Pecora 21/ISRSE 38
Preliminary Program

Technical session dates and times are still being finalized. This Program is subject to change

Land Imaging Capabilities and User Needs

Sustainable Land Imaging Landsat 10 User Needs
Zhuoting Wu

A Land Imaging Architecture Scorecard to Support Decision-Making Carolyn M Vadnais

What is the Socioeconomic Value of Using Landsat Imagery to Improve Post-wildfire Response Methods? Bethany Mabee

Earth Observing System Capabilities Greg Stensaas

Decision-Support for Land Imaging Mission Engagement
Greg Snyder

Interagency Coordination on Satellite Needs
Joseph Conran

Trends in Global Land Observation Capacity from Civilian Earth Observation Satellites
Jon Christopherson

Assessing the Impact of Land Imaging Emily Sylak-Glassman

The Challenges of Integration for Arctic Monitoring

The Role of Satellite-based Information to Inform Change in Arctic Ecosystems at the Canadian High Arctic Research Station, Nunavut
Donald McLennan

The Arctic Boreal Vulnerability Experiment (ABoVE) Airborne Campaign
Peter C. Griffith

Integrating Field Scale EO Metrics to Grow Domestic Conservation Practices Within Supply Chain Decision Support Tools
Nathan Torbick
Advances in Land Change Detection and Attribution

Synthesizing Open-access Data for a Continuously Updating Land Use / Land Cover Product Across Large Areas with BULC (Bayesian Updating of Land Cover)
Jeffrey A Cardille

Introducing Automatic Satellite Image Processing Into Land Cover Mapping by Photo-interpretation of Airborne Data
Mario Caetano

Using SOM Neural Network to Improve Land Use and Cover Training Samples from Satellite Image Time Series
Karine Reis Ferreira

Optimum Three Layers for Change Detection Using Landsat Images
Dr. Essam

Refinement of Historical Cropland Data Layer Based on Deep Learning Approach
Chen Zhang

Urban Climate Impact Investigations Using Remote Sensing

Heat Vulnerability Index utilizing Landsat derived temperature-NDVI and socio-economic data in Nashville and Portland, USA
Sunhui Sim

Prakhar Misra

City-Level Analysis of Anthropogenic Co2 Emissions Using Oco-2 Observations from 2014 To 2018
Peng Fu

Remote Sensing Contributions to Urban Sustainability
John Trinder

Thermal Remote Sensing of Urban Climates in South Africa through the Mono-window Algorithm
Adeline Ngie

Crop Type Monitoring Initiatives

30+ Years of Cropland Mapping in South America using Landsat Data
Viviana Zalles

An Update on the Annual National Cropland Data Layer Program
Rick Mueller
Mapping Crop Types with dense time series of L8 and GF Satellite Data
Fan Jinlong

The Spatio-temporal Distribution Characteristics of Sugarcane Planting Area and Yield in Guangxi, China
Shun Hu

Twelve Years Experiences in providing LULC and Crop Type Maps for an Interdisciplinary Research Project, the CRC/TRR32 Patterns in Soil-Vegetation-Atmosphere-Systems (2007 - 2018)
Georg Bareth

Using Remotely Sensed Data to Map Forest Structure and Attributes

Annual Continuous Fields of Woody Vegetation Structure in the Lower Mekong Region from 2000-2017 Landsat Time-Series
Peter Potapov

The Challenges of Scaling-up: Monitoring Fractional Woody Vegetation Cover Changes in the Arid Savannahs of Namibia with Lidar Training Data, Machine Learning and SAR
Konrad Wessels

Airborne Lidar Sampling Strategies to Enhance Forest Aboveground Biomass Estimation from Landsat Imagery
Lindi Quackenbush

Developing a Refined Fine Resolution Forest Site Productivity Map by Linking Biomass Growth Index to Remotely Sensed Variables
Parinaz Rahimzadeh-Bajgiran

Unmanned Aerial Systems (UAS) as a Tool for Investigating Edge Influences in New Hampshire Forests
Heather Grybas

Space Agencies Outlook

Copernicus—Europe’s eyes on Earth - Status and future Plans
Peter Breger

NASA Earth Science Division—Path to the Future
Sandra Cauffman

The German Earth Observation Program
Peter Schaadt

An Ambitious European EO Space Programme for Current and Future Societal Challenges
Ivan Petiteville
Canada’s Future Space-based EO Architecture
Eric Laliberte

Communicating Science Across the Earth Observation Life Cycle

Tips for Remote Sensing Scientists: How to Talk to Decision Makers
Ana Prados

Stories and Services: Crafting Messages and Methods for Communicating Earth Science
Kevin Ward

Going Beyond Data to Data-Based Answers To Users’ Questions In The U.s. Climate Resilience Toolkit
David Herring

Knowledge Sharing and Communication between Remote Sensing Scientists, Non-experts and Decision Makers: Delivering Trusted Data in a Real-Time Secure Collaborative Environment
Dave Jones

National Land Cover Database 2016, Offering New Change Insights Across the Conterminous United States

NLCD 2016 Impervious Surface Distribution and Change Patterns
George Xian

Release of the 2016 U.S. National Land Cover Database, Providing New Opportunities for Land Cover Science
Collin Homer

New NLCD 2016 Shrub and Grass Products, Offering Unprecedented Characterization and Monitoring of U.S. Shrublands
Collin Homer

Future Plans for NLCD 2019
Jon Dewitz

Understanding Requirements and Improving Results

Progress on the NOAA Satellite Observing System Architecture Study and the Way-Ahead
Karen St. Germain

Users, Uses, and Value of Landsat Satellite Imagery: 2018 User Survey
Crista Straub

Landsat Advisory Group Assessment of Landsat Data Cost-sharing Models
Frank Avila, Bobbi Lenczowski
Using Giovanni to Enhance Citizen Science Observations
James Acker

Validating National-scale Remote Sensing Models using Crowdsourced Observations
Jill Derwin

Seasonal Dynamics in Agricultural and Forestry Systems
Spatiotemporally Explicit Forest Phenoclimatology in Northeastern Minnesota, USA
Matthew Garcia

Mapping the Growing Season with Sentinel-2 Data in High Arctic Svalbard
Stein Rune Karlsen

Near Real-time Mapping of Crop Emergence using Frequent Satellite Remote Sensing Imagery
Feng Gao

Use of VIIRS to Monitor Sub-Annual Surface Type Dynamics Driven by Seasonal and Shorter Term Changes in Snow Cover and Surface Inundation
Chengquan Huang

Big Data
Gunter/Brumby

Copernicus—Europe’s eyes on Earth: Sustainable and Continuous Monitoring of our Environment
Copernicus: How Europe’s Eyes on Earth are Supporting Environment And Climate Change Policy
Hans Bruyninckx

The Copernicus Atmosphere Monitoring Service: Bringing Earth Observation into your Screens
Vincent-Henri Peuch

Monitoring and Reporting on the Ocean State: The Copernicus Marine Service
Pierre Bahurel

The Copernicus Climate Change Service: Monitoring the Earth’s Climate and its Evolution
Jean-Noel Thepaut

Where Copernicus Global Land products Can Make a difference!
Michael Cherlet
The Next Generation of the Landsat Archive

USGS Landsat Archive: Revolutionary Enhancements
Christopher Barnes

Landsat Collection 2
Chris Engebretson

Cloud Migration for Landsat
Peter Doucette

Landsat Legacy with Landsat 9
Brian Sauer

Landsat Science Products Overview
Michelle Bouchard

Landsat Provisional Surface Temperature Product
Saeed Arab

Global Hyperspectral Imaging Spectral-library of Agricultural-Crops (GHISA) in Support of NASA’s Surface Biology and Geology (SBG) mission

Global Hyperspectral Imaging Spectral-library of Agricultural-Crops (GHISA) in Support of NASA’s Surface Biology and Geology (SBG) mission
Prasad S. Thenkabail

Hyperspectral Remote Sensing of Agriculture and Vegetation: 50-Years of Knowledge Advances
Prasad S. Thenkabail

Earth Observing-1 Hyperion Hyperspectral Imaging Spectroscopy Data in Advancing Classification Accuracies of the Leading World Agricultural Crops through Cloud Computing on the Google Earth Engine
Itya P. Aneece

Spaceborne Hyperspectral EO-1 Hyperion Data Pre-processing Methods, Approaches, and Algorithms on the Cloud
Itya P. Aneece

Climate Session
Ghassem Asrar
Mapping and Monitoring Surface Change: Landslides and Subsistence

Data Imbalance in Landslide Susceptibility Zonation: Under-sampling for Class-Imbalance Learning
Sharad Kumar Gupta

Scale Dependency of Causative Factors used in Preparation of Landslide Susceptibility Zonation
Sharad Kumar Gupta

Analysis of Landslide Reactivation using Satellite Data: A Case Study of Kotrupi Landslide, Mandi, Himachal Pradesh, India
Nitu Singh

Monitoring Subsidence for Arctic Infrastructures by SAR Interferometry
Todd Burns

Application of Sentinel 1 in Deformation Monitoring for Suswa Area, Kenya
Mercy Mwaniki

Advances in the use of Remote Sensing for Watershed Management

Potentials of Earth Observation for Water Resources Management: Examples from the Catch-Mekong Project
Doris Klein

Quantifying Effects of Global Change and Land Use Legacy at the Land-Water Interface Across the Great Lakes Basin
Michael Battaglia

New Generation of NOAA Polar-orbiting Satellites to Enhance Global Land Applications and Services
Felix Kogan

Coastal Land Cover Monitoring: Moving from the Past into the Future
Nate Herold

Satellite-based Water Management on the Navajo Nation
Amber Jean McCullum

Copernicus Serving Sustainable Development Goals

The Copernicus Climate Change Service: A Contribution to the Sustainable Development Goals
Jean Noel Thepaut

The Copernicus Atmosphere Monitoring Service and the monitoring of Sustainable Development Goals
Vincent-Henri Peuch
The Copernicus Marine Service in support of SDGs
Pierre Bahurel

Copernicus Land Monitoring Service to support implementing the SDGs
Chris Steenmans

The Global Land Component of the Copernicus Land Service: key products for SDG monitoring
Michael Cherlet

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Geospatial Fusion: Observations, Features, Decisions

Geospatial Fusion: Innovation and Standards
George Percivall

Fusing Remote Sensing and Population Data to Map the Human Planet
Robert Chen

Landscape Dynamics, Geographic Big Data and Scalable Geocomputation: The Oak Ridge Experience
Budhendra Bhaduri

An Interoperable Decision Support System for Flood Disaster Response Assistance
Guy Schumann

Preparing Earth Science Satellite Data for Analysis
Robert E. Wolfe

Developing a Cloud Analytics Reference Architecture for the Earth Sciences
David Meyer

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Understanding and Improving Landsat Measurements

The Evolution of Landsat Science Products for Earth Science Applications
John Dwyer

Landsat-9 OLI-2 Spectral and Radiometric Prelaunch Characterization and a Comparison to Landsat-8 OLI
Julie Barsi

Radiometric Performance of Imagers Onboard of Landsat 7 and 8 Satellites
Esad Micijevic

Field Validation and Intercomparison of Surface Reflectance Derived from Landsat and Sentinel-2 Satellites at a Continental Scale
Medhavy Thankappan
Landsat Thermal Infrared Sensors Imaging Performance
Brian Markham

Public Health and Safety Topics
Monitoring for Village Burnings with SmallSats: A Case-study in Myanmar
Andrew Marx
Spatial Analysis of the 2018 Cholera Outbreak in Harare, Zimbabwe using Humanitarian OPENSTREETMAP
Musakwa
Geospatial Evaluation of Former Atlanta Housing Project Sites as Socio-Ecological Nodes
Amanda D Aragon
Global Health-care Facilities their Monitoring and Adequacy to Cope with Extreme Environmental Emergencies
Andreas N. Skouloudis
Understanding Variations of Atmospheric CH4 Concentration at Zoige Wetland, China Using Multi-temporal AIRS Datasets and BFAST Algorithm
Yong Wang

Land Cover Case Studies for Watershed Management
A Comparison of Fused Sentinel-2 and Landsat 8 Oli for Land Cover Mapping—A Case Study of Levhuvhu and Ndzhelele Sub-Catchments in South Africa
Zama Eric Mashimbye
Assessment of Watershed Resources for Sustainable Agricultural Development: A Case of Developing an Operational Methodology under Indian Conditions through Geospatial Technologies
Balasubramani Karuppusamy
Change Detection in an Ungauged Basin Using Remote Sensing Data: Implications on Human and Natural Systems
Jokotola Taiwo
Land Cover Monitoring of Laguna Lake Watershed using MODIS NDVI Data
Jommer M. Medina
Creating Remotely Sensed Cover Crop Data in Iowa
Amy Logan
Surface Water and Ice Monitoring and Assessment
A USGS Standard Product for Wetland Dynamics Monitoring: Lessons Learned from Dynamic Surface Water Extent (DSWE) Application
John Jones

Implementation of the Dynamic Surface Water Extent Algorithm in Google Earth Engine for Global Applications
Chris Soulard

Remote Sensing of Riparian Zones for Measuring Stream Permanence
Ethan Shavers

Towards Monitoring Minnesota’s Under Ice Limnology and in Lake Primary Productivity using the Landsat-Sentinel Earth Observation Constellation
Chris Crawford

Monitoring Lake Ice on Lake Hazen using High-density SAR Time Series
Justin Murfitt

Space Agencies Outlook
The Future of International Collaboration with the Continuing Evolution of a Global Integrated Observing System
Stephen Volz

The USGS Outlook on Earth Observation
Tim Newman

China’s Earth Observation Progress and Its Impact on SDGs
Huadong Guo

CNES, French Space Agency Earth Observation Program
Selma Cherchali

How COSMO-SkyMed and PRISMA Can Help Decisions: The Italian Experience
Laura Candela

Advances in Retrieval of Water Constituents
(potential place for Nima Pahlevan paper)

A Cloud-based Approach for Continuous Monitoring of Cyanobacterial Harmful Algal Blooms using Sentinel 3-Olci Data
Abhishek Kumar
Estimation of Chl-a Concentration in Laguna Lake using Sentinel-3 OLCI Images  
Ariel C. Blanco

Satellite Observed Temporal and Spatial Variability of Water Clarity in the Laurentian Great Lakes  
Robert Shuchman

Anomaly Detection in Surface Waters: A Machine Learning Approach  
Armin Mehrabian

Advancing Water Quality Monitoring Capabilities For Inland Waters using Landsat and Sentinel Data in an Automated HPC Environment  
Leif Olmanson

Climate Impact Investigations

Grace-informed Seasonal Forecasts of Hydrologic Extremes in the Contiguous United States  
Benjamin Zaitchik

Geo-Information-Based Assessments of Climate Change Impacts on Environmental Degradation In Nigeria  
Olajumoke Folasade Jejelola

Modelling Earth-Observation Assessments and Adaptation of Gulf-of-Guinea Coast to Climate Change and Future Extreme Events  
Samuel Olumide Akande

Developing Outcome-based Environmental Informatics: A Pathfinder in Data Integration for Coastal Systems  
Nicole Bartlett

Enterprise LST Product Status and Its Readiness to Users  
Yuling Liu

Biodiversity and Conservation Case Studies

Geospatial Modeling of Human-Wildlife Conflict and Habitat Suitability for Jaguar Corridors in Costa Rica  
Hikari Murayama

Spatial Multi-criteria Modeling for Habitat Suitability of Flagship Species in Western Himalaya  
Ramesh Silwal

A Geospatial Analysis of Seasonal Flow and Biodiversity at Jebba and Kainji Hydroelectric Power Plants in Nigeria  
Adewale Mould
Spatio-Temporal Analysis of Habitat Characteristics at the Adhesive Spawning Site in Water-level Fluctuation Zone over the Three Gorges Reservoir
Ding Fang

Ecological Remote Sensing Monitoring of Sichuan-yunnan Ecological Defense in China
Li Liang

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**Case Studies in Cropland Mapping and Monitoring**

Mapping and Monitoring Croplands using Field Data Collection and the Global Agricultural & Disaster Assessment System
Lisa Colson

Strengthening Food Security Assessments in Kenya through Implementation of a National Crop Monitor System
Lilian Ndungu

Agriculturally Consistent Mapping of Smallholder Farming Systems using Remote Sensing and Spatial Modelling
Crespin-Boucaud Arthur

Fine-Scale Spatial and Temporal Monitoring of Crop Growth, Biomass and Weather Damage: Techniques for Small Farms and Community Gardens
Shannon Healy

Evapotranspiration Modeling for C4 and C3 Crops using Remote Sensing Data
Yahampath A. Marambe

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**Large Area Land Change Mapping and Monitoring Investigations**

The Fate of Tropical Forest Fragments
Matt Hansen

Forestry TEP is Serving Users in Efficient Exploitation of Earth Observation in Forestry
Tuomas Hame

Comparison of Machine Learning Algorithms for Predicting Lichen Fractions in Northern Canada and Alaska
Blair Kennedy

Earth Observations for Global Biodiversity Monitoring
Cindy Schmidt

Copernicus Operational Global Land Cover Service—A Flexible, User-oriented and Multi-scale Mapping Approach
Marcel Buchhorn
Societal benefits for Earth Observations in Natural Resources Management Decision Making

Societal Benefits of USGS Science: Indications from a Series of Pilot Studies
Emily Pindilli

The Consortium for the Valuation of Applications Benefits Linked with Earth Science (VALUABLES)
Yusuke Kuwayama

Value of Geospatial Information for Food Security, Water Security and Housing Security
Jamie Brown Kruse

Valuing the Benefits of Earth Observations: A NOAA Perspective
Monica Grasso

Sustainable Land Imaging and the Future of Moderate-Resolution Land Observation

Sustainable Land Imaging
Marissa Herron, Tim Newman

Science and Applications Needs for Future Land Imaging Missions
Zhuoting Wu

Copernicus Sentinel-2 and Candidate Land Surface Temperature Monitoring (LSTM) Missions
Valentina Boccia

Overview and Status of the Landsat 9 Mission
Del Jenstrom

Advantages of Enabling Technologies Applied within Land Imaging Architectures
Doug Daniels

Women in Remote Sensing
Moderator: Jennifer Lacey, USGS EROS Observing Systems Branch Chief
Panel includes:
Kass Green, President, Kass Green & Associates
Birgit Peterson, Geographer, USGS Earth Resources Observation and Science Center
Barbara J. Ryan, Former Director of the Group on Earth Observations (GEO)
Alyssa Whitcraft, Program Scientist, GEOGLAM

Join us as we explore challenges and opportunities for women in remote sensing science and engineering. A panel that has a range of backgrounds will discuss their experiences within the field along with personal concerns of work-life balance, mentoring, leadership development and professional
growth. A follow-on Q&A session with interactive dialogue is encouraged so women at all stages of professional (and personal) growth can share experiences and networking options.

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**Studies Advancing Land Cover Mapping and Monitoring Capabilities**

**Reconciling Citizen Science and Landsat Land Cover Observations in Heterogenous Settings**
Eric C. Brown de Colstoun

**The Factor Segmentation of the Ecological Space and the Theoretical and Methodological Substantiation of the Boundaries and Integrity in the Landscape Cover and its Components by Means of Remote Sensing**
A.N. Krenke

**Using Lidar and Earth Observation Temporal Analysis to Characterize and Explore Historic Behavior of Uranium Mining on the Landscape**
Victoria G. Stengel

**A Data-driven Approach for Mapping Grasslands at a Regional Scale**
Dana Peterson

**High Resolution Land Cover Classification using the National Land Cover Dataset Tool, Imagery and Historical Data**
Jeff Van de Vaarst

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**Earth Observation and Remote Sensing Education Initiatives**

**Policy Measures Taken for Natural Resources Data Management In India**
Prithvish Nag

**Natural Science Meets Social Science: The Realities of Cross-Disciplinary Work**
Valerie Were

**Earth-centric Technology Paradigm for STEM Education and Public Communication**
Tim Foresman

**Augmented Tools for Environmental Monitoring: Incorporating Recent Technologies Into Learning in the Geosciences**
Marguerite Madden

**Leveraging Open Data for Informed Decision Making**
Carolyn Savoldelli

**Innovative STEM Curriculum Development for the NextGen Earth Observation Workforce**
Laurie Chisholm
Harnessing Earth Observations for Improved Fire Response
The GEO Global Wildfire Information System (GEO-GWIS)
Vincent G. Ambrosia

WildFireSat—A Canadian Wildland Fire Monitoring System
Helena van Mierlo

Integrating Lidar into MTBS Burn Severity Mapping
Birgit Peterson

Examining Recent Trends in Fires and Air Quality in the U.S. Using Seven Years of SNPP VIIRS
Shobha Kondragunta

Land Change Monitoring Assessment and Projection (LCMAP): Current Status
Progress Towards Continuous Monitoring of our Changing U.S. Land Cover
Jesslyn Brown

How to Produce Land Cover and Land Change from Time Series Data
Heather Tollerud

LCMAP Land Cover and Land Change Products
Christopher Crawford

Quality Control and Assessment of InterpreterR Consistency of Annual Land Cover Reference Data for the USGS LCMAP Initiative
Bruce Pengra

Use of LCMAP Reference Data for Accuracy Assessment and Area Estimation
Steve Stehman

Initial LCMAP Prototype Land Cover Classification Composition and Change Metrics, 1985-2016
Roger Auch

Open Data Cube: A New Data Technology for Enhancing the Use of Satellite Data to Address Sustainable Development Goals
Time-Series and Applications of Advanced Sentinel-1 Analysis Ready Data for Africa (SAR-4-Africa)
Jorg Haarpaintner

Summary of the Open Data Cube Initiative and its impact on the Sustainable Development Goals
Brian Killough

An interoperable multi-sensor water detection approach using the Open Data Cube
Brian Killough
Galamsey Monitoring with Sentinel-1 in Ghana
Jorg Haarpaintner

Lessons Learned from Using the Open Data Cube (ODC) and Machine Learning Techniques for United Nations (UN) Sustainable Development Goals (SDGs)
Syed R Rizvi

Towards improving the multi-sensor interoperability to mitigate the effects of clouds on analyses using Open Data Cube (ODC) for United Nations (UN) Sustainable Development Goals (SDGs)
Syed R Rizvi

Earth Observations for International Development

Earth Observations for International Development
Douglas Muchoney

Citizen Science and Earth Observation: An Overview
Krystal Wilson

Global Forest Watch, from Satellite Data to Information for Decision Makers
Fred Stolle

Strengthening Capacity in using Earth Observations for Societal Benefit in the Americas in the Context of the Amerigeo Regional Initiative
Betzy Hernandez Sandoval

SERVIR: Fourteen Years of Bringing Space to Village
Emil Cherrington

Utilizing Earth Observation to Map Ecosystem Extent and Condition in West Papua, Indonesia
Timothy Wright

Harnessing Earth Observations to Support Indigenous-led Land Management
Karyn Tabor

Advances in Crop Yield Monitoring Approaches

VERDE: An Innovative Solution to Deliver Detailed Crop Analytics
Peter Barren

Multi-UAV System for Precision Agriculture
Georgy Skorobogatov

From Pixel to Yield: Forecasting Potato Productivity in Lebanon and Idaho
Hanan Abou Ali
Estimating US Corn Yields using MODIS Data, Phenology Analysis, and Two-Band Enhanced Vegetation Index
Arthur Rosales

Annual Field-level Crop Yield Assessment with 35 Years of Landsat data
David Johnson

Bathymetry and Near-Shore Investigations
A Cost-effective Method for Water Depth Derivation Using Remotely Sensed Imagery
Jerimiah Johnson

Using Remote Sensing to Quantify Paleolithic Site Potential of Ancients by Restructuring Bio-Communities Along the Kelp Highway
JP McGlaughlin

Mapping of Shallow Water Sites to Inform Boat Navigation on the Colville River, North Slope of Alaska
Santosh Panda

Altimetry Applications in Coastal and Inland Waters
Margaret Srinivasan

Aquaculture Mapping and Production Estimation Derived from Copernicus Sentinel-1 Time Series
Marco Ottinger

Forest Health and Degradation Monitoring Investigations
Estimating Rates of Forest Degradation and Deforestation for the Amazon Basin from 1995-2017
Eric Bullock

Using Radar-derived Elevation Data to Characterize Land Cover Changes Detected by Landsat Imagery in the Northwestern Colombian Amazon
Paulo Arvalo

Detection and Severity Classification of Spruce Budworm Annual Defoliation using Sentinel-2 Imagery
Rajeev Bhattarai

Landsat Time Series Analysis of a Continuous Variable Response—Percent Mortality from a Bark-Beetle Infestation
Rick Lawrence

Extraction of Young-Woody Vegetation Structure in a Savanna Semi-Arid Environment Exploiting Readily Available Sentinel-2 and Landsat 8 Images
Emmanuel Fundisi
How No-cost Landsat Data is Reshaping College Level Remote Sensing Courses
(AmericaView Special Session)

Integrating Change Detection into Undergraduate Geomorphology and Natural Hazards Courses and
the Impact of Landsat’s Free Imagery Archives
Rebecca L. Dodge

Educating Science and Art with Landsat Imagery at UWG
Jeong Seong

SP9 Reaping the Benefits of No-Cost Imagery for Geospatial Education
Russell Congalton

Impact of No-cost Landsat Imagery on Courses at Montana State University: Increased Relevance,
Realistic Experiences, and Publications
Rick Lawrence

Landsat Archived Data for Time Series Salt Marsh Change Analysis along the mid-Atlantic Coast
Y.Q. Wang

No Cost Landsat Imagery Supports Student eBook Learning
James Campbell

No-cost Landsat Data Redefines Student Research Projects in Applied Remote Sensing Classes at UW
Ramesh Sivanpillai

Advancing Undergraduate Geospatial Science Education using No Cost Landsat as a Base to Build Story
Map Applications while Enhancing the Remote Sensing Art Gallery Exhibit
Brent Yantis

Utilization of Free Landsat Imagery in Remote Sensing Teaching, Research and Outreach at the
University of North Georgia
J.B. Sharma

SPatial LITeracy—SPLIT Remote Sensing using No-cost Landsat Data by OhioView
Anita Simic Milas

Land Change Monitoring Assessment and Projection (LCMAP): New Land Change
Science Research and Development

New Land Disturbance Products
Zhe Zhu

Future Directions and Updated Capabilities for LCMAP
Heather Tollerud

Algorithm Development for Mapping land Disturbance Agent
Junxue Zhang
Mapping Causal Agents of Disturbance in the ABoVE Domain using Time Series of Landsat Data
Yingtong Zhang

Towards A Moderate Spatial Resolution Data Record of 21st Century Global Land Cover, Land Use, and Land Cover Change
Mark Friedl

New Generation of NOAA Operational Satellites to support Land, Arctic, and Coastal Waters Applications
Application of GOES-16/ABI Imagery in Flood Detection
Sanmei Li

Advancing Environmental Remote Sensing with VIIRS and ABI
Changyong Cao

Active Fire Monitoring and Applications from NOAA’s New Generation Operational Satellites
Ivan Csiszar

Observing Hail Swaths Using the GOES Advanced Baseline Imager
Kevin Gallo

The Land Product Characterization System: A tool for Comparative Analysis of Satellite Data and Products
Kevin Gallo

The NOAA CoastWatch Program and Operational Satellite Oceanography Data for Research and Applications
Paul M. DiGiacomo

Cropland and Soil Monitoring
Wheat Sown Area Mapping in Afghanistan using Knowledge Based Decision Tree and Machine Learning Method with Optical and RADAR Images in Google Earth Engine Cloud Environment
W. Lee Ellenburg

Paddy Rice Mapping in Cloudy Southeast Asia with Multitemporal Synthetic Aperture Radar and Optical Images in the Google Earth Engine Cloud Platform
Fuyou Tian

Early Season Winter Wheat Identification Using SENTINEL-1 Synthetic Aperture RADAR and Optical Imagery
Claire Boryan

Downscaling of SMAP Radiometer Soil Moisture In Conus
Bin Fang
A Strategy for a National Soil Moisture Network
Michael Cosh

Forest Monitoring and MRV Case Studies

Space-time Heterogeneity of the Cerrado Deforestation
Alan de Brito

Interoperability of Various Data Streams within Guyana’s Monitoring Reporting & Verification System
Pradeepa Bholanath

Nasheta Dewnath

Measuring Global Forest Fragmentation Change using Landsat Imagery in Support of the UN Sustainability Goals
Charlene DiMiceli

Aspects of Forest Dynamics of the East European Plain Based on Global Forest Change Data and Local Field Observations
T.V. Chernenkova

New Earth Observations

Preliminary Validation of GOES-16 ABI Aerosol Optical Depth Product
Mi Zhou

Estimating Ground-level PM2.5 Concentration by Integrating Ground Observations with Remotely Sensing Data
Zhenwei Zhang

Total Propagated Uncertainty of the Surface Reflectance of the Satellite Imagery
Minsu Kim

A Novel Re-compositing Approach to Create a Continuous and Consistent Cross-Sensor Global NDVI Data Set
Wenze Yang

Development and Validation of JPSS VIIRS VI and GVF Products
Feng Zhao
Land Change Monitoring Assessment and Projection (LCMAP): Advancing Land Cover Applications and Assessments

Remote Sensing as the Foundation for the Next Generation of United States Landscape Projection Models
Terry Sohl

Comparative Study Between NLCD and LCMAP Land Cover Maps
Qiang Zhou

Characterize Landscape Thermal Feature and Change in Urban Environment using Landsat Ard and Lcmap Products
George Xian

LCMAP Applications in Hydrological Sciences
Jennifer Rover

An Overview of the Current Analysis Ready Data Products, Tools, Applications and Impacts

CEOS Analysis Ready Data for Land (CARD4L)—An Overview on the Current and Future Work
Andreia Siqueira

The Open Data Cube in a Box
Alex Leith

Copernicus Sentinel-2 Surface Reflectance Products from a CARD4L Perspective
Valentina Boccia

The USGS’s Progress Towards Analysis Ready Data (ARD) Products
Cody Anderson

Sen2like, a Tool to Generate Sentinel-2 Harmonised Surface Reflectance Products Toward the integration of New Missions
Sebastian Saunier

Case Studies in National Land Cover Mapping Projects

A National Land Cover Monitoring System for Afghanistan
W. Lee Ellenburg

Optical and Radar Data Analysis for Land Cover/Use Mapping in Peru
Barry N Haack
Living Earth Australia: Land Cover Mapping to Address Sustainable Development Goals using Digital Earth Australia
Christopher Owers

Quantification of Recent Land Cover Changes in Ethiopia
Reza Khatami

Earth Monitor: A Multi-Criteria Change Monitoring Service using Satellite Imagery
Peter Barren

Open Civil Applications Committee Meetings

Civil Applications Overview
Paul Young/Jim Reilly

Leveraging DoD Imagery for Civil Applications
Steve Hak

Geospatial Sensing for the Wildland Firefight
Everett Hinkley

The Opportunity Project
Drew Zachary

Advances in Soil Moisture and Condition Measurement and Monitoring

Multi-Layer Soil Moisture Mapping at Regional Scale using Multi-source Data and Machine Learning Methods
Linglin Zeng

Conserving Soils through Operational Monitoring of Salt Accumulation and Waterlogging in Irrigated Agricultural Fields
Adriaan van Niekerk

Object-based Classification Approach to Determine the Fallow Period For Shifting Agriculture in Indigenous Communities inGuyana
Haimwant Persaud – candidate for movement to a methods session.

Using Space-Borne Image Spectroscopic Data to Estimate At Canopy Level Maize Nitrate Status In A Linear Regression Model
Adeline Ngie

A Conversation on the Landsat Program and its Data Policy
Moderator: Barbara Ryan
Panel includes:
Dr. Samuel Goward, Professor Emeritus, Department of Geographical Sciences, University of Maryland
Dr. Kass Green, President, Kass Green and Associates, and former President, Space Imaging Solutions and Pacific Meridian Resources
Dr. Chris Justice, Professor and Chair, Department of Geographical Sciences, University of Maryland
Ms. Barbara Ryan, former Director, Group on Earth Observations (GEO), and USGS Associate Director for Geography
Dr. Darrel Williams, Chief Scientist, Global Science and Technology (GST) Inc., and former NASA Landsat Project Scientist

Importance of System Calibration and Data Quality on Earth Observation
Copernicus Sentinel-2 Calibration Activities and Data Quality Status After Two Years of Fully Deployed On-orbit Constellation
Valentina Boccia
Comparison of Dove Landsat Radiometric Quality to Landsat 8 OLI
Minsu Kim
The Importance of Calibration on the Usability of Earth Observation Data
Michael Choate
Multi-constellation Calibration at Planet and L1 Interoperability with other Missions
Arin Jumpasut

Special Technical Session – “Ignite” Short Talk Session
Improving Global-scale Soil Moisture Observation Systems using GPS signals and Land Surface Models
Hyunglok Kim
Unicorns to Workhorses: Extending Routine Sunphotometry to the Oceans
Stephen Broccardo
Examining Reference Ecosystems and the Resilience of Mine Rehabilitation using Ground Data with and High-resolution Imagery
Peter Erskine
Detecting Leaf Damages with True Color Photos Obtained from Mobile Phones
Ela V. Piskorski
Optimization of Bio-optical Model Parameters for Turbid Lake Water Quality Estimation using Landsat 8 and WASI-2D
Amihan Manuel
Earth Observations and Crop Modeling to Support Agricultural Water Resources Management
Pierre Guillevic

Analysis Ready High Revisit, High Resolution SAR Data
Davide Castelletti

Apples and Oranges: Meta-analysis and Analytic Inference from Published Land-cover Classifications
Peter Kennedy

Historical Photographic Analysis in Environmental Remediation
Shiloh Dorgan

Performance Analysis of Image Classification through Different Feature Sets
Camila Souza dos Anjos

SAR for Agriculture and Perspective Applications

Compact Polarimetry Soil Moisture Retrieval: Preparing for the Radarsat-Constellation and Validation using SMAP Data
Amine Merzouki

Regularized Greedy Forest for Crop Classification from Polarimetric SAR Images
Mustafa Ustuner

A Machine Learning Approach for Crop Mapping and Monitoring Using Multitemporal SAR and Optical Earth Observations
Saeid Homayouni

High Resolution Land Cover Using NAIP
Moderator: M. Norton

West Virginia Statewide Land Cover Classification from NAIP Orthophotography: Findings and Recommendations
Aaron Maxwell

Utilizing NAIP Imagery to Perform High-resolution Land Cover Mapping in a Desert Landscape: Successes and Challenges
Rachel Soobitsky

Using Deep Learning for High-resolution Land Cover Mapping: Challenges and Opportunities
Caleb Robinson

High-Resolution Change Detection: Overcoming Challenges
Jarlath O’Neil-Dunne
Investigations in Support of Human Welfare

Seeing Mosquitoes from Space? Help from Citizen Scientists using the Globe Observer’s Mosquito Habitat Mapper and Land Cover Tools
Russanne D. Low

Soil Monitoring for the Detection of Improvised Explosive Devices using Remote Sensing Techniques
Mit Kotecha

Monitoring Invasive Kudzu in Urban Environments: Indicators of Neglected Structures, Social Impacts and Loss of Biodiversity
Estefania

Towards Development of Methodology to Detect Informal Settlement using High-resolution Imagery—south African Case Study
Naledzani Mudau

Cadastral Map Digitization using Geospatial Tecnology
Abhilash Maryada

Vegetation Condition Case Studies

Landsat-based Detection of White Spruce Masting in the Kluane Region, Yukon
Matthew Garcia

Satellite-based Mapping of Field-Scale Stress Indicators for Crop Yield Forecasting: An Application Across the Corn Belt, USA
Yang Yang

Hyperspectral Remote Sensing of Striga Weed Severity using In-situ Spectroscopy and Multivariate Discriminatory Techniques
Bester Mudereri

Estimating Tree Species Diversity using Biophysical and Biochemical Properties Derived from the Inversion of Radiative Transfer Models
Sabelo Madonsela

Corn Crop Growth Condition Assessment Based on Growth Dynamics: A Multi-source Method
Zhengwei Yang

Satellite Interoperability

Landsat Collection-2 Reference Data Updates for Improved Registration to Sentinel-2
Rajagopalan Rengarajan
Towards Enhanced Sensor Interoperability and Harmonized Surface Reflectance Products
Rasmus Houborg

Improved Interoperability through Systemic Radiometric Calibration
Dennis Helder

Spectral Harmonization: Can It Be Done?
Jon Christopherson

Nasa Harvest and Other Recent Advances in Remote Sensing of Agricultural Applications and Food Security

Nasa Harvest: A Program Enhancing the use of Earth Observations for Agriculture
Chris Justice

The GEOGLAM Crop Monitors
Brian Barker

Monitoring and Modeling Field-Level Crop Yield and Environmental Sustainability for the US Corn Belt
Kaiyu Guan

Using Earth Observations to Provide Early Warning for Food Insecurity
Greg Husek

Monitoring and forecasting water availability with the FEWS NET Land Data Assimilation System
Amy McNally

Collaboration in the Diverse Geospatial Workforce: How Early Career Professionals Can Bring Innovations to the Technical Community
Peng Fu
Panel Discussion, participants TBD

Moderate Resolution Data Characterization and Transformations

Cloud Detection Algorithm for Multi-modal Satellite Imagery using Convolutional Neural-Networks (CNN)
Michal Segal Roenhaimer

The Tasseled Cap Transform Revisited
Thomas Parris

Bulk Processing of the European Space Agency Landsat Multi Spectral Scanner Archive: Recent Improvements and Developments
Saunier

A Multi-scale Segmentation Approach to Filling Gaps in Landsat Etm+ SLC-Off Images through Pixel Weighting
Rennan de Freitas Bezerra Marujo

Generating High Spatiotemporal Land Surface Temperatures through Sharpening Multi-sensor Thermal Imagery
Jie Xue

Remote Sensing Methods and Measurements

How to Keep the Human in the Loop during GEOBIA
Raechel A. White

Issues in Developing Larger Area (1.0 km2) sUAS Based GEOBIA Applications
J.B. Sharma

Multispectral and Hyperspectral Satellite Data for Hydrothermal Alteration Mapping using the MTMF Algorithm in an Unexplored Region
Aliyu Jaafar Abubakar

USGS Operational Implementation of Lidar Data Quality Measure Software 2019
Barry Miller

A New Approach of Total Suspended Sediment Concentration Estimation For Aquatic Color Remote Sensing Application (SP7)
Sundarabalan, V Balasubramanian

Case Studies in Flood Monitoring and Management

Flood Risk Mapping of the Nasia River in Northern Ghana Using HAND Contours and Historical Flood Data
Eric Kwabena Forkuo

Flood Vulnerability Mapping: A Case Study Of Okoko Basin Osogbo Nigeria
Adedoja Toyosi Beatrice

Rapid Urban Flood Mapping Using Integrated Backscattering and Coherence from Multi-temporal ALOS-2 Data
Young-Joo Kwak

Flood Inundation Mapping and Monitoring in Lower Ganga and RAMGANGA Doab in India using SENTINEL-1 SAR Data
Ashwani kumar Agnihotri
Continental Water Monitoring to Aid Decision Support Systems in Respect of Natural Hazards, Water Resources and Agriculture, Inland Fisheries, and Regional Security Assessments
Charon Birkett

UAS: Changing the Future of Remote Sensing
USGS Small UAS Present and Future Scientific Research and Operational Applications
Jeff Sloan

UAS for Remote Sensing: System Capabilities and Products Quality and Accuracy
Qassim Abdullah

Generating Consistent UAS Remote Sensing Data
Ajit Sampath

Laboratory Radiometric Calibration/Characterization and Workflow for Low Cost sUAS VNIR Cameras
Mary Pagnutti

Global 30-m Landsat-derived Rainfed and Irrigated Croplands for Food and Water Security Studies
Prasad S. Thenkabail

A Meta-analysis of Global Crop Water Productivity of Three Leading World Crops (Wheat, Corn, and Rice) in the Irrigated Areas: An Assessment from Remote Sensing and Non-remote Sensing Studies Over Three Decades
Daniel Foley

Global 30-m Landsat and Modis Derived Irrigated and Rainfed Cropland Area Maps using Spectral Matching Techniques and Machine Learning Algorithms on the Cloud
Pardhasaradhi Teluguntla

Southeast and Northeast Asian Cropland Mapping using Landsat 30-m Time-series Data, Machine Learning, and Google Earth Engine (GEE) Cloud Computing
Adam J. Oliphant

Earth Observation and Agricultural Statistics
Latham and Wigton, no abstracts to-date
Processing Strategies for Big Data

Understanding Big Data through Space and Time: How Standards Help
Peter Baumann

Prototyping Cloud Architecture for Operational Vegetation Monitoring: The Global Agricultural Monitoring System
Michael Humber

Analysis Ready Data—The Detail Matters
Alex Leith

A Workflow to Harmonize Deep Archives of Heterogeneous Optical Multi-mission Earth-observation Imagery
Wolfgang Luck

USGS 3DEP Lidar Delivery, Visualization and Within-Cloud Processing Strategies
Richard Brown

Remote Sensing Investigations of Wetlands and Near-Shore Issues

Integrating Optical and Sar Earth Observation Data to Support the Production of a Comprehensive Wetlands Inventory Dataset for Alaska
Ben DeVries

A Completed Wetland Inventory of Newfoundland and an Ongoing Wetland Inventory of Canada Using EO Data on Google Earth Engine
Bahram Salehi

Applying UAS for Evaluating Transportation Infrastructure and Monitoring Invasive Aquatic Plants
Colin Brooks

Satellite Remote Sensing Reveals More than Three Decades of Increasing Coral Bleaching Heat Stress
Gang Liu

Using NOAA Coral Reef Watch Ecoforecasts to Prepare for and Respond to the 2014-17 Global Coral Bleaching Event
C. Mark Eakin

Case Studies in Urban Growth Monitoring

Monitoring Growth of Top Indian Metropolises and its Consequences Using Earth Observations
Ankit Sikarwar
Continuous Urban Change Detection from Satellite Imagery to Support the Deployment of UAS for Rapid Updates of Digital Surface Models in Smart Communities
Corey White

Temporal Analysis of Urban Sprawl in Inland Coastal Regions of Michigan
Michelle Church

Abdulla - Al Kafy

Managing Urban Sprawl Using Remote Sensing and GIS
K S Krishnaveni

New Technology and Techniques to Increase Scientific and Applications Access to Satellite Earth Observations

The Multi-Mission Algorithm and Analysis Platform: Sharing Data and Algorithms Across Agencies and Scientists
Aimee Barciauskas

Utilizing the NASA Atmospheric Science Data Center (ASDC) Geospatial Platform for Data Analysis
Matthew Tisdale

Pangeo: A Big-data Ecosystem for Scalable Earth System Science
Joseph Hamman

Designing the User Experience for Earth Observation Data Services in the Cloud
Christopher Lynnes

Applications of NASA Earth Observations for Local Decision Making: 20 Years of the NASA DEVELOP Program

Stephanie Rockwood

Monitoring the Urban Heat Island Effects on the Health of Residents of New Orleans, Louisiana Metropolitan Area
Madison Murphy

Utilizing SAR and NASA Earth Observations to Identify Optimal Transportation Routes to Assist Emergency Responders
Christine Evans
Employing Remote Sensing Techniques to Quantify Sediment Supply and Evaluate Marsh Vulnerability in the Plum Island Estuary
Zach Bengtsson

Utilizing Landsat and Sentinel-2 to Remotely Monitor and Evaluate the Performance of Winter Cover Crops Throughout Maryland
Julio Peredo

Using NASA Earth Observations to Explore Urban Heat and Flood Vulnerability in Providence, RI & Elizabeth, NJ
Sarah Aldama

Crop-Water Stress Investigations using Earth Observations

Estimation of Vegetation Health Index for Agricultural Drought Monitoring using NDVI and Land Surface Temperature Imageries: A Case Study in Barind Tract of Bangladesh
Abdulla - Al Kafy

Towards Operationalization: Evaluation of a Regional Drought and Yield Assessment System in Kenya
W. Lee Ellenburg

Characterizing Field-scale Water Use and Crop Stress in Agricultural Landscapes using Multi-Sensor Data Fusion
Martha Anderson

Measurement Uncertainty and Model Validation: An Instructive Case Study of an Irrigated Cotton Crop
Joseph Alfieri

Utilization of Thermal Infrared-based Satellite Remote Sensing for Operational Irrigation Management in a California Vineyard
Kyle Knipper

Applications of Earth Observations for Disaster Assessments and Management

Post Disaster Analysis of Brazilian Iron Ore Mining Dam Failure using Advanced Geospatial Technologies
Muhammad Ahsan Mahboob

North Queensland Flood Monitoring Using U-NET Architecture for Semantic Segmentation with SENTINEL -1 SAR And INSAR Imagery
Isabella Lee
Identifying Hurricane Impacts on Barbuda using Citizen Science Ground Observations, Drone Photography and Satellite Imagery
Rebecca Boger

Monitoring Agriculture during Disasters using Remote Sensing and Geospatial Data Products
Avery Sandborn

Small Satellites & International Development
Krystal Wilson

Advances in Mapping and Monitoring Water Characteristics
A Satellite-based Analysis Tool for Rapid Evaluation of Aquatic EnvironMents (STREAM)
Nima Pahlevan

Combining Sentinel-2 and Landsat-8 for Benthic Vegetation Monitoring in Sleeping Bear Dunes National Lakeshore
Robert Shuchman

Michael Sayers

Lining Remote Sensing and Ecophysiology for Aquatic Ecosystem Management in the California Delta
David L.Bubenheim

Monitoring Land Use and Water Use Change Over Forested Landscapes in North Carolina, USA using Multi-Sensor Data Fusion
Yun Yang

Earth Observation Missions and Services
Demonstrating Next Generation High-altitude, Long Endurance Aircraft for Earth Science
Matthew Fladeland

NASA Airborne Science Contributions to Continuous Earth Monitoring
Susan Schoenung

The DLR Earth Sensing Imaging Spectrometer (DESIS) Instrument On-Orbit Performance and Data Access through TCloud
Kara Burch

A New German Hyperspectral Mission EnMAP: Processors and Calibration
Gintautas Palubinskas
SIR-C Data Recovery for Continuous Monitoring of the Earth  
Kenneth Arnoult

Developing a National Terrain Model  
Stephen Aichele

Poster Session

Bathymetry Mapping in North American Waters using a Radiative-transfer Based Modeling Approach  
Christopher Olayinka Ilori

Quantitative Analysis of Habitat Selection Preference for Schizothorax Fishes in Brahmaputra by Remote Sensing  
Wang Lin

Deforestation and Rainforest Fires in an Agricultural Frontier Area in Eastern Amazon, Brazil  
Cesar Teixeira Donato de Araujo

Deforestation Relationship Between Agriculture Activities and Livestock in a Palm Oil Expansion Area in Brazilian Amazon  
Cesar Teixeira Donato de Araujo

Mapping Mangrove Species with the Combination of Worldview-3 and Airborne Lidar Data  
Li Qiaosi

Spectral Remote Sensing of Harmful Algal Blooms  
Terry Slonecker

Accuracy Assessment of sUAS Photogrammetrically-Derived Point Clouds  
Amal Suleiman, Omar E. Mora

Easy Acquisition of Earth Observations over Monitoring Sites using the Application for Extracting and Exploring Analysis-Ready Samples (AppEEARS)  
Thomas Maiersperger

GOES-16 ABI SRB Products: Method, Evaluation, and Possible Improvements  
Hye-Yun Kim

UAV for Invasive Plant Species in the Old Woman Creek Estuary, Ohio using Machine Learning Classifiers  
Tharindu H. Abeysinghe

Long-term Root Zone Moisture Trends Across Conus from a New Root-Zone Soil Moisture Product Called Smerge  
Kenneth Tobin

GOES-16/17-based Evapotranspiration and Drought Monitoring Products from NESDIS GET-D System  
Li Fang

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Crop Phenology Monitoring using Fused Remote Sensing Data  
Donghui Xie

Twenty Years of Disaster and Natural Hazards Monitoring with the ASTER Instrument on NASA’s Terra Platform  
Michael Abrams

Satellite Estimates of Euphotic Zone and Secchi Disk Depths from a Reservoir  
Enner Alcantara

Kite Systems for Local Scale Remote Sensing  
Geoff Bland

Rice Greening Versus Sand Whitening On Drylands: A Geospatial Modelling of Sustainable Agriculture Expansion to Anticipate Desert Fronts Progress Around the Magaâs Floodplain, Far-North Cameroon  
Alfred Homere

Modelling Risk of Soils Degradation through Statistics Analysis Of Spectral Indices: Case Study on the Cameroonians Shores of Lake Chad and its Hinterland  
Paul Gerard Gbetkom

A Geospatial Technology for Soil Resource Management of Goa State  
Gaurav Dongre

Assessment of Soil Erosion by RUSLE Model using Earth Observation- A Case Study of North West Coastal Area, Egypt  
Samy Abo Ragab

Societal Response and Community Resilience to Environmental Pollution And Extreme Events along Nigeria Coast  
Olajumoke Folasade Jejelola

SELEGUA a New BSRN Station in Southern Mexico  
Roberto Bonifaz

Using Very High Spatial Resolution Imagery and an Object-oriented Paradigm for Predicting Above-Ground Biomass in Togo, West Africa  
Hobabalo Pereki

Mapping Submarine Groundwater Discharge SGD of the Northern Guam Lens Aquifer NGLA with a UAV and a TIR sensor  
Eliana Cortes Walker

Combining Field Sampled and Imagery Sampled Data for Crop Area Estimation  
Sunita Yadav

An Approach of Machine Learning to Improve the Results Reliability of Burning Areas Product in the Brazilian Woody Savannah  
Fabiano Morelli
The Effects of Floodwaters from the Bonnet Carra Spillway on the Mississippi Gulf Coast Oyster Reefs
Jarett Bell

Big Change of the Forest and the Coastal zone of Madagascar via satellites
NOASILALAONOMENJANAHARY Ambinintsoa Lucie

Assessing Satellite-derived Phenological Metrics and Terrain Data as a Proxy for Vegetation Dynamics Along the Brazilian Savanna Corridor
Hugo do Nascimento Bendini

Validating an Operational Single-channel Land Surface Temperature (LST) Retrieval Algorithm with the Landsat 8 Level 2 LST Products and Analyzing LST Patterns in Colorado between 2014 And 2018
Maosi Chen

Water Quality Monitoring using Semi-analytical Algorithm on the Western Coast of California
Jee-Eun Min

Guidelines for Effective Environmental Assessment and Monitoring with Drones
Renee Bartolo

Climate Change Impact Identified using Ecosystem Accounting at Local Scale
Solofo Rakotondraompiana

Enhancing Chlorophyll-a Retrievals from Multispectral Observations via Machine Learning
Brandon Smith

Inter- and Intra-Annual Changes in the Three Dimensional Structure of Urban Canopies Detected by Airborne, Terrestrial and Slam Lidar Measurements
Youngkeun Song

Characterizing Plant Functional Properties in Arctic Biome with a Novel Multi-Sensor Unmanned Aerial System
Dedi Yang

Habitat Assessment for Western Gray Squirrels (Sciurus Griseus) In Eastern Washington State
Brian Cosentino

Study on the Extraction, Distribution and Influence of Mountain Base Elevation in the Qinling-Daba Mountains
Liu Junjie