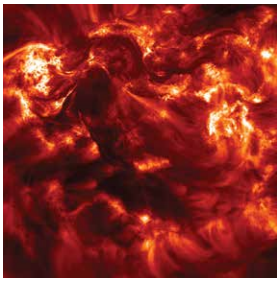
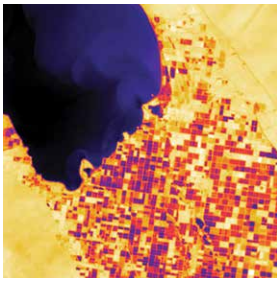
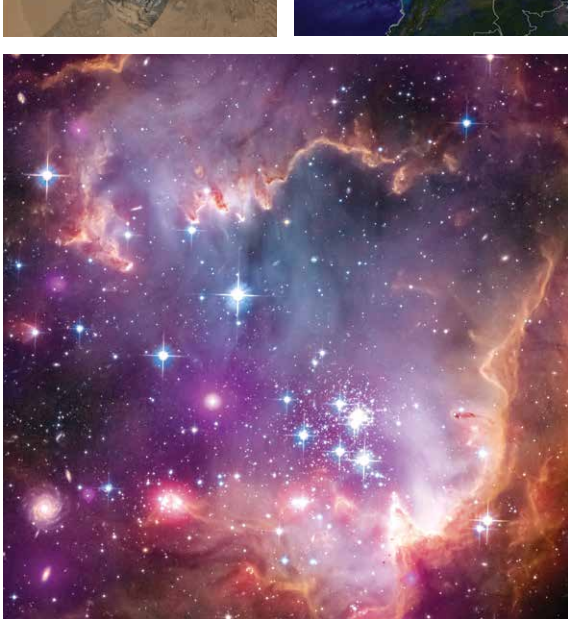
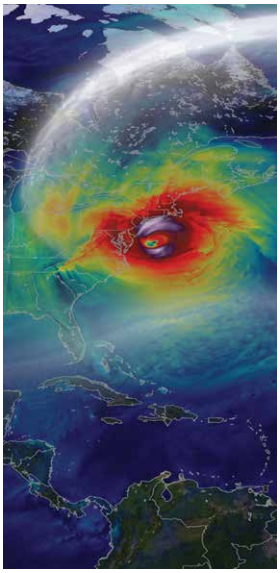
National Aeronautics and Space Administration

2013 AGU Fall Meeting: Schedule of Events at the NASA Booth



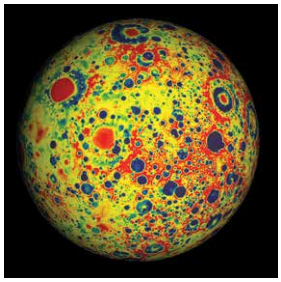


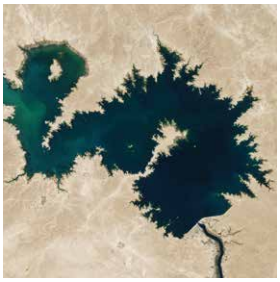


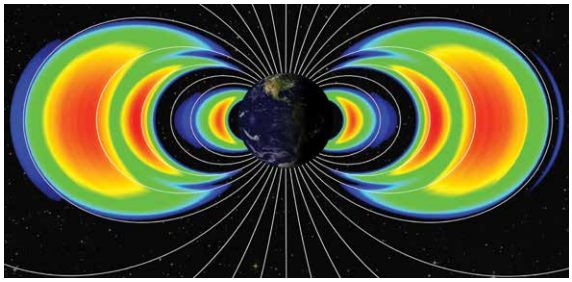


Please join us at the NASA booth (#325 for detailed agenda), where we will showcase a wide variety of science presentations and cutting-edge, interactive science, technology, and data demonstrations. This year's program will be held on Tuesday, December 10 through Friday, December 13, 2013. Presentations will cover a range of research topics, science disciplines, and programs within NASA. Data demonstrations will include sessions on data accessibility and data search-and-order-capabilities, and will feature selected data visualization, subsetting, and manipulation tools.

eospso.gsfc.nasa.gov







Schedule-at-a-Glance:

Tuesday, December 10		
Time	**Presentation**	**Presenter**
10:00 - 11:00	Special Hyperwall Presentations (Please see detailed agenda in NASA booth #325)	
11:00	Estimating Impact: How Many People are Affected?	Robert Chen
11:30	HECC – Meeting NASA's High-End Computing Goals Through Innovation	William Thigpen
12:00	NASA LiDAR Access System (NLAS)	Siri Jodha Khalsa
12:30	Radioisotope Power Systems – Planning for the Next 50 Years of Deep Space Exploration	Thomas Sutliff
1:00	NASA Postdoctoral Fellowship Opportunities	Bob Gibson
1:30	Evaluation of Big Data/Cloud Databases for Regional Climate Modeling and Evaluation	Chris Mattmann
2:00	NASA's Scientific Balloons: An Overview and Recent Advances	Debora Fairbrother
2:30	Applying NASA Earth Observations to Mitigate the Impacts of Chilean Drought	Joshua Kelly
3:00	New Antenna Expands Capability to Support NASA Near Earth Network Services (NENS)	Nettie Labelle-Hamer
3:30 - 4:30	Special Hyperwall Presentations (Please see detailed agenda in NASA booth #325)	
4:30	SoilSCAPE Wireless Sensor Network	Mahta Moghaddam
5:00	Visualizing Data with the Climate and Health ANalysis for Global Education (CHANGE) Viewer	Robert Downs
5:30	Status Update: The ICESat-2 Mission: Laser Altimetry of Ice, Clouds, and Land Elevation	Thomas Neumann

Wednesday, December 11		
10:00 - 11:00	Special Hyperwall Presentations (Please see detailed agenda in NASA booth #325)	
11:00	Voyager, IBEX, and the Edge of the Solar System	Eric Christian
11:30	NASA Earthdata: Discover and Access NASA Earth Science Data and Tools	Ross Bagwell
12:00	Improving Climate Measurements with Accurate Earth Observing	Greg Kopp
12:30	NASA (Townhall) - No Talks	
1:30	Venus in a Bottle – Simulating the Venus Environment in a Ground-Based Lab	Daniel Vento
2:00	The Van Allen Radiation Belts Before-and-After the Van Allen Probes Mission	Mona Kessel
2:30	New! NASA Web-Enabled Landsat Data (WELD) Products: Characteristics and Access	Tom Maiersperger
3:00	Fire and Ice Wars: Battles in the Sierra Nevadas	Amber Kuss
3:30 - 4:30	Special Hyperwall Presentations (Please see detailed agenda in NASA booth #325)	
4:30	New NASA Physical Oceanography Data and Tools	Jessica Hausman
5:00	Optical Autocovariance Wind Lidar (OAWL) for Space-Based Wind and Aerosol Lidar Missions	Sara Tucker
5:30	NASA's IRIS Mission Observes the Sun's Mysterious Interface Region	Jeff Newmark

Schedule-at-a-Glance:

Thursday, December 12		
10:00 - 11:00	Special Hyperwall Presentations (Please see detailed agenda in NASA booth #325)	
11:00	Spatial Data Access Tool: On-demand Geospatial Data Visualization and Download	Yaxing Wei
11:30	Learn More About NASA's Climate Model Data Services	Mark McInerney
12:00	SAGE III on ISS: Continuing a Legacy of Measurements	Richard Eckman
12:30	Operation IceBridge Portal- Discover a Wealth of Polar Data	Steve Tanner
1:00	The Resurrection of CloudSat: Stories of a Miracle Rescue	Todd Ellis
1:30	Exploring Strange New Worlds on Your Desktop: NASA's 'Eyes on Exoplanets'	Kevin Hussey
2:00	Short-term Prediction Research and Transition (SPoRT) Virtual Collaboration Lab (VCL) and New Disaster Response Efforts	Gary Jedlovec
2:30	Create Your Collection of Education Resources in NASA Wavelength	Laura Peticolas, Theresa Schwerin
3:00	Applications of Visualization Technologies to Ocean Science Data	Jessica Hausman
3:30 - 4:30	Special Hyperwall Presentations (Please see detailed agenda in NASA booth #325)	
4:30	How Scientists Can Get Involved With Education and Public Outreach	Stephanie Shipp, Theresa Schwerin, Laura Peticolas, Sanlyn Buxner, Brooke Hsu
5:00	See It First: Interactively and Visually Discovering Interesting Satellite Data With NASA Worldview	Ryan Boller
5:30	You Can Run, But You Can't Hide- Juniper Pollen Phenology and Dispersal Speaker	Jeffrey Luvall

Detailed Description of In-Booth Demonstrations and Presentations

Name	Description	Presenter
Estimating Impact: How Many People are Affected?	Many types of geophysical phenomena such as earthquakes, severe storms, tsunamis, and droughts affect large regions or areas of the Earth. Have you ever wondered how many people live in an affected area or needed an estimate of those potentially impacted? The NASA Socioeconomic Data and Applications Center (SEDAC) provide the Population Estimation Service to enable you to easily estimate the population resident in a specified area of interest. Through an online client, you may obtain a total population estimate for any user-defined polygon. This session will demonstrate the use of the service through several available online clients and illustrate a number of possible applications.	**Robert Chen** SEDAC Manager and Director, CIESIN/Columbia University **For information** *sedac.ciesin.columbia.edu/data/collection/gpw-v3/population-estimation-service*
HECC – Meeting NASA's High-End Computing Goals Through Innovation	The High-End Computing Capability (HECC) Project provides an agency-wide compute environment focused on enabling science and engineering discovery across all technical mission directorates. Meeting that challenge requires an environment that is reliable, stable, and expandable. This year we were able to more than double the on-line storage capacity while taking the major compute system, Pleiades, to 2.9 petaflops (PF). HECC meets the competing high-end computing (HEC) requirements of the agency through a customer-focused team of professionals providing world-class services to a broad array of technical users. HECC engineered a solution comprised of hardware and services to meet the demands of capacity, capability, and time-critical computing simultaneously to our users by remembering that we are here to enable their goals. We have also enhanced our website and began a series of webinars directed at improving the efficiency of our users on the systems.	**William Thigpen** High-End Computing Capability Deputy Project Manager **For information** *www.nas.nasa.gov/hecc*
NASA LiDAR Access System (NLAS)	Radioisotope power has enabled over two-dozen missions in support of planetary exploration since the 1960's. The Mars Curiosity rover at Gale Crater is the latest in this adventure. Upcoming plans for another nuclear powered Mars rover are underway and concepts for other missions are expanding the types of discoveries possible with radioisotope power systems.	**Siri Jodha Khalsa** Senior Research Scientist, National Snow and Ice Data Center Distributed Active Archive Center (DAAC)
Radioisotope Power Systems – Planning for the Next 50 Years of Deep Space Exploration	Through the NASA ROSES ACCESS Program the NLAS project has developed an easy-to-use web mapping service that serves laser altimetry data from the NASA space-based ICESat-GLAS system and the airborne LVIS platform through the OpenTopography system. The goal of the project is to provide integrated access to existing NASA LiDAR data products, as well as on-demand processing capability, and enhanced QA/QC metrics to make these data more easily accessible and usable to a range of scientists. This talk will showcase the new web service and how it is streamlining data access for end-users. NLAS represents a collaboration between UNAVCO, the National Snow and Ice Data Center, OpenTopography at San Diego Supercomputer Center, and NASA Goddard Space Flight Center.	**Thomas J. Sutliff** Deputy Program Manager, Radioisotope Power Systems Program **For information** *rps.nasa.gov*
NASA Postdoctoral Fellowship Opportunities	The NASA Postdoctoral Program (NPP) offers scientists and engineers unique opportunities to conduct research at NASA Centers. Each NPP fellowship opportunity is designed to advance NASA research in a specific project related to space science, earth science, aeronautics, space operations, exploration systems, lunar science or astrobiology. Applicants apply for a specific research opportunity and, if selected by NPP's competitive process, are offered one- to three-year fellowship appointments. Applicants must have a Ph.D. or an equivalent doctorate degree before beginning the fellowship. Applicants must have U.S. citizenship, Lawful Permanent Resident status, an Employment Authorization Document with pending LPR status, or a J-1 Visa status as a Research Scholar before beginning the fellowship. Stipend rates for Postdoctoral Fellows start at $53,500 per year. Moderate supplements are given for high cost-of-living areas and for certain academic specialties. Limited relocation assistance is provided, and health insurance is available through the program. Fellows also receive $8,000 per appointment year to support travel to conferences, meetings and other activities that directly support their research projects. *Applications are accepted three times each year:* ***March 1, July 1, and November 1****.* *Applications must be submitted online at nasa.orau.org/postdoc*	**Bob Gibson** Director, NASA Postdoctoral Program **For information** 865-241-9820 **E-mail:** *Robert.Gibson@orau.org*

Detailed Description of In-Booth Demonstrations and Presentations (cont.)

Name	Description	Presenter
Evaluation of Big Data/Cloud Databases for Regional Climate Modeling and Evaluation	Climate models and climate observations are generated from a variety of sources and by a variety of institutions and bringing together climate models and remote sensing observations to compare a particular parameter is often quite difficult. This talk will focus on an ongoing technology project that has developed a system to easily and rapidly evaluate climate model, including a specific study of cloud databases.	**Chris Mattmann** Senior Computer Scientist, Jet Propulsion Laboratory
NASA's Scientific Balloons: An Overview and Recent Advances	Scientific balloons serve as a carrier for science instruments in a similar manner as an orbiting satellite, but at much lower costs. Balloons also provide added benefits in comparison with other carriers. These benefits include lifting larger and heavier payloads, short preparation lead time for mission support, as little as six months; as well as, payload recovery and re-flying. This short talk will present an overview of NASA's Balloon Program with emphasis on the emerging new capabilities including the Super Pressure Balloon (SPB) development and the Wallops Arc Second Pointer (WASP).	**Debora Fairbrother** Chief of the Balloon Program Office, Wallops Flight Facility
Applying NASA Earth Observations to Mitigate the Impacts of Chilean Drought	Chile has been experiencing record drought, stressing many sectors in the country, most notably water resources and agriculture. This has been especially true in the desert-like northern regions of Chile increasing strain on limited water availability, particularly in the Limarí River Basin. Current water availability estimates in the region are dependent upon sparsely located climate monitoring stations and unreliable stream gauges. This study used in-situ hydrologic and temperature data combined with NASA Earth Observing System satellite data to forecast potential water availability from snowmelt within the Limarí Basin for the 2013 growing season. Snow cover and land surface temperature data collected by the Moderate-Resolution Imaging Spectroradiometer (MODIS) sensor onboard the Terra satellite was utilized in the United States Department of Agriculture's Snowmelt Runoff Model to forecast the daily amount of Andean Mountain snowmelt runoff. These predictions will enhance current practices by the Centro de Informacón de Recursos Naturales (CIREN) and the Embassy of Chile to the United States to manage water allocation most efficiently amongst the water-user community in Chile's Limarí River Basin.	**Joshua Kelly** NASA DEVELOP National Program, Geoscience Programmer at Langley Research Center **For information** *develop.larc.nasa.gov*
New Antenna Expands Capability to Support NASA Near Earth Network Services (NENS)	The Alaska Satellite Facility (ASF) has a new 11-meter antenna installed and ready to support NASA missions at the University of Alaska Fairbanks. This new antenna expands the capability of the Near Earth Network Services (NENS) to support polar-orbiting satellites that collect key observations for the study of Earth processes. In addition, the ASF Distributed Active Archive Center (DAAC) continues to expand its processing and storage capabilities to keep pace with the NASA research communities' growing need for large data sets. These large data sets include new data from the Soil Moisture Active Passive (SMAP) mission to be launched in November 2014. The SMAP mission is using an innovative collaborative approach to data management that leverages infrastructure and personnel at two DAACs, ASF and the National Snow and Ice Center (NSIDC), to better serve the user community. Along with JPL, ASF and NSIDC are working together to identify and develop tools, tutorials and technologies needed by the SMAP user communities to make data access and usage productive, efficient, and seamless.	**Nettie Labelle-Hamer** ASF Director and Associate Vice Chancellor for Research **For information** *www.asf.alaska.edu*

Detailed Description of In-Booth Demonstrations and Presentations (cont.)

Name	Description	Presenter
SoilSCAPE Wireless Sensor Network	SoilSCAPE, which is funded by NASA's Earth Science Technology Office, was developed to provide long-term, long-range, and near-real-time data over large areas for validation of SMAP and AirMOSS soil moisture products. This talk will provide a tour of the field sites, data products, and the new hardware and software technologies developed by the SoilSCAPE team.	**Mahta Moghaddam** Professor of Electrical Engineering, University of Southern California
Visualizing Data with the Climate and Health ANalysis for Global Education (CHANGE) Viewer	Tools for data visualization can be used to improve understanding of global climate change along with the potential impact of such changes on human health. The Climate and Health ANalysis for Global Education (CHANGE) Viewer, developed for use by educators and students, offers an easy to use interface for visualizing and analyzing geospatial data. The Change Viewer is freely available and can be quickly downloaded and installed on computers running either Windows or the Macintosh OSX. The demonstration will show how the CHANGE Viewer can be used to visualize and analyze datasets from the NASA Socioeconomic Data and Applications Center (SEDAC) and other sources.	**Robert Downs** NASA Socioeconomic Data and Applications Center (SEDAC) Senior Digital Archivist and Senior Staff Associate Officer of Research Center for International Earth Science Information Network, Columbia University **For information** *www.climatechangehumanhealth.org*
Status Update: The ICESat-2 Mission: Laser Altimetry of Ice, Clouds, and Land Elevation	Ice sheet and sea level changes have been explicitly identified as a current priority in the President's Climate Change Science Program, the Arctic Climate Impact Assessment, the 4th Assessment Report of the IPCC and other national and international policy documents. The ICESat mission used a state-of-the-art time laser altimetry system to measure changes in the Greenland and Antarctic ice sheets, document changes in sea ice thickness distribution, to derive important information about the interactions between ice sheets and climate. While ICESat stopped collecting data in October 2009, the IceBridge and CryoSat-2 missions continue these important observations. The ICESat-2 mission is under development for launch in mid-2016. The primary aims of the ICESat-2 mission are to continue measurements of sea-ice thickness change, and ice sheet elevation changes at scales from outlet glaciers to the entire ice sheet. Combining ICESat-2 data with existing and forthcoming altimetry data will yield a 15+ year record of elevation change. In this presentation, we present the motivation for space-based laser altimetry, the science requirements for ICESat-2, and the current concept for the ICESat-2 mission.	**Thomas Neumann** Cryopsheric Scientist and ICESat-2, Deputy Project Scientist, Goddard Space Flight Center
Voyager, IBEX, and the Edge of the Solar System	The Voyager 1 and 2 spacecraft were launched in 1977 and are continuing to generate new and exciting science. It now appears that Voyager 1 is in interstellar space, becoming humankind's first Interstellar Probe. The two Voyager spacecraft show that the interaction between the solar system and the galaxy is complicated, but combined with data from the Earth-orbiting Interstellar Boundary Explorer (IBEX), which studies this region remotely, we are learning a lot more about this interaction. This excitement is expected to continue, as IBEX takes more data remotely, Voyager 1 explores interstellar space, and Voyager 2 is poised to leave the heliosphere.	**Eric Christian** Research Scientist and IBEX Project Scientist, NASA GSFC

Detailed Description of In-Booth Demonstrations and Presentations (cont.)

Name	Description	Presenter
NASA Earthdata: Discover and Access NASA Earth Science Data and Tools	Looking for NASA Earth science data, services or tools? Look no further! Join us for a tour of the NASA Earthdata website. NASA acquires and distributes a wide variety of Earth science data from across the Earth science disciplines. The Earth Observing System Data and Information System (EOSDIS)represents the data processing, management and distribution component of NASA's Earth Observing System (EOS) Program. EOSDIS includes 12 data centers/distributed active archive centers (DAACs), a data and service access client (Reverb), dataset directory, (GCMD), near real-time data (LANCE), and a host of both discipline specific, and center-unique tools for functions such as searching, subsetting and visualizing NASA's Earth science data. Our data is distributed to a diverse user community worldwide. *Access to these services is centralized through the earthdata.nasa.gov website and is designed to help facilitate end users' discovery of the wide array of data information, services and tools offered by the EOSDIS data centers.*	**Ross Bagwell** Senior Systems Engineer, NASA ESDIS, GSFC
Improving Climate Measurements with Accurate Earth Observing	Understanding Earth's climate requires accurate and stable long-term measurements with spatial and spectral information spanning the globe. A recent high-altitude balloon flight demonstrated a new technique for collecting radiance data, a technique that could one day be used from space, in the visible and near infrared. Learn about the development of this new Earth observing instrument and how radiance measurements, a key component in understanding climate, are made.	**Greg Kopp** Sr. Research Scientist, University of Colorado / Laboratory for Atmospheric and Space Physics
Venus in a Bottle – Simulating the Venus Environment in a Ground-Based Lab	The Glenn Extreme Environment Rig (GEER) can be used to simulate planetary atmospheres for nearly any planet. Currently, the facility is configured for Venus atmospheric simulations and is ready for use by researchers. GEER is large enough to do subscale testing of rovers and spacecraft. It can produce chemistry, temperature an pressure from the Venus surface to the just above the cloud layer.	**Daniel Vento** NASA Glenn Research Center **For information** *spaceflightsystems.grc.nasa.gov/SSPO/SS/Extreme*
The Van Allen Radiation Belts Before-and-After the Van Allen Probes Mission	The Van Allen radiation belts were the first discovery of the Space Age: two doughnut-shaped regions surrounding Earth (above the atmosphere) that trap solar radiation. Later missions, CRRES and SAMPEX, demonstrated how dynamic the outer belt can be as it expands and shrinks in response to solar storms. The recent Van Allen Probes mission began sensing additional structure within the outer belt just days after launch. Further observations combined with modeling and new theory are helping us understand this new structure, and as a result re-writing the text books. The trapped radiation can damage satellites and astronauts, and so is important to understand in order to mitigate its effects.	**Mona Kessel** Van Allen Probes Program Scientist, NASA HQ
New! NASA Web-Enabled Landsat Data (WELD) Products: Characteristics and Access	The NASA Web-Enabled Landsat Data (WELD) product suite extends the higher-level processing concept of the MODIS product suite to Landsat ETM+ data. WELD products are comprised of weekly, monthly, seasonal, and annual composites which collapse the best observations from a given Landsat scene into a coherent and seamless tiling scheme. The composites cover the Continental United States and Alaska for the years 2003-2012. Each composite contains derived parameters such as Top-of-Atmosphere reflectance, brightness temperature, NDVI, and per-pixel metadata attributes. The WELD products were developed specifically to provide consistent data that can be used to derive land cover as well as geophysical and biophysical products for regional assessment of surface dynamics and to study Earth system functioning. This presentation will cover the characteristics of WELD products in detail, as well as providing guidance for accessing the data freely online.	**Tom Maiersperger** Science Division Manager, SGT, Inc., U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center

Detailed Description of In-Booth Demonstrations and Presentations (cont.)

Name	Description	Presenter
Fire and Ice Wars: Battles in the Sierra Nevadas	Wildfire in California costs over $800 million in annual property damage, puts countless lives in danger, creates air pollution, impacts vulnerable ecosystems, and exacerbates climate change, especially in the Sierra Nevada range. Wildfire events are of paramount concern for the U.S. Forest Service, and recent outbreaks such as the Rim Fire, California's third largest fire burning over 250,000 acres, exemplify the need for understanding areas most vulnerable to wildfire events. To assist the U.S. Forest Service in management objectives, a NASA DEVELOP team at Ames Research Center analyzed the effects of declining spring snowpack on wildfire occurrence in the Sierra Nevada in the context of climate change. This project used NASA Earth observations to monitor snow cover, extent of forest disturbance, and vegetative analysis, as well as forecasted forest disturbance patterns with a Generalized Additive Model (GAM) with an accuracy of 80.1%. The model also analyzed the contribution of particular climate variables to wildfire events. This information is useful for forest management decisions within the U.S. Forest Service and will assist in the incorporation of climate change impact assessments on forest health.	**Amber Kuss** NASA DEVELOP National Program, Center Lead at Ames Research Center **For information** *develop.larc.nasa.gov*
New NASA Physical Oceanography Data and Tools	The Physical Oceanography Distributed Active Archive Center (PO.DAAC) is NASA's data center responsible for the management and distribution of oceanographic data. It distributes over 500 datasets from gravity, ocean wind, sea surface topography, ocean currents, sea ice, salinity, and sea surface temperature satellite missions. This year PO.DAAC's data holdings have increased with the addition of new datasets from AltiKa, Aquarius, NPP VIIRS, OSCAT, QuikSCAT, ASCAT on MetOp-B, and AVHRR, which will be summarized in this presentation. PO.DAAC also archives data from Seasat, NASA's first oceanographic satellite mission that lasted 90 days during 1978. In honor of Seasat's 35th anniversary PO.DAAC has reformatted the flat binary Seasat data into easy to read data records in netCDF format. This includes the altimeter (ALT), scatterometer (SASS), and microwave radiometer (SMMR) data. PO.DAAC supports the physical oceanography end- user community by offering a suite of data access and visualization tools and services. We will highlight improved tool capabilities and showcase PO.DAAC 's newly developed suite of integrated web services that offer a chained approach to data and metadata discovery, data subsetting extraction, and visualization for the user through simple URLs.	**Jessica Hausman** Data Engineer, NASA Physical Oceanography Distributed Active Archive Center(DAAC), NASA JPL, Caltech
Optical Autocovariance Wind Lidar (OAWL) for Space-Based Wind and Aerosol Lidar Missions	OAWL - The Optical Autocovariance Wind Lidar instrument –developed with funding provided by NASA's Earth Science Technology Office and Ball Aerospace – has progressed over the past decade from a laboratory demonstration, to a validated ground and airborne wind lidar instrument, to the center of a mission concept vetted by the Goddard Space Flight Center Instrument Design Lab. This presentation will cover the highlights of the development and validation of OAWL and show what the system offers for future space-based wind and aerosol measurements.	**Sara Tucker** Instrument Scientist, Ball Aerospace & Technologies Corp.
NASA's IRIS Mission Observes the Sun's Mysterious Interface Region	NASA's recently launched Interface Region Imaging Spectrograph, or IRIS, is producing data showing never seen before details of the sun's lower atmosphere or "interface region." Observing this layer of the sun's atmosphere is crucial for understanding how the upper layer, or corona, is heated to millions of degrees. These first observations have shown in the highest resolution ever observed, the unexpectedly complex and dynamic nature of the interface region. The unique and exciting observations, coupled with state of the art 3-D modeling, will fill a large gap in our knowledge of this little understood, but critical region of the solar atmosphere.	**Jeff Newmark** IRIS Program Scientist, NASA HQ

Detailed Description of In-Booth Demonstrations and Presentations (cont.)

Name	Description	Presenter
Spatial Data Access Tool: On-demand Geospatial Data Visualization and Download	The ORNL DAAC Spatial Data Access tool (SDAT) is an Open Geospatial Consortium (OGC) standards-based Web application to visualize and download spatial data in various user-selected spatial/temporal extents, file formats, and projections. Nearly 100 data sets including land cover, biophysical properties, elevation, and selected ORNL DAAC archived data are available through SDAT. KMZ files are also provided for data visualization in Google Earth. Additional features include a Javascript-based SDAT MapWidget library is provided for users to easily embed interactive SDAT maps in any web page.	**Yaxing Wei** Geospatial Information Scientist, Oak Ridge National Laboratory (ORNL) Distributed Active Archive Center (DAAC)
Learn More about NASA's Climate Model Data Services	The Big Data challenge of climate modeling is not solved with a single technological approach. NASA's Climate Model Data Services (CDS) delivers a highly-focused, next-generation, one-stop information service. Service offerings include an integrated suite of classic technologies (FTP, LAS, THREDDS, ESGF, GRaD-DODS, OPeNDAP, WMS, ArcGIS Server), emerging technologies (iRODS, UVCDAT), and advanced technologies (MERRA Analytic Services, MapReduce, Ontology Services, and the CDS API). This talk will describe the Climate Model Data Services, advanced offerings, and lay out a deployment roadmap.	**Mark McInerney** Climate Model Data Services Lead, Computational & Information Sciences and Technology Office, Sciences and Exploration Directorate, NASA Goddard Space Flight Center
SAGE III on ISS: Continuing a Legacy of Measurements	SAGE III on ISS, fifth in the family of Stratospheric Aerosol and Gas Experiments, has been pivotal in making accurate measurements of ozone and aerosols. SAGE is one of NASA's longest-running Earth-observing instruments and it will continue to look at ozone and aerosols from the International Space Station. It will launch on SpaceX and be installed on the space station via robotic arm. The orbital path of the space station will help maximize the scientific value of SAGE III observations while proving atmospheric science instruments have a place on the space station.	**Richard Eckman** Richard Eckman, NASA, Program Scientist for SAGE III on ISS
Operation IceBridge Portal- Discover a Wealth of Polar Data	Want to learn more about NASA's Operation IceBridge Project? Looking for Polar Data? NASA's Operation IceBridge is an ongoing airborne mission that collects a wide range of remote sensing measurements in the polar regions of the world. Since 2009, the Operation has flown annual campaigns in both hemispheres, collecting observations and measurements over Greenland, Antarctica, southeast Alaskan glaciers, and Antarctic and Arctic sea ice. The flights use many instruments to gather the data, resulting in dozens of data products for researchers and educators to use. The National Snow & Ice Data Center (NSIDC) is managing the data archive for all IceBridge data, and so an easy to use Portal has been developed. This webinar will cover the objectives of the IceBridge mission, provide an overview of the wide range of available data products, and will then a live demonstration of the IceBridge Data Portal will showcase the key features and functionality of the tool. This map-based interface, which visually shows where the annual missions flew, allowing users to search by date, geographic location and instrument type. The IceBridge Portal provides a graphical view of this critical NASA data collection. During this webinar we will show users how to navigate and access this collection.	**Steve Tanner** NASA Operation IceBridge Data Manager, National Snow and Ice Data Center

Detailed Description of In-Booth Demonstrations and Presentations (cont.)

Name	Description	Presenter
The Resurrection of CloudSat: Stories of a Miracle Rescue	In this talk, we will discuss the amazing story of the CloudSat mission and how the entire mission was resurrected and redesigned in light of a major hardware failure. Through the extraordinary efforts of a team of scientists and engineers, the CloudSat mission continues to fly today with a life expectancy of several more years ahead.	**Todd Ellis** Assistant Professor of Meteorology, Education and Public Outreach Lead NASA CloudSat Mission, Director, Central NY GLOBE Partnership, SUNY College at Oneonta
Exploring Strange New Worlds on Your Desktop: NASA's 'Eyes on Exoplanets'	What was once a science fiction vision has become reality – we live in a galaxy teeming with alien solar systems, many of them more bizarre than anything dreamed up by the creators of "Star Wars" and "Star Trek." NASA's new visualization tool, "Eyes on Exoplanets," uses browser accessible gaming technology to unlock this stellar kingdom for the general public. "Eyes on Exoplanets" provides a scientifically accurate, up-to-date, fully rendered 3D universe of the 900-plus planets that have been discovered orbiting other stars. Powered by *NASA's Exoplanet Archive* and available at *eyes.jpl.nasa.gov/*exoplanets, "Eyes" is JPL's most advanced interactive visualization product to date. Visitors to the app can instantly find out the time it would take to travel to each planetary system by car, jet plane, bullet train, or starship; use an overlay to compare the orbits of planets in our solar system with those around other stars; view the night sky and see visible stars where exoplanets have been discovered; and access a variety of other interactive features.	**Kevin Hussey** Manager, Visualization Technology Applications and Development Group, NASA JPL, Caltech
Short-term Prediction Research and Transition (SPoRT) Virtual Collaboration Lab (VCL) and New Disaster Response Efforts	The use of scientific visualization systems for the analysis, visualization, and sharing of data from high-resolution remote sensing satellites is propelling a wider use of ultraresolution tiled display walls. NASA's Short-term Prediction Research and Transition (SPoRT) program has embraced this new technology for Earth science applications in its new Visualization and Collaboration Lab (VCL). While SPoRT has traditionally focused on transitioning unique NASA satellite data and research capabilities to the operational weather community, a current focus is on the use of the VCL to support response to regional natural disasters. Central to the facility is a 3 x 4 array of 1920 x 1080 pixel thin bezel video monitors integrated into a 14' x 7' display. The interaction and display of scientific data on the video wall is controlled by a single Alienware Aurora computer with a 2nd Generation Intel Core 4.1GHz processor, 32GB memory, and an AMD Fire Pro W600 video card with 6 mini display port connections (each split to support dual monitors). The open source Scalable Adaptive Graphics Environment (SAGE) windowing framework, running on top of the Ubuntu 12 Linux operating system, allows several users to simultaneously interact with and control the display of content on the tiled display wall.	**Gary Jedlovec** NASA / Marshall Space Flight Center, Earth Science Office **For information** *weather.msfc.nasa.gov/sport*
Create Your Collection of Education Resources in NASA Wavelength	The NASA Science Education and Public Outreach Forums have developed NASA Wavelength – a digital library of resources for K-12, higher education and out-of-school programs. The primary audiences for NASA Wavelength are STEM educators (K-12, higher education and informal education) as well as scientists, education and public outreach professionals who work with K-12, higher education, and informal education. Create your own collections within NASA Wavelength using our new list-building feature.	**Laura Peticolas** Director, Center for Science Education, Space Sciences Laboratory, University of California, Berkeley **Theresa Schwerin** Vice President, Education, Institute for Global Environmental Strategies (IGES)

Detailed Description of In-Booth Demonstrations and Presentations (cont.)

Name	Description	Presenter
Applications of Visualization Technologies to Ocean Science Data	NASA's Physical Oceanography Distributed Active Archive Center (PO.DAAC) continues to explore novel and meaningful approaches to the access and visual representations of its datasets in order to facilitate and promote their search, discovery, and evaluation. This presentation will highlight the potential of utilizing the latest powerful web-based tools for dynamically interacting with science data such as sea surface temperature, ocean winds, and salinity within a 2D and 3D visualization context. Demonstrations will include the latest version of the State of the Ocean web interface, webification of PO.DAAC's entire data holdings, and the best of the new age of web interface libraries focusing on mapping, graphing, and plotting capabilities. The use and application of complementary immersive hardware tools such as Oculus Rift and Leap Motion will also be discussed and exhibited.	**Jessica Hausman** Data Engineer, NASA Physical Oceanography Distributed Active Archive Center(DAAC), NASA JPL, Caltech **For information** *podaac-w10n.jpl.nasa.gov*
How Scientists Can Get Involved With Education and Public Outreach	The Science Mission Directorate (SMD) Education and Public Outreach (E/PO) Forums have been developing tools and pathways to support scientists who are – or who are interested in becoming – involved in E/PO. These include resources aligned with SMD missions and research themes, tip sheets to help scientists increase their impact in the classroom or with the public, professional development opportunities at science conferences, and more. Join us to learn about these tools, and to ask the questions you have about how to become involved in E/PO or how to enhance the impact of your E/PO efforts.	**Stephanie Shipp** Lead, Planetary Science Education and Public Outreach Forum **Theresa Schwerin** Lead, Earth Science Education and Public Outreach Forum **Laura Peticolas** Lead, Heliophysics Science Education and Public Outreach Forum **Sanlyn Buxner** Scientist Engagement Lead, Planetary Science Education and Public Outreach Forum **Brooke Hsu** Scientist Engagement Lead, Earth Science Education and Public Outreach Forum
See It First: Interactively and Visually Discovering Interesting Satellite Data With NASA Worldview	Complementing NASA's traditional method to data discovery via "metadata-first" searching, the Worldview web mapping client takes a "see it first" approach for visually discovering interesting satellite data. It uses the responsive Global Imagery Browse Services (GIBS) to provide an interactive interface for browsing 90+ products from Terra, Aqua, and Aura in full resolution and generally within three hours of observation. Launched at Fall 2011 AGU, Worldview's original domain was near-real time applications such as monitoring wildfires and flooding events. Since then, its scope and available imagery have expanded to include science applications and functionality such as the ability to download full-resolution image representations of the data and the original data granules. Worldview is also mobile-friendly and can be used on most tablet and smartphone devices.	**Ryan Boller** ESDIS Data Visualization Lead, Goddard Space Flight Center **For information** *earthdata.nasa.gov/worldview*
You Can Run, But You Can't Hide- Juniper Pollen Phenology and Dispersal Speaker	Pollen can be transported great distances. Van de Water et. al., 2003 reported Juniperus spp. pollen was transported 200-600 km. Hence local observations of plant phenology may not be consistent with the timing and source of pollen collected by pollen sampling instruments. The DREAM (Dust REgional Atmospheric Model, Nickovic et al. 2001) is a verified model for atmospheric dust transport modeling using MODIS data products to identify source regions and quantities of dust. We have modified the DREAM model to incorporate pollen transport. Pollen release is estimated based on MODIS derived phenology of Juniperus spp. communities. Ground based observational records of pollen release timing and quantities are used as verification. This information will be used to support the Centers for Disease Control and Prevention's National Environmental Public Health Tracking Program and the State of New Mexico environmental public health decision support for asthma and allergies alerts.	**Jeffrey Duvall** Research Scientist, NASA Global Hydrology and Climate Center (GHCC), Marshall Space Flight Center