
Agri Suite
Satellite Based AI to Sustainable Farming
map my crop

About Us

ABOUT US

Map My Crop

- Automated Crop Monitoring Platform
  Global Agriculture Organisation
- IOT / Sensors Free
- Sustinabale Agriculture Pratices

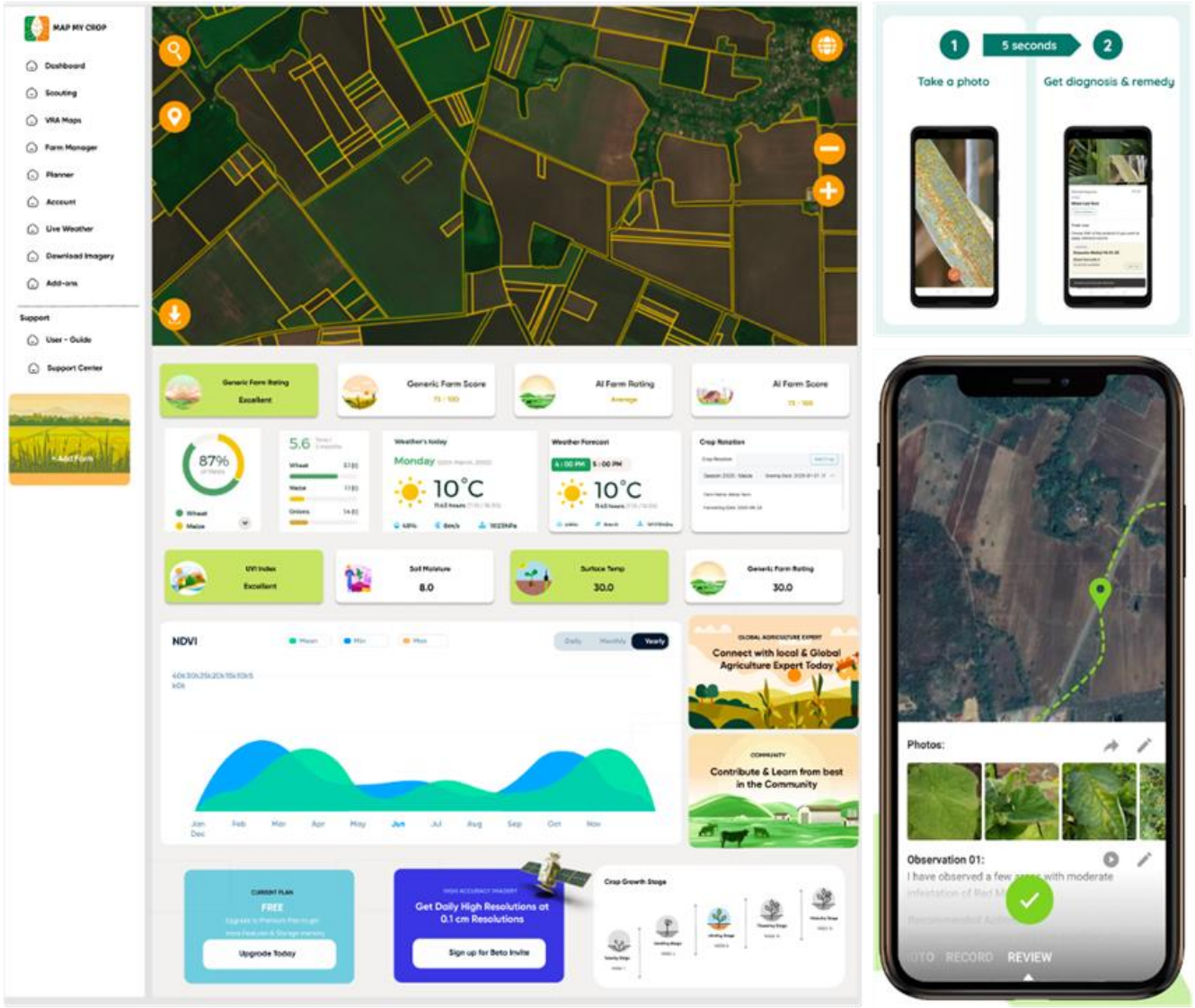
3 M +
FARMERS

30% MORE YIELD

40% LOW INPUT

More Output Per Acre

OFFERINGS



We have built AI-ML based World's First 360°

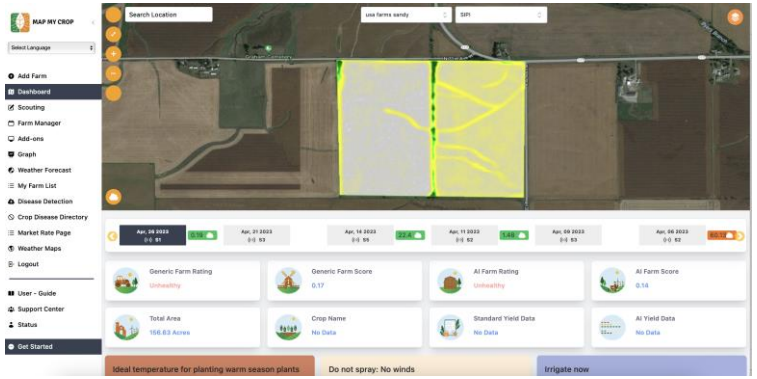
Imagery

Agri - Suite

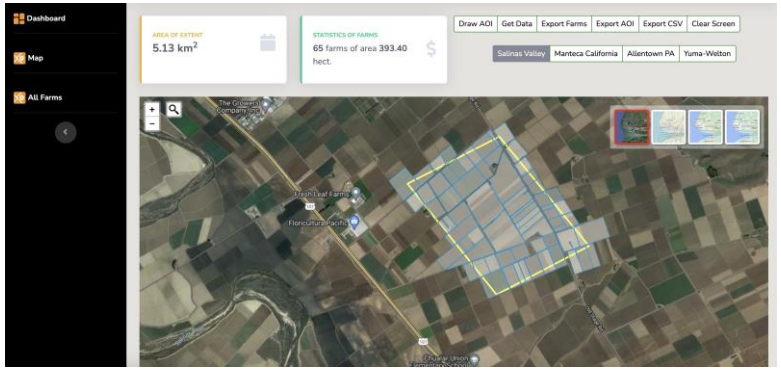
ALL CROPS LOCATION

SENSOR FREE & SUSTAINABLE

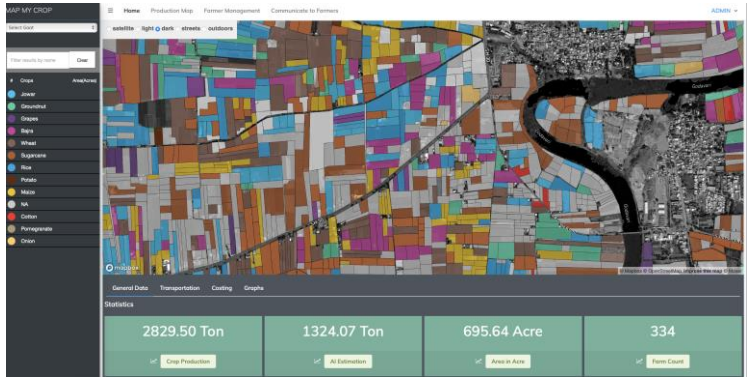
PRODUCTS



CROP WATER MONITORING PLATFORMS



AUTOMATED FARM DETECTION



AUTOMATED CROP TYPE DETECTION

18 + MAPS

CROP GUIDE

WEATHER

INSIGHTS

ADVISORY

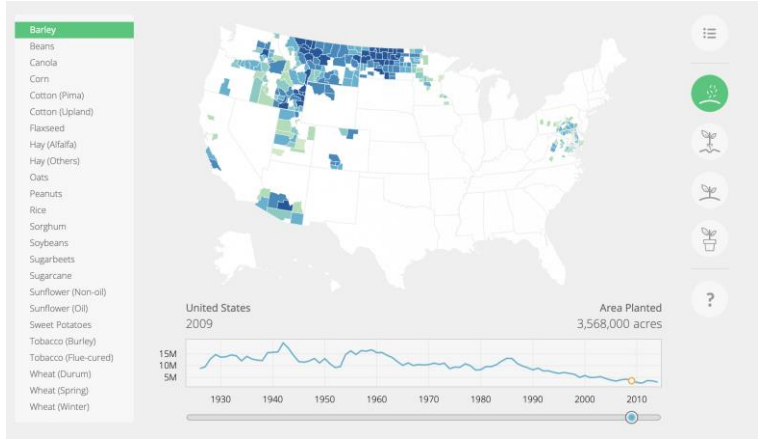
DISEASE ALERTS

PERSONAL CROP CALENDER

FARMERS COMMUNITY

AUTOMATIC DISEASE DETECTION

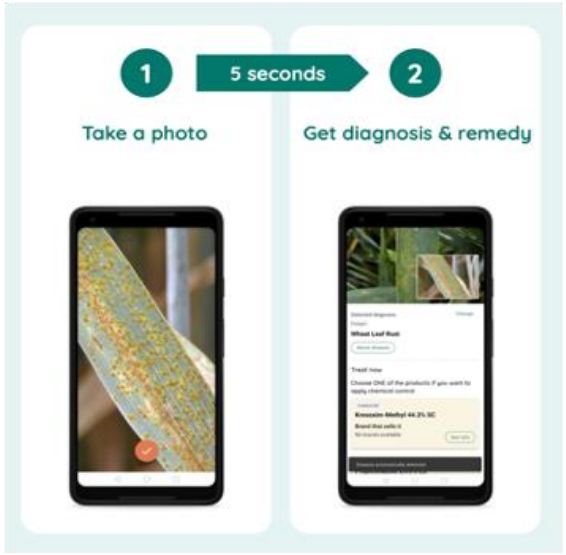
SCOUTING TOOL

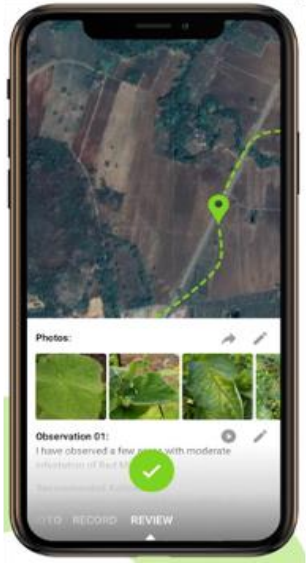


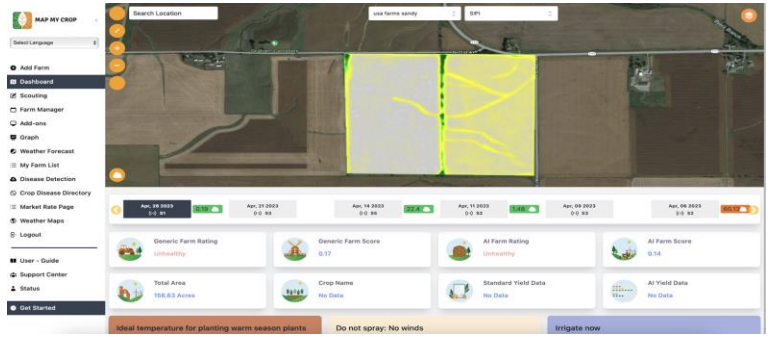
CROP TRENDS

DELIVERY METHODS

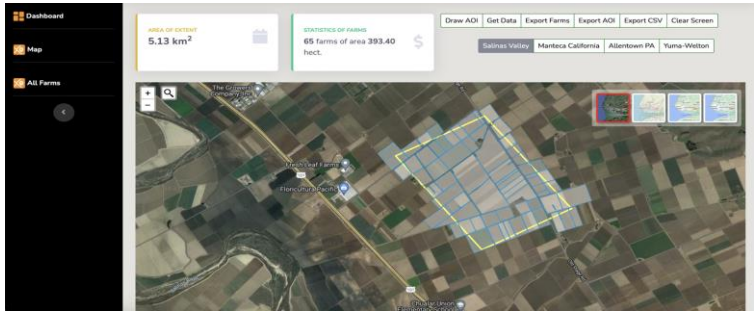
- Branded Web & Mobile Application
- White Label Application
- I-Frame for Dashboard
  - Lite
  - Full
- API
- Reseller



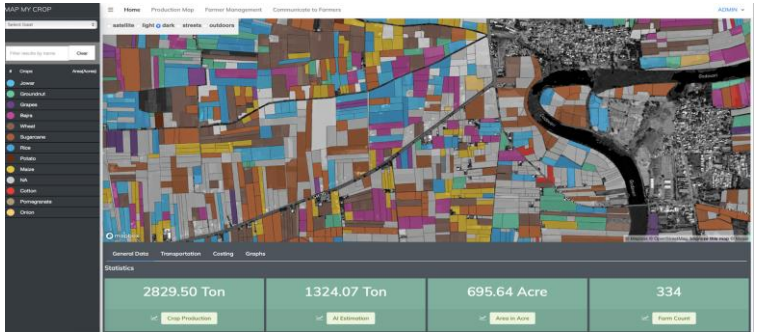




CROP WATER MONITORING PLATFORMS

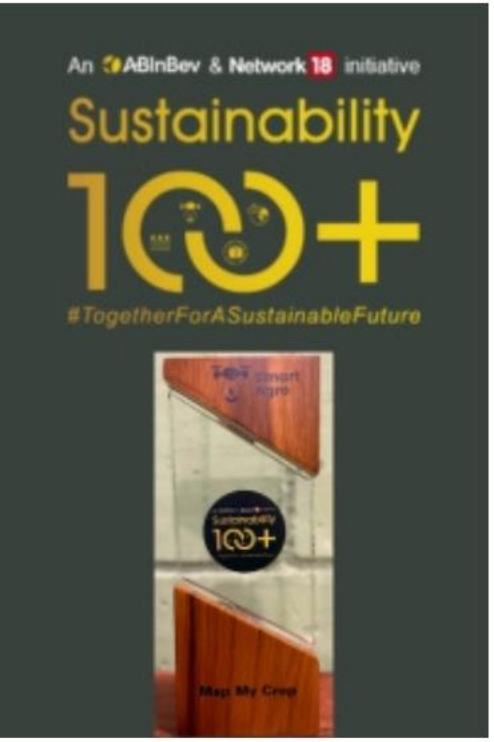


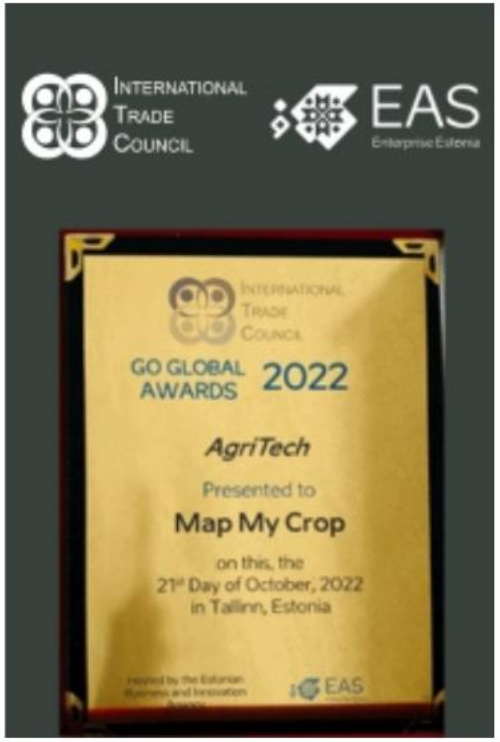
AUTOMATED FARM DETECTION



AUTOMATED CROP TYPE DETECTION

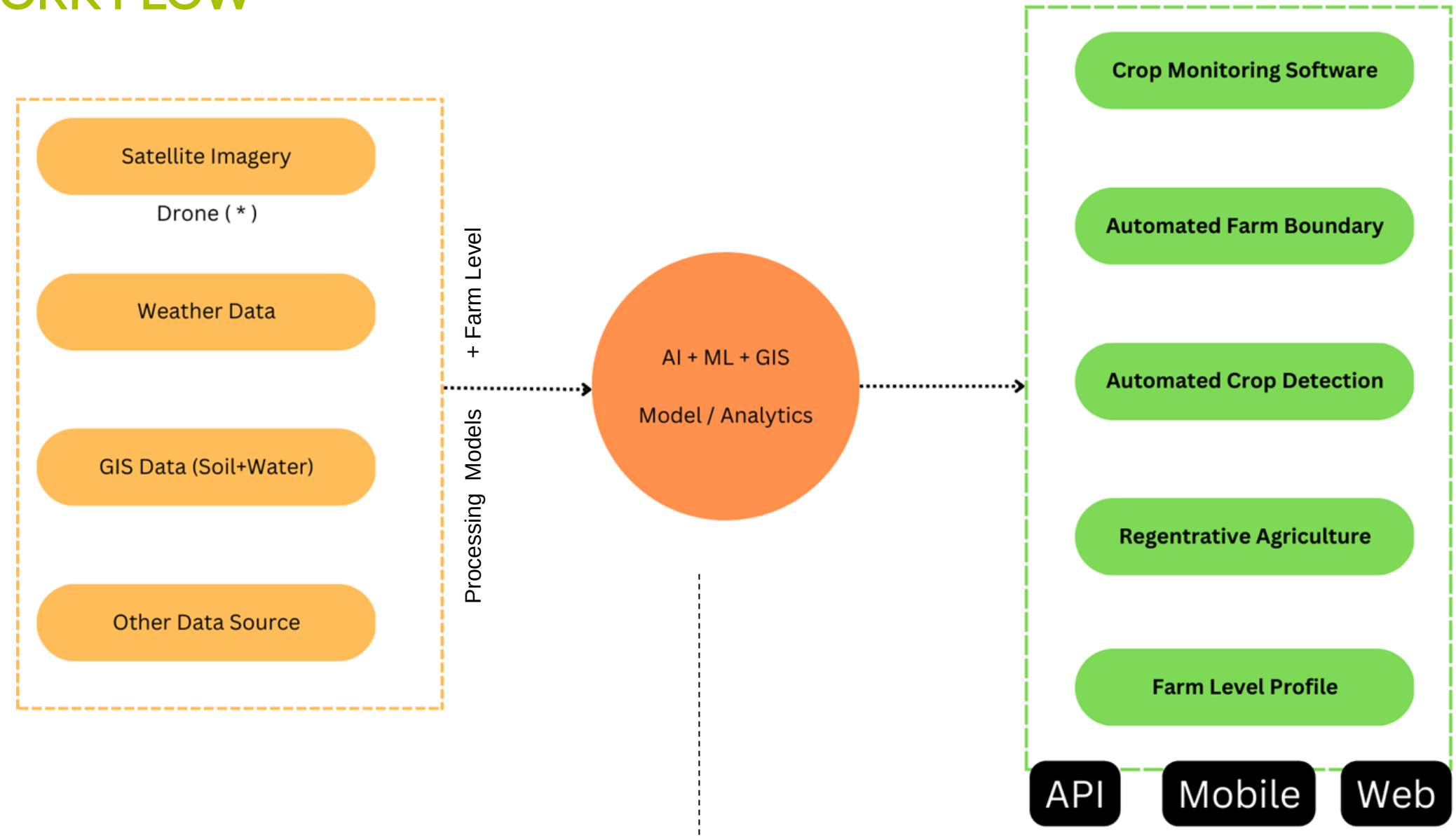
AWARDS TILL DATE





Satellite and Drone based Analysis

WORK FLOW



More than 250 + AI Models

PRODUCT 360 DEGREE AGRO SUITE

ONBOARDING

- FARM BOUNDARY
- CROP TYPE DETECTIONS
- TIME SERIES
- CHANGE DETECTIONS

CREDIT ASSESSMENT

- CREDIT PROFILE
- RISK PROFILE
- MONITORING
- FARMER / FARM PROFILE

MONITORING

- 30 + MAPS
- SCOUTING
- AI ADVISORY
- MARKET RATES
- HYPER LOCAL WEATHER
- COMPARE MAPS
- PERSONALIZED CROP PLANNER
- CROP GUIDE
- CROP GROWTH STAGE
- PHOTO DISEASE DETECTIONS
- FARM HEALTH

PREDICTION

- CROP YIELD PREDICTIONS
- SOIL MOISTURE MAPPING
- MARKET FOOD OUTPUT

DETECTION

- DAMAGE ASSESTMENT
- CROP TYPE
- FARM ACTIVITY DETECTION
- HETEROGENEITY
- AREA GROWTH MONITORING
- CONCENTRATION MAPPING
- METHANE MONITORING

SUSTAINABLE AGRICULTURE

- FERTILIZER MAPPING
- CROP TILLAGE
- CROP COVER
- CROP ROTATION
- CO2 EMISSION FARM
- SUSTAINABILITY INDEX

IRRIGATION MODELLING

- FARM WATER NEED
- WATER MODELLING
- ET & ETO

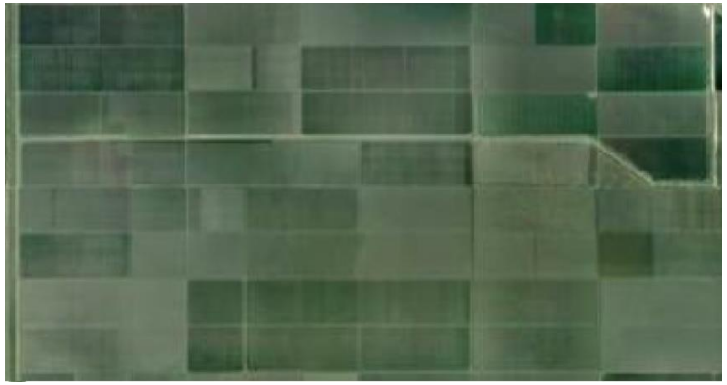
DRONE

- PLANT COUNT
- PLANT DISEASE
- PLANT DENSITY
- PLANTING GAPS
- WATER LOGGING

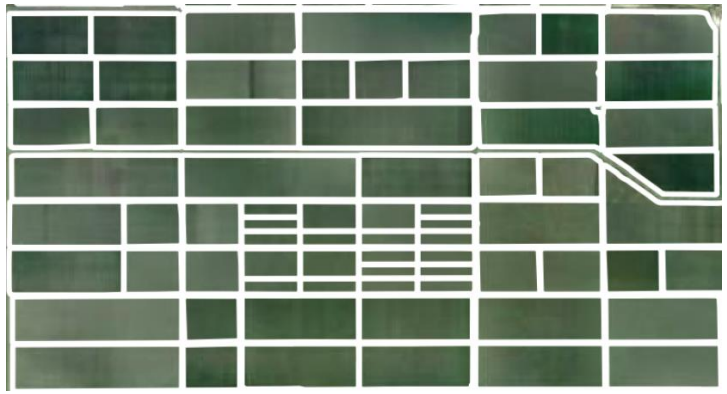
FOREST

- TREE SPECIES
- TREE COUNT
- TREE HEALTH
- DEFORESTATIONS

ONBOARDING

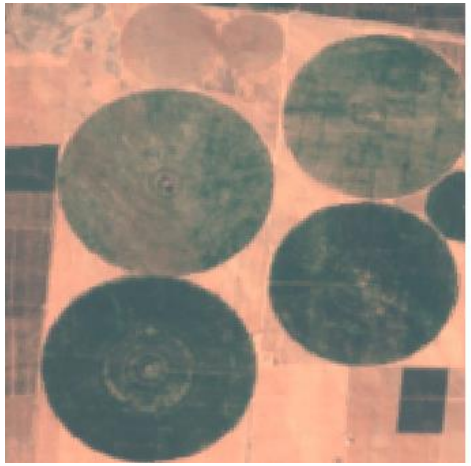


SATELLITE IMAGERY

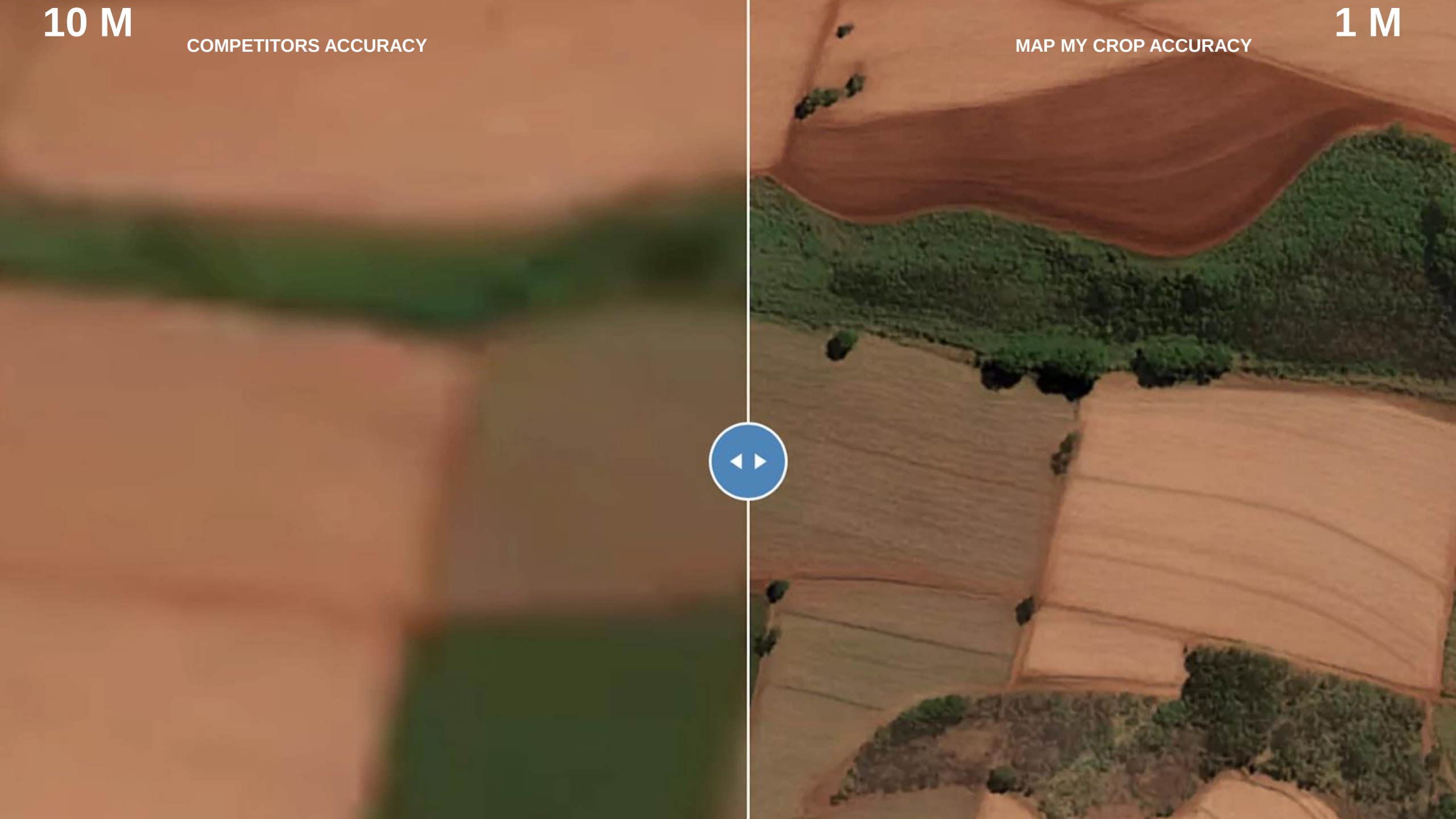


AUTOMATE FARM BOUNDARY

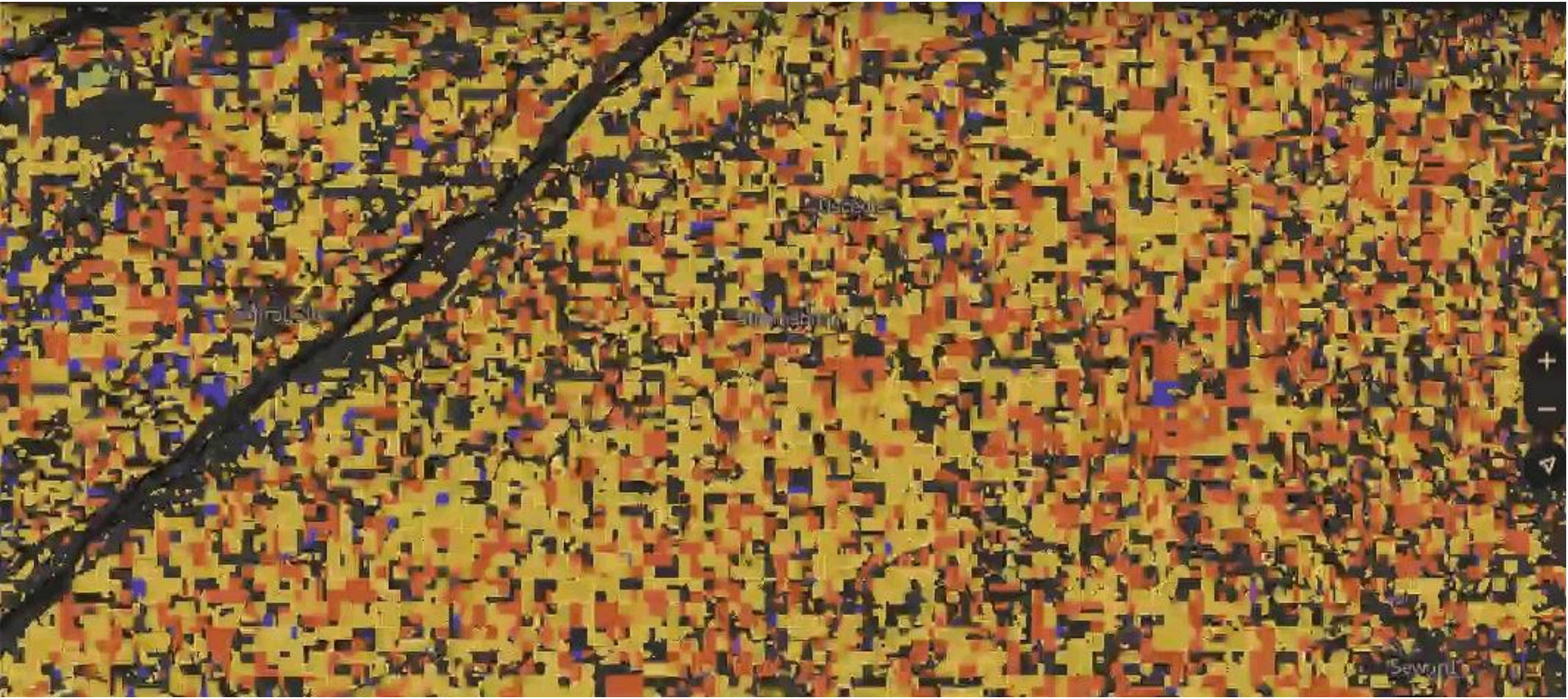
CROP TYPE DETECTIONS



TIME SERIES

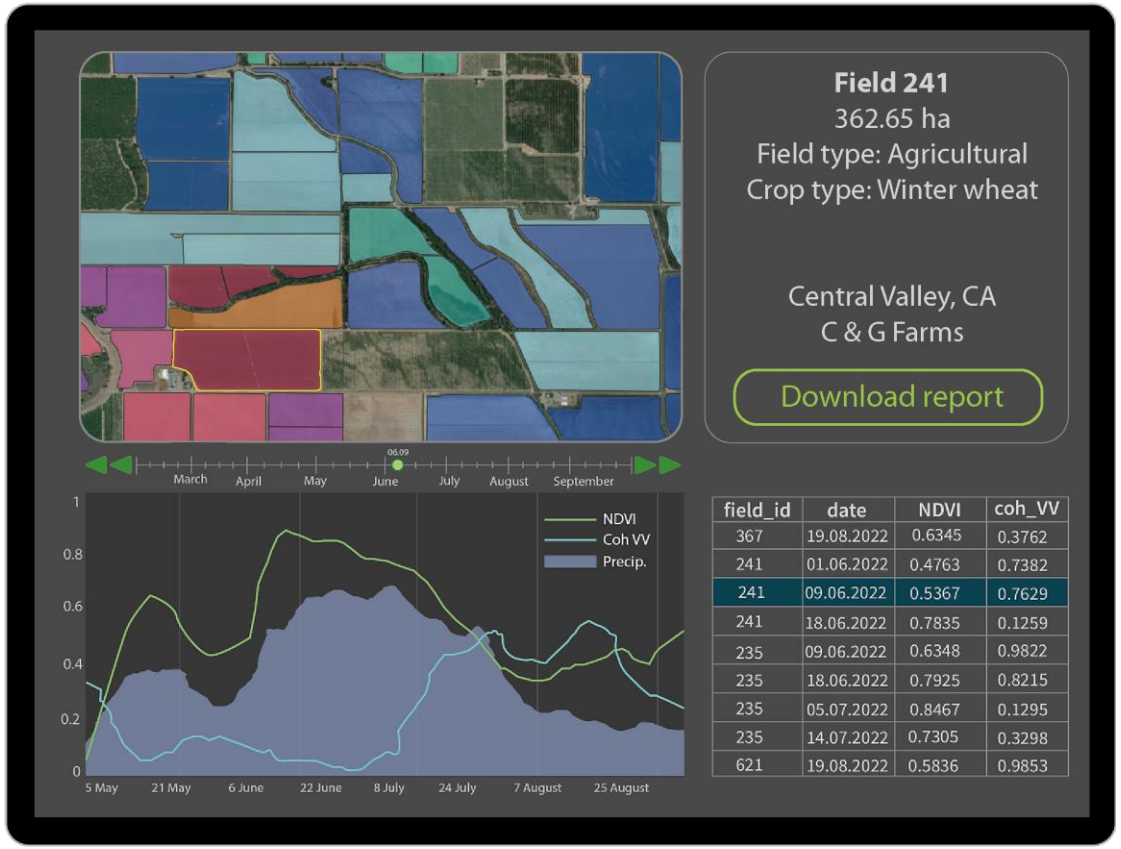

10 M
COMPETITORS ACCURACY
1 M
MAP MY CROP ACCURACY

AUTOMATED CROP DETECTIONS

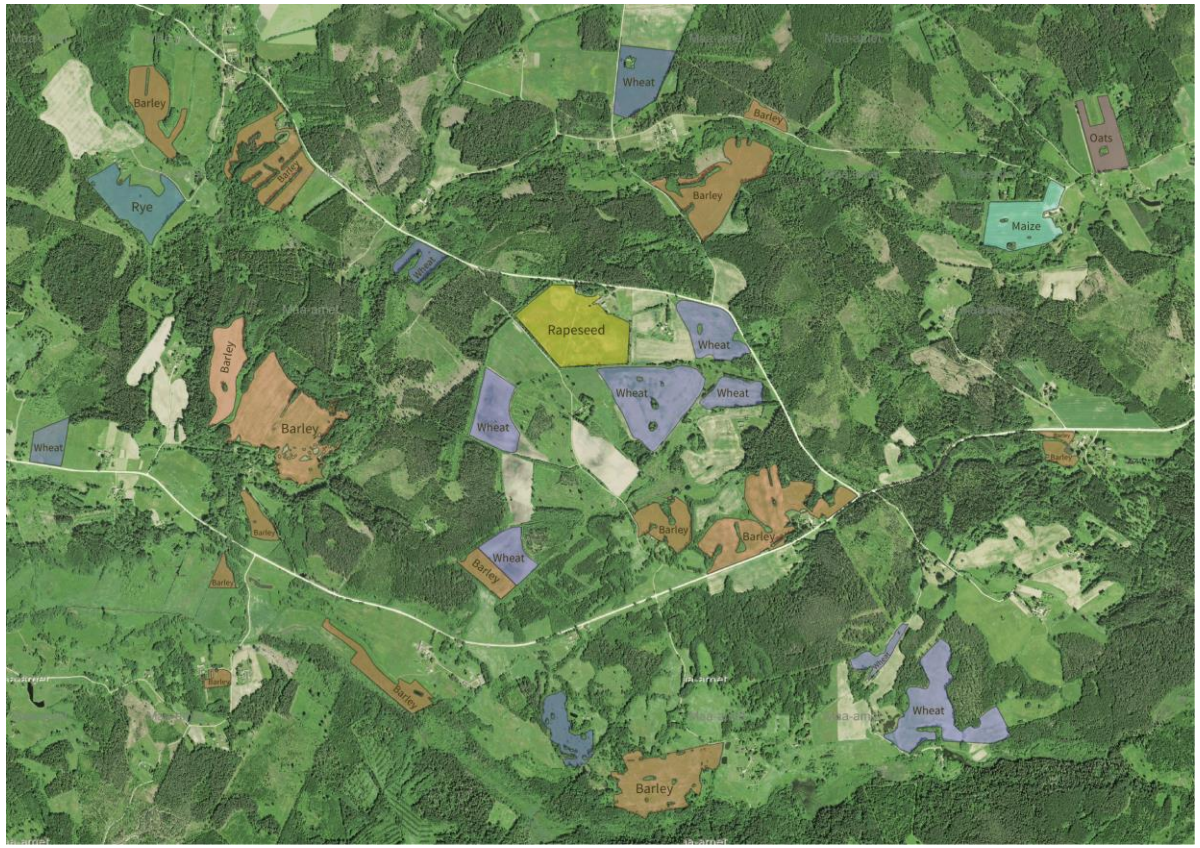


CROP TYPE DETECTIONS

Detect the crops, Understand the growth of each crops and understand its progress over a period of time



field_id	date	NDVI	coh_VV
367	19.08.2022	0.6345	0.3762
241	01.06.2022	0.4763	0.7382
241	09.06.2022	0.5367	0.7629
241	18.06.2022	0.7835	0.1259
235	09.06.2022	0.6348	0.9822
235	18.06.2022	0.7925	0.8215
235	05.07.2022	0.8467	0.1295
235	14.07.2022	0.7305	0.3298
621	19.08.2022	0.5836	0.9853



Derivations

Completely Automated

AI & ML Driven

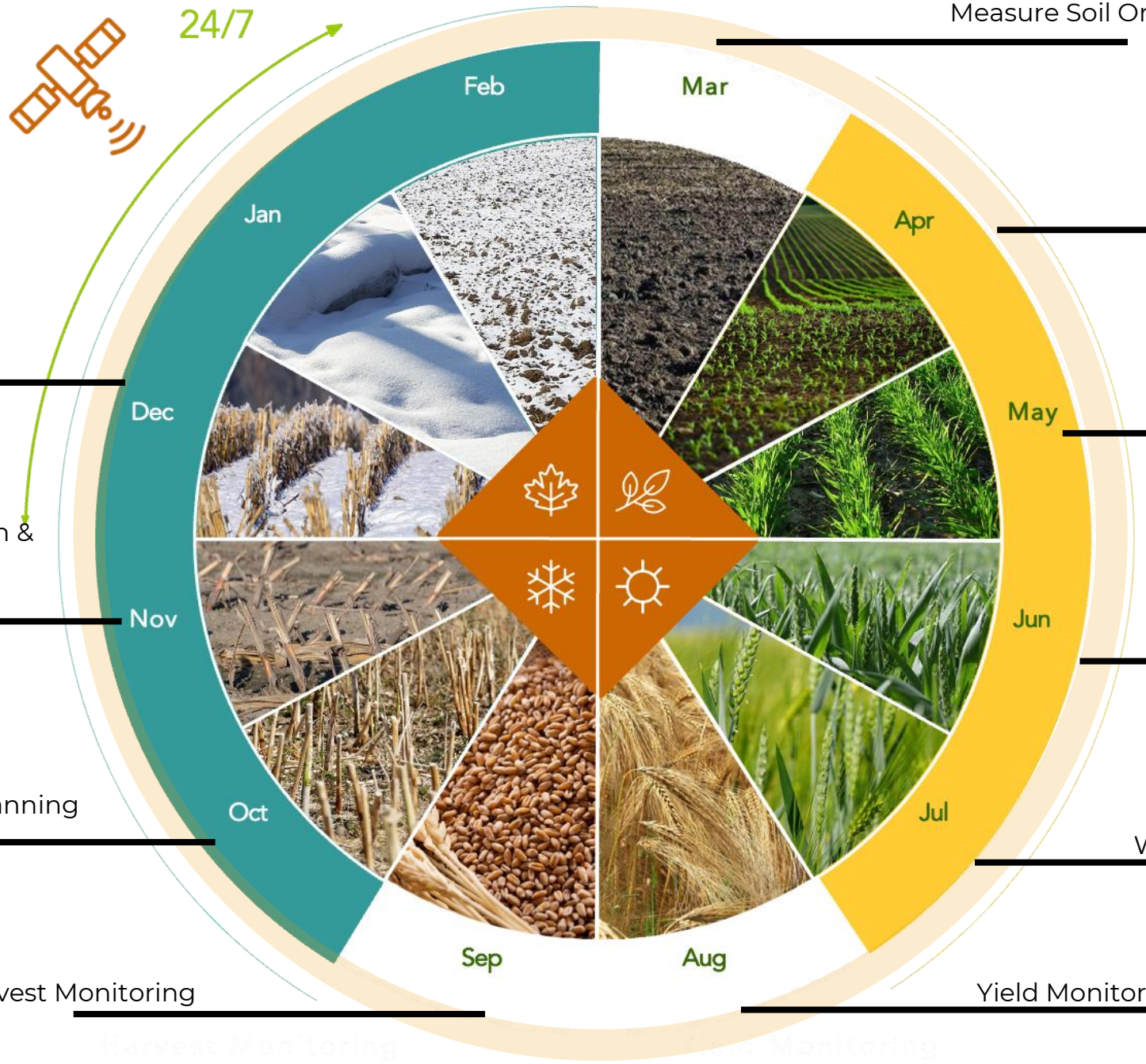
Easy Implementation

30%
MORE YIELD

40%
LESS INPUT

95%
ACCURACY

FLOW



Measure Soil Organic Carbon

Soil Vegetation Maps

Early Stage Maps

Soil Health Analysis

Nitrogen Prescription #2

Maps : VRA

Field performance evaluation & analysis

Health Monitoring

Plant Vigor Maps

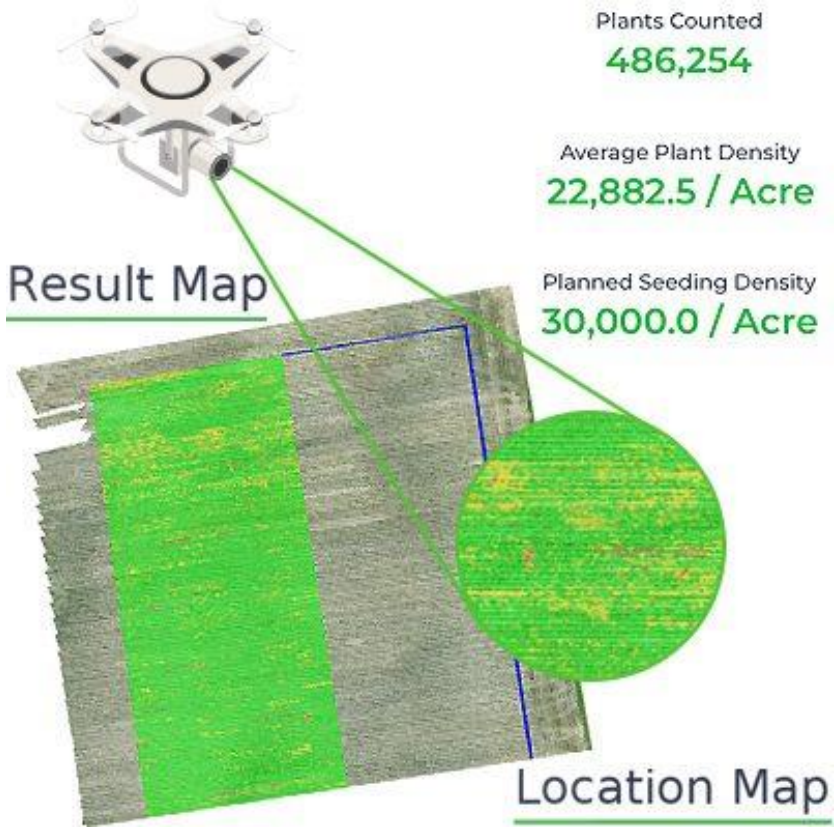
Fields zoning & Strategic planning

Water Stress Monitoring (All)

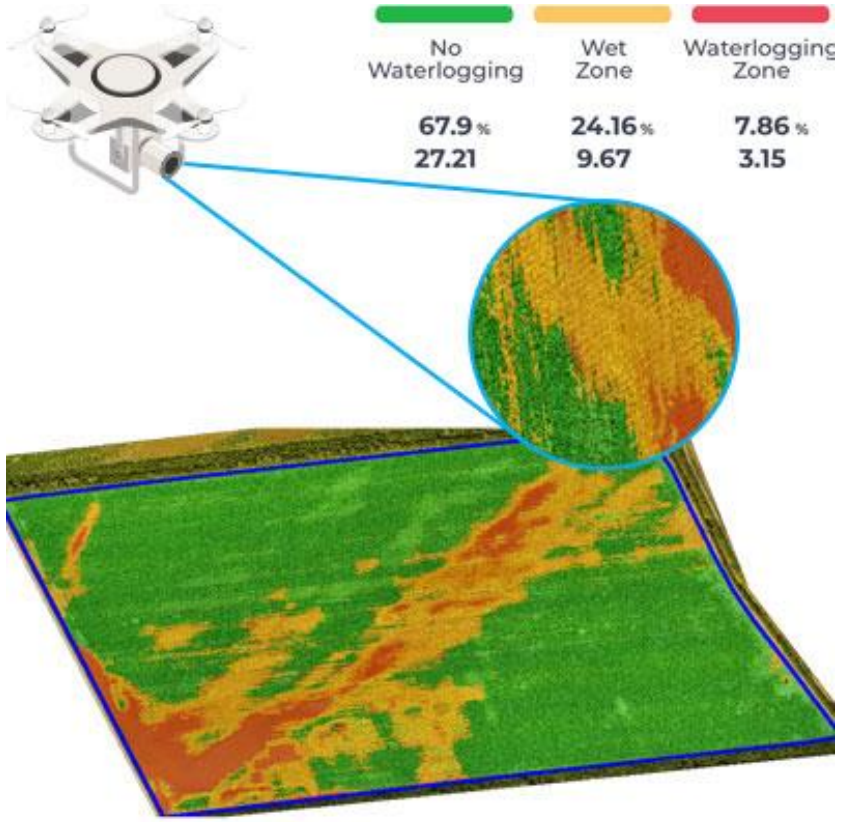
Harvest Monitoring

Yield Monitoring

DRONE INTEGRATIONS

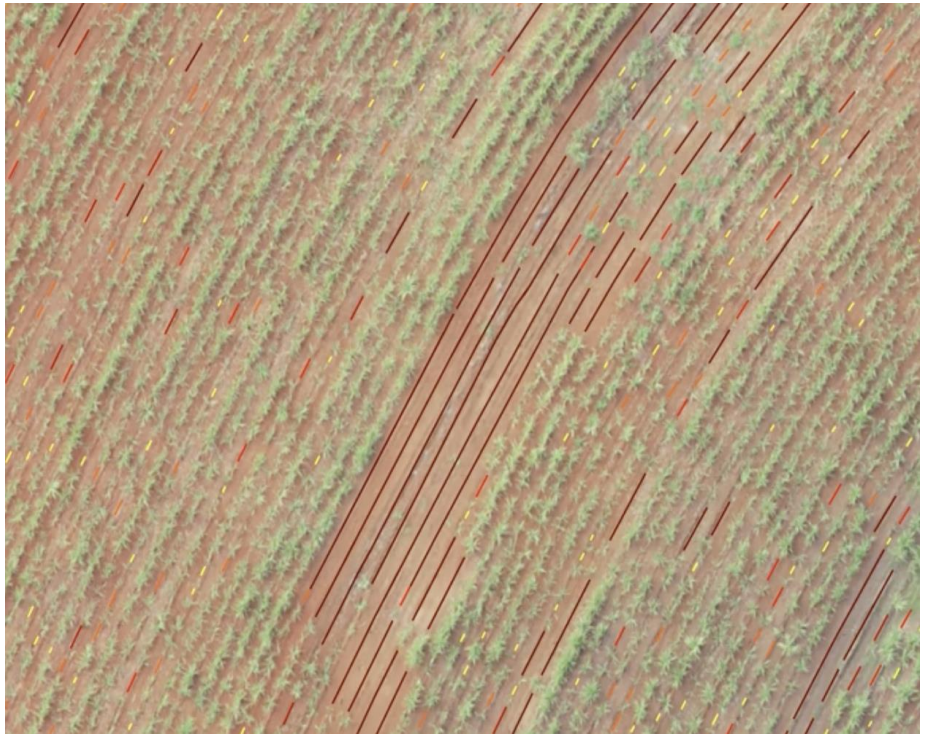


CROP STAND COUNT



WATER LOGGIND DETECTION

DRONE INTEGRATIONS



PLANTING GAPS

AUTOMATIC WEEDS DETECTION

DRONE REPORTS

Stand Count

- Count no. of plants in farm and compare it to expected no. of Plants
- Suitable for Vegetables & Crops

Weed Analysis

- Identifies Weed Infestations and allows farmers to take effective in-season corrective measure

Plant Population

- Provides information of no. of plants
- Suitable for perennial plants, orchards or forestry projects.

Pest Damage

- Detects pest damage areas and timely suppresses for threat

Plant Stress Analysis

- Provides information on healthy plants and identifies stress. The report show size and location of problem area caused by pests, weed, diseases, irrigation problem, etc.

Plant Disease Damage

- Analyzes plants and crops at right growing stages on various disease.

Water logging Analysis

- Gives the opportunity to quickly and accurately locate all potential waterlogging areas in your field.

Drone Report

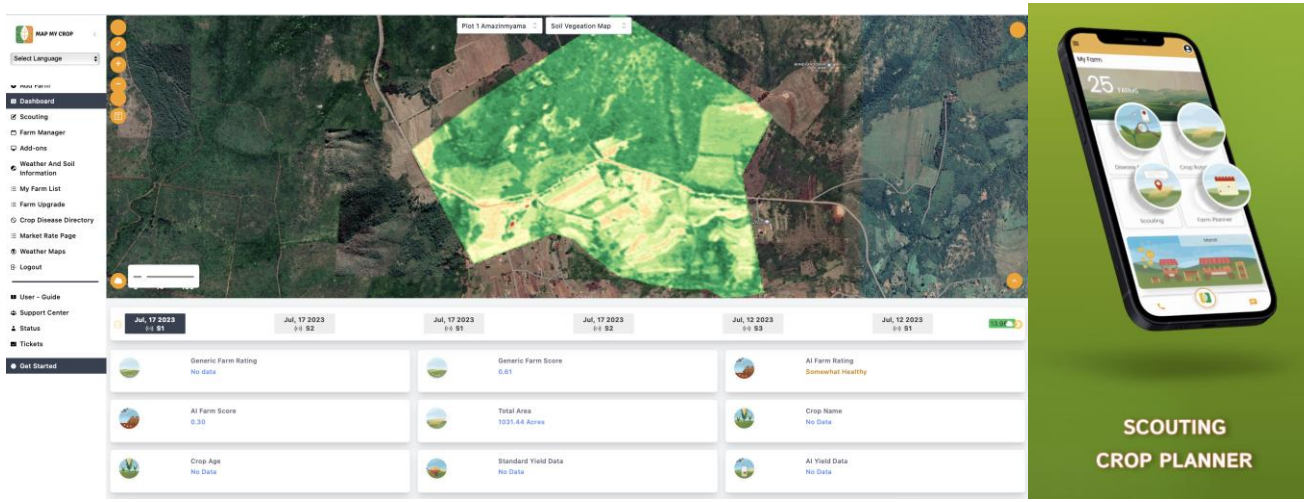
- Get an Extensive Reports on the Drone Flying, Data and Results.

Irrigation Monitoring

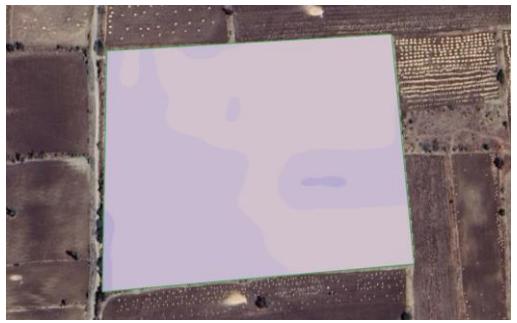
Irrigation Mapping Systems

- Reliable
  - Based on Deep Agronomic knowledge with Irrigation Specialty
- Simple
  - No Equipment, accessible and easy to use.
- Affordable
  - No CAPEX, Low-Cost Subscriptions
- Global

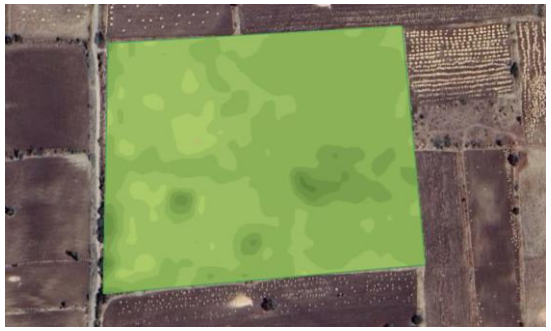
  All Crops, Any Location



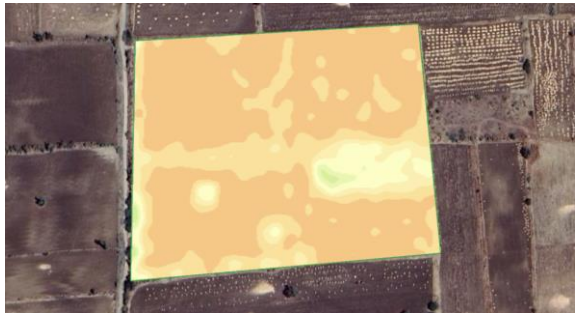
Methodology



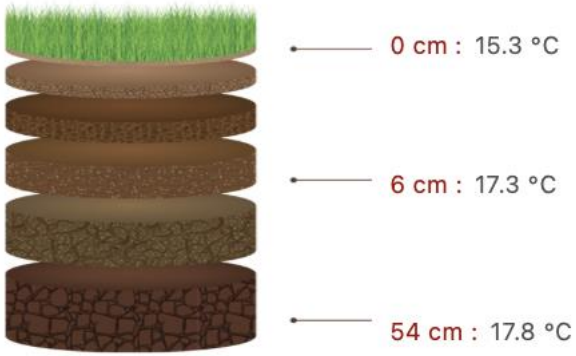
WATER STRESS MAP



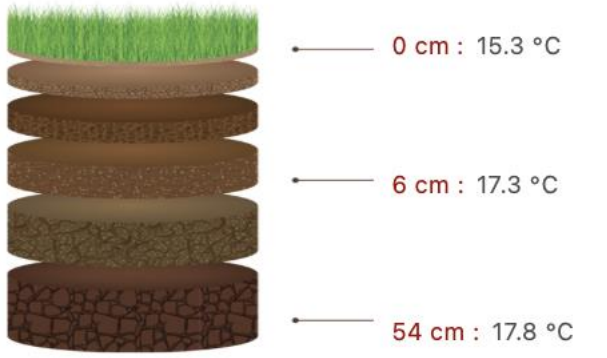
VEGETATION MAP



SOIL VARIABLITY MAP



SOIL & LEAF MOISTURE



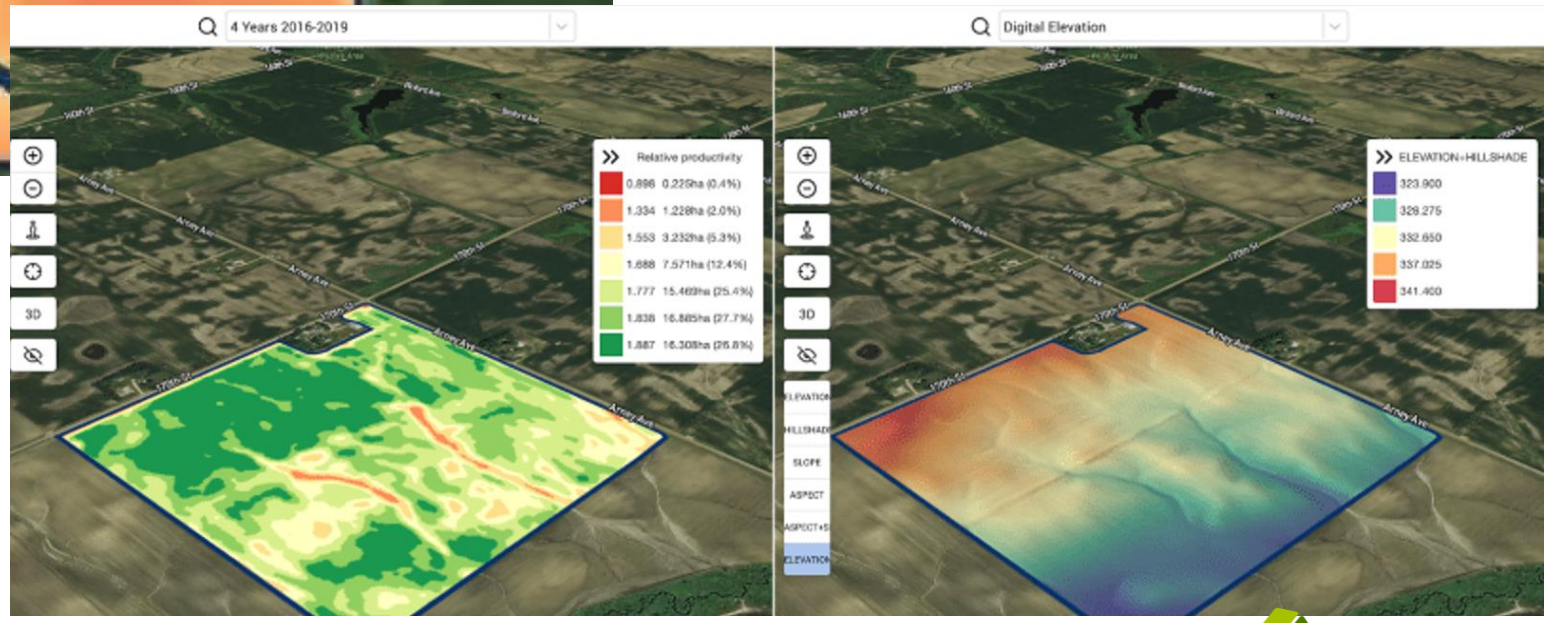
SOIL & LEAF TEMPERATURE

- UNDERSTAND PLANT WATER UPTAKE CAPCITY BY MAPS
- PLANT WETNESS MAPS
- 10 + MAPS
- CROP TYPE
- CROP GROWTH STAGE
- CROP CULTIVATION DATE
- RAINFALL EXPECTED IN NEXT 14 DAYS
- FARMING STATUS
- LAST IRRIGATION STATUS

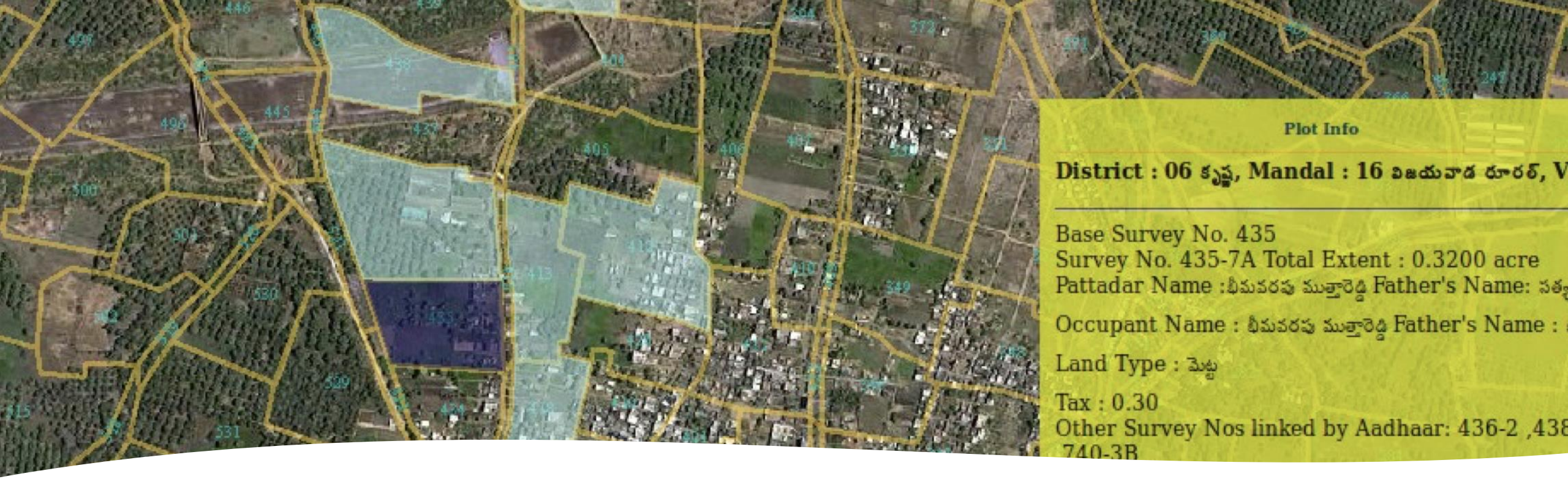
Land Elevation Data

This Data helps to understand

- Waterlogging Prone Areas
- Water Run off Areas
- Land Topography
- Soil Erosion
- Water Management
- Crop Selection



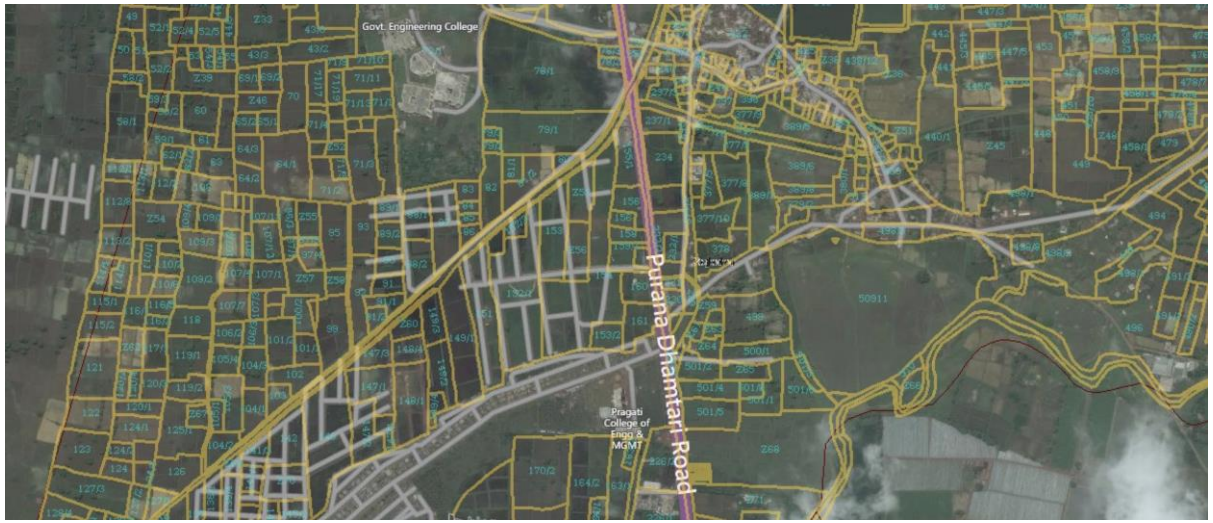
Correlation Between Elevation & Output



Integration of Land Records - India

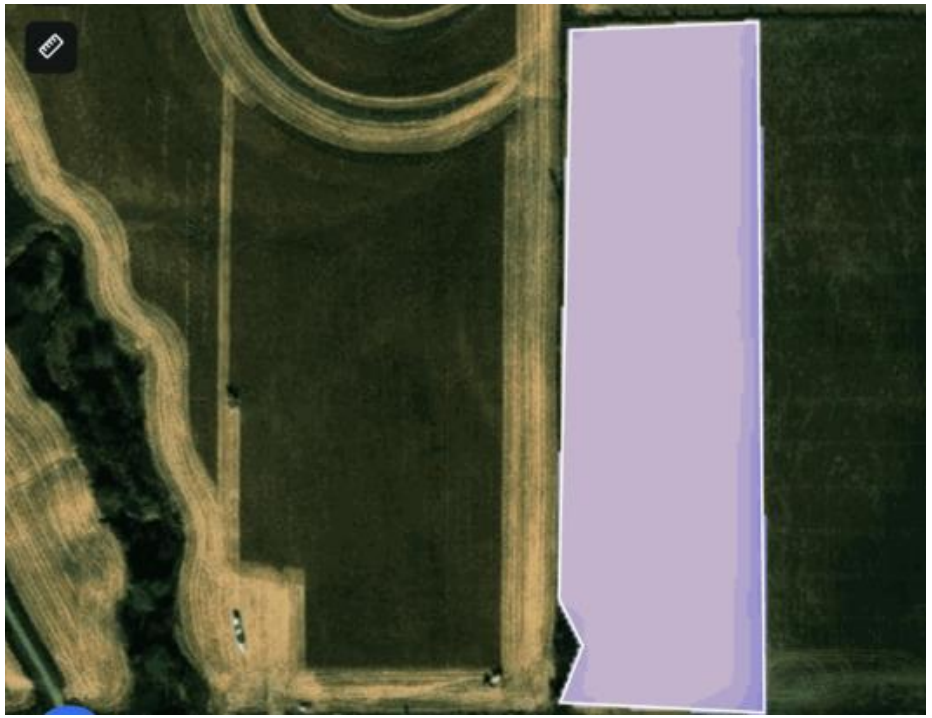
Launching soon:

- 2022
  - Andhra Pradesh
  - Gujarat
  - Tamil Nadu
  - Kerala
  - Maharashtra
  - Lakshadweep
  - Karnataka
- 2023
  - Rest of India

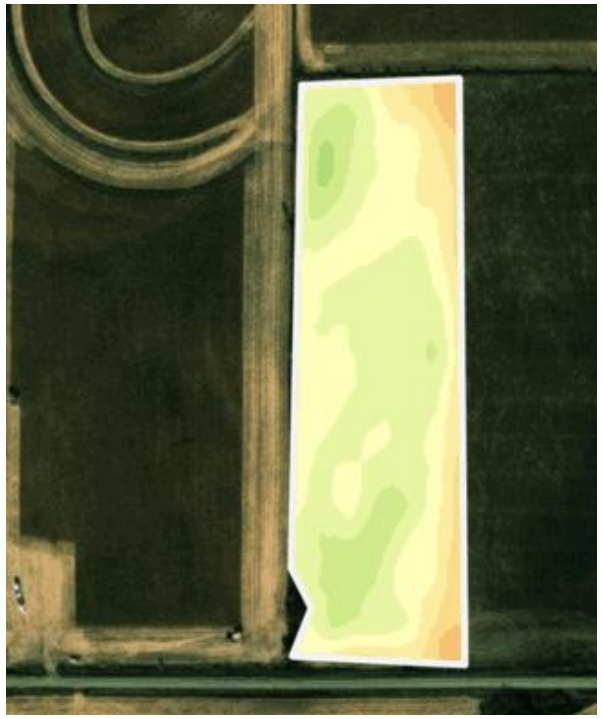


Water Requirement Analysis

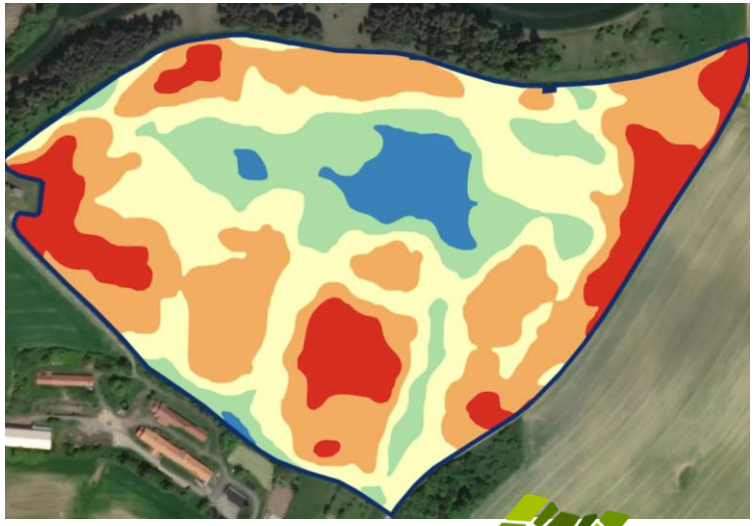
Being able to access historical data, farmers can evaluate the water-storing capacity of their soil. This maps also shows which areas needs water over the period of time.



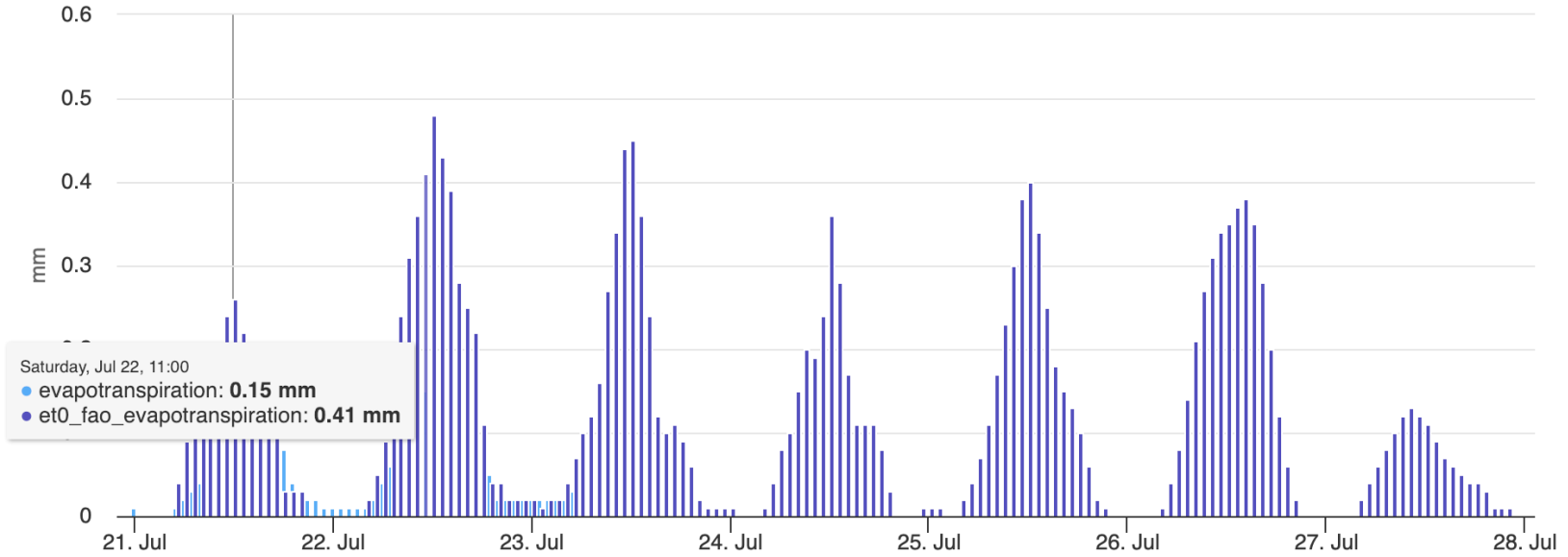
Indicator analyzes the photosynthetic activity of a vegetation cover to estimate nitrogen concentrations in plant leaves. The lack of nitrogen as an essential nutrient for plant functioning points to stress and problems with its development.



Blue – No Water needed
Red – More Water Needed
Orange – Average
Light Yellow – Low Water requirement

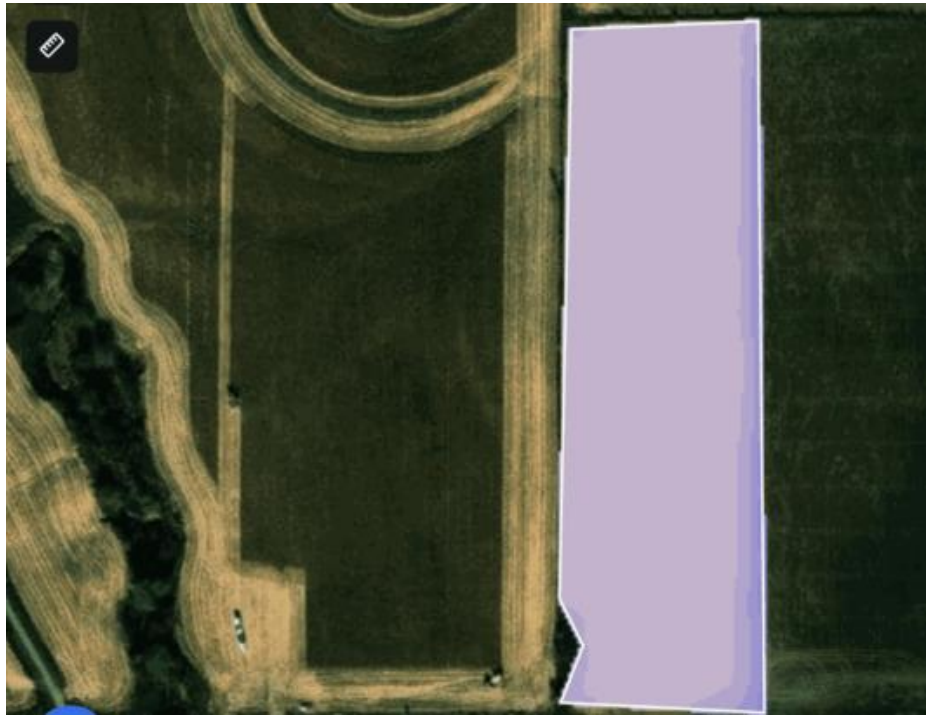


ET & ETo Modeling on FAO 56



Data Points	Values	Description
evapotranspiration	mm (inch)	Evapotranspration from land surface and plants that weather models assumes for this location. Available soil water is considered. 1 mm evapotranspiration per hour equals 1 liter of water per spare meter.
et0_fao_evapotranspiration	mm (inch)	ET_0 Reference Evapotranspiration of a well watered grass field. Based on FAO-56 Penman-Monteith equations ET_0 is calculated from temperature, wind speed, humidity and solar radiation. Unlimited soil water is assumed. ET_0 is commonly used to estimate the required irrigation for plants.

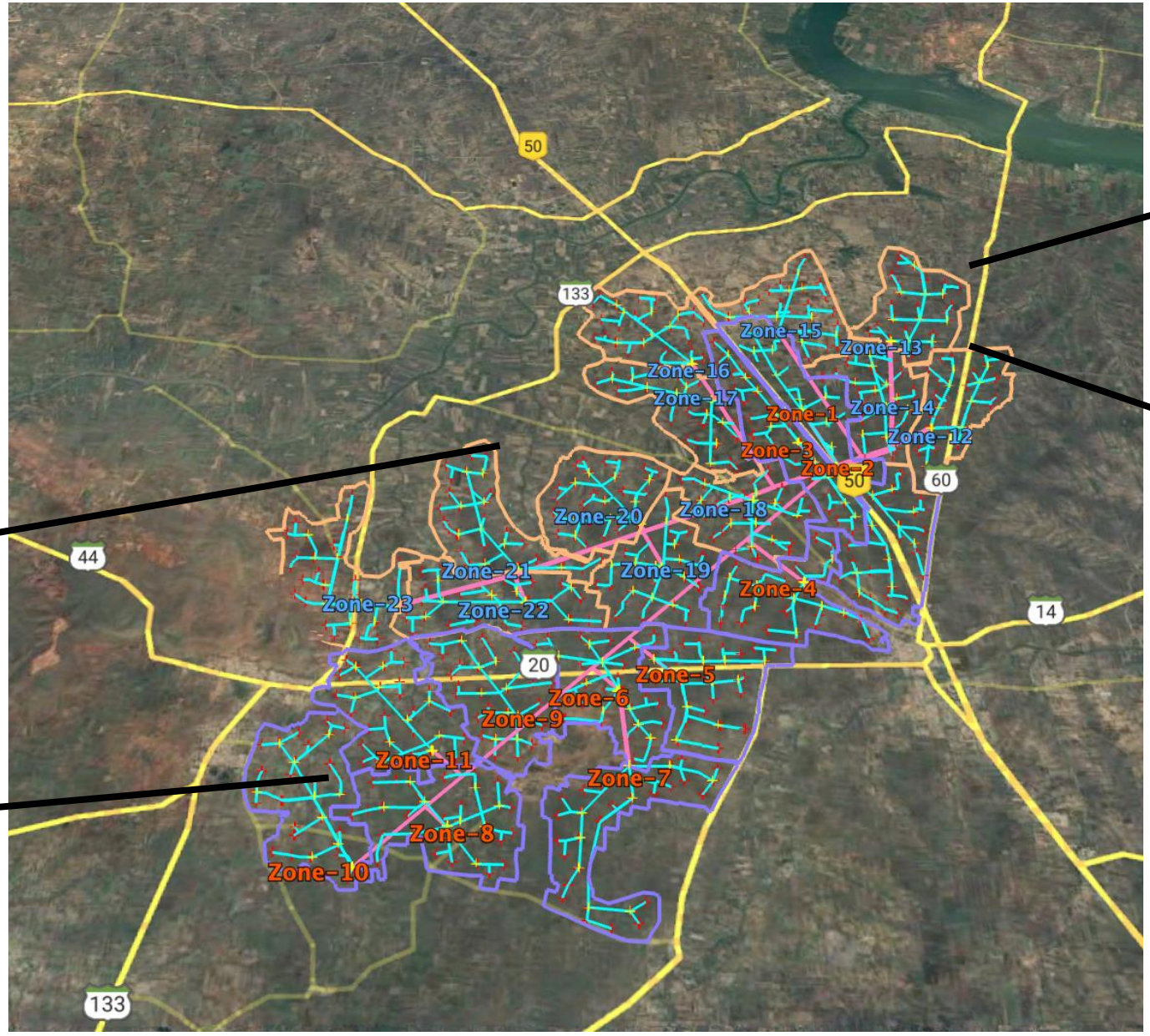
Plot Level Control for Water



Week	Planned	Recommended	Actual
10	16.4	19.3	0
11	13.3	15.1	0
12	26.5	20.7	0
13	32.1	21.4	0
14	28.1	24.6	0
15	44.1	32.9	0
16	32.4	28.3	0

- Save Water, Energy & Fertilizer
- Monitor Crop Development
- Learn & Improve by AI ML Models
- No Hardware

Zone Wise Water Requirement



ZONE 13:
1250 Liters

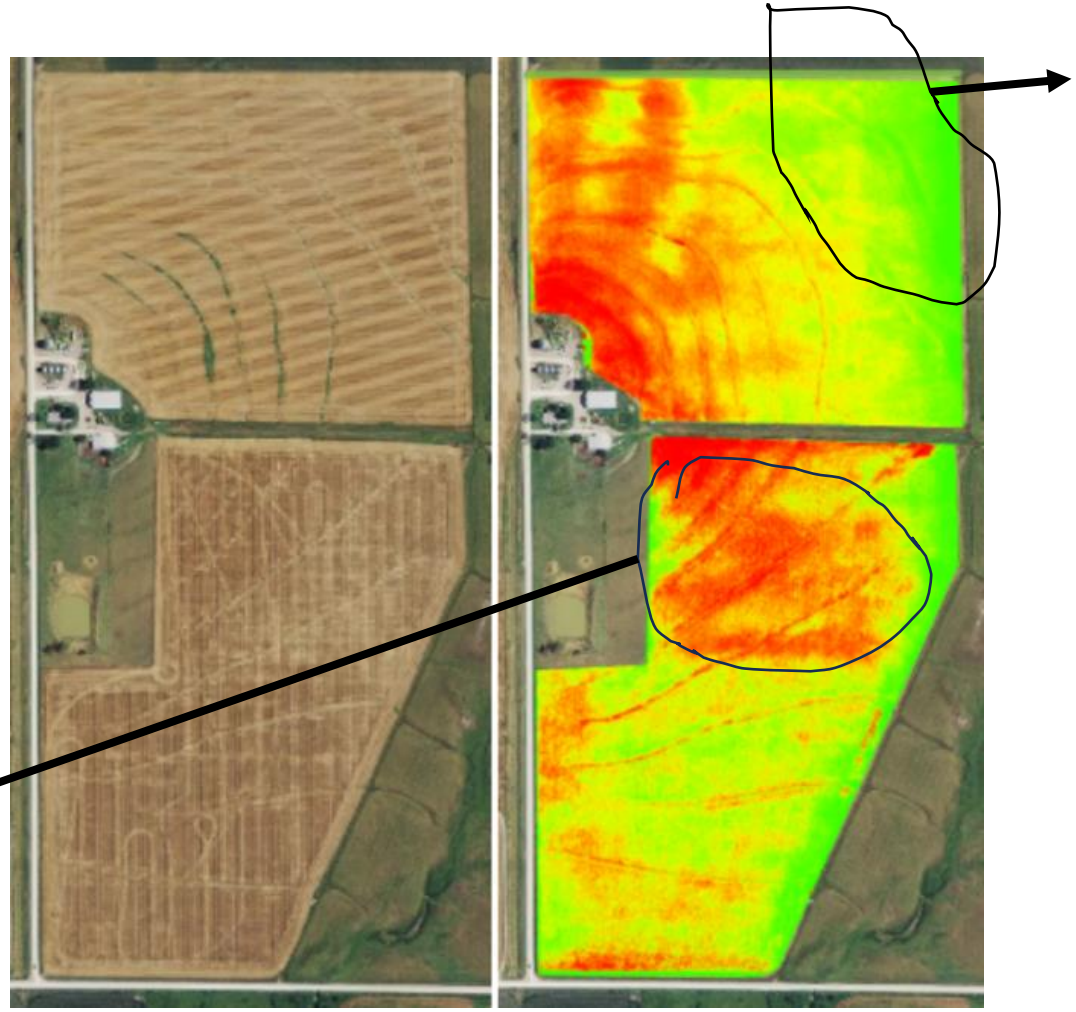
ZONE 14:
6250 Liters

ZONE 20:
15250 Liters

ZONE 11:
9250 Liters

Water Use Efficiency

Compare ET used by Plant with the actual water supplied to the Plot to get Efficiency



Auto Detected Excess irrigation

Potential Problem
- Water Leakage
- Using Ground Water
- Weeds Spots
- Topography/ Drainage

Auto Detected Low Irrigation

Potential Problems
- Irrigation
- Disease
- Soil Variability
- Fertilizer Application Issue

IIT Roorkee Farm Plot Analysis

Wheat Crop 0.2 ha Plot Area =1925 m^2						
Irrigation Method sprinkler irrigation		**1st**	**2nd**	**3rd**	**4th**	**5th**	**6th**
Date		**17/02/2022**	**26/02/2022**	**06/03/2022**	**13/03/2022**	**20/03/2022**	**31/03/2022**
1.	Day after sowing	57	66	74	81	88	99
1.	Irrigation source	Canal	Canal	Canal	Canal	Canal	Canal
1.	Effective rainfall	132.58	0	0	0	0	0
1.	Irrigation Applied (m^3)	67.4	61.6	61.6	67.4	69.3	67.4
1.	ET computation by AI/ML						
1.	Field Application Efficiency (%) (5/4)						

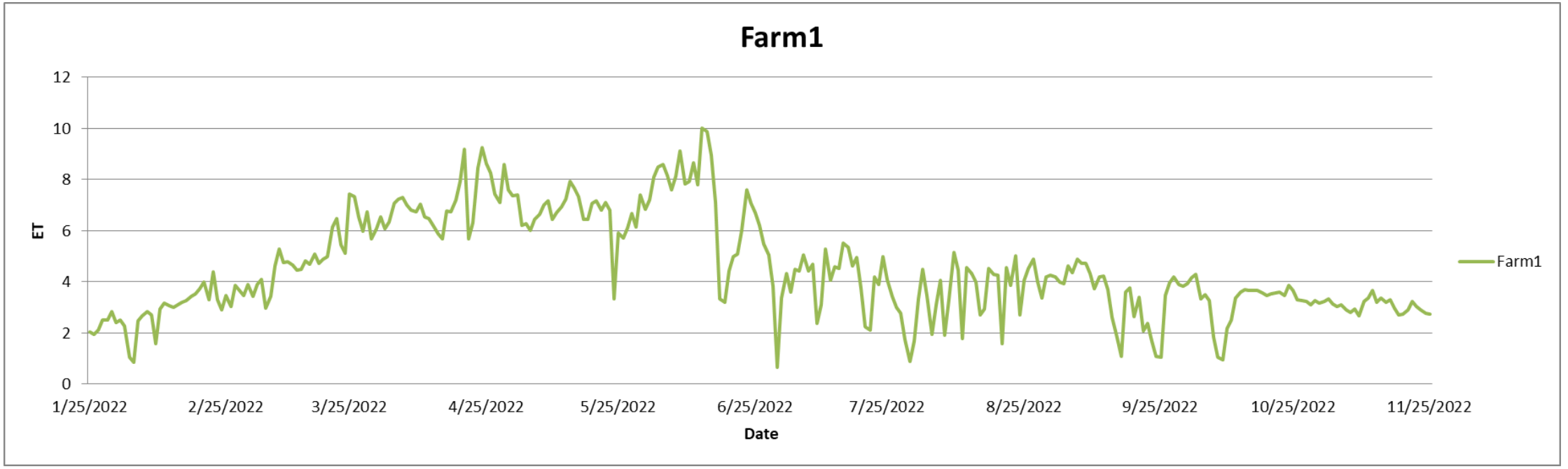
Wheat crop 0.15 ha Plot Area =1540 m^2				
Irrigation Method Flood irrigation		**1st**	**2nd**	**3rd**
Date		25/02/2022	11/03/2022	28/03/2022
1.	Day after sowing	65	79	96
1.	Irrigation source	Canal	Canal	Canal
1.	Effective rainfall	134.32	0.00	0.00
1.	Deep percolation loss (mm)	43.00	52.51	55.34
1.	Flow rate (l/s) diverted from source	29.00	25.00	23.00
1.	Flow rate delivered to the field	27.55	24.00	22.08
1.	Duration of irrigation (min)	70	100	135
1.	Irrigation supplied (m^3)	115.71	144.00	178.85
1.	ET Computation by AI/ML			
1.	Field Application Efficiency (%) (9/10)			

S. No.	Parameters	Sprinkler Irrigation	Flood Irrigation
1	Area (m^2)	1925	1540
2	Yield (quintal/hectare) as per satellite data		
3	Total Crop ET (mm) as per satellite Data		
4	Effective rainfall (mm)	134.32	134.32
5	Total Irrigation Applied (mm)	205	285
7	Field water use efficiency %		
8	Water productivity (kg/m^3)		

IIT Roorkee Farm Plot Analysis

Farm 1 : January 25, 2022, to November 25, 2022

No	Crop Growth Stages	Cumulative ET	Crop Coeffeicient (Kc)	Drop Irrigation Efficiency	Water Use(Acre Inch)	Replacement %	Acre Inch	Water Use (Gallons)	Liters
1	Initial Stage	21.58	0.4	0.9	9.591111111	85	12	221355.1716	837920.5227
2	Tillering	47.2115	0.8	0.9	41.96577778	85	22	968536.5785	3666309.987
3	Grand Growth	102.1873	1.1	0.9	124.8955889	85	40	2882490.275	10911413.28
4	Matuirty Growth	27.9237	0.7	0.9	21.71843333	85	26	501244.0666	1897415.305
		198.90							



Findings : The Percentage difference with respect to actual ground data & ET Model is around 9 %

WATER USE CREDIT ASSESTMENT

Farm Credit Risk Assessment, Crop output and water use

Other Additional Outputs

MAP COVERAGE

Germination/Leaf Development Maps
Seeding Stage Maps

Soil Organic Carbon
Know the Soil Carbon Content

CROP STRESS MAPS
Get the crop STRESS for your Farm

Water Stress Maps
Crop Type wise Maps (Orchard/Veg's)

Plough Status Detection
Know status like Barren/Plowed

Plant Vigor Maps
Get the crop vigor for your Farm

Chlorophyll Maps
Crop Type wise Maps (Orchard/Veg's)

Standard Maps
NDVI, EVI, EVI2

Leaf Area Maps
Know the Leaf Density of your Crop

Fertilizer Maps (VRA)
Put right qty. of fertilizer in diff. zones

Land Mapping
Know your DEM, Slope , Aspect

Anthocyanins Stress Maps
Know the Anthocyanins levels

Soil Moisture Maps
Help the Moisture Stress in Farm

Nitrogen Stress Map
Find which area needs nitrogen

Vegetation Zone Maps
Know your crop Vegetation Zones

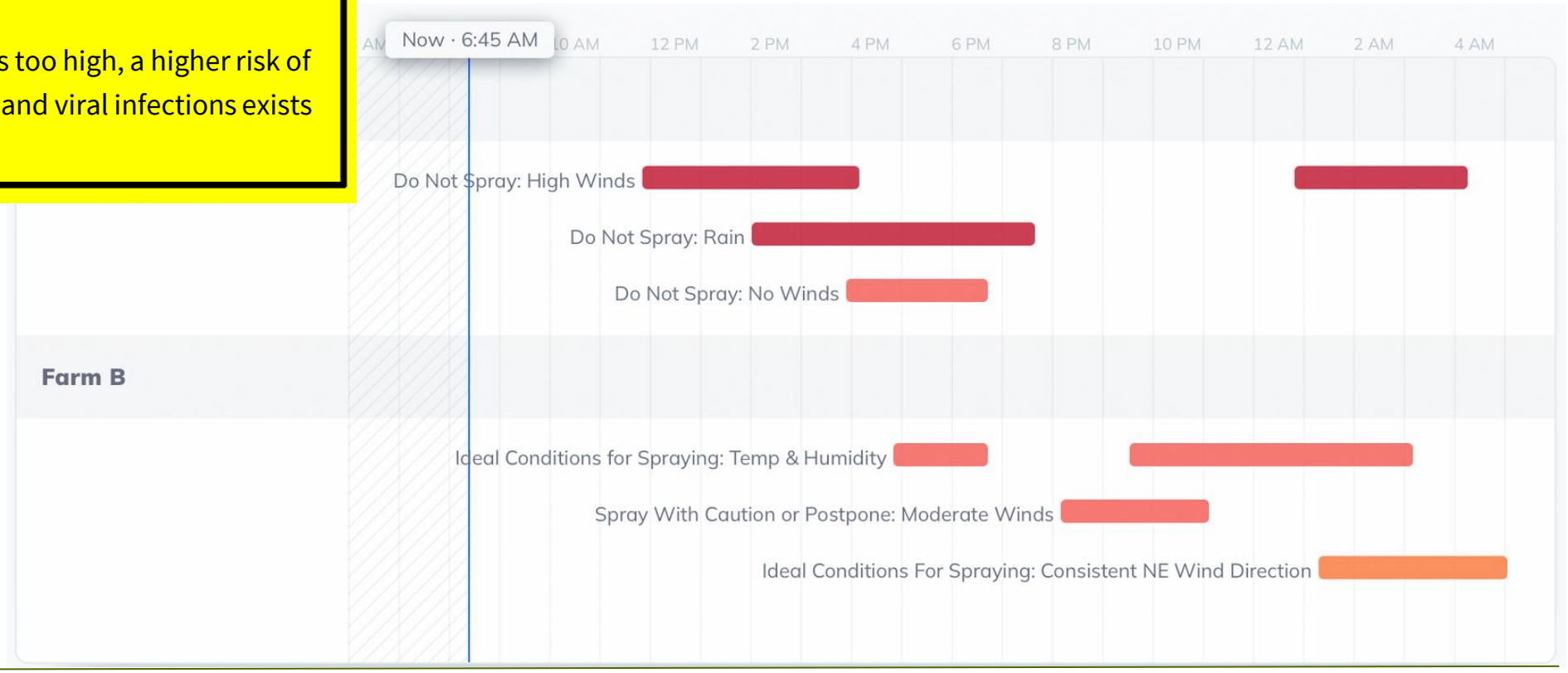
REAL TIME ADVISORY

AUTOMATED | REAL TIME | AI
FOR
SPRAYING | HARVESTING | IRRIGATION | OPERATIONS | PLANTING

WARNING

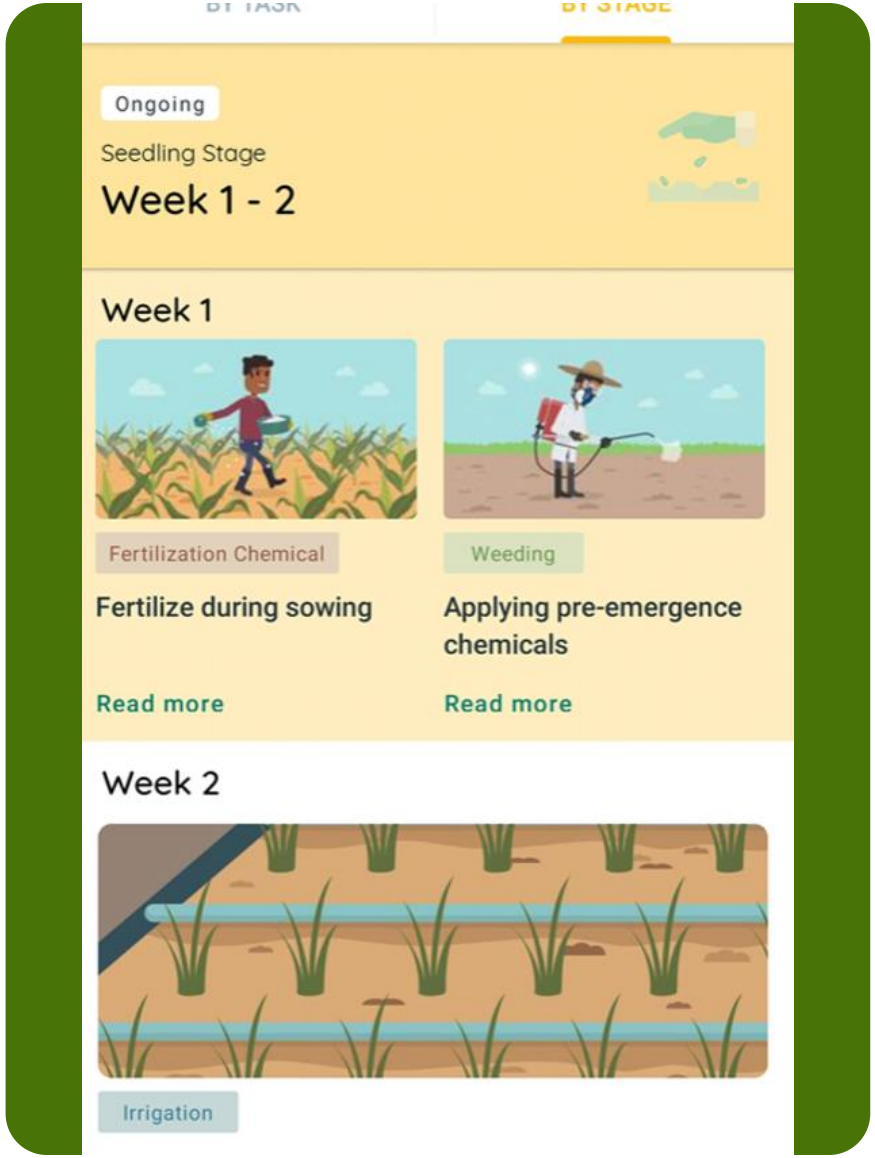
Do Not Irrigate For 4 Hours: High Humidity

When humidity is too high, a higher risk of fungal, bacterial and viral infections exists



PERSONALISED CROP CALENDER

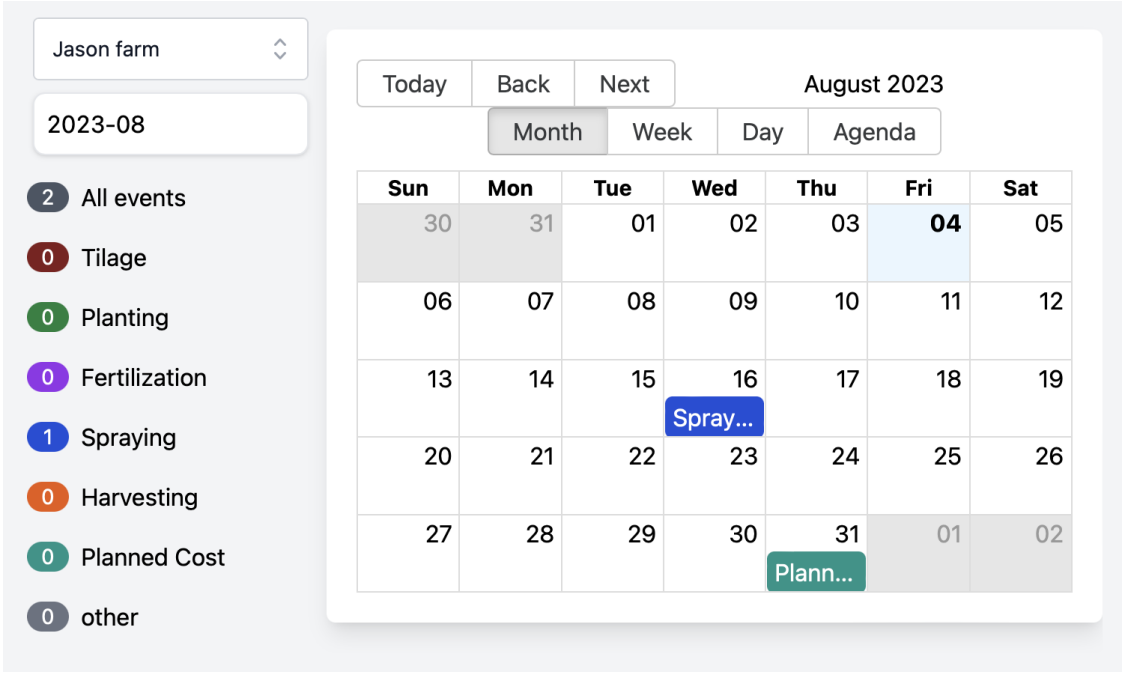
- Starts 3 week before Seeding.
- Custom Build Planner
- All Activity with Dates
- Personalised Call with Agro Expert
- Detailed guides with All Steps



FARM DIARY

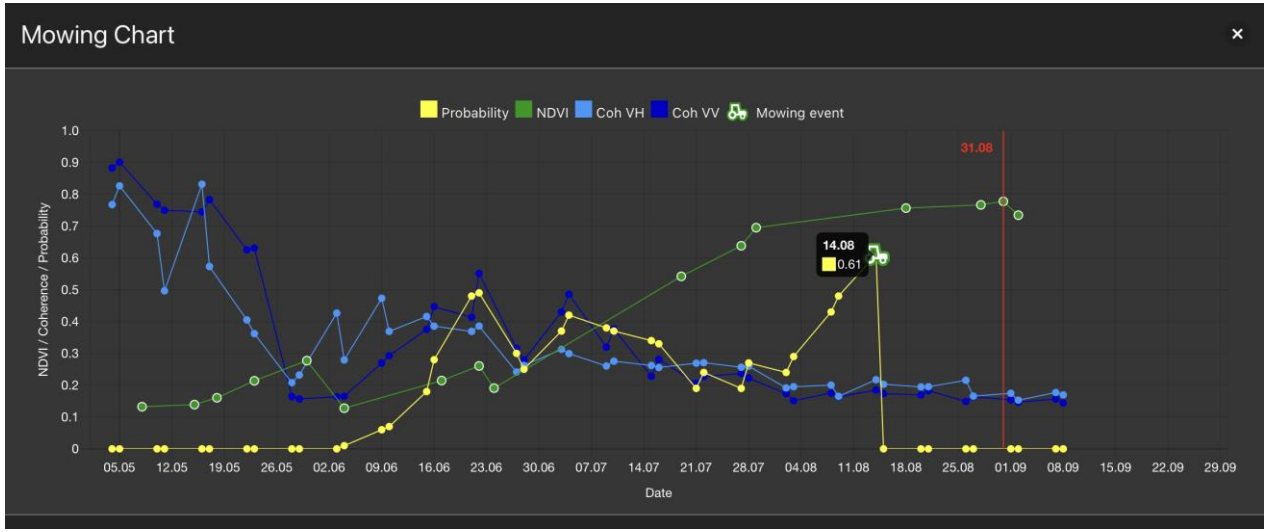
Find it extremely hard to keep track of all your field activities throughout the season?

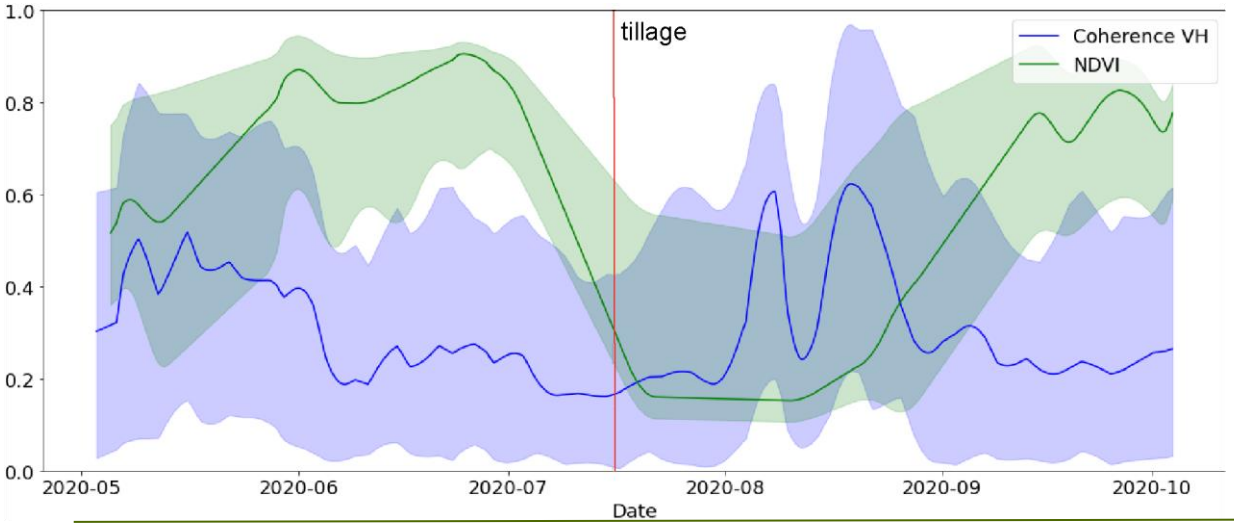
- Easy-to-handle activity organizer and planner
- Notifications about deviations from schedule (coming soon)
- Notifications about equipment failure (coming soon)
- Automated activity cost estimation
- Analysis of costs, deviations from schedule, and more
- Machinery and equipment allocation



FARM ACTIVITY DETECTIONS

Detect different crops events over a period of Time.

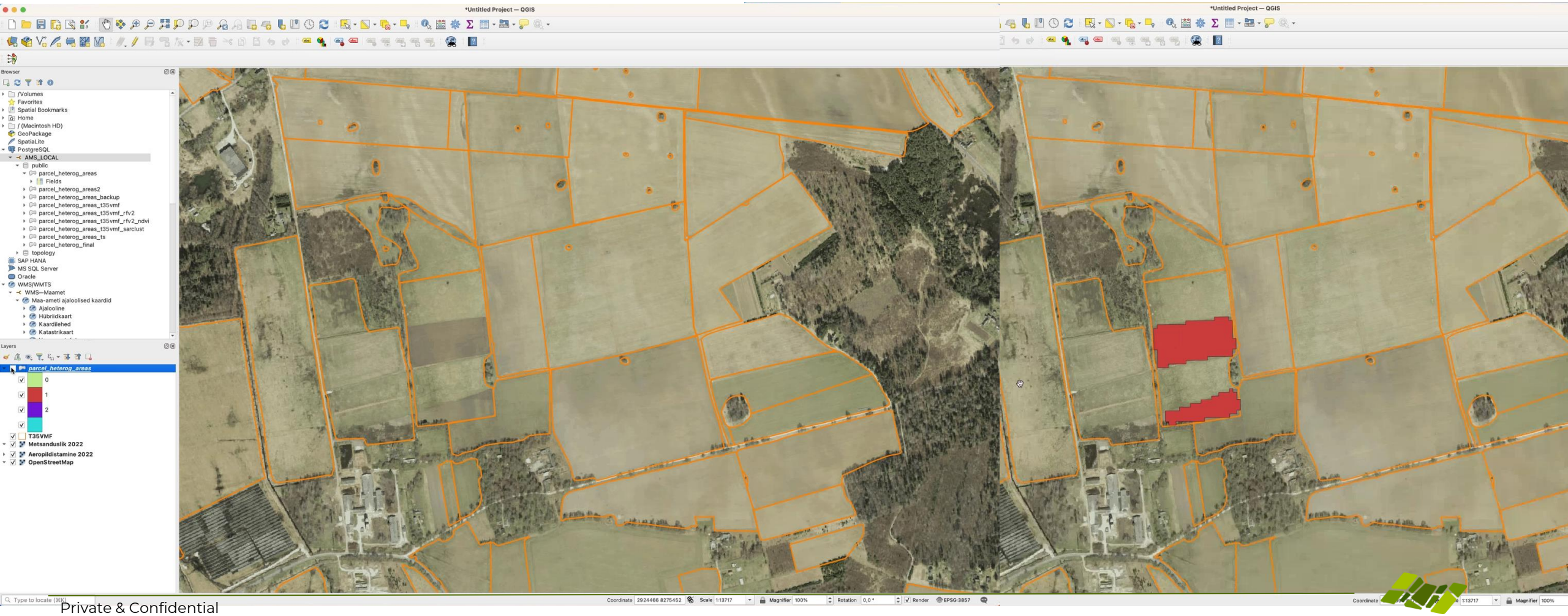




- Crop Growth Stages Dates
- Tillage Dates
- Moving Dates
- Harvest Dates

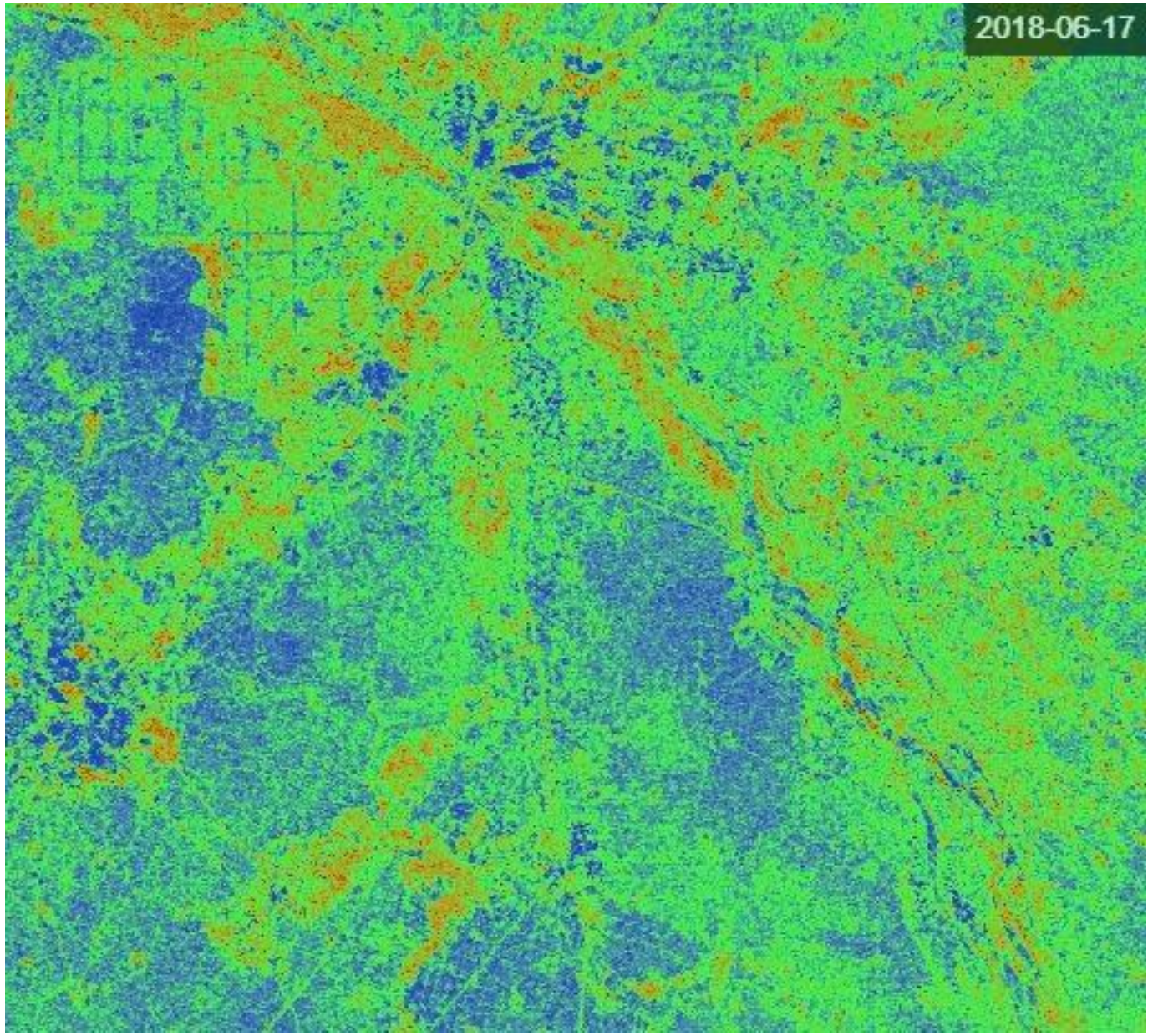
Heterogenity/ Homogeneity

Heterogenity/homogeneity detects fields that have several crops growing or parts of the field that have not been planted at all, but have been declared as single crop fields.



AREA GROWTH MONITORING

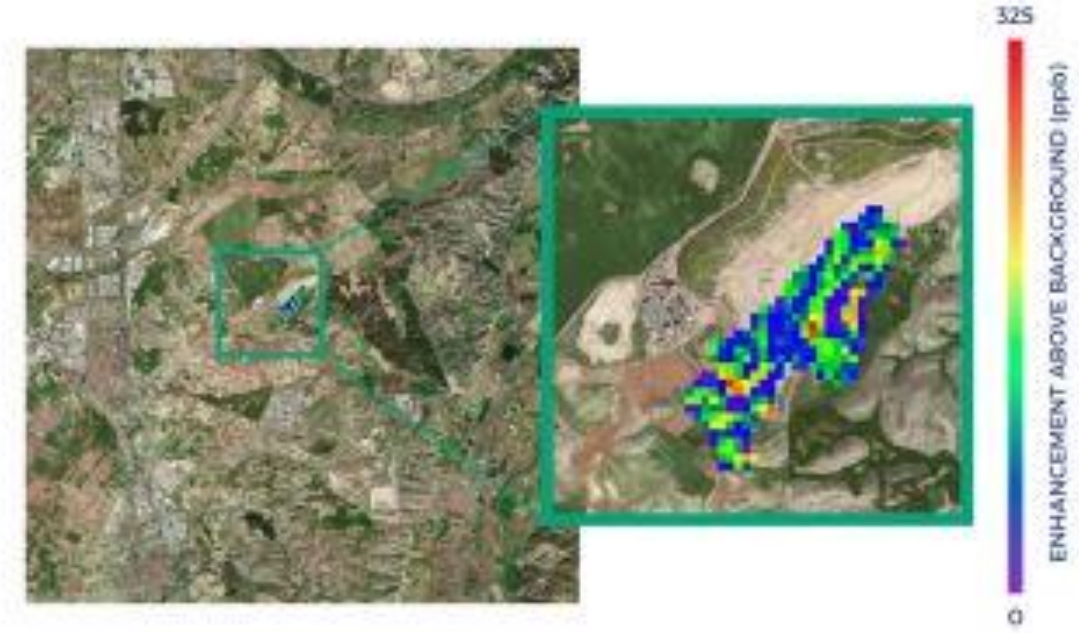
- Seeding to Harvest Monitoring
- Location :Andhra Pradesh
- Crop : Rice



-no change/low values (mainly water)
-growing
-maturing
-mature
-harvested/cut
-no change/high values (mainly forrest)

CONCENTRATIONS MONITORING

- Climate Change Mitigation
- Verification of Emission Reduction Efforts:
- Other Gasses:
  - Nitrogen Dioxide tropospheric column
  - Carbon monoxide – CO
  - Methane - NH4
  - Sulphur Dioxide - SO2
  - Ozone - O3
  - Formaldehyde – HCHO
  - Nitrogen Dioxide - NO2

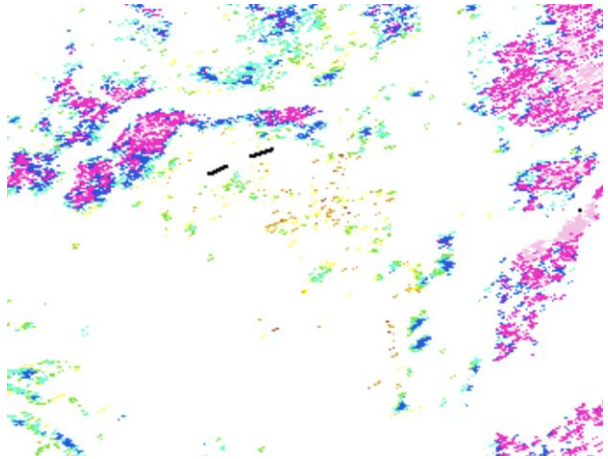


FARM MEHTANE EMISSION MONITORING

Methane Monitoring

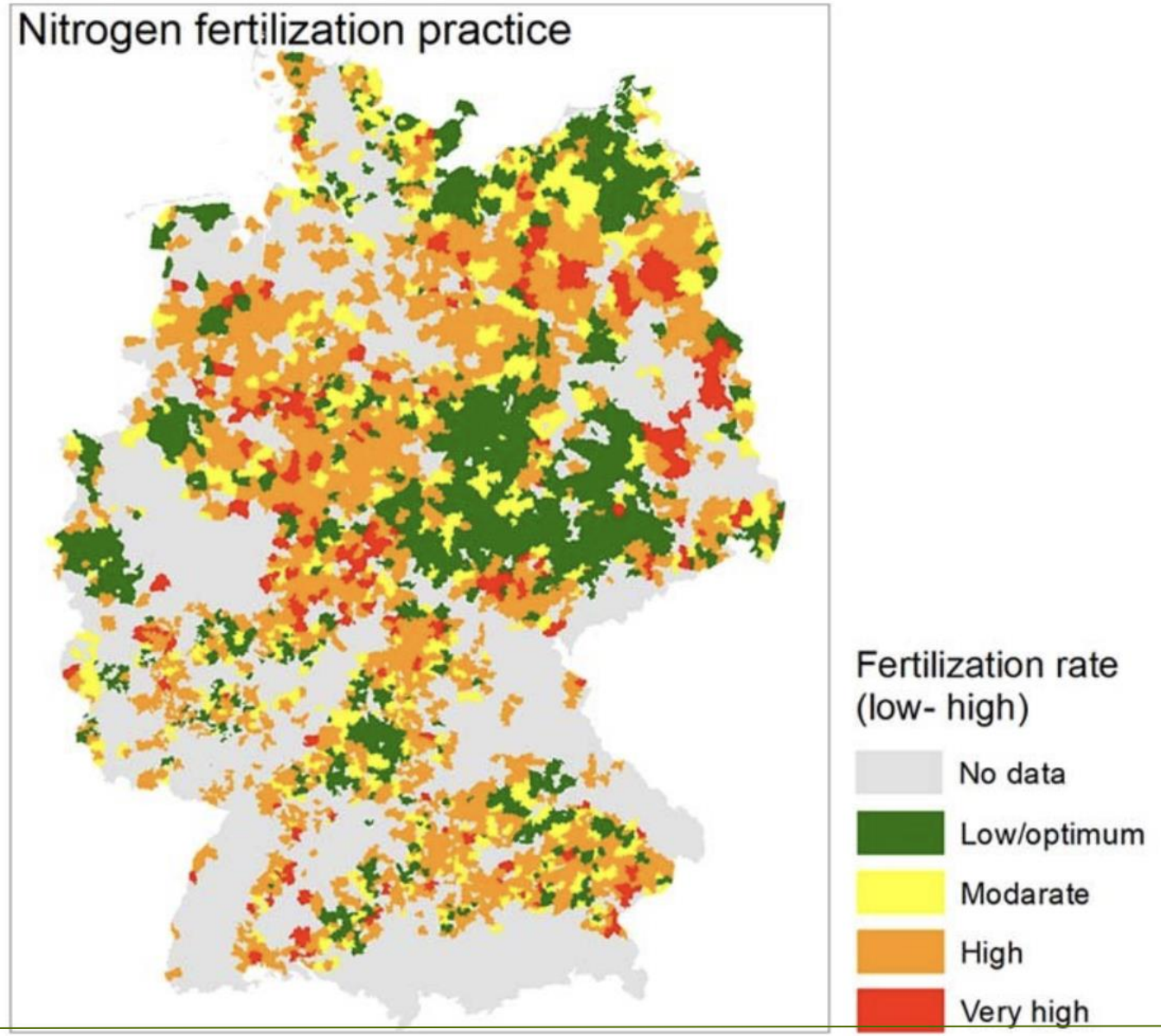
- Temperature
- ET Data
- Crop Type Detection
- Soil Moisture & Data
- Growth Stage
- Precipitation & Weather Data
- Remote Sensing

Methane Estimation Model

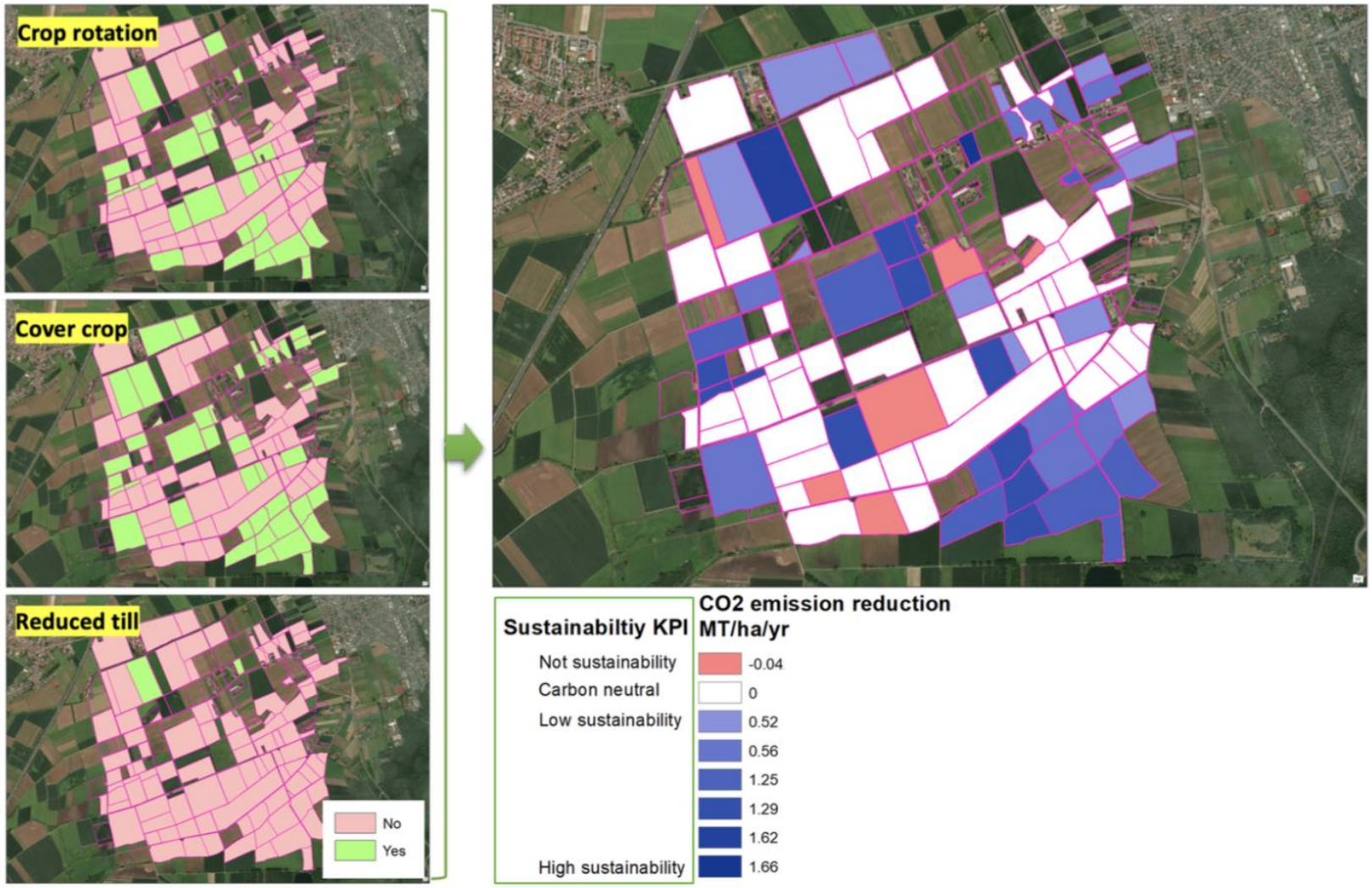


Estimation on CH4 Per Ton/Sq km or Farm

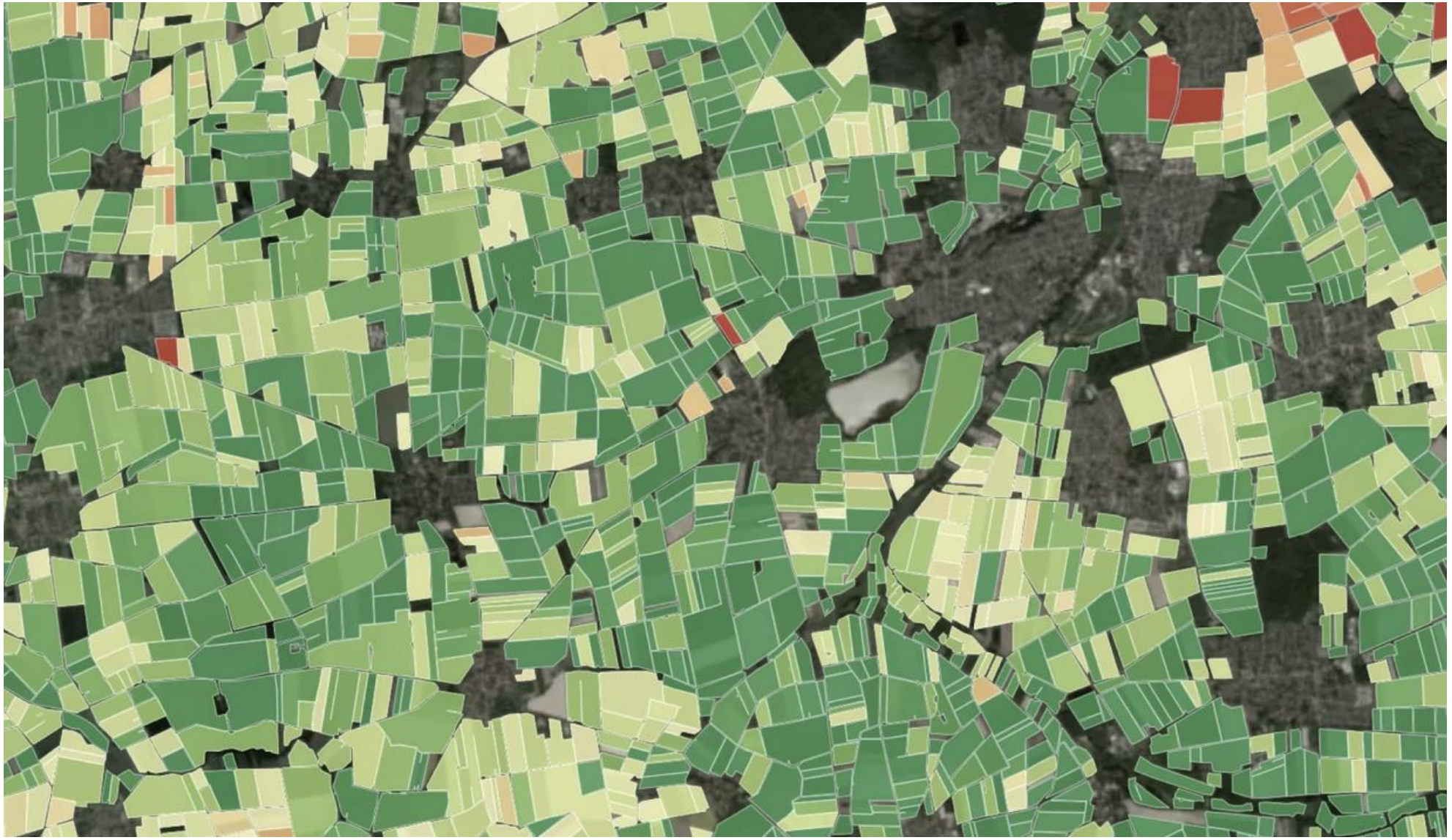
NITORGEN FERTILIZATION PRATICE



SUSTAINABLE PRATICE MONITORING



FARM SUSTAINABLITY MAPS



VALUE CREATION THROUGHOUT SEASON

Mid - Season

Plant Status Tracking
Crop Status (Growing)
Spore, Dust, Pollen Counts
Health & Other Maps

Late - Season

Weed Detection
Leaf Area Indexing
Disease Detection
Health & Other Maps

Pre - Harvest

Biomass & Yield Estimation
Crop Discrimination
Health & Other Maps

REPORTS & APPLICATION AREAS

FIELD CROPS

VINEYARDS

VEGETABLES

FRUITS & ORCHARDS

USE CASES

- Plant Counting & Inventory
- Sowing Quality & Estimation
- Yield Estimation
- Growing Stage Estimation
- Nutrients Variable Application
- Spraying & Irrigation Map
- Damage Assessment Map

Thanks

Hardcastle Agrotech Solutions Pvt Ltd

info@mapmycrop.com
+91-96650 50993| +1-917-310 0861
New York | London |Pune