

Posters

Tuesday, 30 August 2022: 5:30 pm – 7:00 pm

[Posters SpS 01: Forests in the global carbon cycle: connecting remote sensing, forest models and artificial intelligence](#)

AI for Climate Sensitive Tree Growth Modelling and Maximum Carbon Segregation (AI4Trees). Jasmin LAMPERT*, Refiz DURO, Günther BRONNER, Vanessa BEMaquerGER, Hanns KIRCHMEIR, Martin GRITSCH, Dominic HEWITT, Anahid JALALI, Anita ZOLLES, Andreas WINDISCH

An assessment of forest vitality along an elevation gradient in the Czech Republic based on satellite products. Antonin KUSBACH*, Matthias Forkel, Lucie Homolova, Daniel Karthe

PROTEST project: multidisciplinary methodology for territorial forest analysis. Jean-Matthieu Monnet, Raphael Aussenac, Sylvie Durrieu, Arnaud Sergent, Patrick Vallet

[Posters SpS 03: Applications of drones in forestry: lessons learnt and way forward](#)

Drone-acquired multispectral indices for individual-tree-crown assessment: a tool for quantifying forest responses to climate change. Samuel Grubinger*, Nicholas C Coops, Greg O'Neill

Using an Unmanned Aerial System to analyse environmental impacts of charcoal production on tropical savanna ecosystems in northwestern Kenya. Maike Petersen*, Marcus Nüsser

Drones in forestry of Czech Republic – current situation and perspectives. Peter SUROVÝ*

Multi-sensor UAS-based approach for European Aspen detection in boreal forest. Anton KUZMIN*, Lauri Korhonen, Janne Mäyrä, Topi Tanhuanpää, Matti Maltamo, Petteri Vihervaara, Timo Kumpula

Digital forest inventory based on UAV imagery. Steffen Dietersberger, Marlin M. Mueller, Markus Adam, Felix Bachmann, Friederike Metz, Maximilian Nestler, Alexander Born, Sören Hese, Christian Thiel

[Posters SpS 05: Remote sensing of forest resilience: from recovery to early warning](#)

An ecosystem at the tipping point—What's the status of Central Asia's Tugay forests? Christian SCHULZ*, Birgit KLEINSCHMIT

ForestWatch and FirSt 2.0: new methods for monitoring forest condition in Germany. Annett FRICK, Randolph KLINKE*, Benjamin STÖCKIGT, Kai JÜTTE

Characterization of Southern Yellow Pine Spectral Recovery Subsequent to Stand-Clearing Disturbance Across Spatial & Temporal Scales. Daniel Putnam*, Randolph Wynne, Valerie Thomas, Todd Schroeder, Karen Schlewes

[Posters SpS 06: Forest and vegetation spectroscopy](#)

Retrieval of leaf chlorophyll content from very high spatial resolution hyperspectral images. Olli Ihalainen*, Matti Möttöus

Can smartphone photography support the deployment of TreeTalker-based below canopy spectroscopy? Enrico Tomelleri*, Luca DaRos, Michele Torresani, Luca Belevi Marchesini, Damiano Gianelle, Riccardo Valentini

Spectral properties of dominant Sphagnum moss species in boreal peatlands. Sini-Selina Salko*, Jussi Juola, Iuliia Burdun, Harri Vasander, Miina Rautiainen

[Posters SpS 08: Near-real-time forest change alerting from space](#)

Intra-Annual Identification of Local Deforestation Hotspots in the Philippines Using Earth Observation Products. Arnan Araza*, Gem Castillo, Eric Buduan, Lars Hein, Martin Herold, Johannes Reiche, Yaqing Gou, Maya Gabriela Villaluz, Ramon Razal

Near Real-Time Monitoring of forest disturbance to reduce the illegal logging in the countries. Naila Yasmin*, Andreas Vollrath, Pierrick Rambaud, Inge Jonckheere, Mathieu VanRijn

[Posters SpS 11: Citizen and community science to support forest monitoring](#)

Bringing Earth Observation closer to each citizen with the Satiladu service. Lea HALLIK, Martin MENERT*

[Posters SpS 12: Terrestrial laser scanning in environmental monitoring](#)

Tree volume in temperate forest inventories: evaluating terrestrial laser scanning based approaches with destructive measurements. Aline Bornand*, Meinrad Abegg, Nataliia Rehus, Felix Morsdorf

3D tree structure from TLS for non-destructive biomass estimation. Wanxin Yang, Mathias Disney*, Phil Wilkes, Matheus Boni Vicari

iPad Pro vs. HLS and TLS technology in daily measurement of timber stacks Grzegorz Makuch*, Piotr Wężyk

[Posters ReS 13: GEDI](#)

The accuracy of determination of forest stands height in the temperate zone based on SLS GEDI (NASA) measurements. Wojciech KRAWCZYK*, Piotr WĘŻYK

Potential of GEDI to estimate tree canopy height on local scale. Barbora NAVRATILOVA*, Jan NOVOTNY, Filip HAJEK, Petr LUKES, Jan HANUS, Lucie HOMOLOVA, Olga BROVKINA

[Posters ReS 14: Tree Species](#)

Tree species discrimination and classification in Wales using PlanetScope data. Richard LUCAS, Patryk POSLAJKO*, Suvarna PUNALEKAR

ANALYZING THE IMPLICATIONS OF FOREST MAPS PRODUCTION USING WORLDVIEW-3 AND SENTINEL-2 IMAGES. Laura ALONSO*, Juan PICOS, Julia ARMESTO

Classification of large forest areas using Sentinel 2 time series. Daniele MARINELLI*, Michele Dalponte, Damiano Gianelle

The potential of AVIRIS-NG imaging spectroscopy data to complement the mapping of urban tree species for tree cadastres – A case study for the Swiss Canton of Geneva. Tiziana L. KOCH*, Mike WERFELI, Carmen MEILLER, Bastian BUMAN, Andreas HÜNI, Gregory GIULIANI

Mapping temperate forest tree species using dense Sentinel-2 time series. Jan Hemmerling*, Dirk Pflugmacher, Patrick Hostert

AI to obtain tree species and forest condition information from remotely sensed data - the FutureForest project. Christopher SCHILLER*, Jonathan Költzow, Tamalika Chakraborty, Fabian Ewald Fassnacht

Classification of common boreal tree species using UAS LiDAR data. Mikko KUKKONEN, Timo Lähivaara, Petteri Packalen

Posters ReS 10: Biodiversity

Integrated framework for assessment and spatial prediction of humus properties. Felix Thomas*, Carina Becker, Rainer Petzold, Ulrike Werban, Thomas Scholten

Biodiversity mapping based on Sentinel-1 and Sentinel-2. Michael Lechner*, Alena Dostálová, Markus Hollaus, Markus Immitzer, Clement Atzberger

What is the Story in the Understorey: Does Boreal Forest Trees Diversity Affect Diversity Below the Canopy? Amanda N. COOPER*, Julia K. Koricheva

Mapping of natural old forest and forest biodiversity parameters in Natura 2000 sites by remote sensing. Tatjana KOUKAL*, Alexandra FREUDENSCHUSS

Characterizing old-growth forests from multisource remote sensing. Devara Prawira Adiningrat*, Andrew Skidmore, Michael Schlund, Tiejun Wang

Apparent land cover change produced by El Niño event. Fernando Francisco TROYA*, Paulo Negri Bernardino, Ben Somers

Posters ReS 12: Forest Health

Upscaling UAV-based hyperspectral and lidar derived canopy traits of urban forests to high-resolution satellite images. Matheus Pinheiro FERREIRA*, Vinicius Bizzo LOPES

Detection of mistletoe (*Viscum album* ssp. *austriacum* L.) in Scots pine stands using the MS and RGB UAV high resolution orthophoto. Jakub Michał MISZCZYŹYŃ*, Piotr WĘŻYK

Evaluation of the temporal development of ash decline with hyperspectral imagery in North-East Germany. Ahuvit Trumper*, Anne Clasen, Michael Förster, Pieter Beck

Spatial pattern dynamics of *Dendroctonus armandi* infestation in Shennongjia based on multi-source remote sensing data. Zhang YaHao*, Dian YuanYong, Hu Yue - **ONLINE**

Identification of *Dendroctonus Armandi* diseased wood based on aerial remote sensing images. Haoran LIN*, Yuanyong Dian - **ONLINE**

Posters ReS 07: Remote Sensing for Forest Management

Planning of Commercial Thinnings Using Machine Learning and Airborne Lidar Data. Tauri ARUMÄE*, Mait Lang, Allan Sims, Diana Laarmann

Thursday, 01 September 2022: 5:30 pm – 7:00 pm

[Posters SpS 02: Quantifying uncertainty in remote sensing-based forest attribute mapping and inventory](#)

Integrating photo-interpretability variability in FRA2020-RSS estimates. Federico Adolfo KINDGARD*, Javier Gallego, Javier De Lamo Rodriguez

[Posters SpS 04: Remote sensing-based field-data supported countrywide forest attribute maps - nice to have or must have?](#)

Countrywide mapping of shrub forest using multi-sensor data, active learning and object growing. Marius RÜETSCHI*, Dominique WEBER, Tiziana L. KOCH, Lars T. WASER, David SMALL, Christian GINZLER

Countrywide forest attribute maps for Germany based on canopy height models and national forest inventory data. Sebastian SCHNELL*

Using nationwide LIDAR data to assess vertical forest structure on National Forest Inventory plots in Slovenia. Mitja SKUDNIK*, Anže Martin PINTAR, Andrej KOBLER

[Posters SpS 07: Large area forest biomass monitoring from space](#)

Allometric equations based on terrestrial LiDAR data for above-ground biomass estimation in the Miombo forests of the DRC. Stéphane MOMOTAKOUDJOU*, Jonathan Ilunga Muledi, Pierre Ploton, Augustin Lamulamu, Blaise Mupari, David Nkulu, Benoit Mushabaa Amisi, Bonaventure Sonké, Nicolas Barbier

The 1st ESA CCI Biomass Change Workshop – Outcomes of a global virtual event. Carsten Pathe, Heather Kay, Richard Lucas, Christiane Cornelia Schmillius*

Towards consistent forest aboveground biomass and biomass change products from satellite imagery. Heiko Balzter*

[Posters SpS 09: Trees outside the forest: monitoring forest and landscape restoration](#)

Monitoring the presence of trees in cities and rural landscape at the Pan-European Scale. Loic FAUCQUEUR, Tanja GASBER, Nathalie MORIN*, Pierre-Yves REMY, Mirjam ZISELSBERGER, Christian SCHLEICHER, Carlos DEWASSEIGE

The Framework on Ecosystem Restoration Monitoring for Monitoring and Reporting Global Forest Restoration. Yelena Finegold*, Julian Fox, Zhuo Cheng, Pablo Martin, Matieu Henry, Amit Ghosh, Pierrick Rambaud, Rashed Jalal, Erik Lindquist, Inge Jonckheere

Point Patterns and Structural Diversity – ITD and resampling corrections. Joel KOSTENSALO* - online

Geo-monitoring of tree species, vitality, and maintenance condition of fruit trees in meadow orchards using UAV technology. Judith Eisenbacher, Sarah Pflüger, Maike Petersen*, Mira Hansch, Alexander Siegmund

[Posters SpS 10: Upscaling of lidar assessments of forest structure - Terrestrial to Aerial to Satellite](#)

Optimal plot size, sample size, and point density selection for airborne laser scanning assisted basal area larger than mean (BALM) estimation. Syed ADNAN*, Rubén Valbuena, Tuomo Kauranne, Ranjith Gopalakrishnan, Matti Maltamo

Developing a framework for mapping canopy cover with ICESat-2 for southern US forests. Lana Landra Narine*, Sorin Popescu, Lonesome Malambo - [online](#)

Gridding ICESat-2 Data for Regional Forest Canopy Height Modeling. Lonesome MALAMBO*, Sorin POPESCU - [online](#)

Age-height relationships for pines in the Southeastern U.S. using ICESat-2 and Landsat products. Sonia SHARMA BANJADE*, Randolph Wynne, Valerie Thomas, Corey Green - [online](#)

[Posters SpS 13: Time series analysis: Method advancements and applications for continuous forest monitoring](#)

Urban Tree Cover Change to Sao Paulo city, Brazil. Bruna Lara Arantes*, Dexter H Locke, J Morgan Grove, Demóstenes Ferreira da Silva Filho - [online](#)

Estimating VAIA Windstorm Damaged Forest Area in Italy Using Time Series Sentinel-2 Imagery and Continuous Change Detection Algorithms. Francesca GIANNETTI*, Matteo Pecchi, Davide Travaglini, Saverio Francini, Giovanni D'Amico, Elia Vangi, Claudia Coccoza, Gherardo Chirici

Accurate large scale forest change detection with GEE based time series analysis. Camila Marques*, Akira Kato - [online](#)

Dynamics of changes in land cover classes in subalpine Norway spruce stands in Gorce National Park (Poland) in 1977-2020 period using archive aerial orthophotos and Landsat satellite imagery. Wojciech KRAWCZYK*, Piotr WĘŻYK

[Posters SpS 14: Advances in Global Forest Monitoring - Addressing Evolving User Needs and R&D Priorities](#)

The Bohemian Forest Ecosystem – An International Hotspot for Forest Remote Sensing. Simon König*, Stefanie Holzwarth, Hooman Latifi, Marco Heurich

A joint look at the Forest Resource Assessment Remote Sensing Survey (FRA2020-RSS) and some global forest maps. Federico Adolfo KINDGARD*, Javier Gallego, Javier De Lamo Rodriguez

[Posters SpS 16: Precision methods to monitor forest degradation and mortality](#)

Monitoring health status of chestnut forest stand using Sentinel-2 images. Véronique CHERET*, Jean-Philippe DENUX, Michel GOULARD, Michel CHARTIER, Julie VIGOUROUX

Spatiotemporal characterization of forest disturbance in the Hunsrück-Hochwald National Park, Germany. Enmanuel RODRIGUEZ PAULINO*, Dr. Achim Röder, Dr. Martin Schlerf, Dr. Johannes Stoffels, Prof. Dr. Thomas Udelhoven

Comparison of Random Forest and Convolutional Neural Network for dead trees detection in unmanaged zone of natural park Bohemian Switzerland. Júlia MATEJČÍKOVÁ*, Dana VÉBROVÁ, Peter SUROVÝ

Remote sensing helps to understand the mechanisms of bark beetle disturbance: Fusion of optical and SAR data. Arunima Singh, Prosper Washaya, Martin Mokroš*, Tomáš Hlásný

Spectral UAV monitoring of the condition of mountain coniferous forests. Paweł Bronisław DĄBEK*

[Posters SpS 17: Satellite data for assessing forest-related GHG emissions: progress for national and international reporting and the way forward](#)

Large-scale high resolution yearly modeling of forest growing stock volume and above-ground carbon pool. Elia VANGI*, Giovanni D'Amico, Saverio Francini, Costanza Borghi, Francesca Giannetti, Piermaria Corona, Marco Marchetti, Bruno Lasserre, Davide Travaglini, Guido Pelliis, Marina Vitullo, Gherardo Chirici

The use of EO based Tree Cover Density for Tropical Dry Forest Mapping to support countries in the REDD+ reporting. Fabian ENSSLE*, Helena DITE, Sharon GOMEZ, Christoff FOURIE, Thomas HAEUSLER

ForestCare : Monitoring Forest Quality Using Satellite And Drone Data. Hauke GRONENBERG*, Dorothea Sommer, Ali Doosthosseini, Julian Kunkel

[Posters ReS 01: Global Monitoring](#)

Global suitability mapping of forest ecosystem services in urban and peri-urban areas. Saverio FRANCIANI*, Gherardo CHIRICI, Stefano MANCUSO

Novel field dataset collected in two regions of China for producing large scale forest biomass change maps. Wenquan DONG*, Edward MITCHARD

Product use, data validation, networks – unused opportunities. Tanja GM SANDERS*, Stuart KRAUSE, Allan BURAS, Daniel DOKTOR, Fabian FAßNACHT

[Posters ReS 02: Fire](#)

Remote sensing monitoring of post-fire forest stands in Kuźnia Raciborska (Southern Poland) using time series of satellite imageries and Bi-temporal ASL LiDAR point clouds. Artur Wilibald GOLASZ*, Piotr WĘŻYK

Complex Network Algorithm for Forest Fire Spread Modelling. Monika Sharma*, Arijit Roy - [online](#)

Rapid assessment of post-fire forest regeneration in Coniferous ecosystems in Cyprus using the Google Earth Engine. Maria PRODROMOU*, Ioannis GITAS, Kyriacos THEMISTOCLEOUS, Chris DANEZIS, Diofantos HADJIMITSIS - [online](#)

Fuel type maps development for East Macedonia and Thrace Region, in northeastern Greece using passive and active Sentinel imagery. Giorgos MALLINIS*, Irene CHRYSAFIS, Christos DAMIANIDIS, Moschos Vogiatzis, Vassileios GIANNAKOPOULOS, Ioannis DOKAS

[Posters ReS 03: Big data and deep learning](#)

Selective logging detection with deep learning, cloud computing and high resolution imagery in the Peruvian Amazon. Lucio Villa Ramos*, Osmar Yupanqui Carrasco, Sidney Novoa Sheppard - [online](#)

Assessing Land-Use Following Deforestation at the Pantropical and National Scale Using Remote Sensing Time Series and Deep Learning. Robert Masolele*, Veronique De Sy, Martin Herold, Diego Marcos, Adugna G. Mullisa, Fabian Gieseke, Christopher Martius, Kalkidan Ayele Mulatu, Yitebitu Moges

An open benchmark data set for the estimation of forest parameters from Sentinel-1 and -2 time series with Machine Learning Methods. Sarah Hauser*, Andreas Schmitt, Peter Krzystek

Estimation of tropical forest aboveground biomass in Nepal using multiple remote sensor data and deep learning. Parvez RANA*, Sorin Popescu, Basanta Gautam, Shruthi Srinivasan, Anne Tolvanen, Timo Tokola

[Posters ReS 04: Precision Forestry](#)

Assessing the dependencies between tree crown characteristics and wood density using UAV point clouds. Reinis Cimmins*, Ville Kankare, Ninni Saarinen, Jiri Pyörälä, Tuomas Yrttimaa, Jari Hynynen, Saija Huuskonen, Juha Hyypä, Mikko Vastaranta

Unlocking the bottleneck of field observed and remotely sensed forest biomass by considering the horizontal distribution of forest biomass. Nils Griesse*, Nils Nölke, César Pérez-Cruzado, Christoph Kleinn

AUTOMATED DETECTION OF SHADOW IN FOREST AREAS FROM AERIAL IMAGERY PRODUCTS. Katarzyna ZIELEWSKA-BUETTNER*, Johannes BRAENDLE, Sven KOLBE, Petra ADLER, Veronika BRAUNISCH

A Comparative study on the accuracy and efficiency of data between LiDAR devices for the acquisition of forest resource information. Jintaek KANG*, Chiung KO, Jeongmook PARK, Jongsu YIM, Joungwon YOU, Minwoo LEE

[Posters ReS 05: Radar](#)

Forest disturbance mapping with Sentinel-1. Svein SOLBERG*, Yngvar Larsen

[Posters ReS 06: Ecosystem modeling](#)

Bamboo Mapping in part of North East India using Support Vector Machine and Sentinel-2 data - Muna Tamang*, Subrata Nandy - **online**

Assessment of Essential Biodiversity Variables in monitoring forest biodiversity change and its Implication for Forest Management using Remote Sensing Techniques: A case study of Ghana and the Czech Republic. Elisha Njomaba*, Robert Marusak, Peter Surovy

A multilevel approach to assess the impact of drought on urban tree physiology and ecosystem services: a case study on the city of Karlsruhe. Rocco PACE*, Marco CIOLFI, Francesca CHIOCCHINI, Marcel GANGWISCH, Nadine K. RÜHR, Rüdiger GROTE