

Conference Agenda

11th EARSeL SIG Workshop Forest Fires 2017

Date: Monday, 25/Sep/2017

8:30am Reg 1: Registration
- Location: [Registration Desk](#)

9:00am

9:00am PL 1: Remote Sensing for forest fires and climate change

- Location: [Aristotle Conference Hall](#)

10:30am Chair: Dr. Chariton Kalaitzidis, Mediterranean Agronomic Institute of Chania, Greece

The ESA Climate Change Initiative

Pascal Lecomte

European Space Agency, EU

The combined use of Landsat-8 and Sentinel-2 for burned area mapping

David Roy

South Dakota State University, USA

10:30am CB 1: Coffee Break

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10:45am

10:45am S 1: Forest fires and climate change

- Location: [Aristotle Conference Hall](#)

12:45pm

Global Fire Impacts Assessment from Long Term Analysis of Burned Area Products

Emilio Chuvieco¹, M. Lucrecia Pettinari¹, Joshua Lizundia¹, Aitor Bastarrika², Ekhi Roteta², Kevin Tansey³, Marc Padilla³, James Wheeler³, Jose Miguel Pereira⁴, Duarte Oom⁴, Manuel Campagnolo⁴, Thomas Storm⁵, Johannes Kaiser⁶, Angelika Heil⁶, Florent Mouillot⁷, Chao Yue⁸, Philippe Ciais⁸, Pierre Laurent⁸, Guido van der Werf⁹, Ioannis Bistinas⁹, Philip Lewis¹⁰, Jose Gómez Dans¹⁰, James Brennan¹⁰

1: Environmental Remote Sensing Research Group, University of Alcalá, Spain; 2: University of the Basque Country, Spain; 3: Department of Geography, University of Leicester, United Kingdom; 4: Instituto Superior de Agronomia, Universidade de Lisboa, Portugal; 5: Brockmann Consult, Germany; 6: Max Planck Institute for Chemistry, Germany; 7: IRD, CEFÉ/CNRS, France; 8: Laboratoire des Sciences du Climat et de l'Environnement, LSCE/IPSL, CEA-CNRS-UVSQ, France; 9: Faculty of Earth and Life Sciences, Vrije Universiteit Amsterdam, The Netherlands; 10: University College London, United Kingdom

Development of a Mid-term Fire Danger Index Using Satellite Remote Sensing and Ancillary Geographic Data

Alexandra Stefanidou¹, Dimitris Stavrakoudis¹, Thomas Katagis¹, Eleni Dragozi⁴, Maria Tompoulidou², Liountmila Stepanidou¹, Grigoriadis Dionisis¹, Ioannis Gitas¹, Peter Dokukin³

1: Aristotle University of Thessaloniki, Greece; 2: Greek Biotope-Wetland Centre (EKBY); 3: Peoples' Friendship University of Russia, Russian Federation; 4: Independent Scholar

Future Emissions from Canadian Wildland Fires

Michael Donald Flannigan¹, Mike Wotton², Ginny Marshall¹

1: University of Alberta, Canada; 2: University of Toronto, Canada

Fuel Moisture Estimation using Optical, Thermal Infrared, and Radar Remote Sensing over North America Boreal Forests, South Africa Savannas and Canadian Grasslands

Brigitte Leblon

University of New Brunswick, Canada

Active fire retrieval from AVHRR imagery since 1985 for Europe – Potential and caveats of a heritage sensor

Helga Weber^{1,2}, Stefan Wunderle^{1,2}

1: Institute of Geography, University of Bern, Switzerland; 2: Oeschger Centre for Climate Change Research, University of Bern, Switzerland

Lightning As Driver Of Recent Large Fire Years In North American Boreal Forests

Sander Veraverbeke^{1,2}, Ioannis Bistinas¹, Brendan Rogers³, Mike Goulden², Randi Jandt⁴, Charles Miller⁵, Elizabeth Wiggins², James Randerson²

1: Faculty of Earth and Life Sciences, Vrije Universiteit Amsterdam, the Netherlands; 2: Department of Earth System Science, University of California, Irvine, CA, USA; 3: Woods Hole Research Center, Falmouth, MA, USA; 4: Alaska Fire Science Consortium, University of Alaska, Fairbanks, AK, USA; 5: NASA Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, USA

Has recent climate enhanced the forest fire in India?

Reshma M. Ramachandran, Parth Sarathi Roy
University of Hyderabad, India

Accuracy assessments of the MTBS continental 30m resolution burnt area product

Zhaoming Zhang, He Guojin, Tengfei Long, Mengmeng Wang, Yantao Guo, Guizhou Wang, Xiaomei Zhang, Xiaojie Cao
Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences, China, People's Republic of

12:45pm **LB 1: Lunch Break**

- Location: **Mediterranean Restaurant**

2:15pm

2:15pm **S 2: Opportunities with Sentinel missions for forest fire research**

- Location: **Aristotle Conference Hall**

4:15pm

An Automatic Process Chain for Detecting Burn Scars Using Sentinel-2 Data

Michaela Bettinger, Sandro Martinis, Simon Plank
German Aerospace Center (DLR), Germany

Mapping plant abundance and phyto-sociability using Sentinel-2 satellite imagery

George Mitri¹, Joseph Bechara², Maya Nehme², Abdo Nassar²
1: Institute of the Environment, University of Balamand, Lebanon (Lebanese Republic); 2: Lebanon Reforestation Initiative, Lebanon

Integration of Sentinel-1 and Sentinel-2 data for mapping and characterizing burned areas in California

Daniela Stroppiana¹, Pasquale Imperatore², Fabiana Calò², Antonio Pepe², Luigi Boschetti³, Pietro Alessandro Brivio¹, Riccardo Lanari²
1: Institute for Electromagnetic Sensing of the Environment, National Research Council, Via Bassini 15, 20133 Milano, Italy; 2: Institute for Electromagnetic Sensing of the Environment, National Research Council, Via Diocleziano 328, 80124 Napoli, Italy; 3: Department of Natural Resources and Society, University of Idaho, 875 Perimeter Drive MS 1139 Moscow, Idaho, USA

Towards a fully automated burned area mapping methodology based on Sentinel-2 imagery

Nikos G. Georgopoulos, Dimitris G. Stavrakoudis, Ioannis Z. Gitas
Laboratory of Forest Management and Remote Sensing, School of Forestry and Natural Environment, Aristotle University of Thessaloniki, Thessaloniki 54124, Greece

Sentinel-1 Based Algorithm to Detect Burned Areas

Miguel Ángel Belenguer-Plomer, Emilio Chuvieco, Mihai Andrei Tanase
University of Alcalá, Spain

The Algorithms Behind The Burnt Scar Mapping Module of FireHub: A Scalable And Robust Approach For Multimodal Earth Observation Data

Charalampos Kontoes, Themistocles Herekakis, Ioannis Papoutsis, Emmanouela Ieronymidi, Sylvia Antoniadis
National Observatory of Athens, Institute for Astronomy, Astrophysics, Space Applications & Remote Sensing, Greece

Use of Sentinel satellite data for fire damage assessment : a focus on Wildland Urban Interface.

Marielle Jappiot, Adeline Bellet, Christophe Bouillon, Fabien Guerra, Eric Maillé, Denis Morge
IRSTEA, France

Comparison of dNBR based forest fire severity mapping using Landsat 8 and Sentinel 2

Mustapha Lateb¹, Chariton Kalaitzidis¹, Ioannis Z. Gitas²

1: Department of Geoinformation in Environmental Management, International Centre for Advanced Mediterranean Agronomic Studies / Mediterranean Agronomic Institute of Chania; 2: Laboratory of Forest Management and Remote Sensing, Faculty of Forestry and Natural Environment, Aristotle University of Thessaloniki

4:15pm CB 2: Coffee Break

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4:30pm

4:30pm S 3: Big data and time series for fire disturbance monitoring

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6:00pm

Location: [Aristotle Conference Hall](#)

Mapping Small Fire Burn Scars in Africa using Sentinel-1 Interferometric SAR Coherence

James Wheeler^{1,5}, Kevin Tansey^{1,5}, Emilio Chuvieco^{2,5}, Maria Lucrecia Pettinari^{2,5}, Aitor Bastarrika^{3,5}, Ekhi Roteta^{3,5}, Sandra Lohberger^{4,5}, Matthias Staengel^{4,5}

1: University of Leicester, United Kingdom; 2: University of Alcalá, Spain; 3: University of the Basque Country, Spain; 4: Remote Sensing Solutions GmbH, Germany; 5: ESA Fire CCI Project

Increasing the Statistical Significance for MODIS Active Fire Hotspots in Portugal Using One-Class Support Vector Machines

Vikram Devi Eswaramoorthy¹, Christian Strobl², Christian Geiß²

1: Technical University of Munich (TUM), International Master in Cartography, 80333 Munich, Germany; 2: German Aerospace Center (DLR), German Remote Sensing Data Center, Oberpfaffenhofen, 82234 Wessling, Germany

Quantifying and Analysis of Fire-induced Disturbances in Russian Forests Using Multi-year Time-series of Remote Sensing Data

Sergey A. Bartalev, Evgeny A. Loupian, Fedor V. Stytsenko, Vyacheslav A. Egorov, Svyatoslav S. Bartalev
Space Research Institute (IKI), Russian Federation

Analyzing Fire Behavior From Space Using Medium and High Resolution Infrared Sensors

Gernot Rücker¹, Joachim Tiemann¹, David Leimbach¹, Veerachai Tanpipat², Eckehard Lorenz³

1: ZEBRIS GbR, Germany; 2: Independent Consultant, Thailand; 3: DLR e.V., Germany

EXcellence Research Centre for Earth Surveillance and Space-Based Monitoring of the Environment (EXCELSIOR) for the Eastern Mediterranean Region: the establishment of EO hub for data, products and services

Diofantos G. Hadjimitsis¹, Harry Kontoes², Gunter Schreier³, George Komodromos⁴, Albert Albert Ansmann⁵, Rodanthe Mammouri¹, Kyriacos Themistocelous¹, Silas Michaelides¹, Argyro Nisantzi¹, Christiana Papoutsas¹, Christodoulos Mettas¹, Marios Tzouvaras¹, Kyriacos Neocleous¹, Dimitris Kouhartsiouk¹, Andreas Christofe¹, Evagoras Evagorou¹, Milto Miltiadous¹, Athos Agapiou¹, Vincent Ambrosia⁶

1: Cyprus University of Technology, Eratosthenes Research Centre, Department of Civil Engineering, Lemesos, Cyprus; 2: National Observatory of Athens; 3: German Aerospace Center (DLR); 4: Department of Electronic Communications, Ministry of Transport, Communications and Works, Cyprus; 5: Leibniz Institute for Tropospheric Research, Germany; 6: NASA Applied Science Program, USA

6:00pm IB: Icebreaker

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7:30pm

7:30pm WD: Workshop Dinner

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10:00pm

Location: [Mediterranean Restaurant](#)

Location: [Mediterranean Restaurant](#)

Date: Tuesday, 26/Sep/2017

8:30am Reg 2: Registration
- Location: [Registration Desk](#)

9:00am

9:00am PL 2: Operational tools for wildfire monitoring
- Location: [Aristotle Conference Hall](#)

10:30am

Wildfire Applications at NASA and extension of GEO-GWIS Support

Vincent Gerard Ambrosia

NASA Applied Science Program, USA

Towards the global monitoring of wildfires: The Global Wildfire Information System (GWIS)

Jesus San-Migue-Ayaz

Joint Research Centre, EU

10:30am CB 3: Coffee Break

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10:45am

10:45am S 4: Forest fire detection and monitoring on multiple scales
- Location: [Aristotle Conference Hall](#)

12:45pm

Wild Fire Mapping Using FireBIRD Data

Christian Fischer¹, Eckehard Lorenz¹, Thomas Säuberlich¹, Winfried Halle¹, Christian Strobl², Doris Klein², Gernot Rücker³

1: German Aerospace Center (DLR), Institute of Optical Sensor Systems; 2: German Aerospace Center (DLR), Earth Observation Center; 3: ZEBRIS Consulting

Evaluating and comparing NDVI and NBR indices performance for burned areas in terms of PBIA and OBIA in Aegean Region Turkey

Asli Sabuncu¹, Zehra Damla Uca Avci²

1: Bogazici University Kandilli Observatory ERI Bogazici University, Turkey; 2: Istanbul Technical University, Department of Astronautical Engineering, Faculty of Aeronautics and Astronautics, Istanbul, Turkey

Forest Firefighting Management Concepts based on Near Real-Time Aerial Support Strategies

Alexander Almer¹, Roland Perko¹, Thomas Schnabel¹, Sabine Lukas¹, Richard Feischl², Viktoria Pammer-Schindler³, Armin Köfler¹

1: JOANNEUM RESEARCH, Austria; 2: IFR Consultant Security-Safety & Disasternagement, Austria; 3: Knowledge Technologies Institute University of Technology Graz, AUSTRIA

Sample Allocation And Stratification For Validations Of Global Burned Area Products

Marc Padilla¹, Pontus Olofsson², Stephen V. Stehman³, Kevin Tansey¹, Emilio Chuvieco⁴

1: University of Leicester, United Kingdom; 2: Boston University, USA; 3: State University of New York, USA; 4: Universidad de Alcalá, Spain

Improving the Spatial Resolution of Active Fire Detections From Geostationary Satellites

Chathura Wickramasinghe, Luke Wallace, Karin Reinke, Bryan Hally, Simon Jones

School of Science, RMIT University, Melbourne, Australia

FireBIRD data for fire detection and characterization - examples and data access

Doris Klein¹, Rudolf Richter², Christian Strobl¹, Michael Nolde¹, Alexander Mager¹, Simon Plank¹, Christian Fischer³, Olaf Frauenberger¹, Eckehard Lorenz³, Winfried Halle³

1: German Aerospace Center (DLR), German Remote Sensing Data Center (DFD), Oberpfaffenhofen, Germany; 2: German Aerospace Center (DLR), Institute for Remote Sensing Technology (IMF), 82234 Oberpfaffenhofen, Germany; 3: German Aerospace Center (DLR), Institute of Optical Sensor Systems (OS), Berlin, Germany

A GIS-based method for fire risk assessment using spatial correlation in Sirachal area- Iran

Saeedeh Eskandari

Research Institute of Forests and Rangelands, Iran, Islamic Republic of

Automated burned scar mapping method using a single post-fire Landsat image and MODIS active fire product

Tengfei Long, Zhaoming Zhang, Guojin He, Weili Jiao, Xiaomei Zhang

Institute of Remote Sensing and Digital Earth, China, People's Republic of

Validation and upgrade of TET-1 Data Products using the volcano Lascar as normative Reference

Eckehard Lorenz

DLR, Germany

12:45pm **LB 2: Lunch Break**

- Location: **Mediterranean Restaurant**

2:15pm

2:15pm **S 5: Improved capabilities with large-volume fire data sets**

- Location: **Aristotle Conference Hall**

3:45pm

Single-polarized, Multi-polarized, and Polarimetric Radar Image Processing for Fire Management Applications

Brigitte Leblon

University of New Brunswick, Canada

Application of Level Set Methods for burned area mapping and evaluation against DLR's TET-1 hotspot data – a case study in Portugal

Michael Nolde¹, Simon Plank¹, Christian Strobl¹, Doris Klein¹, Christian Fischer², Themistocles Herekakis³, Ioannis Papoutsis³, Charalampos Kontoes³

1: German Aerospace Center (DLR), German Remote Sensing Data Center (DFD); 2: German Aerospace Center (DLR), Institut für optische Sensorsysteme (IOS); 3: National Observatory of Athens, Institute for Astronomy, Astrophysics, Space Applications and Remote Sensing (IAASARS)

Assessment of the Performance of the Broad Area Training Method to Detect Fires in Varied Locations and Landscapes Throughout the Asia-Pacific

Bryan Hally^{1,2,3}, Luke Wallace^{1,2}, Simon Jones^{1,2}, Chathura Wickramasinghe^{1,2}, Karin Reinke^{1,2}

1: School of Science, RMIT University, Australia; 2: Bushfire and Natural Hazards Cooperative Research Centre, Melbourne, Australia; 3: Faculty for Geo-Information Science and Earth Observation (ITC), University of Twente, Enschede, Netherlands

Best Practices for Burnt Area Algorithms

James Brennan^{1,2}, Philip Lewis^{1,2}, Mathias Disney^{1,2}, Jose Gómez-Dans^{1,2}

1: Department of Geography, University College London, Gower Street, London WC1E 6BT, UK; 2: NERC National Center for Earth Observation, UK

Validation of the MODIS Collection 6 MCD64 Global Burned Area Product

Luigi Boschetti¹, David Roy², Louis Giglio³, Michael Humber³, Sanath Kumar⁴, Maria Zubkova¹, Andrea Melchiorre¹, Lian-Zhi Huo¹, Haiyan Huang²

1: University of Idaho, United States of America; 2: South Dakota State University, United States of America; 3: University of Maryland, United States of America; 4: New Mexico State University, United States of America

3:45pm **CB 4: Coffee Break**

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4:00pm

4:00pm **PS: Poster Session**

- Location: **Poster Area**

4:30pm

Spatial Modelling and Monitoring of Post-Fire Forest Regeneration Successions

Vera Ryzhkova, Irina Danilova, Michael Korets

Sukachev Institute of Forest, Siberian Branch Russian Academy of Sciences, Russian Federation

Use of GIS for the Dynamic Generation of Forest Fire Risk Maps Based on a Probabilistic Model

Mohamed El-Amine Gacemi, Khatir Benhanifia

center of spatiales techniques, Algeria

Mapping burned areas from time series of Landsat imagery for estimating greenhouse gas emissions at the National level

George Mitri¹, Mireille Jazi¹, Manal Nader¹, Lea Kai²

1: Institute of the Environment, University of Balamand, Lebanon (Lebanese Republic); 2: United Nations Development Programme - Ministry of Environment, Lebanon

Integration of Socio-Economic and Ecological Parameters for Wildland Fire Vulnerability Mapping in Romania

Marius Petrila¹, Adrian Lorenț^{1,4}, Ștefan Neagu¹, Bogdan Apostol¹, Vladimir Gancz¹, Giorgos Mallinis², Ioannis Mitsopoulos³, Johann G. Goldammer³

1: National Institute for Research and Development in Forestry (INCDS) "Marin Drăcea, Romania; 2: School of Agricultural and Forestry Sciences, Department of Forestry and Management of the Environment and Natural Resources, Democritus University of Thrace; 3: Global Fire Monitoring Center (GFMC); 4: Transilvania University of Brașov, Faculty of Silviculture and Forest Engineering

Improving the rule-based semi-automatic method to map burned areas using historical Landsat archives to reconstruct recent fire history: Estimating the minimum DN value for atmospheric corrections

Nikos Koutsias^{1,2}, Gianni Boris Pezzatti¹

1: WSL Swiss Federal Institute for Forest, Snow and Landscape Research, Switzerland; 2: University of Patras, Greece

Assessing Satellite-Derived Fire Disturbance Products for Climate Science

M Vanesa Moreno¹, Pierre Laurent², Chao Yue², Philippe Ciais², Florent Mouillot³

1: University of Montpellier - Center for Functional and Evolutionary Ecology; 2: Climate and Environmental Sciences Laboratory; 3: Institute of Research for Development - Center for Functional and Evolutionary Ecology

Inter-comparison of Global Satellite Burned Area Maps derived from MODIS, MERIS and SPOT-VGT

Angelika Heil¹, Lucrecia M. Pettinari², Johannes Kaiser¹

1: Max Planck Institute for Chemistry, Germany; 2: Environmental Remote Sensing Research Group, University of Alcalá, Spain

Earth Observation for Forestry Applications in Cyprus

Diofantos G. Hadjimitsis¹, Takis Tsintides², Kyriacos Themistocleous¹, Kostas Papageorgiou², Rodanthi Mammouri¹, Andreas Damalas¹, Dimitris Kouhartsiouk¹, Argyro Nisantzi¹, Christiana Papoutsas¹, Silas Michaelides¹, Evagoras Evagorou¹, Christodoulos Mettas¹, Ioannis Gitas³, Marios Tzouvaras¹, Kyriacos Neocleous¹, Andreas Christofe¹, Milto Miltiadous¹

1: Cyprus University of Technology, Department of Civil Engineering & Geomatics, Eratosthenes Research Centre, Lemesos, Cyprus; 2: Department of Forests, Ministry of Agriculture, Rural Development and Environment, Cyprus; 3: Laboratory of Forest Management and Remote Sensing, School of Forestry and Natural Environment, Aristotle University of Thessaloniki

Exploring the Importance of Monitoring the Fire Risk Index in the vicinity of Cultural Heritage Sites in Cyprus using Sentinel Remote Sensing data

Dimitris Kouhartsiouk¹, Athos Agapiou¹, Vasiliki Lysandrou¹, Kyriacos Themistocleous¹, Argyro Nisantzi¹, Diofantos G. Hadjimitsis¹, Rosa Lasaponara², Nicola Masini³, Thomas Krauss⁴, Daniele Cerra⁴, Ursula Gessner⁴

1: Eratosthenes Research Center, Department of Civil Engineering Geomatics, Cyprus University of Technology, CYPRUS; 2: National Research Council, Institute of Methodologies for Environmental Analysis, ITALY; 3: National Research Council, Institute of Archaeological Monumental Heritage, ITALY; 4: Earth Observation Center (EOC), German Aerospace Center (DLR), GERMANY

Post fire damage assessment with satellite imagery : the French National Fire Expertise Center

Marielle Jappiot, Adeline Bellet, Christophe Bouillon, Fabien Guerra, Eric Maillé, Denis Morge
IRSTEA, France

4:30pm S 6: Methods of modelling post-fire vegetation trends

- Location: [Aristotle Conference Hall](#)

6:00pm

Fire Risk Assessment, Burned Area Calculation And Post - Fire Vegetation Regrowth In The Island of Euboea, Greece

Alexandros Athanasios Voukenas¹, Georgia Doxani²

1: Aristotle University of Thessaloniki, Greece; 2: European Space Agency

Trend Analysis of Post-fire Vegetation in Yellowstone National Park, USA

Rutherford Vance Platt

Gettysburg College, United States of America

Modeling post-fire recovery rates in Mediterranean ecosystems in Spain: influence of fire severity, post-fire climate and site conditions.

Susana Martínez, Emilio Chuvieco, Inmaculada Aguado, Javier Salas
UNIVERSITY OF ALCALA DE HENARES, Spain

Monitoring of reforestation on burnt areas in Mari El using Landsat time series

Eldar Kurbanov, Oleg Vorobev
Volga State University of Technology, Russian Federation

Date: Wednesday, 27/Sep/2017

9:00am FT: Field Trip

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6:00pm