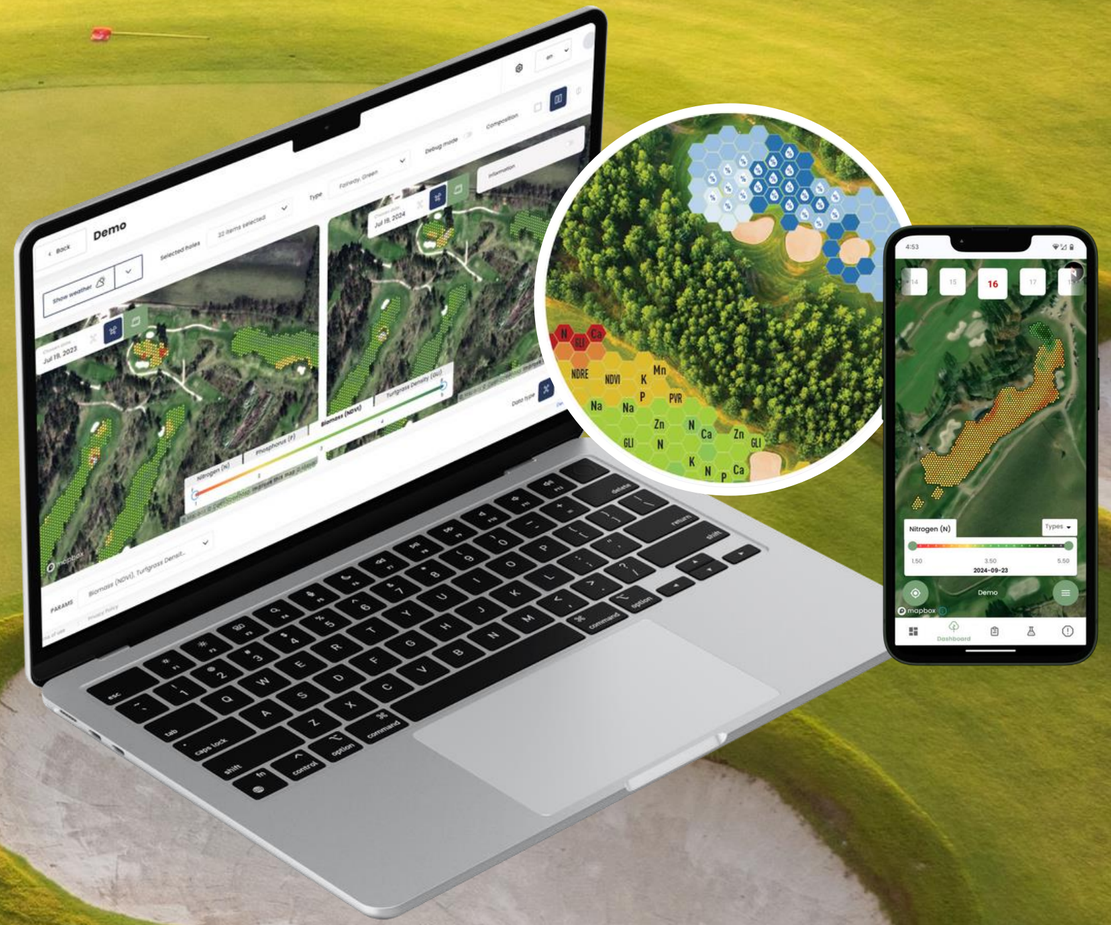
SKIM
TURF MANAGEMENT

# Real time course data your teams need, improved course experiences your members deserve.




DGA Conference – 20.11.2024

# Introduction

SKIM is an intuitive remote sensing tool, powered with satellite imagery and artificial intelligence, that provides continuous monitoring of the turf condition on entire golf course. Frequent diagnostics are complemented with easy to use functionalities for Reporting, Alerts, Records, Communication, and a mobile application. SKIM empowers golf courses with the data and tools to identify trends & patterns, take data-driven decisions, which in turn leads to precise turf management and maintaining top playing conditions for golfers.

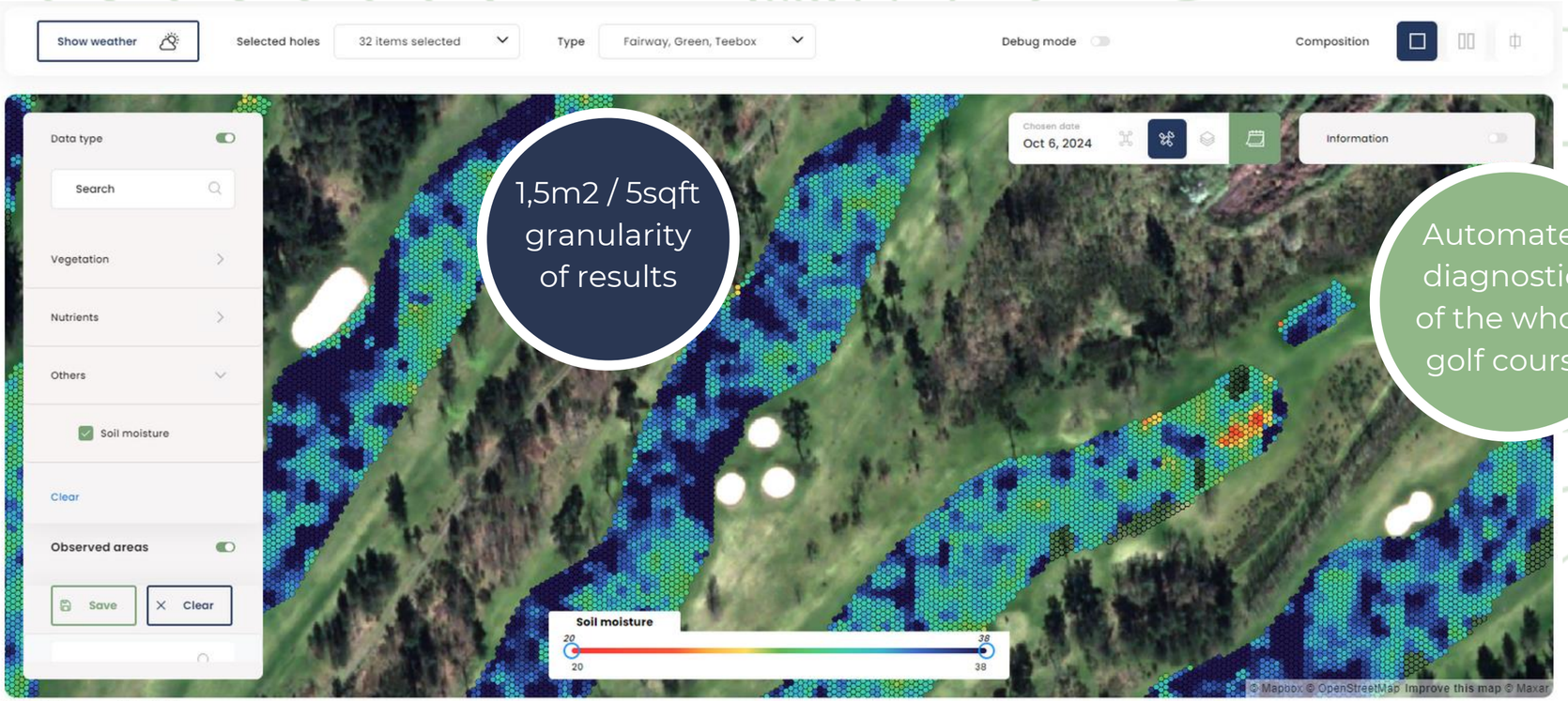
PGA OF AMERICA 1916 SHOW

2024 Best New Product
at the PGA Show

We are a proud partner of:

GCSAA FEGGA CMAE

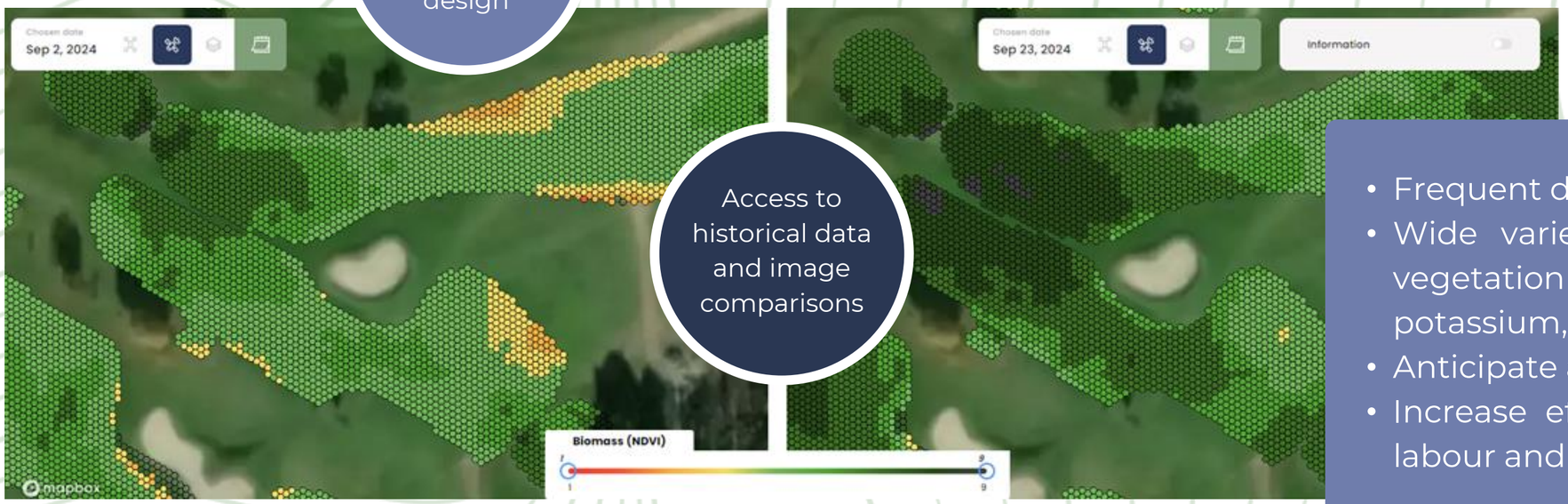
# Dashboard




1,5m2 / 5sqft granularity of results

Automated diagnostics of the whole golf course

Easy to understand, user-friendly design




Access to historical data and image comparisons

- Frequent data collection,
- Wide variety of metrics from soil moisture and vegetation indices, to nutrients measurements like potassium, phosphorous, nitrogen, and others,
- Anticipate and solve issues before they escalate,
- Increase efficiency and make savings by focusing labour and resources where they are most needed

# Reports

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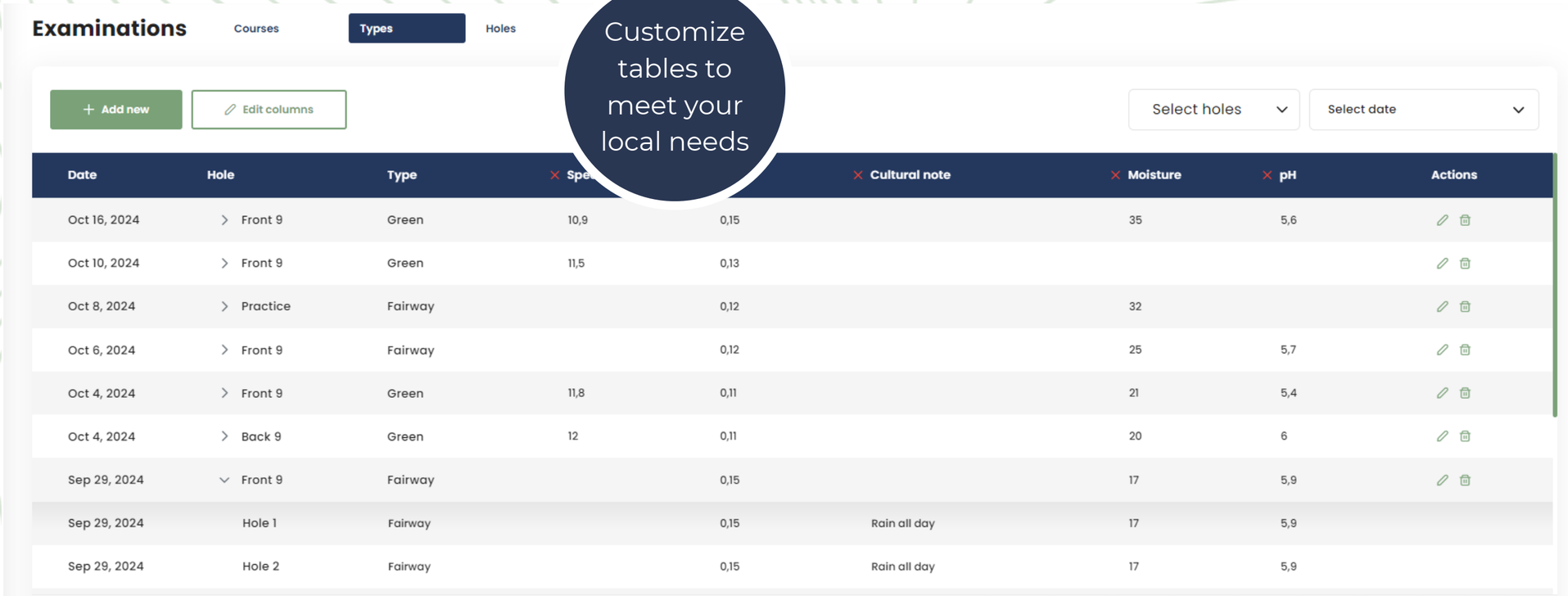
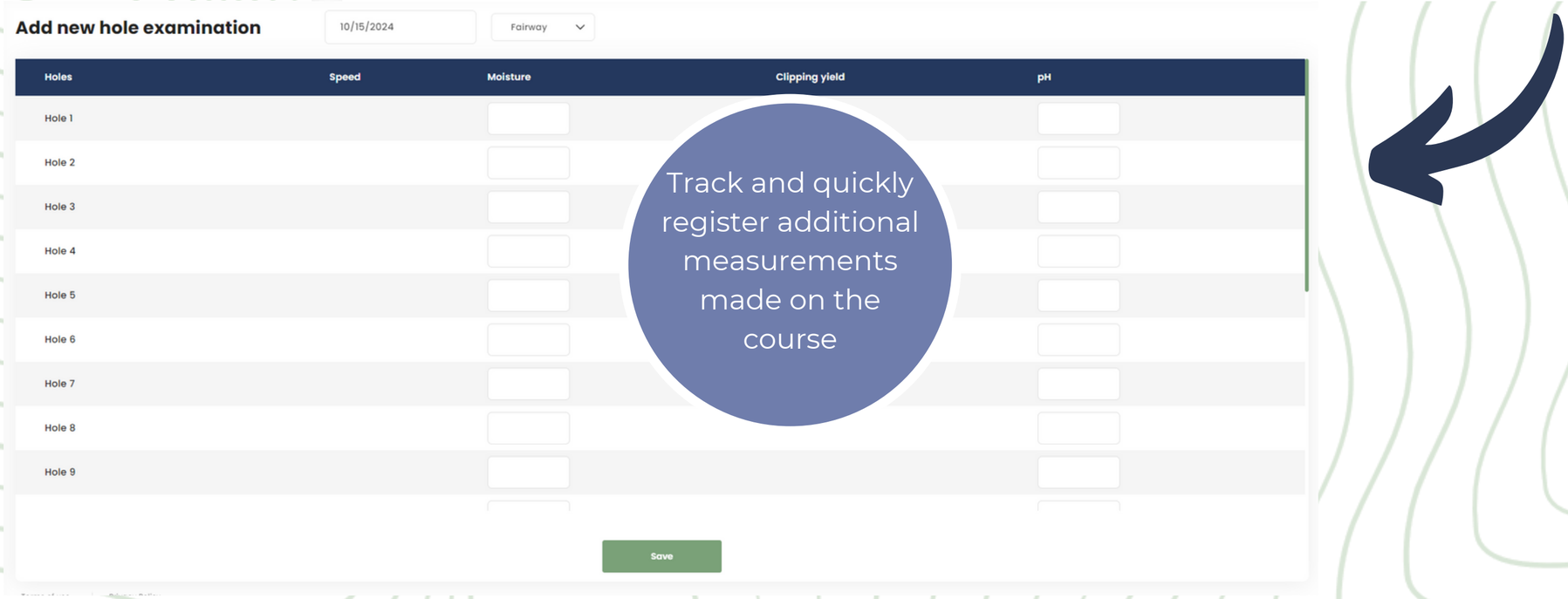
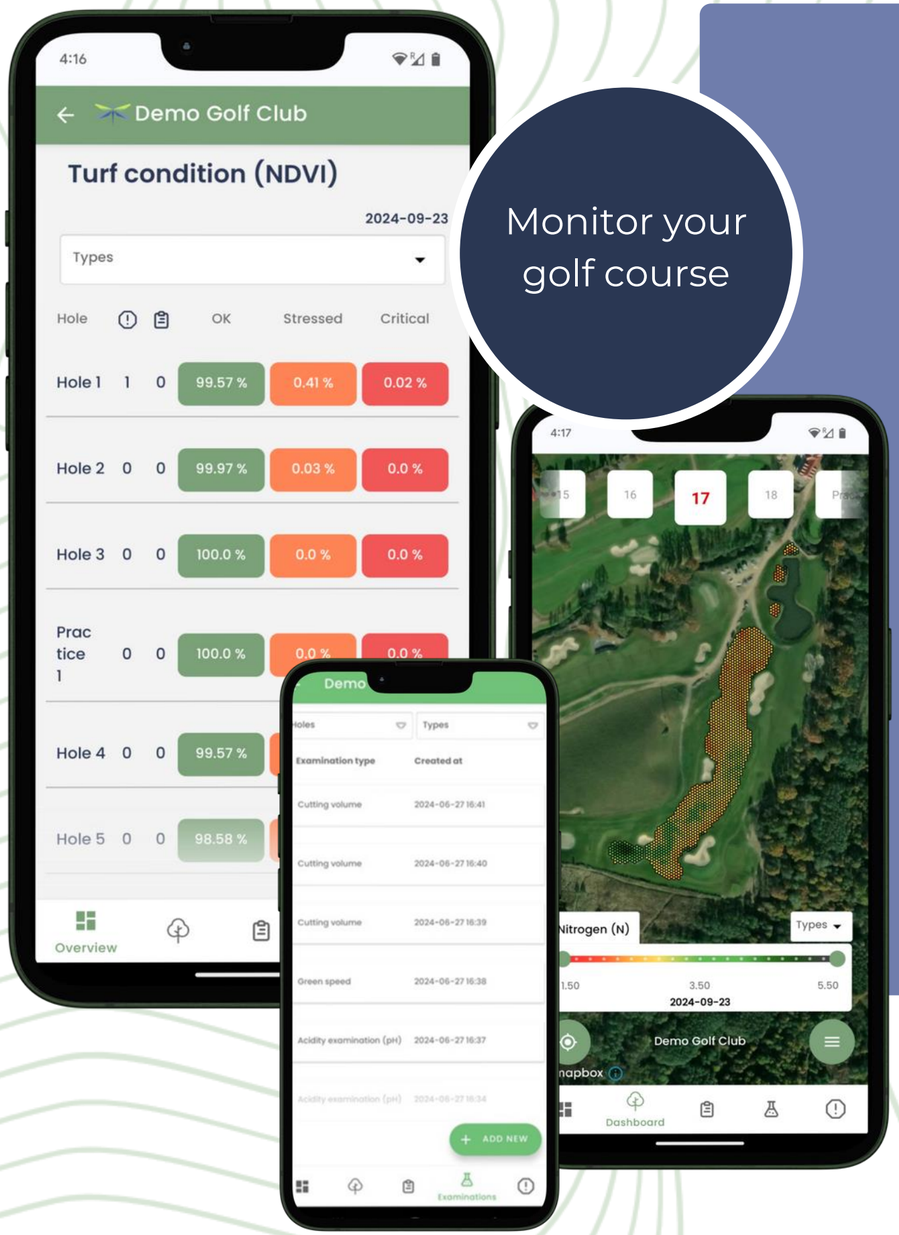
- Observe the course evolution, trends and patterns,
- Actionable insights – intuitive data visualizations,
- Easy to read reports allow for informed decisions,
- All the important metrics available in one place,
- Daily weather updates.

# Examinations



# Mobile app



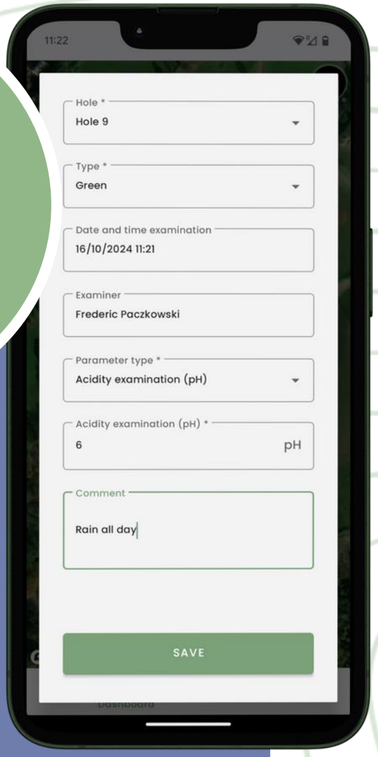

Monitor your golf course




## Use SKIM wherever you go

- Turf condition overview
- Quick access to all SKIM's data
- Integration with WhatsApp (centralize feedback from golfers, share tasks with your staff directly to their phones)
- Personalized settings (adjust norms for the visualization of results to your local needs, create and define hole groups)

Add alerts and examinations while scouting

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# Why using AI?

**General Problem Solver (GPS)**, one of the first examples of Rules-Based algorithms.

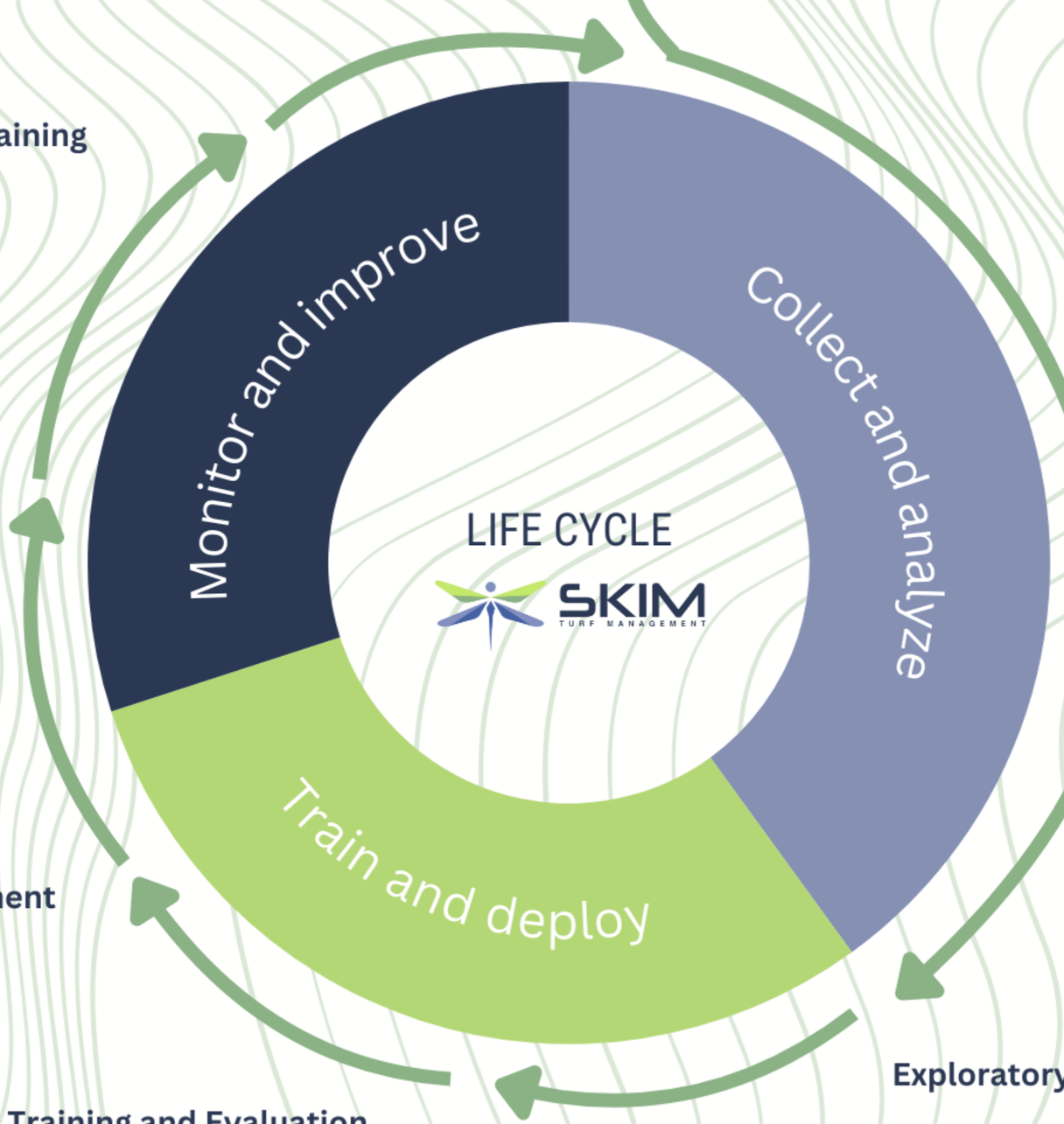
**Machine Learning - ML**
Instead of relying on pre-defined rules, ML algorithms learn patterns and make decisions based on data.

**Deep learning**
Deep learning is characterized by its use of artificial neural networks, inspired by the structure and function of the human brain.

**Generative AI**
These models can create new content, including text, images, and even music, by learning patterns from vast datasets.

OpenAI
ChatGPT 4.0

# How does it work?




Model Retraining

Model Monitoring

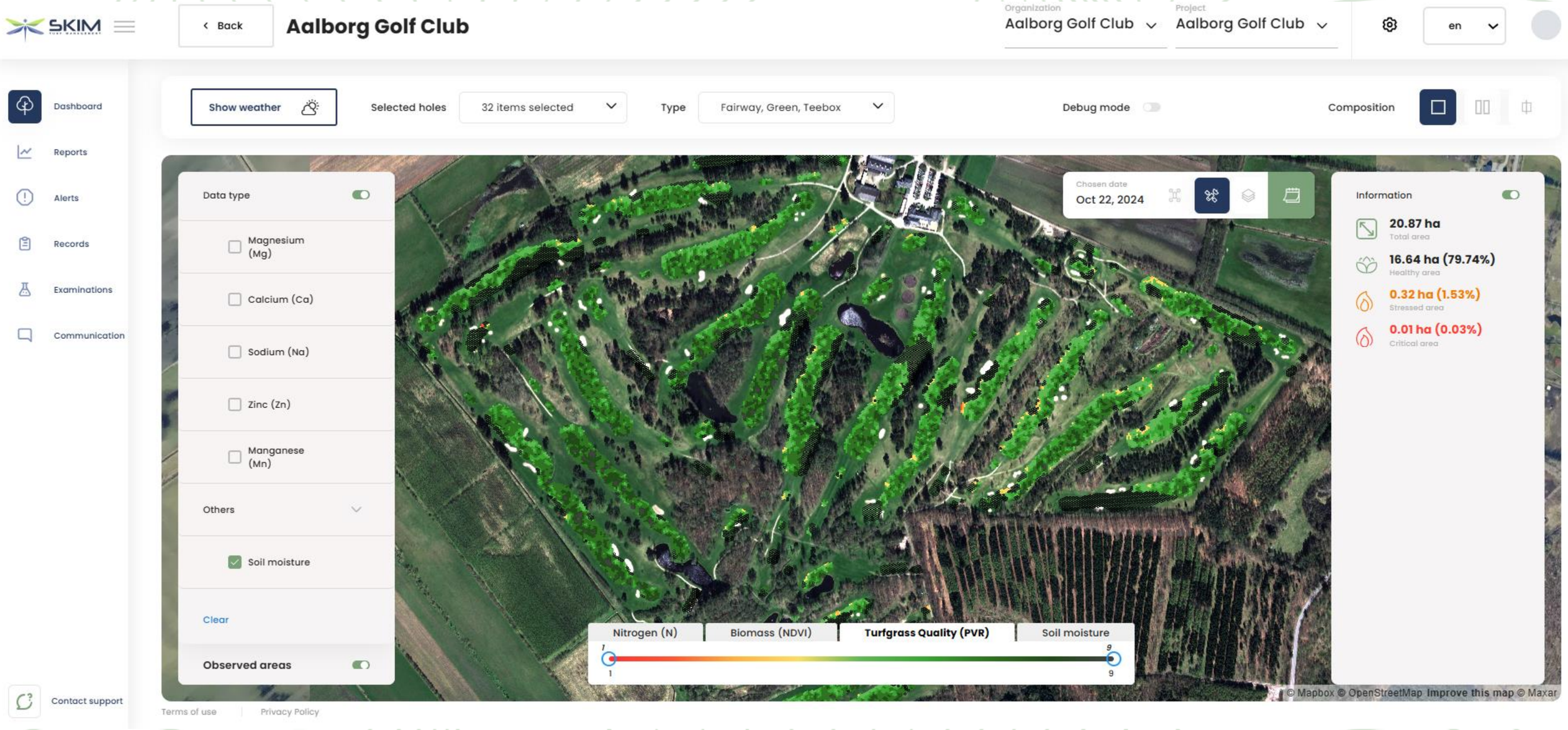
Model Deployment

Model Training and Evaluation

Exploratory Data Analysis

Data Collection

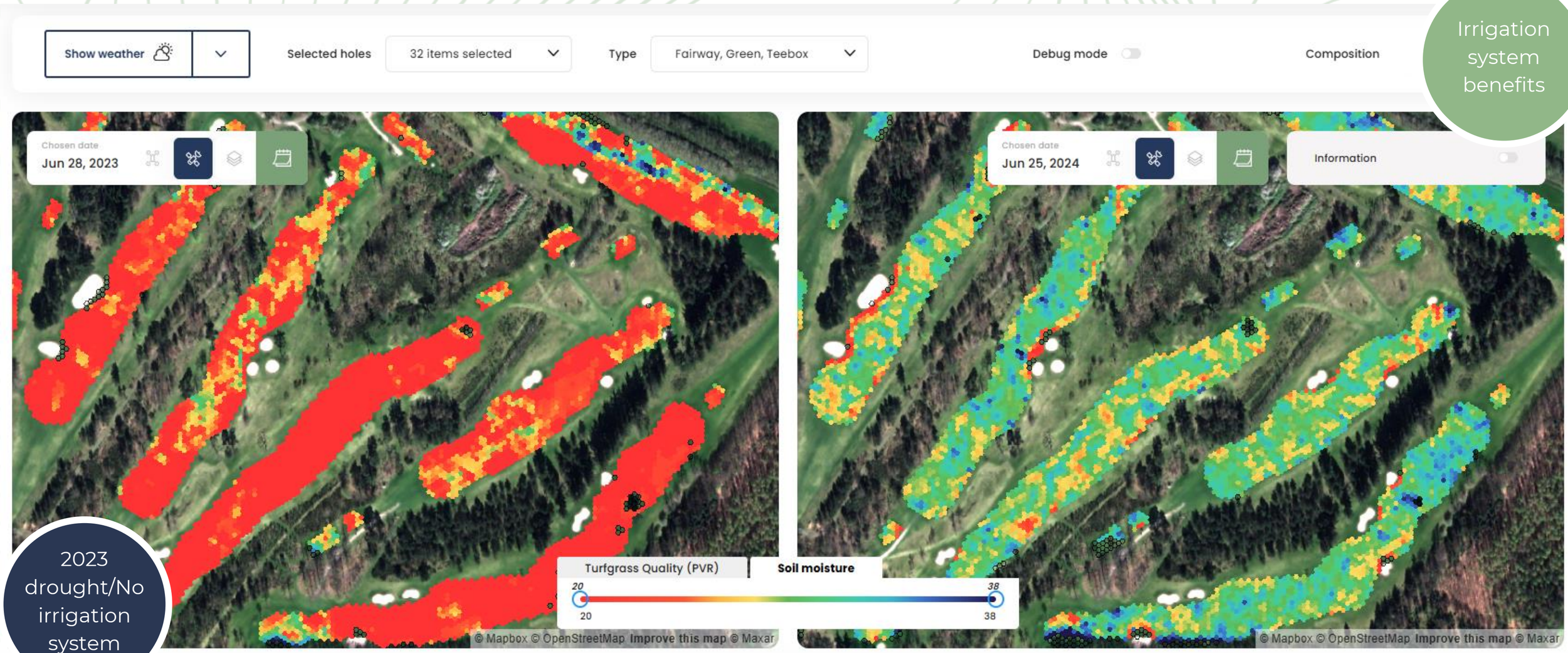
# Continuous monitoring and anticipation



# Continuous monitoring and anticipation

# Continuous monitoring and anticipation

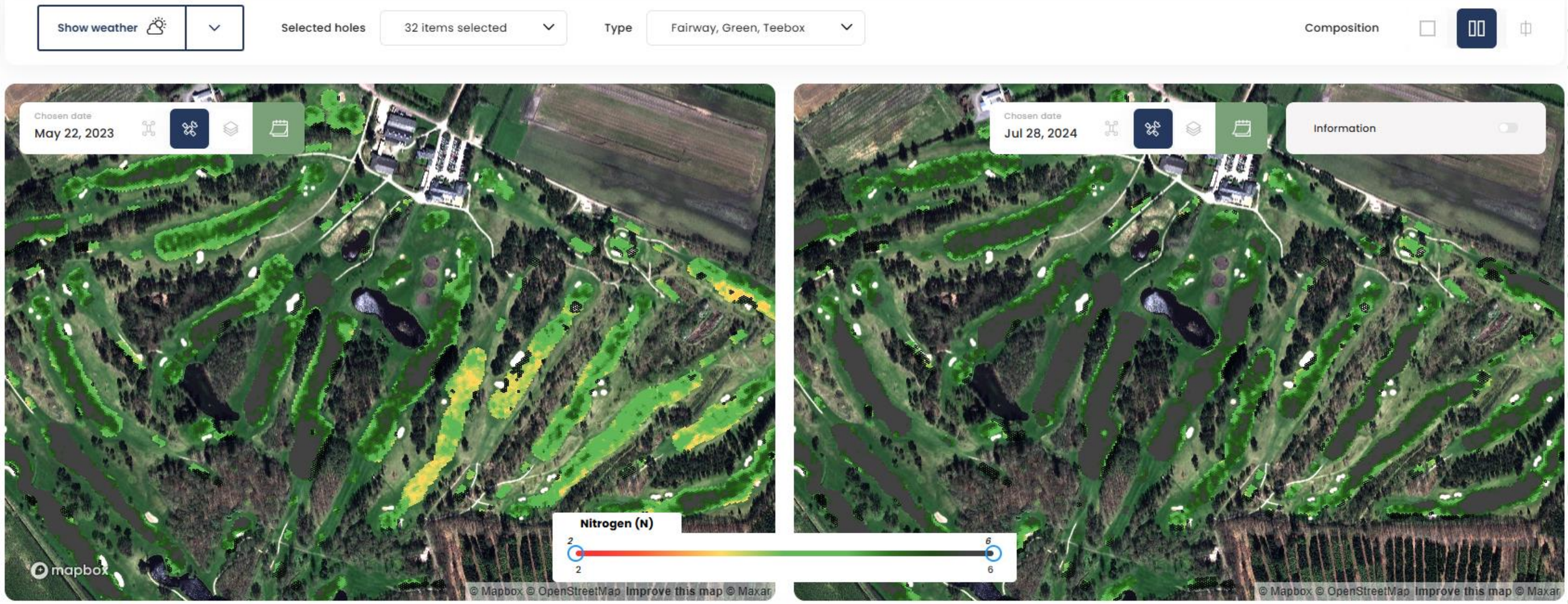
Irrigation system benefits




2023 drought/No irrigation system

# Continuous monitoring and anticipation

# Precision turfgrass management



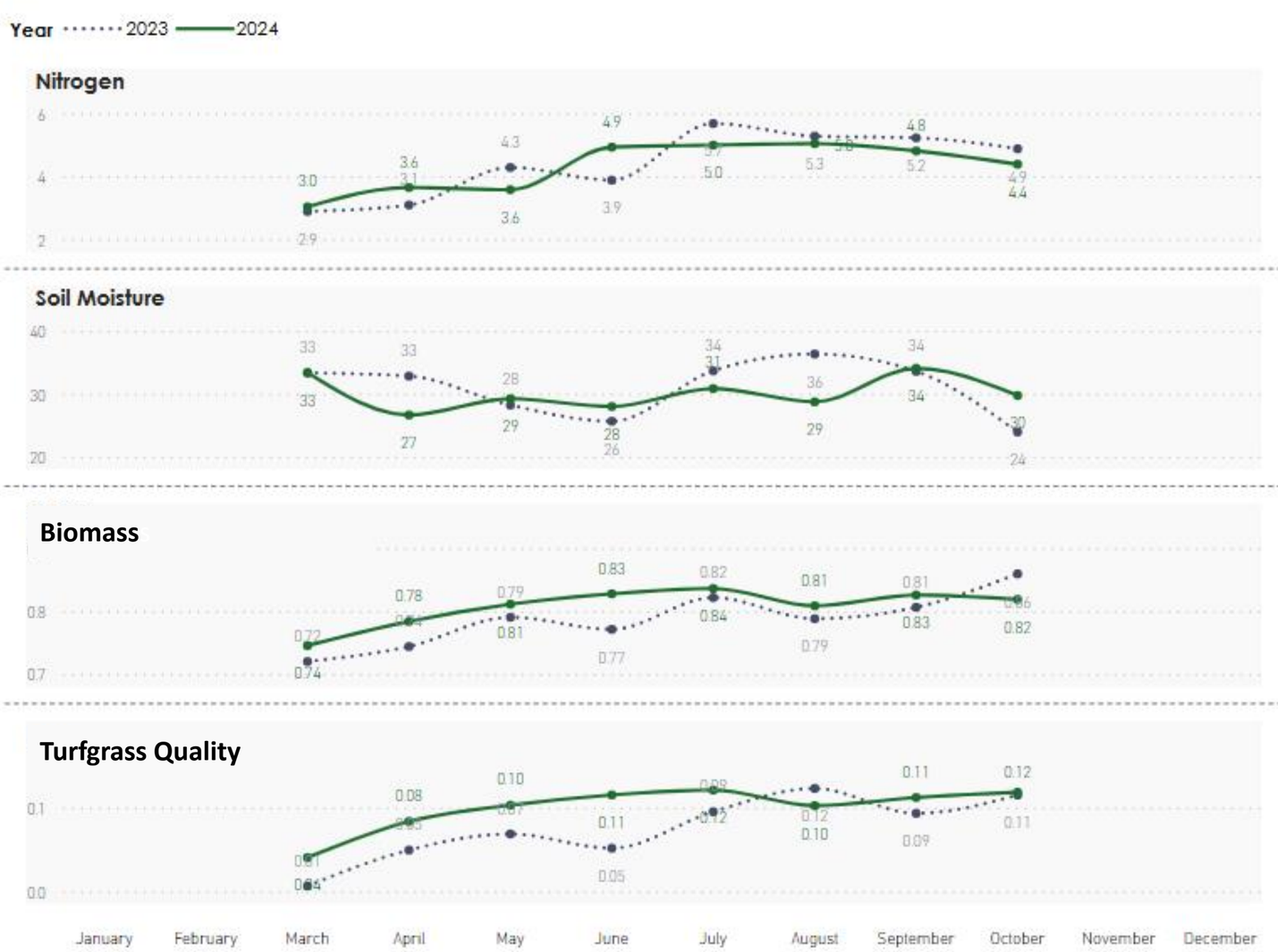
# Impact measurement and communication

select years: All

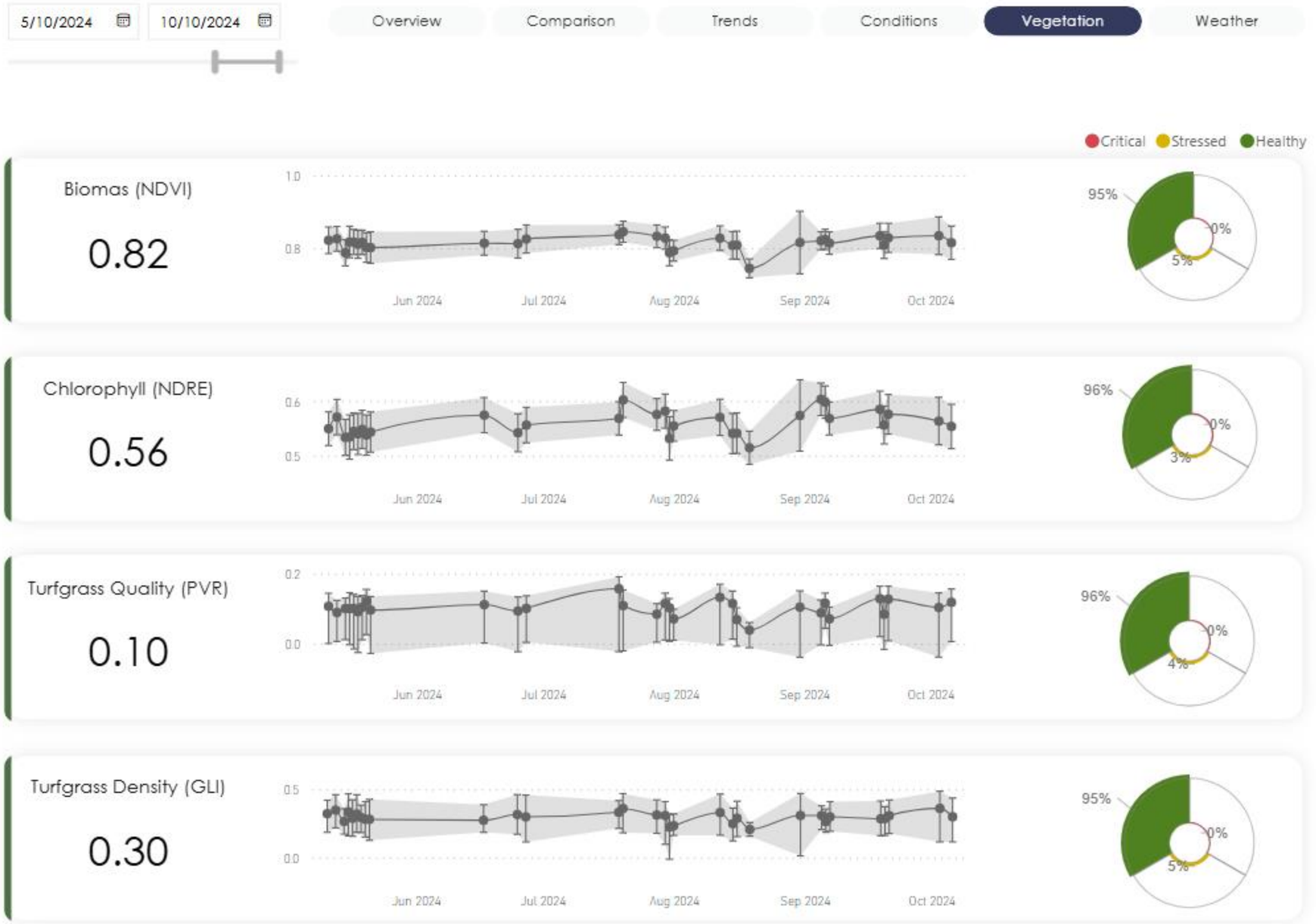
Monthly | Weekly | Daily

select parameters:

- [x] Nitrogen
- [ ] Potassium
- [ ] Phosphorus
- [ ] Magnesium
- [ ] Calcium
- [ ] Sodium
- [ ] Manganese
- [ ] Zinc
- [x] Soil Moisture
- [x] NDVI
- [ ] NDRE
- [x] PVR
- [ ] GLI



# Impact measurement and communication



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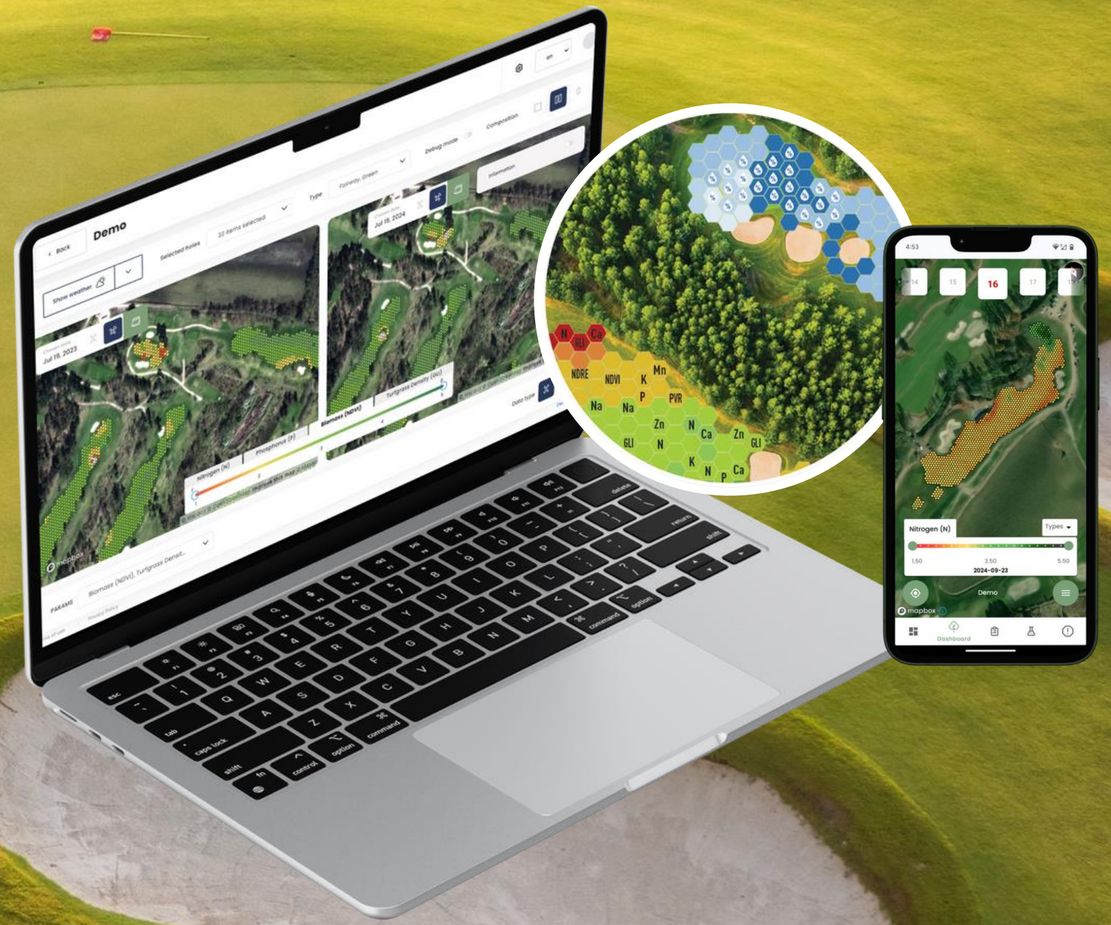
# Thank you!

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