



# DYNA CROP SPACE

# We are satellite data experts



## YOUR AGILE PARTNER FOR COOPERATION

- Company founded in 2017, headcount: 12, funding: bootstrapped
- Based in #brnregion, Czech Republic
- Unlocking satellite data for agriculture and food value chain
- Projects with the European space agency, consulting to EUSPA
- Ongoing agricultural research with universities and farmers



**WORLD FROM SPACE**



**esa**



**CZECHINVEST**

# Satellites

## WE USE

DynaCrop is based on open data from the EU's Copernicus:

- Sentinel 1 (A+B): Radar satellite used for cloudfree vegetation monitoring and soil moisture. Spatial resolution of down to 5 m and a swath of up to 400 km., available every 2-3 days in Europe
- Sentinel 2 (A+B): Used for vegetation and water-related monitoring. The spatial resolution of SENTINEL-2 is dependent on the particular spectral band, 10m resolution most often used bands, available every 3-5 days in Europe, but affected by clouds.

We are currently gathering user requirements and testing clients for the Planet satellite data integration.



**Copernicus**  
Europe's eyes on Earth



# Digital agriculture is about integration

## WE PROVIDE SATELLITE PUZZLE PIECE

Drones, satellites, and IoT sensors are not rivals. They are part of the trend of digitalization of agriculture and their combination multiplies the benefits for end-users.

Start using satellite monitoring to unlock up-to-date information for data-driven decisions.



**15%**

USING  
SATELLITE  
MONITORING

**85%**

NOT USING  
SATELLITE  
MONITORING

**2021**

**85%**

USING  
SATELLITE  
MONITORING

**15%**

NOT USING  
SATELLITE  
MONITORING

**2025**

An aerial photograph of a combine harvester working in a lush green field. The harvester is moving from the top left towards the bottom right, leaving a trail of harvested grain. The field is divided into sections by narrow paths. A dark blue rectangular overlay covers the bottom portion of the image, containing white text.

**NEW REVENUE STREAMS**

**15-40%  
decrease  
in inputs**

**DUE TO VARIABLE APPLICATIONS**

# 5-15% increase in yields

DUE TO RESOURCE AND ACTIVITIES  
OPTIMIZATION





# Functions of Dynacrop

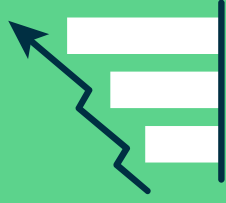
## CROP MONITORING

Current and historical state of fields in 10m resolution.



## FIELD STATISTICS

Timeseries graphs and analysis of fields development, productivity zones, and their areas.



## APPLICATION MAPS

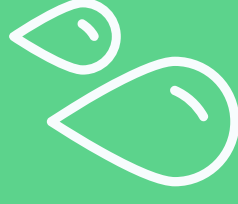
Fertilizing, seeding, soil sampling and other application maps. Based on the current state of the field, yield potential and productivity zones, or **any combination**.

Outputs are ready to be used by machinery.



## SOIL MOISTURE

Advanced analysis of the current state, trends, and spatial variability in soil moisture.



# Products



**DYNA  
CROP  
SPACE**

- **NDVI** - Normalized Difference Vegetation Index
- **EVI** - Enhanced vegetation Index
- **SMI** - Soil Moisture Index
- **NDWI** - Normalized Difference Water Index
- **MNDWI** - Modified Normalized Difference Water Index
- **NDMI** - Normalized Difference Moisture Index
- **LAI** - Leaf Area Index
- **FAPAR** - Fraction of Photosynthetically Active Radiation
- **CCC** - Canopy Chlorophyll Content
- **CWC** - Canopy Water Content
- **MSAVI2** - Modified Soil-adjusted Vegetation Index
- **NDRE** - Normalized Difference Red Edge Index (B05, B08)
- **NDREX** - Normalized Difference Red Edge Index (B04, B09)
- **IRECI** - Inverted Red-Edge Chlorophyll Index
- **NMDI** - Normalized Multi-band Drought Index
- **WIW** - Water In Wetlands
- **SOC\_VIS** - Soil Organic Carbon (visible spectra)
- **SOC\_SWIR** - Soil Organic Carbon (near-infrared and shortwave-infrared spectra)

# Distribution channels

- API: REST API, OpenAPI standard, Swagger, Redoc, examples, Leaflet integration, SDKs
- Constant monitoring of service delivery, server security and email support
- QGIS plugin: available in QGIS plugins repository
- Online interface for system administration with sub users allowed
- 20 million transactions per month, up to a 500 queries per minute
- Secure access realized through token authentication
- OGC standard WMS / WCS / WMTS / WFS
- Configuration tools available for commercial use (CC 4.0 )

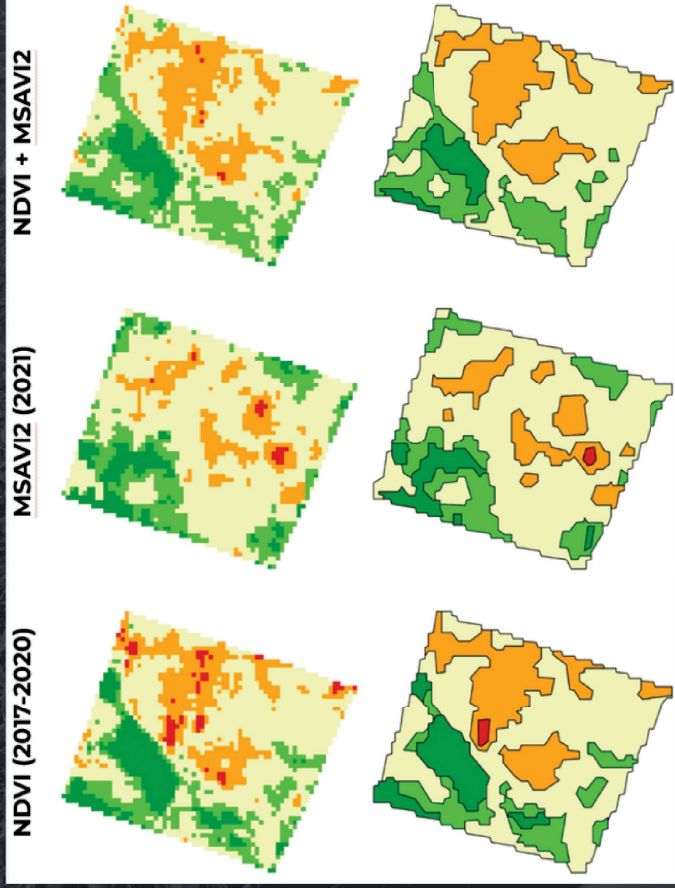
# Inputs

- Field polygons (simple or with inner rings)
  - WKT, Shapefile, GeoJSON

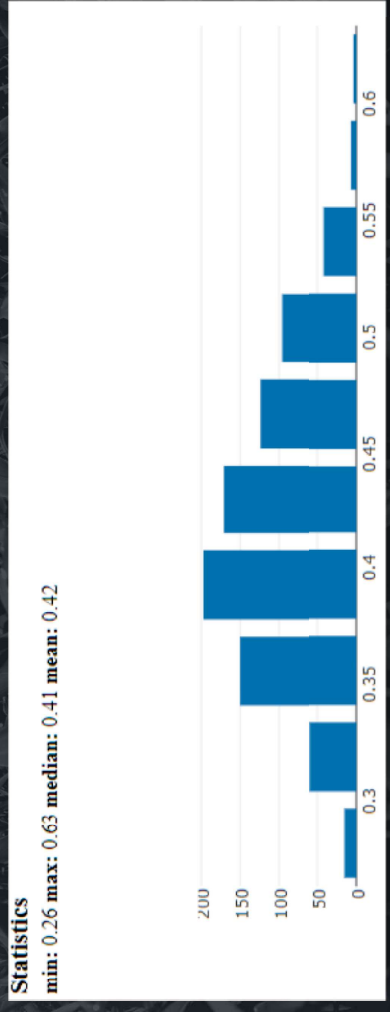
# Outputs

- 10m resolution, maps, histogram, statistics, metadata
- Asynchronous processing, automatic / custom cloud filtering, custom color palettes
- GeoTIFF, Colored GeoTIFF, PNG, Map tiles for download, Map tiles for web app integration, Shapefile, GeoJSON, simplified versions for direct use in on-board software

# • Observation, zonation, zonation mixer

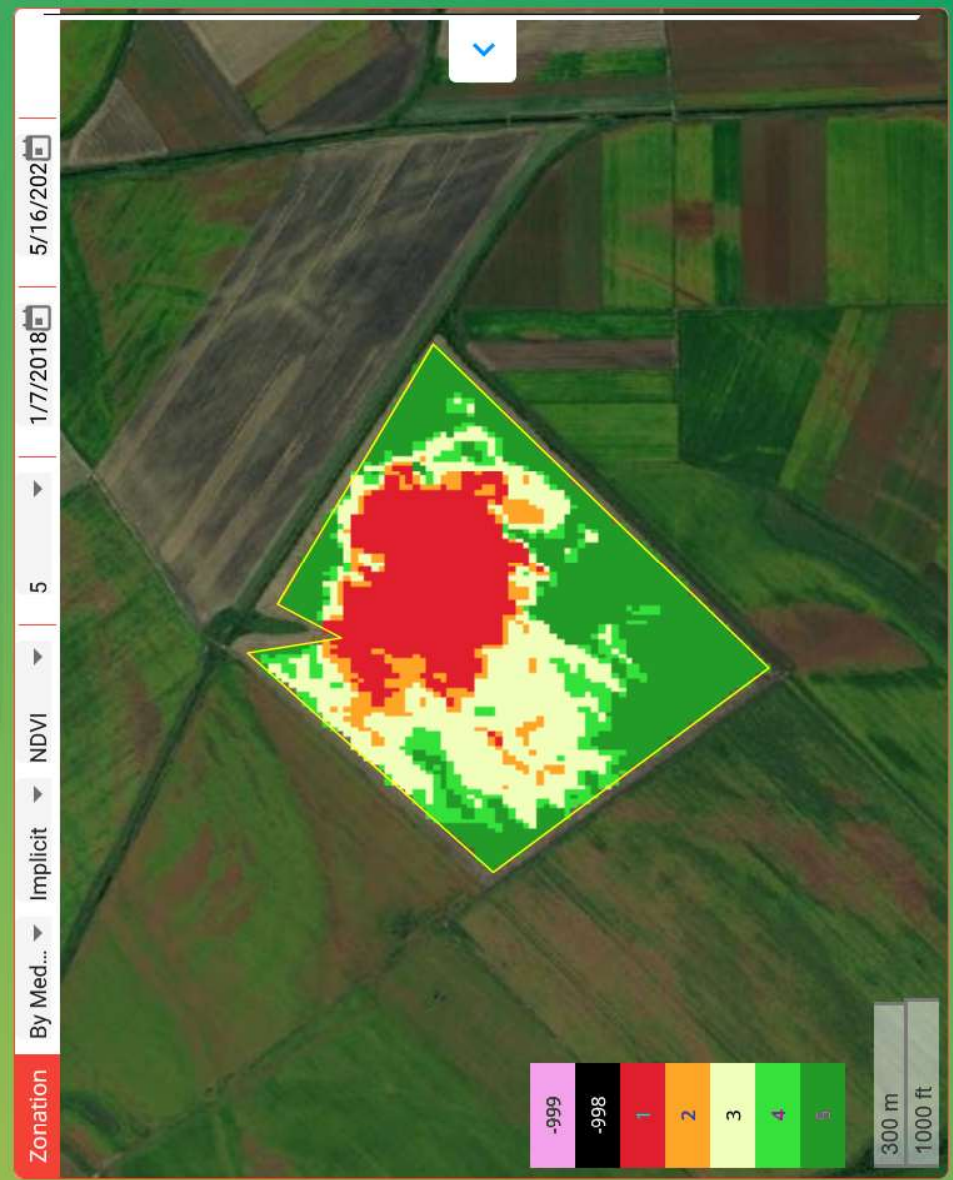
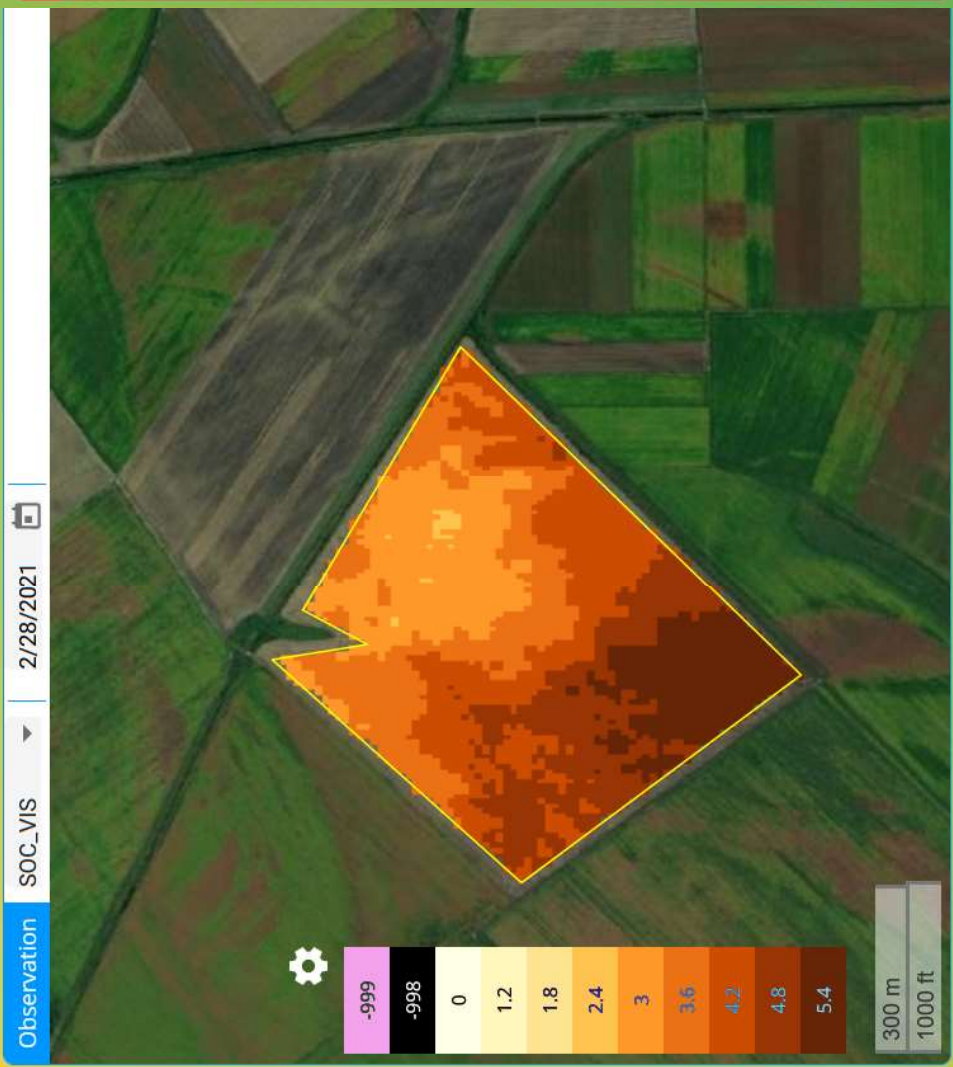


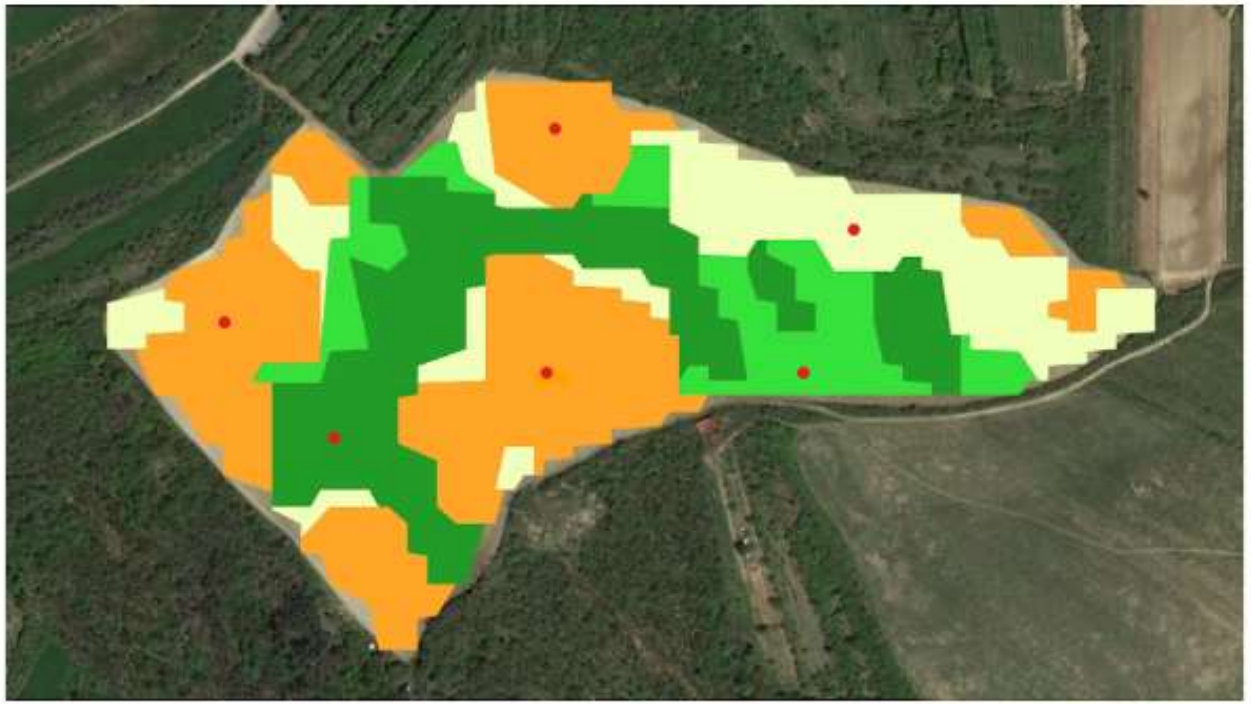
# • Statistics and histogram

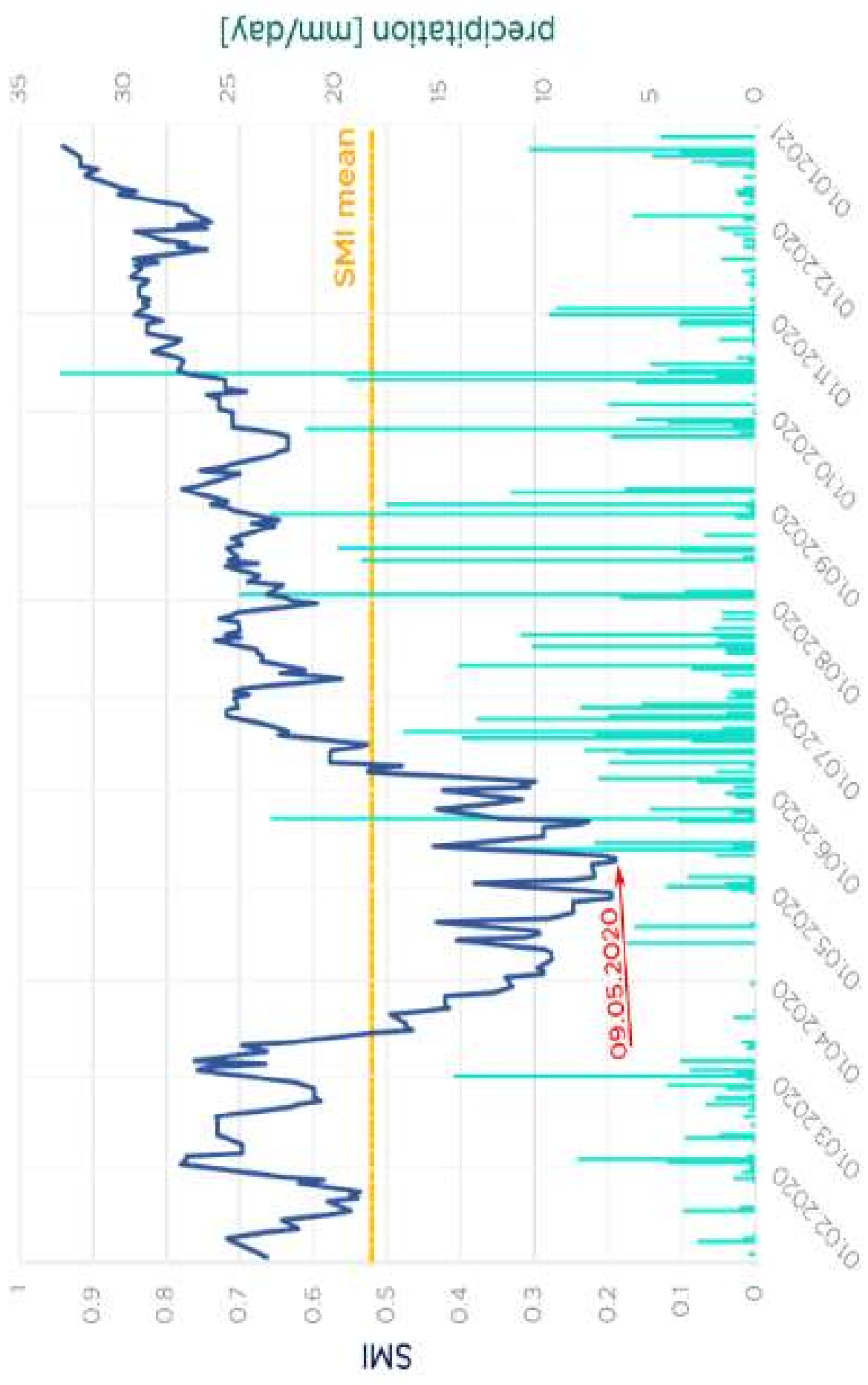


# • Time series





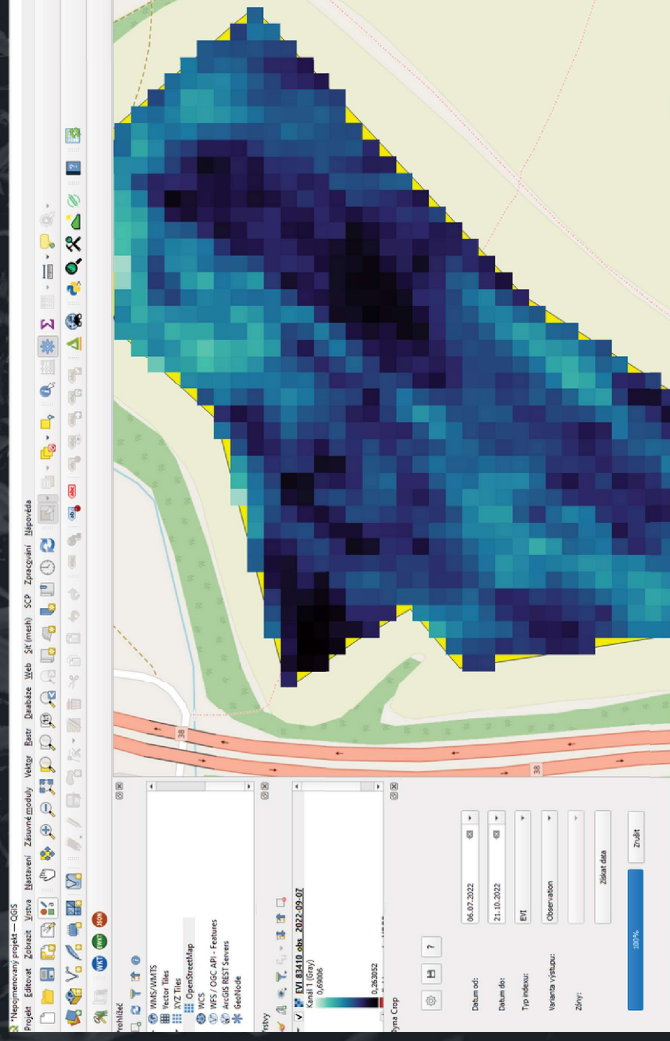
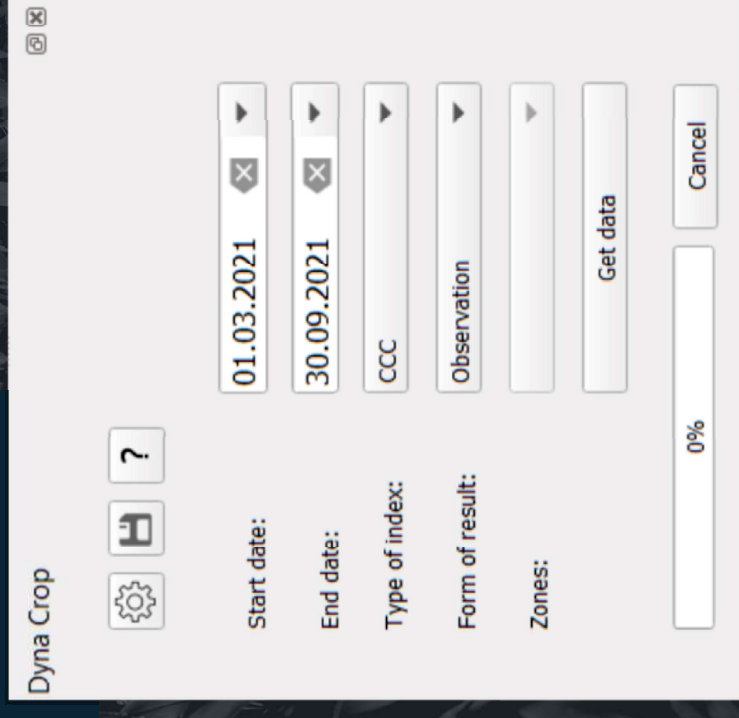






# QGIS PLUGIN

- *Alternative access to Dynacrop - no coding required*
- *Company name and logo as plugin symbol*



# Links to our documentation

GENERAL INFORMATION AND DETAILED DESCRIPTION OF ALL PRODUCTS AND THEIR RECOMMENDED USE  
[DYNAMACROP.WORLDFROMSPACE.CZ/DOCS/#/](https://dynamacrop.worldfromspace.cz/docs/#/)

SWAGGER API DOCUMENTATION  
[API-DYNAMACROP.WORLDFROMSPACE.CZ/SWAGGER/](https://api-dynamacrop.worldfromspace.cz/swagger/)

REDOC API DOCUMENTATION  
[API-DYNAMACROP.WORLDFROMSPACE.CZ/REDOC/](https://api-dynamacrop.worldfromspace.cz/redoc/)



## CLOUDFREE MONITORING

Weather independent LAI- based vegetation monitoring available every 2-3 days

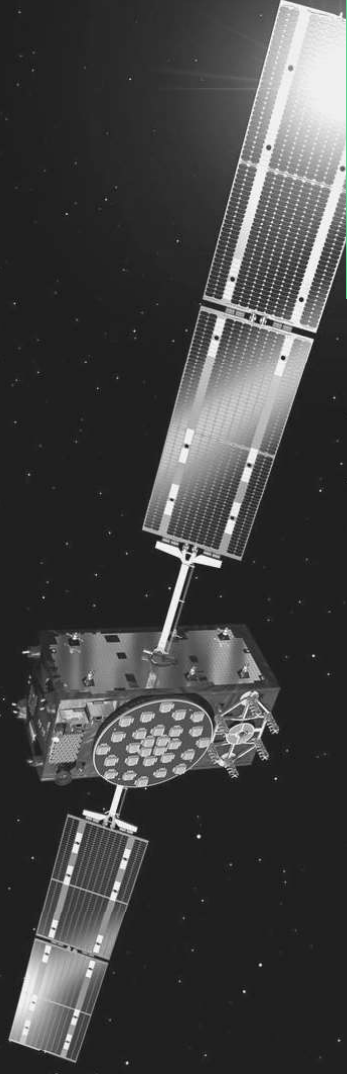
## PLANT GROWTH REGULATORS APPLICATION

Optimal timing and variable rate application

## Developing

## VALUE ADDED TOOLS

- Anomaly detection
- Irrigation prescription
- Weather monitoring
- Machinery interoperability
- Planet imagery-based extensions
- Field scouting



# Why DynaCrop?

1

## SUPER EASY

Integration of DynaCrop is super easy and it allows you to test satellite products directly with your customers.

2

## MORE INNOVATION & COLLABORATION

DynaCrop is growing with companies in the digital farming market to serve their specific needs and requirements. It invites users to new R&D projects.

3

## GREAT PRICE

DynaCrop pricing is designed in order to grow your sales first and pay for the real use later. Great for growing companies.

4

## REAL SATELLITE DATA EXPERTISE

The DynaCrop team is involved in projects for the European Space Agency and it transfers the state-of-the-art methods to the product development.

5

## CUSTOMER SUPPORT

DynaCrop support team is ready to help you with any technical issues and with interpretation of satellite data

# Integrate satellite monitoring now

AND HEAL THE BLEEDING  
SCARS OF YOUR FIELD



# Let's talk!

## WAYS TO REACH US

BOOK A MEETING

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