COUNTRY HOT TOPICS

GOFC-GOLD Network: SCERIN / MedRIN

Country: SERBIA

Team : Miro Govedarica, Minučer Mesaroš*, Marko Marinković, Bojan Tubić, Mirjana Radulović

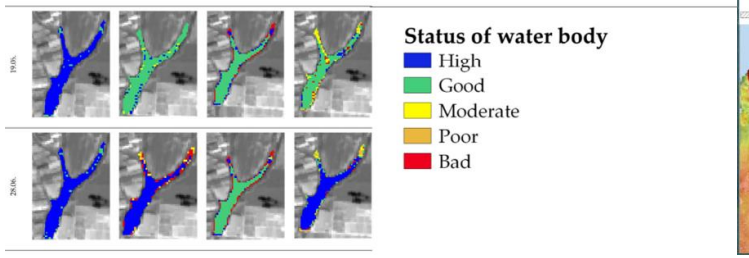
Joint Workshop of the GOFC-GOLD SCERIN and MedRIN Networks
CIHEAM conference center, Chania, Greece, July 16 – July 19, 2024
Land Cover Change (LCC) and Extreme Events in the Context of Climate Change

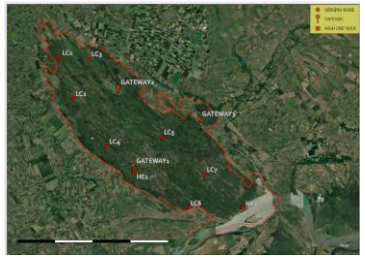
Mediterranean Agronomic Institute of Chania
Region of Crete
Eratosthenes Center of Excellence, Cyprus University of Technology
Aristotle University of Thessaloniki
NASA LCLUC Program
GOFC-GOLD and START, USA

Remote Sensing priorities or 'hot topics'

- Inland water quality monitoring:
  Long-Term Monitoring of Inland Water Quality Parameters Using Landsat Time-Series and Back-Propagated ANN

- **Drought and Wildfire risk alert system** (Cirocco Project)
- **Ecosystem management and restauration support in a vulnerable protected area** (Cirocco Project)
  Integration of remote sensing and in situ data
- **Wetland monitoring** (Restore4Life Project)
  Monitoring of wetland restoration based on multispectral vegetation and moisture indices.





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Projects/ Success stories / Good practices

Achieved

- *Jakovljevic, G., Álvarez-Taboada, F., & Govedarica, M. (2023). Long-term monitoring of inland water quality parameters using Landsat time-series and back-propagated ANN: Assessment and usability in a real-case scenario. Remote Sensing, 16(1), 68.*

Future plans

- *Drought and Wildfire risk alert system (2023-2026)*
  CiROCCO (cirocco-project.eu)
- *Ecosystem management and restauration support in a vulnerable protected area* CiROCCO (cirocco-project.eu)

  Validation of RS, LCLUC products based on in situ data and detailed surveys
- *Wetland restoration monitoring (2023 - 2027)*
  https://restore4life.eu/

Mirjana Radulović
Research Assistant

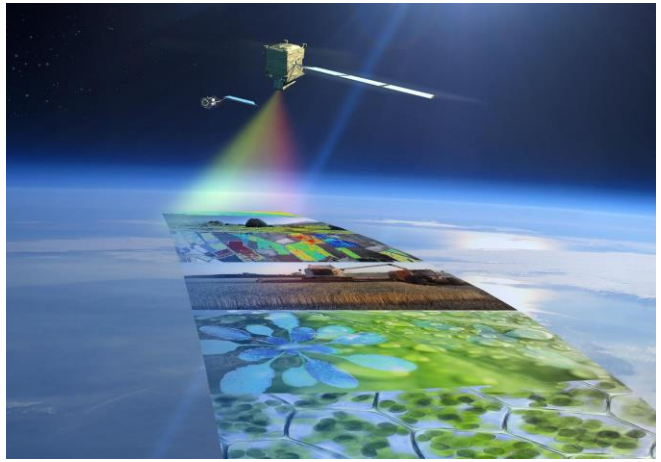
Crop classification

classification of six most important crops in region: maize, soybean, sugar beet, wheat, sunflower, and oilseed rape

data

- ground truth data
- Satellite data

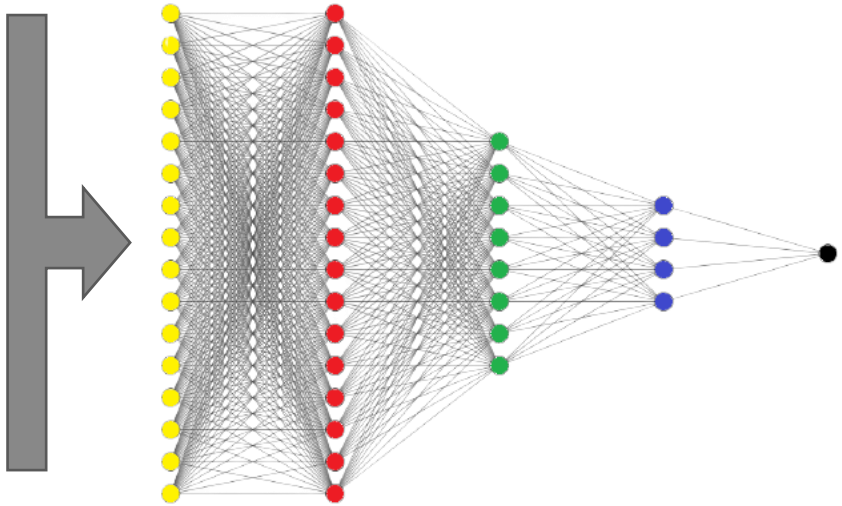
  Sentinel-2 and Sentinel-1



methods

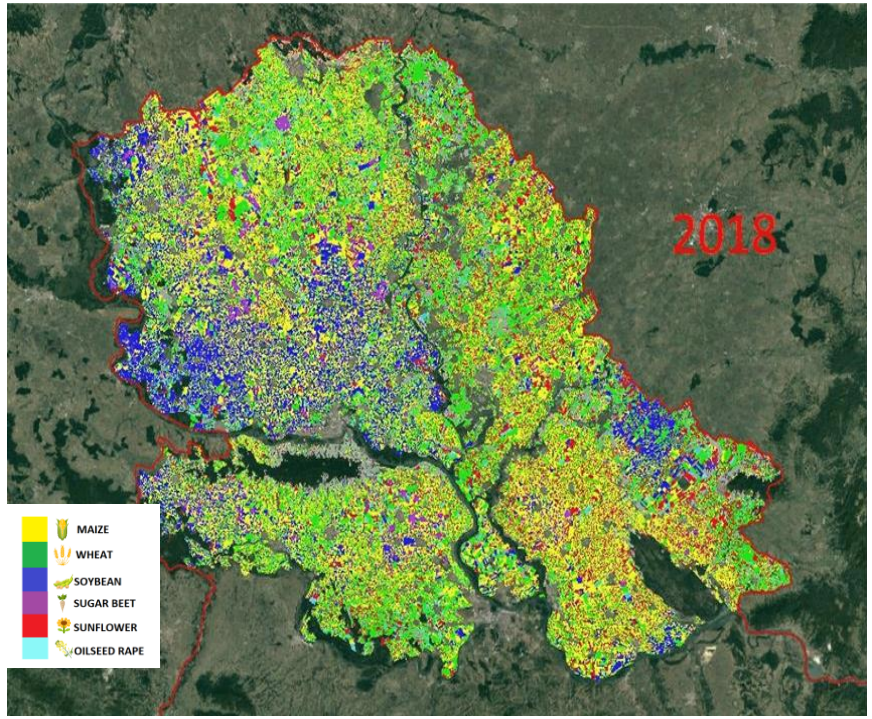
Machine Learning

Within-Field Scale classification (pixel-level)



results

Crop classification maps



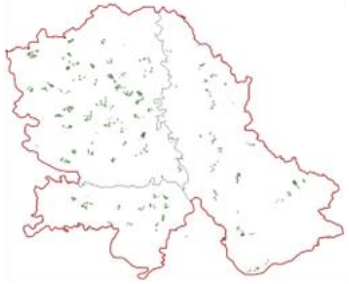
BioSense INSTITUTE
Mirjana Radulović
Research Assistant

EO & ML for Irrigation Detection

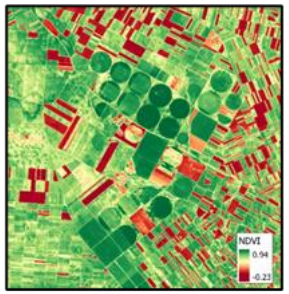
classification of irrigated and rainfed crops of maize, soybean & sugar beet at parcel level

data

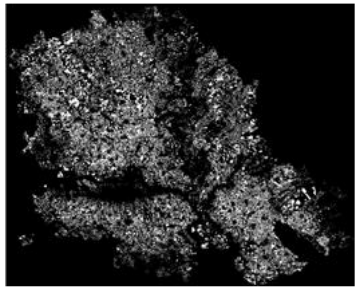
1. Ground truth data



2. Sentinel-2 data

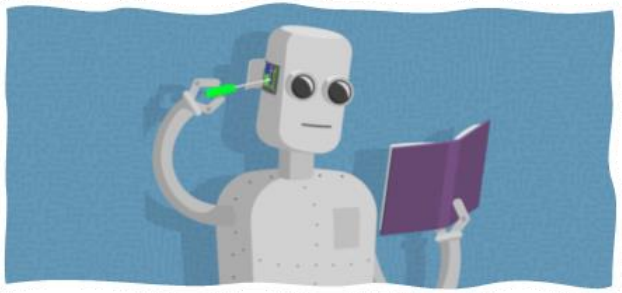


3. Crop classification

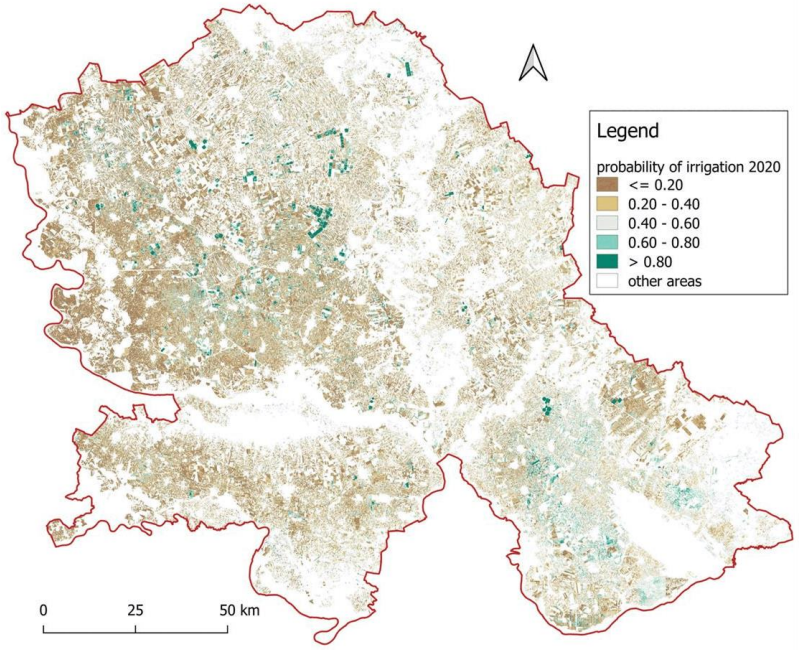


methods

Random Forest



results



2020	2021	2022
1.31%	1.98%	3.35%

detected irrigation