Monday, December 9

Poster A11R-2880 (8:00-12:20, MS Poster Hall)
The North Atlantic Aerosols and Marine Ecosystems Study (NAAMES): Overview and Findings – Chris Hostetler

Poster Session A11O (8:00-12:20, MS Poster Hall)
Data Assimilation and Inverse Modeling of the Atmospheric Composition II Posters – Daven Henze, Chair

Poster A11T-2825 (8:00-12:20, MS Poster Hall)
First airborne observations of the Planetary Boundary Layer by the Compact Midwave Imaging System – Michael Kelly

Poster Session B11F (8:00-12:20, MS Poster Hall)

Poster B11F-2400 (8:00-12:20, MS Poster Hall)
Satellite Data Fusion of XCO2 using Compressive Sensing and Deep Learning – Sai Sree Laya Chukkapalli (Milt Halem)

Poster IN11D-0684 (8:00-12:20, MS Poster Hall)
Analysis Ready and Interoperable: Taming Multi and Hyperspectral Imagery – Anne Wilson

Poster IN11D-0685 (8:00-12:20, MS Poster Hall)
Cloud Native Data Processing and Visualizations Techniques for Earth Science Data – Ajinkya Kulkarni (Helen Conover)

Presentation IN11A-06 (9:00, MW 2018 L2)
Four Years of Progress in Analytic Center Frameworks: Lessons Learned – Michael Little

Presentation A11A-06 (9:15, MW 2018 L2)
Accelerating MPAS-A model radiation schemes on GPUs using OpenACC – Zhifeng Yang (Milt Halem)

Presentation G11A-08 (9:45, MS 160 Upper Mezz)
Combining observations of GNSS and astronomical sources: Can you see both through a single lens? – Jonathan York

Presentation IN12A-06 (11:20, MW 2018 L2)
Moving toward a cloud native High-Performance Computing environment for Earth Science – Daniel Duffy

Town Hall TH13C (12:30-13:30, MW 3005 L3)
NASA’s Decadal Survey Designated Observable Mission Study: Surface Deformation and Change – Andrew Moltan, Paul Rosen, Batuhan Osmanoglu, Gerald Bawden, Stephen Horst, Ala Khazendar and Jeanne Sauber

Poster IN13B-0707 (13:40 – 18:00, MS Poster Hall)
Aiming for Autonomously Sustainable Solution for Spatiotemporal Analysis – Thomas Huang

Poster IN13B-0714 (13:40 – 18:00, MS Poster Hall)
NEXUS Hyper Grid: Analytics Engine Scalable for Climate Model Evaluation – Joseph Jacob (Thomas Huang)

Poster IN13C-0729 (13:40 – 18:00, MS Poster Hall)
PARGEO: Cloud-Ready Pervasively Parallel Analytics and Climate Science – Brian Wilson (Thomas Huang)

Presentation B13A-08 (15:25, MW 3005 L3)
NeMo-Net: The Neural Multi-Modal Observation and Training Network for Global Coral Reef Assessment – Ved Chirayath

Session B14A (16:00-18:00, MW 3005 L3)
Advances in the Application of Remote Sensing for Biodiversity Monitoring: Integrating Data Across Scales and Technologies II – Keith Gaddis, Gary Geller, William Turner, Michael Little (Conveners)

Presentation A14G-07 (17:30, MW 3010 L3)
Validation of the Vapor In-cloud Profiling Radar (VIPR) – Richard Roy (Matt Lessock)

Presentation G14A-02 (16:15, MS, 160 Upper Mezz)
The NASA CYGNSS Small Satellite Constellation – Chris Ruf

Session IN14A (16:00-18:00, MW 2018 L2)
New Observing Strategies for Monitoring Water Resources and Events – Jacqueline Le Moigne, Michael Little, Gerald Bawden, Benjamin Smith (Conveners)

Presentation IN14A-02 (16:15, MW 2018 L2)
Applications of emerging technologies in climate downscaling and hydrologic modeling for water resources – Andy Wood

Presentation IN14A-05 (17:00, MW 2018 L2)
Raincube Mission: One Year in Space – Ousmane Sy (Eva Peral)

Presentation IN14A-07 (17:30, MW 2018 L2)
Autonomous Scheduling of Agile Spacecraft Constellations with Delay Tolerant Networking for Monitoring Transient Precipitation and Urban Floods – Sreeja Nag

Presentation NG14A-07 (17:30, MW 2010 L2)
Lessons Learned in Simulation-Based Uncertainty Quantification for Satellite Retrievals – Jon Hobbs

Presentation A14G-08 (17:45, MW 3005 L3)
Airborne Lidar Observations of Water Vapor Profiles and Planetary Boundary Layer Heights with the NASA High Altitude Lidar Observatory (HALO) – Rory Barton-Grimley (Amin Nehrir)

Tuesday, December 10

Poster GH21B-1215 (8:00-12:20, MS Poster Hall)
Using Earth Observations within a Health Management Information System for Improving Malaria Decision Support – John Beck

Poster IN41C-0876 (8:00-12:20, MS Poster Hall)
Innovative Technologies Development for Future NASA Earth Science Missions – Marge Cole

Poster NG21B-0935 (8:00-12:20, MS Poster Hall)
Using Nonlinear Data Assimilation to Answer Questions of Cause and Effect in Convective Storms – Derek Posselt

Poster NH21C-0978 (8:00-12:20, MS Poster Hall)
Earthquake and Tsunami Nowcasting and Forecasting Using Shannon Information Theory – John Rundle (Andrea Donnellan)
Tuesday, December 10, continued

**Session B21A** (8:00-10:00, MW 3005 L3)
**Advances in the Application of Remote Sensing for Biodiversity Monitoring: Integrating Data Across Scales and Technologies III**
- Keith Gaddis, Gary Geller, William Turner, Michael Little (Conveners)

**Presentation B21A-01** (8:00, MW 3005 L3)
*NASA's AIST Program advances information technology to support research into Biodiversity and Ecological Forecasting*
- Ian Brosnan

**Presentation B21A-02** (8:15, MW 3005 L3)
*Very high-resolution commercial optical remote sensing products for biodiversity monitoring*
- Margaret Wooten (Chris Neigh)

**Presentation B21A-03** (8:30, MW 3005 L3)
*NG UAV Spectral Systems and Analytics for Monitoring the Diversity and Dynamics in Vegetation Function*
- Petya Campbell

**Presentation A21F-04** (8:45, MW 3002 L3)
*Changes in Orogenic Precipitation Across Scales*
- Ethan Gutmann

**Session B22A** (10:20-12:20, MW 3005 L3)
**Advances in the Application of Remote Sensing for Biodiversity Monitoring: Integrating Data Across Scales and Technologies IV**
- Keith Gaddis, Gary Geller, William Turner, Michael Little (Conveners)

**Session A22A** (10:20-12:20, MW 2000, L2)
**Data Assimilation and Inverse Modeling of the Atmospheric Composition I**
- Daven Henze, Chair

**Presentation C22A-08** (12:05, MW 2008 L2)
*Remote Sensing of Ice Sheet Internal Temperatures Using Ultra-Wideband Microwave Radiometry*
- Joel Johnson

**Town Hall TH23B** (12:30-13:30, MW 2002 L2)
*NASA Earth Science Division Town Hall*
- Sandra Kauffman, Paula Bontempi, Jack Kaye, Eric Janson, Lawrence Friedl, Pamela Millar, Patricia Jacobberger-Jellison (Presenters)

**Poster A23J-2947** (13:40-18:00, MS Poster Hall)
*Estimation of Fuel Moisture Content Based on Integrating Surface and Satellite Observations Using Machine Learning*
- Branko Kosovic

**Session B23F** (13:40-18:00, MS Poster Hall)
**Advances in the Application of Remote Sensing for Biodiversity Monitoring: Integrating Data Across Scales and Technologies V**
- Keith Gaddis, Gary Geller, William Turner, Michael Little (Conveners)

**Poster B23K-2456** (13:40-18:00, MS Poster Hall)
*Vulnerability of the taiga-tundra ecotone: predicting the magnitude, variability, and rate of change in structure at the Arctic edge of the boreal forest*
- Amanda Hildt Armstrong (Batu Osmanoglu)

**Poster GC13H-1260** (13:40-18:00, MS Poster Hall)
*Foehn Winds on the Antarctic Peninsula: Climatology and Impacts on Surface Melt from 1979-2018*
- Matt Laffin (Charlie Zender)

**Poster PP23F-1708** (13:40-18:00, MS Poster Hall)
*Effect of Fuels and Forest Structure on Daily Emissions and Smoke Production from the Rim Fire*
- Leland Tarnay (Janice Coen)

**Session IN23C** (13:40-15:40, MS eLightning Theater III)
**New Observing Strategies for Monitoring Water Resources and Events II**
- Jacqueline Le Moigne, Michael Little, Gerald Bawden, Benjamin Smith (Conveners)

**Presentation IN23C-01** (13:40-15:40, MS eLightning Theater III)
*A synthetic comparison of observation constellation configurations with the goal of global snow mass characterization*
- Bart Forman

**Presentation IN23C-15** (13:40-15:40, MS eLightning Theater III)
*Evaluation of snow observation data using an OSSE framework*
- Rhae Sung Kim (Bart Forman)

**Presentation IN23C-19** (13:40-15:40, MS eLightning Theater III)
*New Observing Strategies (NOS) for Future NASA Earth Science Missions*
- Jacqueline Le Moigne

**Presentation IN23C-20** (13:40-15:40, MS eLightning Theater III)
*Recent Progress and Development in Energy Efficient and Smart in situ Wireless Sensor Networks: SoilSCAPE*
- Ruzbeh Akbar

**Town Hall TH25D** (18:15-19:15, MW 3004 L3)
*NASA Surface Topography and Vegetation Incubation Community Forum*
- Ben Phillips, Hank Margolis, Michael Falkowski, Blaize Denfeld

Wednesday, December 11

**Poster C31B-1520** (8:00-12:20, MS Poster Hall)
*Feasibility of Estimating Ice Sheet Internal Temperatures Using Ultra-Wideband Radiometric Measurements*
- Yuna Duan (Joel Johnson)

**Poster C31C-1559** (8:00-12:20, MS Poster Hall)
*Combined active and passive ultra-wide band remote sensing of Polar ice sheet temperature profiles*
- Leung Tsang (Joel Johnson)

**Poster H31J-1843** (8:00-12:20, MS Poster Hall)
*Towards a multi-Variate, multi-sensor assimilation framework over snow-covered terrain in Colorado*
- Lizhao Wang (Bart Forman)

**Poster H31J-1846** (8:00-12:20, MS Poster Hall)
*Pitfalls and perils of machine learning-based passive microwave brightness temperature data assimilation over terrestrial snow in High Mountain Asia*
- Yonghwan Kwon (Bart Forman)

**Poster H31J-1847** (8:00-12:20, MS Poster Hall)
*Enhancing terrestrial snow mass estimation via assimilation of AMSR-E brightness temperature spectral differences using the Catchment land surface model and support vector machine regression*
- Jing Wang (Bart Forman)

**Poster S31G-0501** (8:00-12:20, MS Poster Hall)
*Targeted Postseismic Observations of the M6.4 and M7.1 Ruptures of the Ridgecrest Earthquake Sequence*
- Andrea Donnellan

**Flash Talk** (1:30, NASA Exhibit)
*Signs of Opportunity P-band investigation (SNoPI)*
- James Garrison

**Poster C33E-1635** (13:40-18:00, MS Poster Hall)
*Preliminary results from SWESARR SnowEx Snow-off Flights*
- Batu Osmanoglu

**Poster C33E-1640** (13:40-18:00, MS Poster Hall)
*C-band synthetic aperture RADAR (SAR) backscatter dependence on snow-mass related information*
- Jongmin Park (Bart Forman)

**Presentation A33D-06** (14:55, MW 3008 L3)
*EPAMS Profiler and Ceilometer Network*
- Vanessa Caicedo (Milt Halem)

**Poster PA33D-1122** (14:55-18:00, MS Poster Hall)
*Complementary Use of Synthetic Aperture Radar and High-res Optical Imagery for Flood Monitoring*
- MinJeong Jo (Batu Osmanoglu)

**Presentation A34F-07** (17:30, MW 3004 L3)
*Transfer Learning to Generate True Color Images from GOES-16*
- Thomas Vandal (Rama Nemani)
Thursday, December 12

Poster Session A41U (8:00-12:20, MS Poster Hall)
The Current and Future Scientific Impact of Small Satellites on Space Missions II Posters – Charles Norton, David Klumpar, William Swartz, Pamela Millar (Conveners)

Poster A41U-2674 (8:00-12:20, MS Poster Hall)
Earth Science Impact of Global Measurements from Microwave Atmospheric Sounders on Closely-Spaced CubeSats: The TEMPEST Mission – Steven Reising

Poster A41U-2675 (8:00-12:20, MS Poster Hall)
Rainfall Estimation from TEMPEST-D CubeSat Observations: A Machine Learning – Chandrasekar Radhakrishnan (Steven Reising)

Poster A41U-2676 (8:00-12:20, MS Poster Hall)
HyTi: High spectral and spatial resolution thermal imaging from a 6U CubeSat – Robert Wright

Poster A41U-2677 (8:00-12:20, MS Poster Hall)
SNOOPI: A New Method for Spaceborne Remote Sensing of RZSM and SWE – James Garrison and Rashmi Shah

Poster A41U-2678 (8:00-12:20, MS Poster Hall)
The Stratospheric Aerosol and Gas Experiment (SAGE) IV Pathfinder – Michael Obland

Presentation U41A-01 (8:04, MS 303-304 L3)
100 Years of Computational Technologies Have Enabled Advances in Earth and Space Sciences – Michael Little

Presentation U41A-07 (9:28, MS 303-304 L3)
A Retrospective Analysis of an Epistemological Computer Simulation That Framed the Design of the US Global Operational Observing Systems for the Past 50 Years and Future Decades – Milt Halem

Presentation H42D-02 (10:35, MW 3004 L3)
Airborne Lidar Observations of Water Vapor, Methane, and Aerosol/Cloud Profiles with the High Altitude Lidar Observatory – Amin Nehhir

Presentation A43D-04 (14:35, MW 3004 L3)
Airborne Lidar Observations of Water Vapor, Methane, and Aerosol/Cloud Profiles with the High Altitude Lidar Observatory – Amin Nehhir

Town Hall TH45D (18:15-19:15, MW 3004 L3)
NASA Planetary Boundary Layer Incubation Community Forum – Gail Jackson, Amber Emory, Tsengdar Lee, Barry Lefer (Presenters)

Friday, December 13

Poster A51M-2721 (8:00-12:20, MS Poster Hall)
Using Lidar and Machine Learning to Identify Planetary Boundary Layer Heights – Jennifer Steenber (Milt Halem)

Poster GC51E-1111 (8:00-12:20, MS Poster Hall)
A multispectral imaging radiometer for high spatial and spectral resolution thermal infrared observations – Michael Veto (David Osterman)

Presentation IN52A-04 (10:20, MW 2018 L2)
COVERAGE: A Platform Enabling Research and Applications for GEO – Jorge Vasquez (Thomas Huang)

Presentation A52A-07 (11:50, MW 300 L3)
Sensible heat (not longwave radiation) fluxes dominate local melt events in Greenland – Wenshan Wang (Charlie Zender)

Poster IN53B-0733 (13:40-18:00, MS Poster Hall)
Compressive Geospatial Analytics – Ramin Ayanzadeh (Milt Halem)

Presentation GC54C-01 (16:00, MW 2007 L2)
Towards operational monitoring of facility-scale methane emissions with aircraft and satellites – Riley Duren

Presentation C54B-02 (16:15, MW 2006 L2)
Correlation Radiometry to Remotely Measure the Freshwater Lake Icepack Thickness – Mohammad Mousavi (Roger De Roo)

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