sensors, we capture the reflectance of different light bands compared to the what the sun is emitting.

Blue 475nm

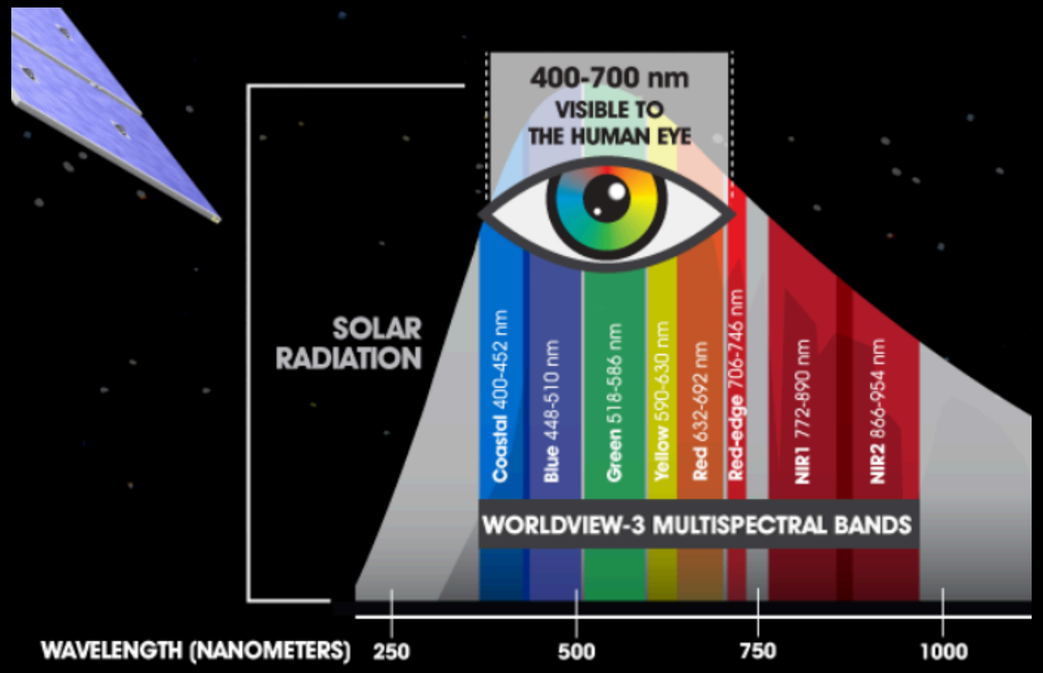
Green 560nm

Red 668nm

Red Edge 717nm

Near Infrared 842nm

Thermal 10.5µm

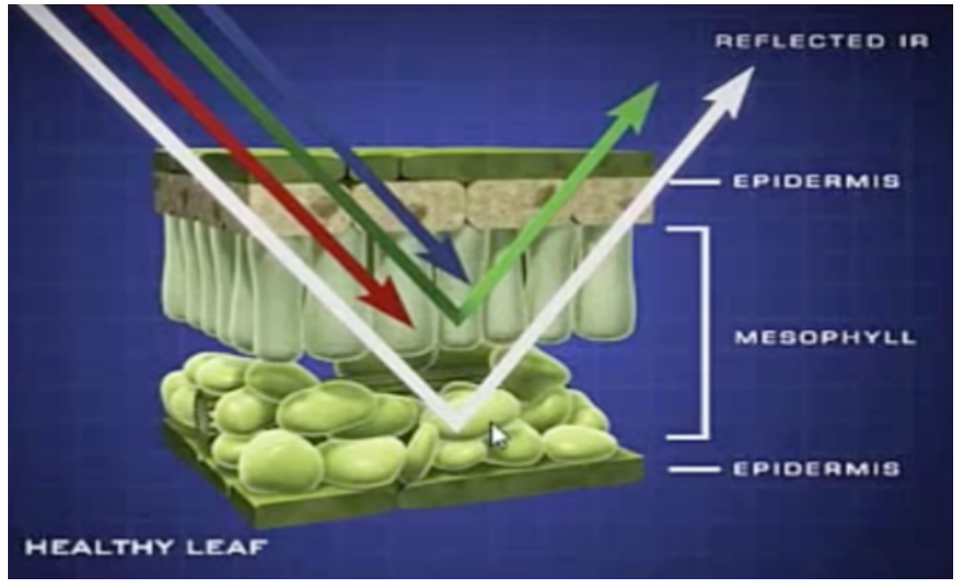


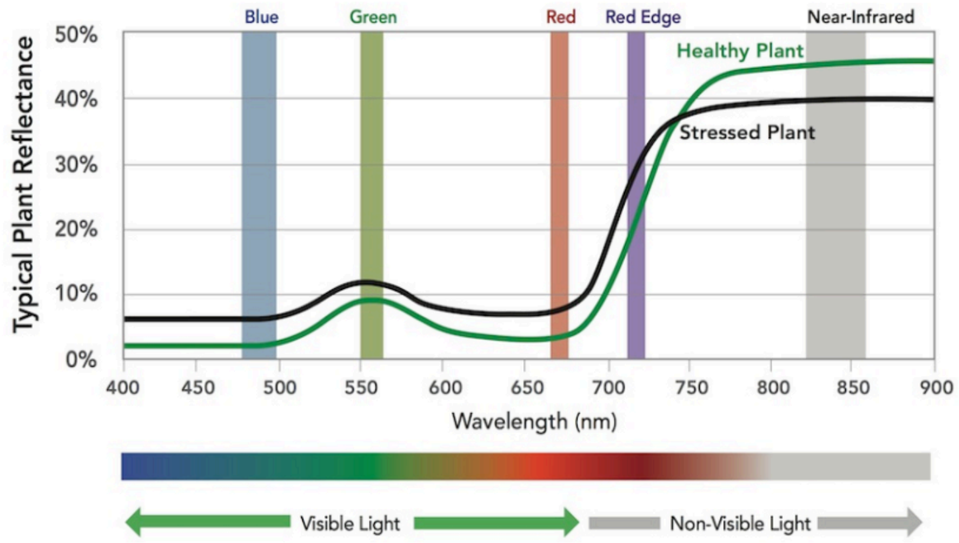
How does light affect health?

Visible light indicates the health near the surface of the grass, while infrared light indicated the health of the inner structure of the plant.

Using different multispectral indices/ ratios of reflectance, we can make predictions as to how healthy the grass is.

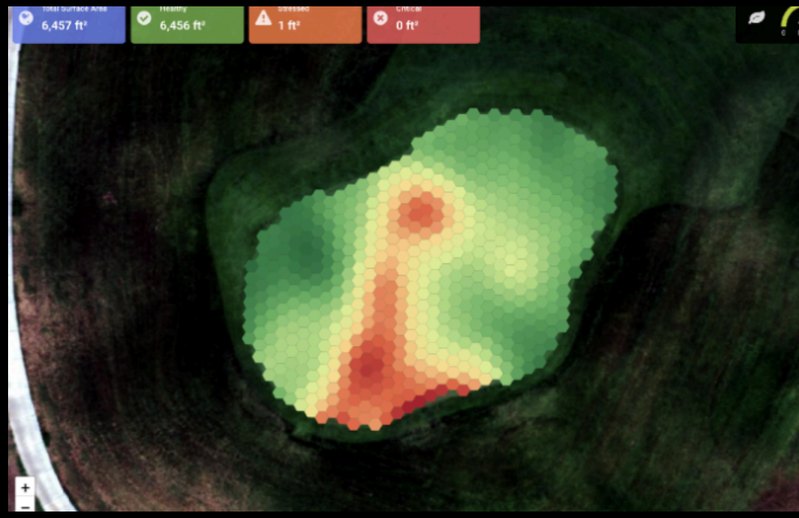
$$NDVI = \frac{NIR - R}{NIR + R}$$





A SCIENTIFICALLY-BACKED SOLUTION

Research as far back as the early 1990's has concluded use of vegetative indices is equally effective as shoot growth rate (SGR) and visual color evaluation for estimating N content/ response.



"Optical sensing of turfgrass chlorophyll content and tissue nitrogen" , OKLAHOMA STATE UNIV.
HORTSCIENCE 39(5):1130–1132. 2004

Where’s the Science?

At Florida Property Metrics we analyze all the pertinent multispectral indexes and statistically track each piece of data.

- NDVI (Normalized Difference Vegetation Index)

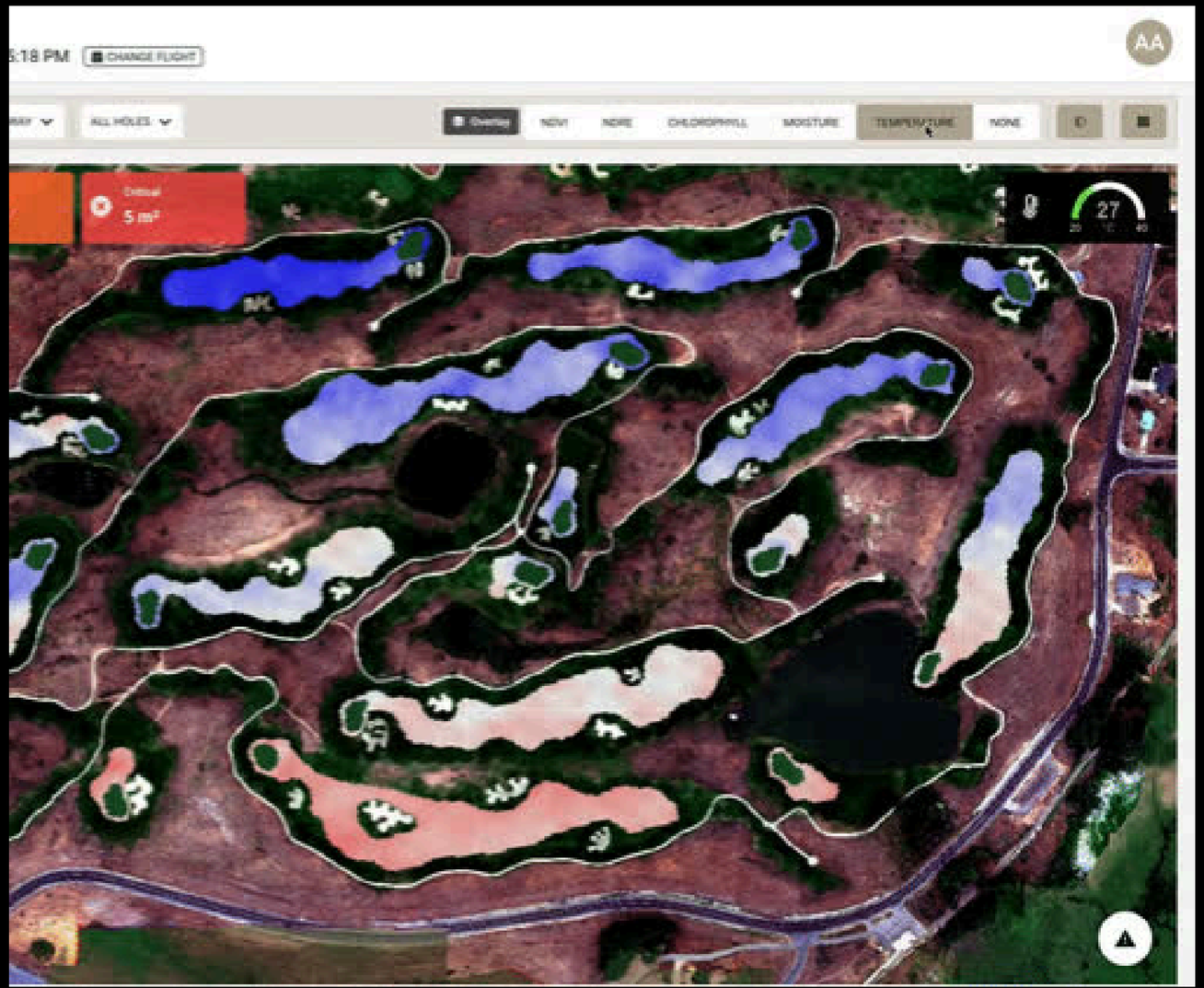
  Density of turf, Chlorophyll content, Most recognized, Best in early growth stages
- NDRE (Normalized Difference Red Edge)

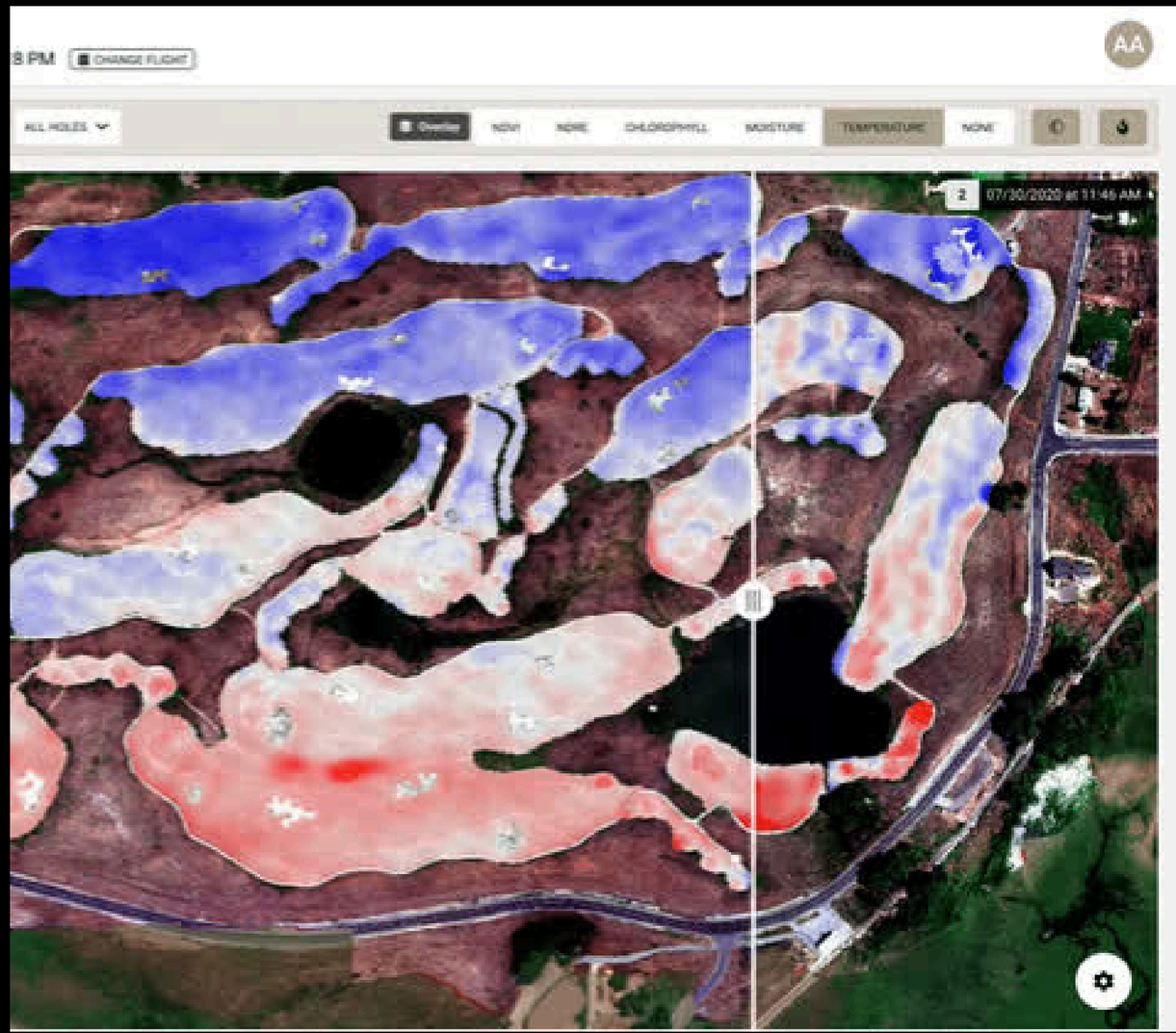
  Nitrogen content, Filters out bare soil reflectance, Analyze chlorophyll in mid to late season
- CHLOROPHYLL INDEX – Very sensitive to small variations in chlorophyll
- TEMPERATURE INDEX – Identify areas that are consistently warmer/drier
- MOISTURE INDEX (TVDI) – Identify water demand

NDVI NDRE CHLOROPHYLL INDEX

TEMPERATURE INDEX MOISTURE INDEX

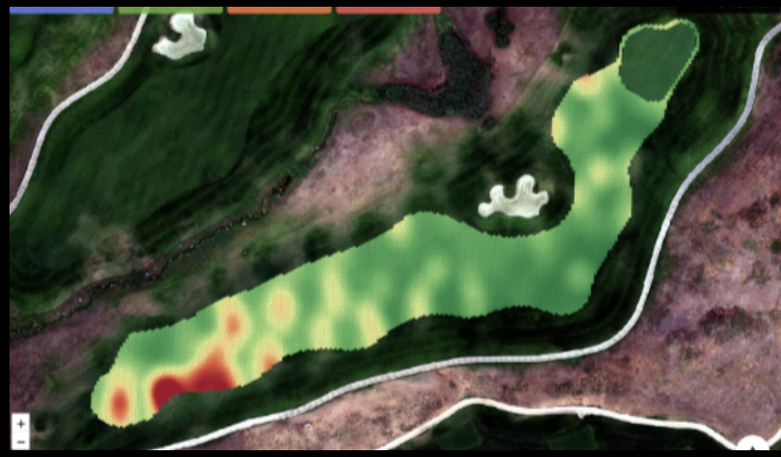
Temperature Reporting





Hot Spot Detectors

Our hot spot detection analyzes all indices and alerts the staff to the areas of most concern based on statistical significance.

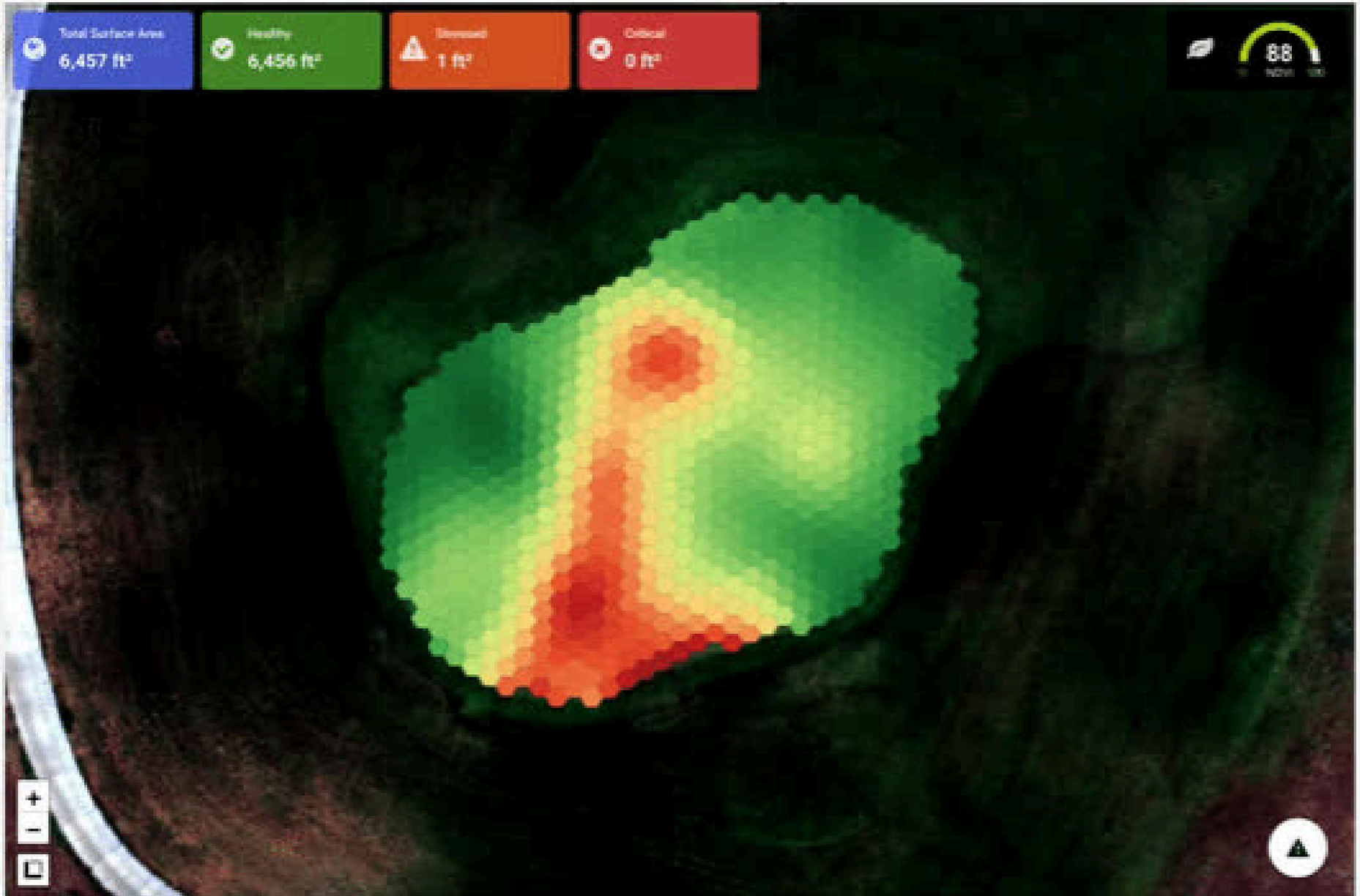


Whether you are Augusta or the local muni track, the program will identify the most significant areas of your course.

Your course can never be too healthy!

Turf Health Report

Red Rock Country Club Silver Course | 08/18/2020 5:18 PM



HotSpot Detector

Enabled

View Mode

INTENSITY | ALERTED

Resolution

AUTO | LOW | MID | HIGH

Turf Health Report

Red Rock Country Club Silver Course | 08/18/2020 5:18 PM

CHANGE FLIGHT

AA

View | Filter | Overlay

HotSpot Detector

Enabled

View Mode

INTENSITY | ALERTED

Resolution

AUTO | LOW | MID | HIGH

Turf Health Report

Red Rock Country Club Silver Course | 08/18/2020 5:18 PM

HotSpot Detector

Enabled

View Mode

INTENSITY | ALERTED

Resolution

AUTO | LOW | MID | HIGH

Turf Health Report

Red Rock Country Club Altum Demo Course | 07/30/2020 11:46 AM

CHANGE FLIGHT

AA

HotSpot Detector

Enabled

View Mode

INTENSITY | ALERTED

Confidence

LOW | MID | HIGH

Resolution

AUTO | LOW | MID | HIGH


Is Florida Property Metrics Right for you?
SAVING TIME, MONEY, AND RESOURCES

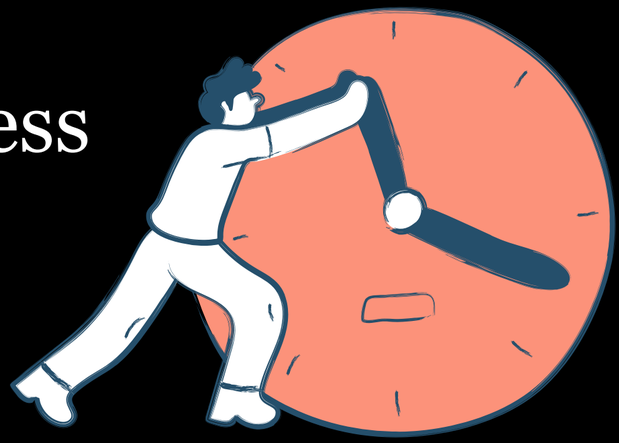
SAVE TIME

At a superintendent salary of $80,000 a year,

- 1 hour per day is $8000-$10,000/ year

How much time could you and your assistants save inspecting the course conditions?

If you could detect weeds, disease, or drought stress sooner, how much time and resources could you save?



TIME IS MONEY

SAVE RESOURCES

- Would you apply chemicals differently if you knew there was a problem earlier?
- Would it be cheaper to mitigate concerns when the problem spots are smaller?
- Precisely isolate stress zones for spot treatments and save on overages.
- If you knew the turf health at every sprinkler, would you water your course differently?
- If you can present your concerns to the green’s committee and verify those concerns using this software, how many headaches will be saved?

HOW MUCH MONEY WILL THIS SAVE ME?

"Technology is nothing. What's important is that you have a faith in people, that they're basically good and smart, and if you give them tools, they'll do wonderful things with them." – Steve Jobs

- Can FPM help you get to the next level?
- The more you use the tool, and the more proactive, informed decisions you make, the more money you will save!
- Our program is built as a tool to help superintendents be more efficient and give them insights that have not been available in the past! It is not built to tell , you, the professionals how to do your job!


Contact us today for a demo!
Floridapropertymetrics.com
Email- Patrick@floridapropertymetrics.com