GOFC-GOLD Network: SCERIN / MedRIN

Country: Slovakia

Team: Ivan Sačkov, National Forest Centre (NFC)

Remote Sensing priorities: NFC – Geospatial Forestry Laboratory

- - ALS and MLS point clouds
- **Relief Digitization**
 - DTM, DSM, nDSM
- - Forest stands, roads and buildings
- **Forest Inventory**
 - Area/Tree-based approach
- - Web-map service

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

NASA LCLUC Program GOFC-GOLD and START, USA



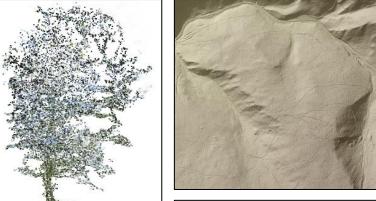


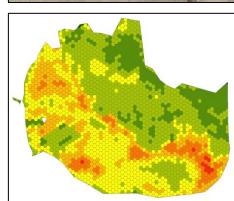


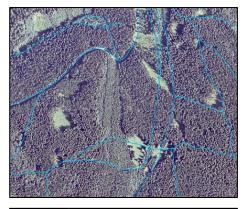


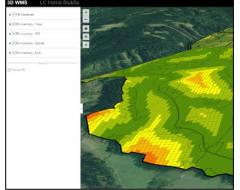


- **Aerial and Mobile Laser Scanning**
- **Forest Mapping**
- **Results Application**









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Country: Slovakia

Team: Ivan Sačkov, National Forest Centre (NFC)

Projects / Success stories / Good practices

Achieved

- Projects
 - Upgrade of the Centre of Excellence LignoSilva (Number: 101059552; Call: Horizon-Widera-2022; Budget: 15 + 15 Mil. EUR)
- Success Stories
 - Leica TerrainMapper-2: Hyperion2+ and MFC150 (Airborne laser scanner)
 - LiBackpack DGC50: VLP16 and Insta360 (Mobile laser scanner - Backpack)
- Good Practices
 - ALS-based forest inventory at forest management unit (Area: 7483 ha; Approach: ABA; Source: CHM; RMSE: Mean height ±10,9%, Mean diameter ±23,1 %, and Total Volume ±34,4 %)

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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











Future plans

- Anniversary
 - 10 years of Geospatial Forestry Laboratory (Research group at National Forest Centre)
- Technical and personal Infrastructure
 - Howermap ST-X
 (Mobile laser scanner Handheld)
 - All-terrain vehicles
 (Carrier platform for mobile laser scanner)
 - Postdoctoral researcher
 (3D forest inventory and stand assortments based on ALS and MLS data)
- Networking
 - Projects, studies, articles and collaborations (Stakeholders: SCERIN, COST, UNIS, FMs)

GOFC-GOLD Network: SCERIN / MedRIN

Country: Slovakia

Team: Tomáš Rusňák, Slovak Academy of Science (SAS)

Remote Sensing priorities: SAS – Institute of Landscape Ecology

Scientific support of climate change adaptation in agriculture and mitigation of soil degradation

Towards quantification of non-photosynthetic vegetation from Copernicus Hyperspectral Imaging Mission for the Environment

Satellite-based delineation of yield productivity zones for Slovak crop fields

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Mediterranean Agronomic Institute of Chania

GOFC-GOLD and START, USA

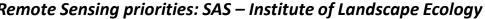
NASA LCLUC Program







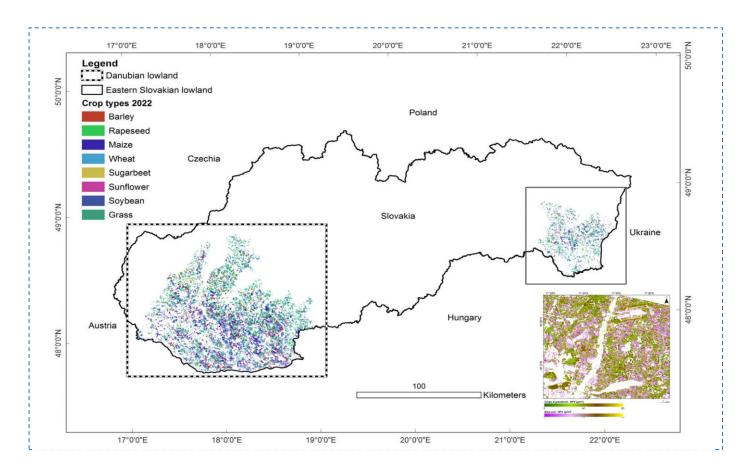




URANOS

CHIME_NPV

SatZones



GOFC-GOLD Network: SCERIN / MedRIN

Country: Slovakia

Team: Tomáš Rusňák, Slovak Academy of Science (SAS)

Projects / Success stories / Good practices

Achieved

- Results
 - Remote sensing methods to generate early information on agricultural landscapes and crops, including retrospective analysis and predictive modeling
 - Automated system for creating yield productivity zones in Slovak agriculture using satellite-based methods

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Land Cover Change (LCC) and Extreme Events in the Context of Climate Change







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niversity of Thessaloniki
C Program
D and START. USA









Future plans

- Research and development
 - Model for yield estimation and detect vulnerable zones for low productivity