



**INTERNATIONAL CONFERENCE OF  
ENVIRONMENTAL REMOTE SENSING AND GIS – PROGRAM**  
1-3 JULY, ZAGREB, CROATIA



**1<sup>st</sup> day – 1 July 2026**

Time	Title and authors
8:15-9:00	Registration
9:00-9:45	Opening ceremony
9:45-10:30	<b>Keynote speaker Dr. Tomislav Hengl:</b> Future of Open Earth Observation and Geospatial Technologies in the Time of AI and Intelligent Machines
10:30-10:45	Joint photography
10:45-11:00	Coffee break
11:00-11:30	<b>Keynote speaker Full. Prof. Geoffrey Henebry:</b> Vegetation Seasonality Indicators: Three Use Cases from Romanian Croplands
11:30-13:00	<p><b>1<sup>st</sup> session – Remote Sensing for Environmental Monitoring (Chair: Full. Prof. Geoffrey Henebry)</b></p> <ul style="list-style-type: none"> <li>• Multi-source Time Series of Canopy Chlorophyll for Crops – Corn and Soybean Rotation (Petra K. E. Campbell, William Wagner, Christopher S. R. Neigh, K. Fred Huemmrich, Margaret Wooten, Jana Albrechtova, Andrew L. Russ, Michael H. Cosh)</li> <li>• Efficient Crop Mapping via Temporal Transfer under Data Constraints (Miloš Pandžić, Dejan Pavlović, Sanja Brdar, Jelena Pandžić, Oskar Marko, Milan Kilibarda)</li> <li>• Detecting Agro-Pastoral Abandonment: A Sentinel-2 Multi-Temporal Phenology Approach for Sub-Mediterranean Landscapes (Gabriele Pizzi)</li> <li>• Investigating Floodplain Forest Phenology Using Dense Satellite Time Series along the Drava River, Croatia (Katarina Pavlek, Filip Radić, Mateo Gašparović)</li> <li>• Evaluating Classification Accuracy, Area Estimation, and Area Deviations of Five Algorithms in Google Earth Engine: Policy Implications (Lewis Mjomba Ndungu, László Zentai)</li> <li>• Integration of Optical and Microwave Data for Forest Mapping in Mongolia (Damdinsuren Amarsaikhan, Avirmed Dashtseren, Khurelbaatar Temuujin)</li> </ul>
13:00-14:00	Lunch
14:00-15:30	<p><b>2<sup>nd</sup> session – Remote Sensing for Environmental Monitoring (Chair: Dino Dobrinić, PhD)</b></p> <ul style="list-style-type: none"> <li>• Assessment of Salt Marsh Above-Ground Biomass Using UAV Multispectral Imagery and Open-Access Canopy Height Models (Manuel Meyer, José Alberto Gonçalves, Ana Bio)</li> <li>• Exploring the Impacts of Experimental Floods on Riparian Vegetation in the Lower Spöl River (Swiss Alps): Insights from Remote Sensing- and Uncrewed Aerial Vehicle- (UAV-) Based Monitoring (Marc O'Callaghan, Javier del Hoyo Gibaja, Samuel Wiesmann, Virginia Ruiz-Villanueva)</li> <li>• Multi-Sensor UAV Validation of Sentinel-2 NDVI as an Operational Tool for Environmental Monitoring and Situational Awareness in a Heterogeneous Riparian System (Fusaro Lake, Italy) (Mohammed Ajaoud, Muhammad Zaid Qamar, Cristiano Ciccarelli, Massimiliano Lega)</li> <li>• Scalable Wetland Condition Monitoring with Harmonized Sentinel-2-Based Inundation Regime Indicators across Europe (Sebastiaan Verbesselt, Stien Heremans, Tytti Jussila, Vít Ježek, Maria Šibíková, Risto K. Heikkinen)</li> <li>• Testing Usability of Sentinel-2 Seasonal Variations for Non-Forest Plant Cover Mapping – Small-Scale Study in NW Croatia (Damjana Levačić, Sven Jelaska)</li> <li>• High-Resolution Mapping of Wisconsin's Forest Species Composition Using AlphaEarth Foundations and Deep Learning (Mutlu Ozdogan, Konrad Turlej, Howard Veregin, and Carly Beneke)</li> </ul>
15:30-15:45	Coffee break
15:45-17:00	<p><b>3<sup>rd</sup> session – Remote Sensing for Environmental Monitoring (Chair: Assoc. Prof. Mateo Gašparović)</b></p> <ul style="list-style-type: none"> <li>• Machine Learning Based Prediction of Munsell Soil Color Components Using Multi-Sensor Satellite Data (Batuhan Kartal, Namik Kemal Sönmez)</li> <li>• Comparison of Remote Sensing Soil Moisture Algorithms across Optical, Thermal and Radar Classes (Tin Batur, Marko Reljić, Lucas de Carvalho Gomes, Vinko Lešić, Marina Bubalo Kovačić, Monika Zovko)</li> <li>• Random Forest-Based Soil Moisture Downscaling in Southeastern Hungary (Mahrokh Shafiei, István Waltner, Györgyi Gelybó)</li> <li>• Synthetic Dataset Generation for Change Detection in Mining Areas Using Image Inpainting (Álvaro Navarro-Álvarez, Sergio Gracia-Borobia, Rafael del Hoyo-Alonso, Francisco José Lacueva-Pérez)</li> <li>• Spectral Evidence of Spatial Context Variation Surrounding NBS Interventions in Diverse Urban Environments (Andrew Ikingura, Barbara Sowińska-Świerkosz, Dagmara Kociuba)</li> </ul>

2<sup>nd</sup> day – 2 July 2026

Time	Title and authors
8:15-8:30	Registration
8:30-10:30	<p><b>4<sup>th</sup> session – Innovations in Spatial Data-Acquiring Technologies (Chair: Katarina Pavlek, PhD)</b></p> <ul style="list-style-type: none"> <li>• Geodesy for Climate Change Research Using the Laser Ranging Interferometer (Pallavi Bekal, Vitali Müller, Gerhard Heinzl)</li> <li>• Extraction of Tree Level Forest Structure from Aerial Imagery and Photogrammetry Digital Surface Models (Jiaojiao Tian, Wen Fan, Daniel Panangian, Mareike Weishaupt)</li> <li>• Earth Observation Data for Seafloor Mapping: A Case Study of Croatia (Ljerka Vrdoljak, Jelena Kilić Pamuković, Majda Ćesić, Goran Gion)</li> <li>• Physics-Informed Multi-Scale Deep Learning Framework for Natural Hydrocarbon Seep Detection in SAR Imagery: A Methodological Proposal (Fatih Özkan, Ş. Hakan Kutoğlu, Alihsan Şekertekin)</li> <li>• Global Digital Elevation Models in Coastal Area Analyses (Frane Gilić, Samanta Bačić, Martina Baučić, Nikša Jajac, Katerina Tzavella)</li> <li>• Fractal Dimension of Linear Network Segments: Experiments on Hiking Trails (Klemen Prah, Ashton M. Shortridge)</li> <li>• The Potential of LiDAR Technology in Assessing the Technical Condition of Building Structures and the Natural Environment (Czesław Suchocki)</li> <li>• YOLOv8-Based Detection of Swimming Pools in the City of Zagreb (Dino Dobrinić, Mario Miler, Damir Medak)</li> </ul>
10:30-10:45	Coffee break
10:45-11:30	<b>Keynote speaker Full. Prof. Wolfgang Wagner:</b> Analysing Sentinel-1 Data with AI Models: What Can Go Wrong?
11:30-13:00	<p><b>5<sup>th</sup> session – Disaster Management and Response (Chair: Assist. Prof. Sergej Baričević)</b></p> <ul style="list-style-type: none"> <li>• High-Resolution real-Time Diagnostic Platform (realTPA) for Forest Fire and Landslide Early Warning (Woo-Kyun Lee, Minwoo Roh, Sujong Lee, Sunwoo Kim, Uichan Kim, Heunwoo Cho, Jihun Kang)</li> <li>• Real-Time Computer Vision Based Flood and Puddle Detection in Urban Areas (Shahbaz Baig, Osman Torunoglu, Paola Rosales Suazo de Kontro)</li> <li>• Linking Earth Observation and Precipitation In-Situ Data in the Sirba River Basin in West Africa (Muhammad Abraiz, Gerbrand Koren, Elena Belcore, Marco Piras)</li> <li>• The Project "Earthquake Risk Assessment of the City of Zagreb" (Marta Šavor Novak, Mario Uroš, Maja Baniček, Marija Demšić, Josip Atalić)</li> <li>• A GIS-Based Fuzzy AHP Approach for Seismic Network Station Placement (Antonio Brcković, Goran Čorak, Vedran Damjanović, Valentina Gašo, Stijepo Grljević, Viktorija Milec, Bruno Mravlja, Marko Kapelj, Iva Kostanjšek, Marko Pervan, Anamarija Tremljan Milun, Tomislav Fiket)</li> <li>• A Methodological Framework for Flood Susceptibility Assessment Based on GIS, Multi-Criteria Decision Analysis and Artificial Intelligence – Case Study Kosovo (Amir Rexha, Sonila Sinjari Xhafa, Ferim Gashi, Merita Dollma)</li> </ul>
13:00-14:00	Lunch
14:00-15:30	<p><b>Sponsor presentations</b></p> <ul style="list-style-type: none"> <li>• Oikon Ltd. – Institute of Applied Ecology</li> <li>• Planet Labs Germany GmbH</li> <li>• UniqTek Co. Ltd.</li> </ul>
14:00-15:30	<p><b>Poster session (Chair: Klara Pejnović, MSc)</b></p> <ul style="list-style-type: none"> <li>• Overcoming Parcel Delineation Constraints in Georgia Using Multi-Source Satellite Imagery (Avtandil Tsitsagi, Lia Matchavariani, Mariam Tsitsagi)</li> <li>• Application of the Red Relief Image Map (RRIM) in Geomorphological Analyses: Examples from Croatia (Marin Mićunović, Sanja Faivre)</li> <li>• Comparative Evaluation of Reference Data Sources for Land-Cover Classification: Insta360 Panoramas vs. Orthophotos and Satellite Imagery (Damir Klobučar)</li> <li>• Geostructural Investigation of the Lugiin Gol Area Using Optical and Microwave Remote Sensing (Damdinsuren Amarsaikhan, Sereenen Jargalan, Erdene-Ochir Gurbadam, Egshiglen Enkhjargal)</li> <li>• Estimation of Pastureland Biomass in the Steppe and Gobi Regions of Mongolia Using Remote Sensing (Damdinsuren Amarsaikhan, Batdorj Byambadolgor, Damdin Enkhjargal)</li> <li>• Transferable Near-Real-Time Crop Mapping for Drought-Responsive Water Management using Machine Learning (Romina Diaz Gomez, Charles Young, Marina Mautner, Laura Forni)</li> <li>• Multi-Scale Remote Sensing of Wildfire Impact and Post-Fire Vegetation Recovery in the Cross-Border Karst Landscape (Mateja Breg Valjavec, Matjaž Geršič, Rok Ciglič, Lenart Štut, Aljaž Jakob)</li> <li>• Spatiotemporal Dynamics of Agricultural Land Use and Drought Resilience in the Dobrogea Region of Romania: A Remote Sensing and Machine Learning Approach (Igor Sîrodoev, George-Marius Cracu, Raluca-Gabriela Nicoară, Mirela Paraschiv, Andrei Schwab, George Secăreanu, Nataşa Vădianu, Anglea Cañtîr, Ioana Chiriac, Olga Crivova, Stela Curcubăt, Ghennadi Sîrodoev)</li> </ul>
15:30-15:45	Coffee break

15:45-17:15	<p><b>6<sup>th</sup> session – GIS for Sustainable Development (Chair: Katarina Pavlek, PhD)</b></p> <ul style="list-style-type: none"> <li>• Land Cover Changes Based on Maps and Satellite Images along the Croatian–Hungarian Section of the Drava River’s Active Floodplain (Gergő Németh, Dénes Lóczy, Ákos Halmai, Ervin Pirkhoffer, Péter Gyenizse)</li> <li>• Is There Room for Floodplain and River Restoration? Example: Sava River Basin in Croatia (Mladen Plantak)</li> <li>• What Does the Forest Want to Be When It Grows Up? A Forest Use Suitability Framework in Catalonia (Goran Krsnik, José Ramón González Olabarria, Philip Murphy, Keith Reynolds)</li> <li>• Applying Integration Analysis for Typological Identification of Urban Forests in Zagreb (Klara Kranjčec, Perina Žanetić, Tamara Zaninović)</li> <li>• GIS Application in Multi-Criteria Evaluation of Urban Riverfront Redevelopment (Dora Ivančan, Sanja Gašparović, Ana Mrđa, Marija Premužić Ančić)</li> <li>• Web-based Visualisation Service for Copernicus Satellite Measurements and Automatic Measurement Stations at the Institute of Oceanography and Fisheries (Damir Ivanković, Stipe Kurir, Maja Štula)</li> </ul>
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### 3<sup>rd</sup> day – 3 July 2026

Time	Title and authors
8:15-8:30	Registration
8:30-10:30	<p><b>7<sup>th</sup> session – Artificial Intelligence and Big Data (Chair: Frane Gilić, PhD)</b></p> <ul style="list-style-type: none"> <li>• Agentic Workflow Architecture for Environmental Remote Sensing Analytics (Evgenij Shapovalov, Artiom Hovhannisyan, Valentas Gruzauskas)</li> <li>• Evaluation of Earth Observation Embeddings for Aboveground Biomass Mapping across European Forests (Yu-Feng Ho, Leandro Parente, Qian Song, Lea Enguehard, Madlene Nussbaum, Derek Karssenbergl)</li> <li>• Comparing Rule-Based and Data-Driven Ensemble Land Cover Maps across Europe (Mateo Moreno, Tomislav Hengl)</li> <li>• From Pixels to Semantics: Benchmarking Geospatial Foundation Model Embeddings for Vegetation Frost Damage Detection (Martin Kučera, Ondřej Lhotka)</li> <li>• Preliminary Evaluation of Bespoke Spatiotemporal Embeddings for Sub-Pixel Landscape Feature Detection (Luka Antonić, Josip Križan, Barbara Štimac Tumara, Andreja Radović, Ivan Pilaš)</li> <li>• Geospatial Modeling of Soil Properties Using Satellite Embeddings and Machine Learning (Andrej Slapničar, Marina Bagić Babac, Vedran Mornar)</li> <li>• Decoding Multidimensional Embedding Spaces: Text-Conditioned Zero-Shot Crop Mapping (Bende Barcza, Kálmán Kovács)</li> <li>• Leveraging Artificial Intelligence for a Queryable Earth: The Future of Global Earth Observation (Joost Beckers, Ash Hoover, Mikhail Klassen, Luke Davis, Leela Prabhu, Megan Van Welie, Shreelekha Revankar, Creon Levit)</li> </ul>
10:30-10:45	Coffee break
10:45-11:15	<b>Invited speaker Karol Brzostowski:</b> ESA–Croatia Cooperation: Summary and Success Stories
11:15-13:00	<p><b>8<sup>th</sup> session – Climate Change Mitigation Politics (Chair: Imelda Somodi, PhD)</b></p> <ul style="list-style-type: none"> <li>• Climate Change Drives Irrigation Expansion and Water Stress in the Serbian Danube (Sean Woznicki, Jamshid Jalali, Molly Sears, Noormah Rizwan, Tao Liu, Judy Long, Oskar Marko, Mirjana Radulović, Miljana Marković, Nishan Bhattarai)</li> <li>• Integrating GIS, Earth Observation, UAV Imagery, and AI for Precision Fertigation with Reclaimed Water in Apricot Orchards (Marta Otero Nalbán, Álex Josep Pujol García)</li> <li>• Lessons Learned from Vegetation Stability Indicators Applied to Individual Vegetation Types (Adrienn Gyalus, Ákos Bede-Fazekas, Zsolt Molnár, Imelda Somodi)</li> <li>• Linking Soil Sealing and Urban Thermal Patterns through Earth Observation and Climate Modelling: A Spatiotemporal Analysis in Murcia, Spain (Emilio José Illán-Fernández, Alfredo Pérez-Morales)</li> <li>• Urban Heat Exposure Interactions with Environmental Drivers at the Neighborhood Scale: The Case of Bağcılar and Esenler Districts, Istanbul (Elnaz Tajer, Beyza Şat)</li> <li>• Urbanisation Impact and Detection of Urban Heat Island in Rome (Matej Hanžek)</li> <li>• From Eligibility Rules to Earth Observation Indicators: Assessing the Monitorability of Crop Eco-Schemes in Romania (Nataša Luketić, Bernadett Csonka, Gabor Gulyas, Csaba Wirnhardt, Emanuel Azzopardi, Liviu Toma, Marian Dumitrescu, Silvia Barsasteanu)</li> </ul>
13:00-14:00	Lunch
14:00-15:00	<p><b>Online session presentations (Chair: Filip Radić, MSc)</b></p> <ul style="list-style-type: none"> <li>• Spatio-Temporal Analysis of Temperature Anomalies in Pakistan (Muhammad Abu Bakar, Ghani Rahman)</li> <li>• Spatio-Temporal Behaviour of Vegetation Dynamics over the Betwa Basin (2018–2023), India (Rupendra Prakash Singh, Sudhir Kumar Singh)</li> <li>• Fire Disasters and Land Change in the Akfadou Forest (Northeastern Algeria) (Siham Zerrouk)</li> <li>• Preliminary Detection of Potential Ground Subsidence Zones Using a Local Relief Model (LRM) (Nikola Gizdavec, Erli Kovačević Galović)</li> <li>• GIS-Based Analysis and Prediction of Land Use and Land Cover Changes (LULCC) in Shkodra Region (Sonila Sinjari, Esmeralda Hena, Ervis Krymbi, Ferim Gashi)</li> </ul>

	<ul style="list-style-type: none"> <li>• Environmental Situational Awareness for Ground-Level NO<sub>2</sub> Estimation Using Sentinel-5P TROPOMI and ERA5 Reanalysis Data: A Machine Learning Approach for Napoli Province, Italy (Muhammad Zaid Qamar, Mohammed Ajaoud, Cristiano Ciccarelli, Massimiliano Lega)</li> <li>• Balancing Conservation and Sustainable Development through Spatial Planning Zoning: Evidence from Sharri National Park, Kosovo (Rizah Murseli, Fadil Bajraktari, Romeo Hanxhari, Sonila Papatihimi)</li> </ul>
14:00-15:00	<b>Poster session (Chair: Katarina Barnjak, MSc)</b> <ul style="list-style-type: none"> <li>• Evapotranspiration and Transpiration Dynamics on Pedunculate Oak Stands in Spačva Forest Using MODIS Evapotranspiration (Nela Jantol, Tonko Megyery, Ana Đanić, Zrinka Mesić, Hrvoje Kutnjak, Ivana Lampek Pavčnik)</li> <li>• Introduction of the Forest Regulation Index (FRI) as a Valuable Tool for Framing and Enhancing Forestry and Agriculture Development Policies (Konrad Kiš)</li> <li>• Analysis of the Vegetation Monitoring Research from the Aspect of Anthropogenic and Climate Influences by Remote Sensing Methods (Dario Kopic, Ivan Racetin)</li> <li>• Preliminary Mapping of Phytocoenological Communities of Forests in the Republic of Croatia Using Remote Sensing Methods (Filip Radić, Mateo Gašparović, Ivan Pilaš, Damir Klobučar)</li> <li>• Integrating Field Ecology and Sentinel-2-Compatible Remote Sensing for Monitoring Vegetation Succession in Natura 2000 Dry Grasslands (Tonko Megyery, Hrvoje Kutnjak, Nela Jantol, Zrinka Mesić)</li> <li>• Evaluating Machine Learning Models for Key Soil Properties (Marin Avirović, Andrej Slapničar, Marina Bagić Babac, Vedran Mornar)</li> <li>• Socialism, Green Socialism: Evaluating the Impact of Urban Morphology on Microclimate Regulation (Goran Krsnik, Neven Tandarić)</li> <li>• Ecosystem Services for Green Urban Development and Climate Change Adaptation (Mateo Gašparović, Ivana Jarak, Ivan Pilaš)</li> </ul>
15:00-15:15	Coffee break
15:15-16:45	<b>9<sup>th</sup> session – Conservation and Biodiversity (Chair: Assoc. Prof. Mateo Gašparović)</b> <ul style="list-style-type: none"> <li>• Assessing the Persistence of Permanent Grassland in Slovenia Using Sentinel-2 and Landsat 5/8 Time Series (Tatjana Veljanovski, Matic Lubej, Ana Potočnik Buhvald, Krištof Oštir and Grega Milčinski)</li> <li>• Sentinel-2 and Machine Learning Approaches for Early Detection of Forest Pest Outbreaks in Croatia (Luka Raspović, Branimir Radun, Ivan Tekić, Iva Odak, Ivan Tomljenović)</li> <li>• Examining Vegetation Deterioration in the Carpathian Mountains Using Survival Analysis (Melinda Manczinger, Tibor Kovács)</li> <li>• Disentangling Causes of Canopy Discoloration Using Satellite Remote Sensing and Forest Management Data: The Case of 2024 Heat- and Drought-Induced Premature Leaf Senescence Versus Oak Lace Bug Damage (Anikó Kern, Petra Mendaš, Hrvoje Marjanović)</li> <li>• Northern Mongolian Forest Dynamics Monitoring Using Copernicus Satellite (Erdenetuya Boldbaatar, Piotr Wężyk, Wojciech Krawczyk)</li> <li>• Background Data Preparation for Spatially Explicit Potential Vegetation Modelling in the CLIMANATRES Project to Support Sustainable Ecological Restorations in the Face of Climate Change (Imelda Somodi, Paulina Anastasiu, Nadejda Apostolova, Gicu-Gabriel Arsene, Réka Aszalós, Katarina Barnjak, Mirjana Bartula, Luka Basrek, János Bölöni, Petronela Camen-Comănescu, Andraž Čarni, Alina Georgiana Cîșlariu, Mirjana Ćuk, Gábor Endresz, Zoran Galić, Mateo Gašparović, Irina Gerasimova, Adrienn Gyalus, Alen Kiš, Krisztina Dóra Konrád, Georgi Kunev, Miran Lanščak, Siniša Ozimec, Salza Palpurina, Ranko Perić, Ivan Pilaš, Margit Pitter, Vida Posavec Vukelić, Dragan Prlić, Tamás Rédei, Ioana-Minodora Sîrbu, Željko Škvorc, Klára Szabados, Rossen Tzonev, Mariana Mihaela Urziceanu, Mateja Breg Valjavec, Miha Varga, Rossen Vassilev, Tamás Vinkó, Ivana Vitasović-Kosić, Ákos Bede-Fazekas)</li> </ul>
16:45-17:00	Closing ceremony

Lunch and coffee breaks are included for all participants.

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