# 2015 AGU Fall Meeting
## NASA Earth Science Technology Office (ESTO)
## ESTO-Funded and ESTO-Affiliated Presentations, Posters, and Events

## Monday, December 14

**Poster NH13D-1968** (1:40-6:00, Moscone South Poster Hall)
*Flood Risk and Climate Change: The Contributions of Remote Sensing*
- G. R. Brakenridge

**Poster IN13B-1837** (1:40-6:00, MS Poster Hall)
*The Snow Data System at NASA JPL* - Ross Laidlaw (Chris Mattmann)

**Poster IN13B-1842** (1:40-6:00, MS Poster Hall)
*NASA Airborne Snow Observatory: Measuring Spatial
Distribution of Snow Water Equivalent and Snow Albedo*
- Michael Joyce (Chris Mattmann)

## Tuesday, December 15

**Poster IN21D** (8:00-12:20, MS Poster Hall)
*Towards Improved Satellite – In Situ Oceanographic Data Interoperability at the PO.DAAC* - Vardis Tsontos (Shawn Smith)

**Presentation A22C-01** (10:20-10:40, Moscone West 3012)
*Assessing the impact of cloud slicing techniques on estimates of surface CO2 exchange* - Andrew E Schuh (James Abshire)

**Presentation A22C-03** (10:55-11:10, Moscone West 3012)
*Testing of a Two-Micron Double-Pulse IPDA Lidar Instrument for Airborne Atmospheric Carbon Dioxide Measurement* - Jirong Yu

**Presentation IN23E-07** (2:10-2:25, Moscone West 2020)
*Exploiting Untapped Information Resources in Earth Science*
- Rahul Ramachandran

**NASA Exhibit Talk** (1:40): *Hydrology by GPS* - Susan Owen

**Poster A23B-0288** (1:40-6:00, MS Poster Hall)
*Technology Advancements for Active Remote Sensing of Carbon Dioxide from Space using the ASCENDS CarbonHawk Experiment Simulator* - Michael D Obland

**Poster A23B-0289** (1:40-6:00, MS Poster Hall)
*Signal-to-Noise Ratios of the ASCENDS CarbonHawk Experiment Simulator (ACES) for Atmospheric CO2 Measurements*
- Songsheng Chen (Michael Obland)

**Poster A23B-0291** (1:40-6:00, MS Poster Hall)
*Airborne Measurements in Support of the NASA Atmospheric Carbon and Transport - America (ACT-America) Mission*
- Byron Meadows (Jeremy Dobler)

**Poster A23B-0294** (1:40-6:00, MS Poster Hall)
*Pulsed Lidar Measurements of Atmospheric CO2 Column Concentration in the ASCENDS 2014 Airborne Campaign* - James Abshire

**Poster A23B-0295** (1:40-6:00, MS Poster Hall)
*Lidar measurements of the column CO2 mixing ratio made by NASA Goddard's CO2 Sounder during the NASA ASCENDS 2014 Airborne campaign -* Anand K Ramanathan (James Abshire)

**Poster A23B-0296** (1:40-6:00, MS Poster Hall)
*Airborne Lidar Measurements of Atmospheric Column CO2 Concentration to Cloud Tops* - Jianping Mao (James Abshire)

**Poster A23B-0297** (1:40-6:00, MS Poster Hall)
*Development of the HgCdTe Avalanche Photodiode Detectors and the Improvement in the CO2 Lidar Performance for the ASCENDS Mission*
- Xiaoli Sun

**Poster A23B-0299** (1:40-6:00, MS Poster Hall)
*Sensitivity Analysis and Error Budget For Carbon Dioxide and Water Vapor Simultaneous and Independent Measurement Using 2-Micron Triple-Pulsed IPDA Lidar* - Upendra N Singh

**Poster SH23C-2451** (1:40-6:00, MS Poster Hall)
*The Impact of the Revised Sunspot Record on Solar Irradiance Reconstructions* - Greg Kopp

**Poster V23B-3093** (1:40-6:00, MS Poster Hall)
*Trace Gas Inversion For InfraRed Spectra (TGIF-IRS): An algorithm to retrieve trace gas concentrations in volcanic plumes*
- Andrea Gabrieli (Robert Wright)

**Poster V23B-3096** (1:40-6:00, MS Poster Hall)
*Characterization and initial field test of a long wave thermal infrared hyperspectral imager for measuring SO2 in volcanic plumes*
- Robert Wright

## Wednesday, December 16

**Poster A41A-0015** (8:00-12:20, MS Poster Hall)
*First Results from the COFFEE Instrument: Airborne In-Situ Measurements of Formaldehyde over California* - Laura Iraci (Thomas Hanisco)

**Poster IN31A-1753** (8:00-12:20, MS Poster Hall)
*Software architecture and design of the web services facilitating climate model diagnostic analysis* - Lei Pan (Seungwon Lee)

**Poster IN31A-1754** (8:00-12:20, MS Poster Hall)
*Climate Model Diagnostic Analyzer Web Service System* - Seungwon Lee

**Poster IN31A-1758** (8:00-12:20, MS Poster Hall)
*An overview of the quantum wavelet transform, focused on earth science applications* - Omar Shehab (Jacqueline LeMoigne)

**Poster IN31C-1773** (8:00-12:20, MS Poster Hall)
*NASA's Advanced Information Systems Technology (AIST) Program support to Cyberinfrastructure from on-orbit to data exploitation*
- Michael Little

**Presentation IN31D-05** (9:00 - 9:15 Moscone West 2020)
*On the value of satellite-based river discharge and river flood data*
- Albert Kettner (G. Robert Brakenridge)

**Presentation IN31D-06** (9:15 - 9:30 Moscone West 2020)
*Advanced Soil Moisture Network Technologies; Developments in Collecting in situ Measurements for Remote Sensing Missions*
- Mahta Moghaddam

**NASA Exhibit Talk** (1:50): *The TIRCIS instrument: Hyperspectral Imaging from Small Satellites* - Robert Wright

**Presentation C32B-08** (12:05 - 12:20 Moscone West 3007)
*Satellite-based Observation of Arctic River Dynamics*
- Irina Overeem (G. Robert Brakenridge)

**Poster GC33D-1322** (1:40-6:00, MS Poster Hall)
*SLI Thermal Imaging Requirements Evaluation* - Erik Hoffman (Smith)

**Poster IN33A1794** (1:40-6:00, MS Poster Hall)
*MememxGATE: Unearthing Latent Content Features for Improved Search and Relevancy Ranking Across Scientific Literature*
- Lewis John McGibbney (Chris Mattmann)

**Poster IN33A1795** (1:40-6:00, MS Poster Hall)
*Search of the Deep and Dark Web via DARPA Memex* - Chris Mattmann

**Presentation IN34A07** (5:30-5:45, Moscone West 2020)
*Document Exploration and Automatic Knowledge Extraction for Unstructured Biomedical Text* - Selina Chu (Chris Mattmann)

## Thursday, December 17

**Poster A41I-0192** (8:00-12:20, MS Poster Hall)
*Uncertainty Quantification for the OCO-2 Mission: A Monte Carlo Framework Using a Surrogate Model* - Amy Braverman

**Poster C41D-0758** (8:00-12:20, MS Poster Hall)
*Ultra-wideband Radiometry for Internal Ice Sheet Temperature Measurements: Modeling and Experiments*
- Alexandra Bringer (Joel Johnson)

**Poster C41D-0734** (8:00-12:20, MS Poster Hall)
*A Bayesian Retrieval of Greenland Ice Sheet Internal Temperature from UWBRAD Measurements* - Yuna Duan (Joel Johnson)

**Poster C41D-0764** (8:00-12:20, MS Poster Hall)
*Modeling the Effects of Multi-layer Surface Roughness on 0.5 -2 GHz Passive Microwave Observations of Ice Sheets*
- Leung Tsang (Joel Johnson)

**Poster IN41C-1707** (8:00-12:20, MS Poster Hall)
*OlyMPUS - The Ontology-based Metadata Portal for Unified Semantics* - Elizabeth Huffer (Jonathan Gleason)

**Presentation IN42A-01** (10:20-10:35 Moscone West 2020)
*High performance geospatial and climate data visualization using GeoJS* - Aashish Chaudhary

**Poster A43A-0237** (1:40-6:00, MS Poster Hall)
*The Hyper-Angular Rainbow Polarimeter (HARP) CubeSat Observatory and the Characterization of Cloud Properties*
- Tim Neilsen (Jose-Vanderlei Martins)

**Poster A43A-0260** (1:40-6:00, MS Poster Hall)
*Progress in Photoelastic Modulator-Based Spectropolarimetric Imaging of Aerosols and Clouds* - David Diner

**Poster A43A-0261** (1:40-6:00, MS Poster Hall)
*On-board Polarimetric Calibration of Airborne Multiangle SpectroPolarimetric Imager (AirMSPI) Measurements*
- Gerard van Harten (David Diner)

**Poster IN43A-1718** (1:40-6:00, MS Poster Hall)
*Spatial Statistical Estimation for Massive Sea Surface Temperature Data* - Yuliya Marchetti (Amy Braverman)

**Poster IN43B-1734** (1:40-6:00, MS Poster Hall)
*The Synthetic Aperture Radar Science Data Processing Foundry Concept for Earth Science* - Paul Rosen

**Poster NH43B-1885** (1:40-6:00, MS Poster Hall)
*Intelligent Observation Strategies for Geosynchronous Remote Sensing for Natural Hazards* - Karen Moe (Jacqueline LeMoigne)

**Poster NH43C-1910** (1:40-6:00, MS Poster Hall)
*FluidCam 1&2 - UAV-Based Fluid Lensing Instruments for High-Resolution 3D Subaqueous Imaging and Automated Remote Biosphere Assessment of Reef Ecosystems* - Ved Chirayath

## Friday, December 18
**POSTER SESSION IN51A** (8:00-12:20, MS Poster Hall)
*Big Data Analytics for Science Data I* - Michael Little (co-convener)

**Poster IN51A-1781**
*Machine Learning in Ionospheric Phenomena Detection Using Passive Radar* - Victor Pankratius

**Poster IN51A-1794**
*A Scalable Cloud Library Empowering Big Data Management, Diagnosis, and Visualization of Cloud-Resolving Models*
- Shuija Zhou (Wei-Kuo Tao)

**Poster IN51A-1799**
*Regression based modeling of vegetation and climate variables for the Amazon rainforests* - Ankush Khandelwal (Kamalika Das)

**POSTER SESSION IN51B** (8:00-12:20, MS Poster Hall)
*Big Data in Earth Science: From Hype to Reality I Posters*
- Michael Little (co-convener)

**Poster IN51B-1810:** *Application of Open Source Technologies for Oceanographic Data Analysis* - Thomas Huang

**Poster IN51B-1809:** *Mining and Utilizing Dataset Relevancy from Oceanographic Dataset (MUDROD) Metadata, Usage Metrics, and User Feedback to Improve Data Discovery and Access*
- Yongyao Jiang (Chaowei Yang)

**Poster IN51B-1811:** *The Hurricane Problem - The Three Faces of the Big Data Challenges* - Svetla M Hristova-Veleva

**Poster IN51B-1812:** *Evaluation of Big Data Containers for Popular Storage, Retrieval, and Computation Primitives in Earth Science Analysis* - Kamalika Das (Chris Mattmann)

**IN51B-1813:** *A Restricted Boltzman Neural Net to Infer Carbon Uptake from OCO-2 Satellite Data* - Miton Halem

**Poster IN51B-1815:** *SciDB versus Spark: A Preliminary Comparison Based on an Earth Science Use Case* - Tom Clune

**Poster NH51E-1935** (8:00-12:20, MS Poster Hall)
*On the reliable use of satellite-derived surface water products for global flood monitoring* - F. Hirpa (G. Robert Brakenridge)

**Poster NH51E-1944** (8:00-12:20, MS Poster Hall)
*Characterizing 13 Years of Surface Water Variability from MODIS-based Near Real-Time Flood Mapping Products in the Indus River, Tonle Sap Lake, and Lake Chad* - D. Slayback (G. Robert Brakenridge)

**Poster NH51E-1949** (8:00-12:20, MS Poster Hall)
*User-Driven Workflow for Modeling, Monitoring, Product Development, and Flood Map Delivery Using Satellites for Daily Coverage Over Texas May-June 2015* - S. Frye (G. Robert Brakenridge)

**Presentation A51S-08** (9:24-9:36, Mascone West 3004)
*Temporal Experiment for Storms and Tropical Systems Technology Demonstration (TEMPEST-D): Risk Reduction for 6U-Class Nanosatellite Constellations* - Steve Reising

**Presentation A51S-09** (9:36-9:48, Mascone West 3004)
*Development of the Microwave Radiometer Technology Acceleration (MiRaTA) CubeSat for all-weather atmospheric sounding* - Kerri Cahoy

**Presentation EP52B-06** (11:35-11:50 Moscone West 2003)
*NASA SMD/STMD Joint Study on Science Measurements and Technology Capability Potential of SmallSats* - Charles Norton

**Presentation IN52A-08** (12:03-12:20, Moscone West 2020)
*High-Speed On-Board Data Processing Platform for LIDAR Projects at NASA Langley Research* - Jeffrey Beyon

**Poster A53A-0369** (1:40-6:00, MS Poster Hall)
*Development of the Tropospheric Water Vapor and Cloud ICE (TWICE) Millimeter- and Sub-millimeter Wave Radiometer Instrument for 6U-Class Nanosatellites* - Steve Reising

**SESSION IN53C** (1:40-3:40, Moscone West 2020)
*Big Data Analytics for Science Data II*
- Michael Little (co-convener)

**Presentation IN53C-01** (1:40-1:55, Moscone West 2020)
*SciSpark: Highly Interactive and Scalable Model Evaluation and Climate Metrics* - Brian D Wilson (Chris Mattmann)

**Presentation IN53C-02** (1:55-2:10, Moscone West 2020)
*Data Mining R&D (a bit of it) for Earth Science at NASA*
- Nikunj Oza

**Presentation IN53C-07** (3:10-3:25, Moscone West 2020)
*The Application of Computer-Aided Discovery to Spacecraft Site Selection* - Victor Pankratius

**Presentation NH53A-02** (1:55-2:10pm, MS 309)
*Next Generation UAV Based Spectral Systems for Environmental Monitoring: project developments, preliminary outcome and findings* - Petya Campbell

**Presentation NH53A-03** (2:10-2:25pm, MS 309)
*TIRCIS: Hyperspectral Thermal Infrared Imaging Using a Small-Satellite Compliant Fourier-Transform Imaging Spectrometer, for Natural Hazard Applications* - Robert Wright

**SESSION IN54A** (4:00-6:00, Moscone West 2020)
*Big Data in Earth Science* - Michael Little (co-convener)