

AGU FALL MEETING

San Francisco | 14 – 18 December 2015

My Schedule

UPCOMING

Prior

This is your personal schedule ONLY. Registration to attend the meeting or special events and sessions is required.
Items highlighted indicate a time conflict.

MONDAY, 14 DECEMBER 2015

08:00 - 12:20

📍 Moscone South - Poster Hall



B11D-0460 Hg Isotopes Reveal Importance of In-Stream Processing and Legacy Inputs in East Fork Poplar Creek, Oak Ridge, Tennessee, USA.

Jason D Demers, University of Michigan Ann Arbor, Ann Arbor, MI, United States, Joel D Blum, Univ Michigan, Ann Arbor, MI, United States, Scott C Brooks, Oak Ridge National Laboratory, Oak Ridge, TN, United States, Patrick M Donovan, University of Michigan, Ann Arbor, MI, United States, Baohua Gu, Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States and Ami Riscassi, Univ Virginia, Charlottesville, VA, United States

📍 Moscone South - Poster Hall



B11C-0451 Assessing Model Treatment of Drought Legacy Effects in the Amazon

Hannah Rose Kolus¹, Deborah N Huntzinger², Christopher Schwalm², Joshua B Fisher³, Robert B Cook⁴, Yuanyuan Fang⁵, Andrew R Jacobson⁶, Anna Michalak⁷, Kevin M Schaefer⁸, Yaxing Wer⁴ and MsTMIP Model Team Participants, (1)Northern Arizona University, School of Earth Sciences and Environmental Sustainability, Flagstaff, AZ, United States, (2)Northern Arizona University, Flagstaff, AZ, United States, (3)NASA Jet Propulsion Laboratory, Pasadena, CA, United States, (4)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (5)Stanford University, Stanford, CA, United States, (6)University of Colorado at Boulder, Boulder, CO, United States, (7)Carnegie Institution for Science, Global Ecology, Washington, United States, (8)University of Colorado, National Snow and Ice Data Center, Boulder, CO, United States

📍 Moscone South - Poster Hall



B11H-0536 Production of Excess CO₂ relative to methane in peatlands: a new H₂ sink

Rachel Wilson¹, Ben J. Woodcroft², Ruth K Varner³, Gene W. Tyson², Malak M Tfaily¹, Steven Sebestyen⁴, Scott R Saleska⁵, Kelsey Rogers¹, Virginia Isabel Rich⁵, Karis J McFarlane⁶, Joel E Kostka⁷, Randy K Kolka⁴, Jason Keller⁸, Colleen M. Iversen⁹, Suzanne B Hodgkins¹, Paul J Hanson⁹, Thomas P Guilderson⁶, Natalie Griffiths⁹, Florentino de La Cruz¹⁰, Patrick M Crill¹¹, Jeffrey Chanton¹², Scott D Bridgman¹³ and Morton Barlaz¹⁰, (1)Florida State University, Tallahassee, FL, United States, (2)University of Queensland, St Lucia, Australia, (3)University of New Hampshire Main Campus, Durham, NH, United States, (4)U.S. Forest Service, Grand rapids, MN, United States, (5)University of Arizona, Tucson, AZ, United States, (6)Lawrence Livermore National Laboratory, Livermore, CA, United States, (7)Georgia Institute of Technology Main Campus, Atlanta, GA, United States, (8)Chapman University, Orange, CA, United States, (9)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (10)North Carolina State University, Raleigh, NC, United States, (11)Stockholm University, Dept. of Geological Sciences, Stockholm, Sweden, (12)Florida State Univ, Tallahassee, FL, United States, (13)University of Oregon, Eugene, OR, United States

📍 Moscone South - Poster Hall

**B11H-0540** Holocene Carbon Accumulation Rates in the SPRUCE Bog Prior to Warming and Elevated CO₂ Treatment

Karis J McFarlane¹, Colleen M. Iversen², Jana R. Phillips², Deanne J Brice² and Paul J Hanson², (1)Lawrence Livermore National Laboratory, Livermore, CA, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall

**IN11D** Sensor Networks and Sensor Data Management Posters

Misha Krassovski¹, **Jeffery S Riggs**², **Misha Krassovski**¹, **Misha Krassovski**¹ and **Jeffery S Riggs**², (1)Oak Ridge National Laboratory, Carbon Dioxide Information Analysis Center, Oak Ridge, TN, United States (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall

**H11C-1360** Testing hypotheses of hydrologic alteration beyond ecological thresholds

Jory Seth Hecht¹, Richard M Vogel¹ and Ryan McManamay², (1)Tufts University, Department of Civil and Environmental Engineering, Medford, MA, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall

**B11C-0431** Assumption Centred Modelling of Ecosystem Responses to CO₂ at Six US Atmospheric CO₂ Enrichment Experiments.

Anthony P Walker¹, Martin G De Kauwe², Belinda E Medlyn³, Soenke Zaehle⁴, Kristina A Luus⁴, Edmund Ryan⁵, Jianyang Xia⁶, Richard J Norby¹ and The FACE-MDS Team, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)Macquarie University, Sydney, NSW, Australia, (3)Western Sydney University, Hawkesbury Institute for the Environment, Sydney, Australia, (4)Max Planck Institute for Biogeochemistry, Jena, Germany, (5)Arizona State University, Tempe, AZ, United States, (6)University of Oklahoma Norman Campus, Norman, OK, United States

09:45 - 10:00

📍 Moscone West - 2010



B11N-08 Global Patterns of Drought Recovery

Christopher Schwalm¹, **William Anderegg**², **Franco Biondi**³, **George W Koch**⁴, **Marcy E Litvak**⁵, **John Shaw**⁶, **Adam Wolf**², **Deborah N Huntzinger**⁴, **Anna M Michalak**⁷, **Kevin M Schaefer**⁸, **Joshua B Fisher**⁹, **Robert B Cook**¹⁰, **Yaxing Wei**¹⁰, **Yuanyuan Fang**¹¹, **Daniel J Hayes**¹², **Maoyi Huang**¹³, **Atul K Jain**¹⁴ and **Hanqin Tian**¹⁵, (1)Woods Hole Research Center, Woods Hole, MA, United States, (2)Princeton University, Princeton, NJ, United States, (3)University of Nevada Reno, Reno, NV, United States, (4)Northern Arizona University, Flagstaff, AZ, United States, (5)University of New Mexico Main Campus, Albuquerque, NM, United States, (6)US Forest Service, Logan, UT, United States, (7)Carnegie Institution for Science Washington, Washington, DC, United States, (8)University of Colorado, National Snow and Ice Data Center, Boulder, CO, United States, (9)NASA Jet Propulsion Laboratory, Pasadena, CA, United States, (10)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (11)Stanford University, Stanford, CA, United States, (12)University of Maine, Orono, ME, United States, (13)Pacific Northwest National Laboratory, Atmospheric Sciences and Global Change Division, Richland, WA, United States, (14)University of Illinois at Urbana Champaign, Urbana, IL, United States, (15)Auburn University at Montgomery, Montgomery, AL, United States

10:30 - 10:40

📍 Moscone West - 3014

**GC12B-03** The State of the Carbon Cycle: Ten Years On

Anthony W King¹, **Lisa Dilling**², **David M Fairman**³, **Richard A Houghton**⁴, **Gregg Marland**⁵, **Adam Rose**⁶, **Thomas J Wilbanks**¹ and **Gregory Zimmerman**¹, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)University of Colorado at Boulder, Western Water Assessment RISA, Boulder, CO, United States, (3)Consensus Building Institute, Cambridge, MA, United States, (4)Woods Hole Research Center, Falmouth, MA, United States, (5)Appalachian State University, Boone, NC, United States, (6)University of Southern California, Los Angeles, CA, United States

11:10 - 11:20

📍 Moscone West - 3014

**GC12B-07** The Contribution of Soils to North America's Current and Future Climate

Melanie A Mayes¹, **Sasha Reed**², **Peter E Thornton**¹, **Kate Lajtha**³, **Vanessa L Bailey**⁴, **Gyami Shrestha**⁵, **Julie D Jastrow**⁶ and **Margaret S Torn**⁷, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)Southwest Biological Science Center Moab, Moab, UT, United States, (3)Oregon State University, Corvallis, OR, United States, (4)Pacific Northwest National Laboratory, Richland, WA, United States, (5)US Carbon Cycle Science Program, US Global Change Research Program, Washington, DC, United States, (6)Argonne National Laboratory, Argonne, IL, United States, (7)Lawrence Berkeley National Laboratory, Berkeley, CA, United States

13:40 - 18:00

📍 Moscone South - Poster Hall

**H13J-1725** Food Security Hotspots in India under Changing Climate and Growing Populatio

Keith Aric Cherkauer¹, **Nagendra Singh**², **Moetasim Ashfaq**² and **Deeksha Rastogi**², (1)Purdue University, West Lafayette, IN, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall

**GC13A-1127** UNCERTAINTY IN ESTIMATION OF BIOENERGY INDUCED LULC CHANGE: DEVELOPMENT OF A NEW CHANGE DETECTION TECHNIQUE.

Nagendra Singh¹, **Ranga Raju Vatsava**², **Dilip Patlolla**¹, **Budhendra L Bhaduri**¹ and **Su Jin Lim**¹, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)North Carolina State University at Raleigh, Center for Geospatial Analytics, Raleigh, NC, United States

📍 Moscone South - Poster Hall



GC13F-1214 Improving the assessment of the State of the Carbon Cycle in North America by integrating inventory- and process- based approaches: A case study for Canada

Daniel J Hayes¹, Carolyn Smyth², Guangsheng Chen¹, Werner Kurz³, Graham Stinson³ and Anthony David McGuire⁴, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)Natural Resources Canada - Canadian Forest Service, Edmonton, AB, Canada, (3)Canadian Forest Service, Victoria, Canada, (4)University of Alaska Fairbanks, Institute of Arctic Biology, Fairbanks, AK, United States

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IN13B-1840 Federal Data Repository Research: Recent Developments in Mercury Search System Architecture

Ranjeet Devarakonda, Oak Ridge National Laboratory, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall



B13D-0651 Methane Oxidation in Arctic Soils from High- and Flat-Centered Polygons

Jianqiu Zheng¹, Taniya Roy Chowdhury², Ziming Yang³, Baohua Gu³, Stan D Wullschleger¹ and David E Graham⁴, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)Pacific Northwest National Laboratory, Richland, WA, United States, (3)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States, (4)Oak Ridge National Laboratory, Biosciences Division, Oak Ridge, TN, United States

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IN13A-1829 Agile based "Semi-"Automated Data ingest process : ORNL DAAC example

Suresh Kumar Santhana Vannan¹, Tammy Beaty², Robert B Cook¹, Ranjeet Devarakonda¹, Leslie Hook³, Yaxing Wei¹ and Daine Wright¹, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)ORNL, Oak Ridge, TN, United States, (3)Oak Ridge National Laboratory, Carbon Dioxide Information Analysis Center, Oak Ridge, TN, United States

13:55 - 14:10

📍 Moscone West - 2004



B13H-02 Diagnosing Model Uncertainty on Terrestrial Carbon Cycle with Field manipulative experiments

Jiayang Xia¹, Richard J Norby², Anthony P Walker², Martin G De Kauwe³, Kristina A Luus⁴, Anna B Harper⁵, Xingjie Lu⁶, Bertrand Guenet⁷, Belinda Elizabeth Medlyn⁸, Soenke Zaehle⁴, Christian Werner⁹, Zheng Shi¹⁰, Lifen Jiang¹⁰, Junyi Liang¹⁰, Lingjie Lei¹¹, Shiqiang Wan¹², Yingping Wang⁶, Ensheng Weng¹³, Philippe Ciais⁷ and Yiqi Luo¹⁰, (1)East China Normal University, School of Ecological and Environmental Sciences, Shanghai, China, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (3)Macquarie University, Sydney, NSW, Australia, (4)Max Planck Institute for Biogeochemistry, Jena, Germany, (5)University of Exeter, Exeter, United Kingdom, (6)CSIRO, Ocean and Atmosphere Flagship, Aspendale, Australia, (7)LSCE Laboratoire des Sciences du Climat et de l'Environnement, Gif-Sur-Yvette Cedex, France, (8)Macquarie University, Sydney, Australia, (9)Biodiversity and Climate Research Centre - BiK-F, Frankfurt, Germany, (10)University of Oklahoma Norman Campus, Norman, OK, United States, (11)State Key Laboratory of Cotton Biology, Key Laboratory of Plant Stress Biology, College of Life Sciences, Henan University, Kaifeng, China, (12)Henan University, Key State Laboratory of Cotton Biology, College of Life Sciences, Kaifeng, China, (13)Princeton University, Princeton, NJ, United States

17:15 - 17:30

📍 Moscone West - 2010



B14C-06 Metabolic Interfaces of Mercury Methylation Proteins in *Desulfovibrio* sp. ND132

Judy D. Wall¹, Romain Bridou¹, Steven D Smith¹, Kenny Mok², Florian Widner², Alexander Johs³, Jerry Parks⁴, Eric M Pierce³, Dwayne A Elias⁵, Cynthia C Gilmour⁶ and Michi Taga², (1)University of Missouri Columbia, Columbia, MO, United States, (2)University of California Berkeley, Department of Plant & Microbial Biology, Berkeley, CA, United States, (3)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States, (4)Oak Ridge National Lab, Center for Molecular Biophysics, Oak Ridge, TN, United States, (5)Oak Ridge National Laboratory, Biosciences Division, Oak Ridge, TN, United States, (6)Smithsonian Institution, Smithsonian Environmental Research Center, Edgewater, MD, United States

18:15 - 19:15

📍 Moscone West - 2006

**TH15C** DOE scientific successes as part of the International Land Model Benchmarking (ILAMB) Project

Gerald L Geernaert¹, Renu Joseph², Forrest M. Hoffman³, William J Riley⁴, James Tremper Randerson³ and David M Lawrence⁵, (1)Department of Energy Germantown, Washington, DC, United States(2)Department of Energy Washington DC, Washington, DC, United States(3)University of California Irvine, Department of Earth System Science, Irvine, CA, United States(4)Lawrence Berkeley National Laboratory, Berkeley, CA, United States(5)National Center for Atmospheric Research, Boulder, CO, United States

TUESDAY, 15 DECEMBER 2015

08:00 - 12:20

📍 Moscone South - Poster Hall

**B21E-0516** Evaluation of two decomposition schemes in Earth System Models against LIDET, C14 observations and global soil carbon maps

Xiaojuan Yang¹, Daniel M Ricciuto² and Peter E Thornton², (1)Oak Ridge National Lab, Oak Ridge, TN, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall

**C21C-0759** An Integrated Observational and Model Synthesis Approach to Examine Dominant Environmental Controls on Active Layer Thickness

Adam Lee Atchley¹, Ethan Coon¹, Scott L Painter², Dylan R Harp¹ and Cathy Jean Wilson¹, (1)Los Alamos National Laboratory, Los Alamos, NM, United States, (2)Oak Ridge National Lab, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall

**B21C-0459** Investigating redox processes under diffusive and advective flow conditions using a coupled omics and synchrotron approach

Ken M Kemner¹, Maxim Boyanov², Theodore M Flynn¹, Edward J O'Loughlin¹, Dionysios A. Antonopoulos³, Shelly Kelly⁴, Kelly Skinner⁵, Bhoopesh Mishra⁶, Scott C Brooks⁷, David B Watson⁷ and Wei-min Wu⁸, (1)Argonne National Laboratory, Argonne, IL, United States, (2)Bulgarian Academy of Science, Sophia, Bulgaria, (3)Argonne National Laboratory, Biosciences Division, Argonne, IL, United States, (4)EXAFS Analysis, Naperville, IL, United States, (5)Coskata, Chicago, IL, United States, (6)Illinois Institute of Technology, Physics, Chicago, IL, United States, (7)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (8)Stanford University, Palo Alto, CA, United States

📍 Moscone South - Poster Hall



B21E-0513 Design and Application of a Community Land Benchmarking System for Earth System Models

Mingquan Mu¹, **Forrest M. Hoffman**², **David M Lawrence**³, **William J Riley**⁴, **Gretchen Keppel-Aleks**⁵, **Charles D Koven**⁴, **Erik Ben Kluzek**³, **Jiafu Mao**⁶ and **James Tremper Randerson**², (1)University of California Irvine, Irvine, CA, United States, (2)University of California Irvine, Department of Earth System Science, Irvine, CA, United States, (3)National Center for Atmospheric Research, Boulder, CO, United States, (4)Lawrence Berkeley National Laboratory, Berkeley, CA, United States, (5)University of Michigan Ann Arbor, Ann Arbor, MI, United States, (6)Oak Ridge National Laboratory, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall



B21E-0518 Evaluation of Vegetation Biomass in CMIP5 Models over the Northern High-Latitudes

Cheng-En Yang^{1,2}, **Jiafu Mao**³, **Forrest M. Hoffman**⁴, **Daniel M Ricciuto**³ and **Joshua S Fu**⁵, (1)University of Tennessee, Civil and Environmental Engineering, Knoxville, TN, United States, (2)Oak Ridge National Lab, Climate Change Science Institute, Oak Ridge, TN, United States, (3)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (4)University of California Irvine, Department of Earth System Science, Irvine, CA, United States, (5)University of Tennessee, Knoxville, TN, United States

📍 Moscone South - Poster Hall



B21E-0517 Implementation of a canopy air space scheme into the Community Land Model

Min Xu¹ and **Forrest M. Hoffman**^{1,2}, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)Oak Ridge National Laboratory, Climate Change Science Institute, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall



B21E New Mechanisms, Feedbacks, and Approaches for Improving Predictions of the Global Carbon Cycle in Earth System Models I Posters

Forrest M. Hoffman^{1,2}, **Atul K Jain**³, **James Tremper Randerson**¹, **Jefferson Keith Moore**¹, **James Tremper Randerson**¹, **James Tremper Randerson**¹ and **Jefferson Keith Moore**¹, (1)University of California Irvine, Department of Earth System Science, Irvine, CA, United States(2)Oak Ridge National Laboratory, Climate Change Science Institute, Oak Ridge, TN, United States(3)University of Illinois at Urbana Champaign, Department of Atmospheric Sciences, Urbana, IL, United States

📍 Moscone South - Poster Hall



A21E-0174 Evaluating CMIP5 Models' Representation of Oceanic Drivers of North African Climate

Michael Notaro¹, **Fuyao Wang**¹, **Yan Yu**¹, **Jiafu Mao**², **Xiaoying Shi**² and **Yaxing Wei**², (1)University of Wisconsin Madison, Madison, WI, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall



B21F-0542 Could 4 degrees warming change Arctic tundra from carbon sink to carbon source?

Margaret S Torn¹, **Rose Z Abramoff**¹, **Oriana Chafe**¹, **John Bryan Curtis**¹, **Lydia J Smith**¹ and **Stan D Wullschleger**², (1)Lawrence Berkeley National Laboratory, Berkeley, CA, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall



C21C Where, When, and Why Will Arctic Landscapes Get Wetter or Drier? Posters

Cathy Jean Wilson⁴, David M Lawrence², Stan D Wullschleger³, Cathy Jean Wilson⁴, Cathy Jean Wilson⁴ and David M Lawrence², (1)Los Alamos National Lab, Los Alamos, NM, United States(2)National Center for Atmospheric Research, Boulder, CO, United States(3)Oak Ridge National Laboratory, Oak Ridge, TN, United States(4)Los Alamos National Laboratory, Los Alamos, NM, United States

08:30 - 08:45

📍 Moscone West - 2022-2024

**B21M-03** The full budget of greenhouse gases in the terrestrial biosphere: From global C project to global GHG project

Hanqin Tian¹, Chaoqun Lu², Philippe Ciais³, Anna M Michalak⁴, Josep Canadell⁵, Eri Saikawa⁶, Deborah N Huntzinger⁷, Kevin R Gurney⁸, Stephen Sitch⁹, Bowen Zhang¹⁰, Jia Yang¹⁰, Philippe Bousquet¹¹, Lori Bruhwiler¹², Guangsheng Chen¹³, Edward J Dlugokencky¹², Pierre Friedlingstein¹⁴, Jerry M Melillo¹⁵, Shufen Pan¹⁰, Benjamin Poulter¹⁶, Ronald G Prinn¹⁷, Marielle Saunois¹¹, Christopher Schwalm⁷ and Steven C Wofsy¹⁸, (1)Auburn University at Montgomery, Montgomery, AL, United States, (2)Iowa State University, Ames, IA, United States, (3)CNRS, Paris Cedex 16, France, (4)Carnegie Institution for Science Washington, Washington, DC, United States, (5)CSIRO Ocean and Atmosphere Flagship Canberra, Yarralumla, ACT, Australia, (6)Emory University, Atlanta, GA, United States, (7)Northern Arizona University, Flagstaff, AZ, United States, (8)Arizona State University, Tempe, AZ, United States, (9)University of Exeter, Exeter, United Kingdom, (10)Auburn University, International Center for Climate and Global Change Research and School of Forestry and Wildlife Sciences, Auburn, AL, United States, (11)LSCE Laboratoire des Sciences du Climat et de l'Environnement, Gif-Sur-Yvette Cedex, France, (12)NOAA Boulder, Boulder, CO, United States, (13)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (14)University of Exeter, College of Engineering, Mathematics and Physical Sciences, Exeter, United Kingdom, (15)MBL, The Ecosystems Center, Woods Hole, MA, United States, (16)Montana State University, Bozeman, MT, United States, (17)MIT, Cambridge, MA, United States, (18)Harvard University, Cambridge, MA, United States

09:15 - 09:30

📍 Moscone West - 3020

**H21K-06** Robust Representation of Integrated Surface-subsurface Hydrology at Watershed Scales

Scott L Painter¹, Guoping Tang², Nathan Collier³, Ahmad Jan³ and Satish Karra⁴, (1)Oak Ridge National Lab, Oak Ridge, TN, United States, (2)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States, (3)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (4)Los Alamos National Laboratory, Los Alamos, NM, United States

09:30 - 09:45

📍 Moscone West - 2022-2024



B21M-07 Nitrogen Dynamics are a Key Factor in Explaining Global Land Carbon Sink

Deborah N Huntzinger¹, Anna M Michalak², Christopher Schwalm³, Philippe Ciais⁴, Kevin M Schaefer⁵, Anthony W King⁶, Yaxing Wei⁶, Robert B Cook⁶, Joshua B Fisher⁷, Daniel J Hayes⁸, Maoyi Huang⁹, Akihiko Ito¹⁰, Atul K Jain¹¹, Huimin Lei¹², Chaoqun Lu¹³, Fabienne Maignan⁴, Jiafu Mao⁶, Nicholas Parazoo¹⁴, Shushi Peng⁴, Benjamin Poulter¹⁵, Daniel M Ricciuto⁶, Xiaoying Shi⁶, Hanqin Tian¹⁶, Weile Wang¹⁷, Ning Zeng¹⁸ and Fang Zhao¹⁸, (1)Northern Arizona University, Flagstaff, AZ, United States, (2)Carnegie Institution for Science, Department of Global Ecology, Stanford, CA, United States, (3)Woods Hole Research Center, Woods Hole, MA, United States, (4)LSCE Laboratoire des Sciences du Climat et de l'Environnement, Gif-Sur-Yvette Cedex, France, (5)University of Colorado, National Snow and Ice Data Center, Boulder, CO, United States, (6)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (7)Jet Propulsion Lab, Pasadena, CA, United States, (8)University of Maine, Orono, ME, United States, (9)Pacific Northwest National Laboratory, Atmospheric Sciences and Global Change Division, Richland, WA, United States, (10)National Institute for Environmental Studies, Tsukuba, Japan, (11)University of Illinois at Urbana Champaign, Urbana, IL, United States, (12)Pacific NW Nat'l Lab-Atmos Sci, Richland, WA, United States, (13)Iowa State University, Ames, IA, United States, (14)NASA Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, United States, (15)Montana State University, Bozeman, MT, United States, (16)Auburn University, International Center for Climate and Global Change Research and School of Forestry and Wildlife Sciences, Auburn, AL, United States, (17)NASA Ames Research Center, Moffett Field, CA, United States, (18)University of Maryland College Park, College Park, MD, United States

09:45 - 10:00

📍 Moscone West - 3005

**GC21E-08 Modeling Urban Energy Savings Scenarios using Earth System Microclimate and Urban Morphology**

Melissa R Allen¹, Amy N Rose¹, Marcia L Branstetter¹, Jiangye Yuan¹, Joshua R New¹, Olufemi Omitaomu¹ and Thomas J Wilbanks², (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)Oak Ridge National Lab, Oak Ridge, TN, United States

10:20 - 10:35

📍 Moscone West - 2004

**B22A-01 Model-experiment interaction to improve representation of phosphorus limitation in land models**

Richard J Norby¹, Xiaojuan Yang¹, Kristine G. M. Cabugao¹, Joanne Childs¹, Lianhong Gu¹, Ivan Haworth¹, Melanie A Mayes¹, Wesley S Porter¹, Anthony P Walker¹, David J. Weston¹ and S. Joseph Wright², (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)Smithsonian Tropical Research Institute, Balboa, Ancon, Panama

10:35 - 10:50

📍 Moscone West - 2004

**B22A-02 Competing ecosystem model hypotheses for the CO₂ response of a nutrient- and water-limited mature Eucalypt woodland (EucFACE)**

Martin G De Kauwe¹, Belinda E Medlyn², Soenke Zaehle³, Anthony P Walker⁴ and Richard J Norby⁴, (1)Macquarie University, Sydney, NSW, Australia, (2)Western Sydney University, Hawkesbury Institute for the Environment, Sydney, Australia, (3)Max Planck Institute for Biogeochemistry, Jena, Germany, (4)Oak Ridge National Laboratory, Oak Ridge, TN, United States

11:35 - 11:50

📍 Moscone West - 3022



GC22B-06 Mapping man-made CO₂ emissions using satellite-observed nighttime lights

*Tomohiro Oda*¹, *Shamil S Maksyutov*², *Robert J Andres*³, *Christopher Elvidge*⁴, *Kimberly Baugh*⁵, *Feng Chi Hsu*⁵ and *Miguel O Roman*⁶, (1)Universities Space Research Association Columbia, Columbia, MD, United States, (2)NIES National Institute of Environmental Studies, Ibaraki, Japan, (3)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (4)NGDC NOAA, Boulder, CO, United States, (5)Cooperative Institute for Research in Environmental Sciences, Boulder, CO, United States, (6)NASA Goddard Space Flight Center, Greenbelt, MD, United States

11:50 - 12:05

📍 Moscone West - 2004



B22A-07 Finding a home for experimental data in terrestrial biosphere models: An empiricist's perspective

Colleen M. Iversen, Oak Ridge National Laboratory, Oak Ridge, TN, United States

12:30 - 13:30

📍 Moscone West - 2003



TH23I DOE's Trait-Based Modeling Approach for Next Generation Ecosystem Experiments (NGEE)

Daniel B Stover, Department of Energy Germantown, Washington, DC, United States, *Stan D Wullschleger*, Oak Ridge National Laboratory, Oak Ridge, TN, United States and *Lara M Kueppers*, Lawrence Berkeley National Laboratory, Berkeley, CA, United States

13:40 - 13:55

📍 Moscone West - 2010



B23J-01 Diagnosing Drought in a Changing Climate

*Abigail L. S. Swann*¹, *Forrest M. Hoffman*², *Charles D Koven*³ and *James Tremper Randerson*², (1)University of Washington, Atmospheric Sciences, Seattle, WA, United States, (2)University of California Irvine, Department of Earth System Science, Irvine, CA, United States, (3)Lawrence Berkeley National Laboratory, Berkeley, CA, United States

📍 Moscone South - 302



NH23E-01 Socio-ecological Typologies for Understanding Adaptive Capacity of a Region to Natural Disasters

Sujithkumar Surendran Nair, Benjamin L Preston, Anthony W King and Rui Mei, Oak Ridge National Laboratory, Oak Ridge, TN, United States

13:40 - 15:40

📍 Moscone West - 2010



B23J New Mechanisms, Feedbacks, and Approaches for Improving Predictions of the Global Carbon Cycle in Earth System Models II

Forrest M. Hoffman², Atul K Jain³, James Tremper Randerson¹, Jefferson Keith Moore¹, James Tremper Randerson¹, Forrest M. Hoffman² and Atul K Jain⁴, (1)University of California Irvine, Department of Earth System Science, Irvine, CA, United States(2)Oak Ridge National Laboratory, Climate Change Science Institute, Oak Ridge, TN, United States(3)University of Illinois at Urbana Champaign, Department of Atmospheric Sciences, Urbana, IL, United States(4)University of Illinois at Urbana Champaign, Urbana, IL, United States

13:40 - 18:00

📍 Moscone South - Poster Hall



GC23J-1225 Field Observations and Numerical Modeling of the Thermal Effects of Groundwater Flow Through a Subarctic Fen

Ylva Sjöberg¹, Ethan Coon², Britta Sannel¹, Romain Pannetier¹, Dylan R Harp², Andrew Frampton¹, Scott L Painter³ and Steve W Lyon⁴, (1)Stockholm University, Stockholm, Sweden, (2)Los Alamos National Laboratory, Los Alamos, NM, United States, (3)Oak Ridge National Lab, Oak Ridge, TN, United States, (4)Stockholm University, Department of Physical Geography, Stockholm, Sweden

📍 Moscone South - Poster Hall



NG23A-1776 Implicit Time Stepping and Preconditioning for Atmospheric Dynamics in the Community Atmosphere Model

David Gardner¹, Katherine J Evans², Carol S Woodward¹, Rick Archibald² and Patrick Worley², (1)Lawrence Livermore National Laboratory, Livermore, CA, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall



B23G-0662 Nonlinear Interactions between Climate and Atmospheric Carbon Dioxide Drivers of Terrestrial and Marine Carbon Cycle Changes from 1850 to 2300

Forrest M. Hoffman¹, James Tremper Randerson², Jefferson Keith Moore^{1,2}, Michael Goulden¹, Keith T Lindsay³, Ernesto Munoz³, Weiwei Fu², Abigail L. S. Swann⁴, Charles D Koven⁵, Natalie M Mahowald⁶ and Gordon B Bonan³, (1)University of California Irvine, Department of Earth System Science, Irvine, CA, United States, (2)University of California, Earth System Science, Irvine, CA, United States, (3)National Center for Atmospheric Research, Climate & Global Dynamics Division, Boulder, CO, United States, (4)University of Washington, Atmospheric Sciences, Seattle, WA, United States, (5)Lawrence Berkeley National Laboratory, Berkeley, CA, United States, (6)Cornell University, Department of Earth and Atmospheric Sciences, Ithaca, NY, United States

📍 Moscone South - Poster Hall



B23C-0619 Microbial Interactions with Natural Organic Matter Extracted from the Oak Ridge FRC

Xiaoqin Wu¹, Sindhu Jagadamma², Andrew Lancaster³, Michael W.W Adams³, Terry Hazen², Nicholas Justice¹ and Romy Chakraborty¹, (1)Lawrence Berkeley National Laboratory, Berkeley, CA, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (3)University of Georgia, Athens, GA, United States

📍 Moscone South - Poster Hall



B23G-0663 The Influence of Historical Land Use and Land Cover Change Assumptions, CO₂ Fertilization, and Nitrogen Deposition on Global Carbon Balance in an Earth System Model

Alan V Di Vittorio¹, Jiafu Mao² and Xiaoying Shi², (1)Lawrence Berkeley National Laboratory, Berkeley, CA, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States

14:10 - 14:25

📍 Moscone West - 2010



B23J-03 Terrestrial carbon storage dynamics: Chasing a moving target

Yiqi Luo¹, Zheng Shi¹, Lifen Jiang¹, Jianyang Xia², Ying Wang¹, Manoj Kc¹, Junyi Liang¹, Xingjie Lu³, Shuli Niu⁴, Anders Ahlström⁵, Oleksandra Hararuk⁶, Alan Hastings⁷, Forrest M. Hoffman⁸, Belinda E Medlyn⁹, Martin Rasmussen¹⁰, Matthew J Smith¹¹, Kathe E Todd-Brown¹² and Yingping Wang³, (1)University of Oklahoma Norman Campus, Norman, OK, United States, (2)East China Normal University, School of Ecological and Environmental Sciences, Shanghai, China, (3)CSIRO, Ocean and Atmosphere Flagship, Aspendale, Australia, (4)IGSNRR Institute of Geographic Sciences and Natural Resources Research, CAS, Beijing, China, (5)Stanford University, Stanford, CA, United States, (6)Pacific Forestry Centre, Victoria, BC, Canada, (7)University of California Davis, Davis, CA, United States, (8)Oak Ridge National Laboratory, Climate Change Science Institute, Oak Ridge, TN, United States, (9)Western Sydney University, Hawkesbury Institute for the Environment, Sydney, Australia, (10)Imperial College London, London, United Kingdom, (11)Microsoft Research, Cambridge, United Kingdom, (12)Pacific Northwest National Laboratory, Richland, WA, United States

14:25 - 14:40

📍 Moscone West - 2010



B23J-04 Interactions Between Soil Organic Carbon Concentration and Soil Thermal and Hydraulic Dynamics and Its Impact on Soil Carbon Storage in Northern High-latitudes

Shijie Shu, University of Illinois at Urbana Champaign, Department of Atmospheric Sciences, Urbana, IL, United States, Umakant Mishra, Argonne National Laboratory, Environmental Science, Argonne, IL, United States, Forrest M. Hoffman, University of California Irvine, Department of Earth System Science, Irvine, CA, United States, Charles D Koven, Lawrence Berkeley National Laboratory, Berkeley, CA, United States and Atul K Jain, University of Illinois at Urbana Champaign, Urbana, IL, United States

16:05 - 16:20

📍 Moscone West - 3020



H24B-01 Using Distributed, Integrated Hydrological Models to Simulate Water Balance Changes at the Hillslope and Catchment Scale Due to Fire Disturbances

Ethan Coon¹, Adam Lee Atchley¹, Laura Trader², Richard Stephen Middleton¹, Scott L Painter³ and Evgeny Kikinzon¹, (1)Los Alamos National Laboratory, Los Alamos, NM, United States, (2)Bandelier National Monument, National Park Service, Los Alamos, NM, United States, (3)Oak Ridge National Lab, Oak Ridge, TN, United States

WEDNESDAY, 16 DECEMBER 2015

08:00 - 08:15

📍 Moscone West - 2008



B31F-01 *Improving predictions of large scale soil carbon dynamics: Integration of fine-scale hydrological and biogeochemical processes, scaling, and benchmarking*

William J Riley¹, **Dipankar Dwivedi**¹, **Bardan Ghimire**², **Forrest M. Hoffman**³, **George Shu Heng Pau**¹, **James Tremper Randerson**³, **Chaopeng Shen**⁴, **Jinyun Tang**¹ and **Qing Zhu**¹, (1)Lawrence Berkeley National Laboratory, Berkeley, CA, United States, (2)Clark University, Worcester, MA, United States, (3)University of California Irvine, Department of Earth System Science, Irvine, CA, United States, (4)Pennsylvania State University Main Campus, University Park, PA, United States

08:00 - 12:20

📍 Moscone South - Poster Hall



IN31A-1751 *Just-in-time Time Data Analytics and Visualization of Climate Simulations using the Bellerophon Framework*

Joel Venzke¹, **Valentine G Anantharaj**², **Eric Lingerfelt**² and **Bronson Messer**², (1)Drake University, Des Moines, IA, United States, (2)Oak Ridge National Laboratory, National Center for Computational Sciences, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall



B31D-0617 *Temperature Effects on Microbial CH₄ and CO₂ Production in Permafrost-Affected Soils From the Barrow Environmental Observatory*

David E Graham¹, **Taniya Roy Chowdhury**², **Jianqiu Zheng**¹, **Ji-Won Moon**¹, **Ziming Yang**³, **Baohua Gu**³ and **Stan D Wullschleger**¹, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)Pacific Northwest National Laboratory, Richland, WA, United States, (3)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall



GC31E-1232 *Sensitivity of Regional Hydropower Generation to the Projected Changes in Future Watershed Hydrology*

Shih-Chieh Kao, **Bibi S Naz** and **Sudershan Gangrade**, Oak Ridge National Laboratory, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall



PA31C-2166 *Indicators for Assessing Climate Change Resilience Resulting from Emplacement of Green Infrastructure Projects Across an Urban Landscape*

Esther S Parish, **Olufemi Omitaomu**, **Linda Sylvester** and **Phil Nugent**, Oak Ridge National Laboratory, Oak Ridge, TN, United States

09:00 - 09:15

📍 Moscone South - 304



T31E-05 *Nonlinear Solver Approaches for the Diffusive Wave Approximation to the Shallow Water Equations*

Nathan Collier, Oak Ridge National Laboratory, Oak Ridge, TN, United States and **Matthew Knepley**, Rice University, Houston, TX, United States

10:35 - 10:50

📍 Moscone West - 3011



H32D-02 Headwater Streams in Porous Landscapes – What's the contributing area?

Charles Rhett Jackson¹, **Menberu Meles Bitew**¹, **Enhao Du**², **Natalie Griffiths**³, **Luisa Hopp**⁴, **Julian Klaus**⁵, **Jeffrey McDonnell**⁶ and **Kellie B Vache**⁷, (1)University of Georgia, Athens, GA, United States, (2)Lawrence Berkeley National Laboratory, Berkeley, CA, United States, (3)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (4)University of Bayreuth, Bayreuth, Germany, (5)LIST, Esch-sur-Alzette, Luxembourg, (6)University of Saskatchewan, Saskatoon, SK, Canada, (7)Oregon State University, Corvallis, OR, United States

11:05 - 11:20

📍 Moscone West - 3006



A32E-04 Observed Oceanic and Terrestrial Drivers of North African Climate

Yan Yu¹, **Michael Notaro**¹, **Fuyao Wang**¹, **Jiafu Mao**², **Xiaoying Shi**² and **Yaxing Wei**², (1)University of Wisconsin Madison, Madison, WI, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States

12:30 - 13:30

📍 Moscone West - 2005



TH33F NGE Arctic Data Management Town Hall 2015

Tom Boden¹, **Stan D Wullschleger**² and **Peter E Thornton**², (1)Oak Ridge National Laboratory, Carbon Dioxide Information Analysis Center, Oak Ridge, TN, United States(2)Oak Ridge National Laboratory, Oak Ridge, TN, United States

13:40 - 18:00

📍 Moscone South - Poster Hall



H33D-1644 Sensitivity of reservoir storage and outflow to climate change in a water-limited river basin

Gang Zhao¹, **Huilin Gao**¹, **Bibi S Naz**², **Shih-Chieh Kao**³ and **Nathalie Voisin**⁴, (1)Texas A & M University College Station, College Station, TX, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (3)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States, (4)Pacific Northwest National Laboratory, Richland, WA, United States

14:10 - 14:25

📍 Moscone West - 3003



GC33G-03 Near-term Intensification of the Hydrological Cycle in the United States

Moetasim Ashfaq¹, **Deeksha Rastogi**¹, **Rui Mei**¹, **Shih-Chieh Kao**², **Bibi S Naz**¹ and **Sudershan Gangrade**¹, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States

14:25 - 14:40

📍 Moscone West - 3003



GC33G-04 Increased Extreme Hydrological Events and Decreased Water Supply

Availability for the Southwestern United States Projected by Mid-Century

Brianna Rita Pagan¹, Moetasim Ashfaq², Deeksha Rastogi³, Bibi S Naz², Shih-Chieh Kao⁴, Rui Mei³, Donald R Kendall¹ and Jeremy S Pal⁵, (1)Loyola Marymount University, Department of Civil Engineering and Environmental Science, Los Angeles, CA, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (3)Oak Ridge National Lab, Oak Ridge, TN, United States, (4)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States, (5)Loyola Marymount University, Los Angeles, CA, United States

15:25 - 15:40

📍 Moscone West - 3022

**H33L-08** Disentangling climatic and anthropogenic controls on global terrestrial evapotranspiration trends

Jiafu Mao¹, Wenting Fu², Xiaoying Shi¹, Daniel M Ricciuto¹, Joshua B Fisher³, Robert E Dickinson², Yaxing Wei¹, Willis Shem¹, Shilong Piao⁴, Kaicun Wang⁵, Christopher R Schwalm⁶, Hanqin Tian⁷, Mingquan Mu⁸, Muhammad Altaf Arain⁹, Philippe Ciais¹⁰, Robert B Cook¹, Yong Jiu Dai⁵, Daniel J Hayes¹¹, Forrest M. Hoffman¹², Maoyi Huang¹³, Suo Huang⁹, Deborah N Huntzinger¹⁴, Akihiko Ito¹⁵, Atul K Jain¹⁶, Anthony W King¹, Huimin Lei¹⁷, Chaoqun Lu¹⁸, Anna M Michalak¹⁹, Nicholas Parazoo²⁰, Changhui Peng²¹, Shushi Peng¹⁰, Benjamin Poulter²², Kevin M Schaefer²³, Elchin E Jafarov²⁴, Peter E Thornton¹, Weile Wang²⁵, Ning Zeng²⁶, Zhenzhong Zeng⁴, Fang Zhao²⁶, Qian Zhu²⁷ and Zaichun Zhu⁴, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)University of Texas at Austin, Austin, TX, United States, (3)NASA Jet Propulsion Laboratory, Pasadena, CA, United States, (4)Peking University, Beijing, China, (5)Beijing Normal University, Beijing, China, (6)Federal GEOS Funding, Phoenix, AZ, United States, (7)Auburn University at Montgomery, Montgomery, AL, United States, (8)University of California Irvine, Irvine, CA, United States, (9)McMaster University, School of Geography and Earth Sciences, Hamilton, ON, Canada, (10)LSCE Laboratoire des Sciences du Climat et de l'Environnement, Gif-Sur-Yvette Cedex, France, (11)University of Maine, Orono, ME, United States, (12)University of California Irvine, Department of Earth System Science, Irvine, CA, United States, (13)Pacific Northwest National Laboratory, Atmospheric Sciences and Global Change Division, Richland, WA, United States, (14)Northern Arizona University, Flagstaff, AZ, United States, (15)NIES National Institute of Environmental Studies, Ibaraki, Japan, (16)University of Illinois at Urbana Champaign, Urbana, IL, United States, (17)Tsinghua University, Beijing, China, (18)Iowa State University, Ames, IA, United States, (19)Carnegie Institution for Science Washington, Washington, DC, United States, (20)NASA Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA, United States, (21)University of Quebec at Montreal UQAM, Montreal, QC, Canada, (22)Montana State University, Bozeman, MT, United States, (23)University of Colorado, National Snow and Ice Data Center, Boulder, CO, United States, (24)Institute of Arctic and Alpine Research, Boulder, CO, United States, (25)CSUMB & NASA/AMES, Seaside, CA, United States, (26)University of Maryland College Park, College Park, MD, United States, (27)Northwest A&F University, college of forestry, Yangling, China

16:15 - 16:30

📍 Moscone West - 3001

**GC34D-02** Fine-resolution Modeling of Urban-Energy Systems' Water Footprint in River Networks

Ryan McManamay, Sujithkumar Surendran Nair, April Morton, Christopher DeRolph and Robert Stewart, Oak Ridge National Laboratory, Oak Ridge, TN, United States

THURSDAY, 17 DECEMBER 2015

08:00 - 12:20

📍 Moscone South - Poster Hall



B41C-0429 Four decades of modeling methane cycling in terrestrial ecosystems: Where we are heading?

Xiaofeng Xu¹, Fengming Yuan², Paul J Hanson³, Stan D Wullschleger³, Peter E Thornton³, Hanqin Tian⁴, William J Riley⁵, Xia Song¹, David E Graham³ and Changchun Song⁶, (1)University of Texas at El Paso, El Paso, TX, United States, (2)Oak Ridge National Laboratory, Climate Change Science Institute, Oak Ridge, TN, United States, (3)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (4)Auburn University at Montgomery, Montgomery, AL, United States, (5)Lawrence Berkeley National Laboratory, Berkeley, CA, United States, (6)Chinese Academy of Sciences, Northeast Institute of Geography and Agroecology, Changchun, China

📍 Moscone South - Poster Hall



B41C-0431 Representing Northern Peatland Hydrology and Biogeochemistry within the Community Land Model

Xiaoying Shi¹, Daniel M Ricciuto¹, Xiaofeng Xu², Peter E Thornton¹, Paul J Hanson¹, Jiafu Mao¹, Steven Sebestyen³ and Natalie Griffiths¹, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)University of Texas at El Paso, El Paso, TX, United States, (3)U.S. Forest Service, Grand rapids, MN, United States

📍 Moscone South - Poster Hall



B41C Natural Wetlands and Open Waters in the Global Methane Cycle: Modeling, Observations, and Challenges I Posters

Elaine Matthews¹, **Ruth K Varner**⁵, **Changhui Peng**³, **Paul J Hanson**⁴, **Ruth K Varner**⁵, **Elaine Matthews**¹ and **Changhui Peng**³, (1)NASA, Ames Research Center, Moffett Field, CA, United States(2)Univ New Hampshire, Durham, NH, United States(3)University of Quebec at Montreal UQAM, Montreal, QC, Canada(4)Oak Ridge National Laboratory, Oak Ridge, TN, United States(5)University of New Hampshire, Institute for the Study of Earth, Oceans, and Space (EOS), Durham, NH, United States

📍 Moscone South - Poster Hall



B41C-0460 Sources of Below-Ground Respired Carbon in a Northern Minnesota Ombrotrophic Spruce Bog and the Influence of Heating Manipulations.

Thomas P Guilderson¹, **Karis J McFarlane**¹, **Gavin McNicol**¹, **Paul J Hanson**², **Jeff Chanton**³, **Rachel Wilson**⁴, **Rebecca Bosworth**¹ and **Michael J Singleton**¹, (1)Lawrence Livermore National Laboratory, Livermore, CA, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (3)Florida State University, Department of Earth, Ocean & Atmospheric Science, Tallahassee, United States, (4)Florida State University, Tallahassee, FL, United States

📍 Moscone South - Poster Hall



B41A-0408 Effects of Spatial N nutrient mobility relevant to plants, soils and microtopography on plant growth and soil organic matter accumulation by using coupled CLM-PFLOTRAN biogeochemical model in an Area in NGEA-Arctic Intensive Study Sites, Barrow, AK.

Fengming Yuan^{1,2}, Peter E Thornton³, Guoping Tang¹, Xiaofeng Xu⁴, Jitendra Kumar¹, Colleen M. Iversen³, Gautam Bisht⁵, Glenn E Hammond⁶, Richard T Mills⁷ and Stan D Wullschleger³, (1)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States, (2)Oak Ridge National Laboratory, Climate Change Science Institute, Oak Ridge, TN, United States, (3)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (4)University of Texas at El Paso, El Paso, TX, United States, (5)Lawrence Berkeley National Laboratory, Berkeley, CA, United States, (6)Sandia National Laboratories, Albuquerque, NM, United States, (7)University of Tennessee, Knoxville, TN, United States

📍 Moscone South - Poster Hall



PP41B-2242 Change in Terrestrial Ecosystem Water-use Efficiency Over the Last Three

Decades

Mengtian Huang¹, **Shilong Piao**^{1,2}, **Yan Sun**¹, **Philippe Ciais**³, **Lei Cheng**⁴, **Jiafu Mao**⁵, **Ben Poulter**⁶, **Xiaoying Shi**⁵, **Zhenzhong Zeng**¹ and **Yingping Wang**⁷, (1)Peking University, Beijing, China, (2)ITP Institute of Tibetan Plateau Research, Chinese Academy of Sciences, Beijing, China, (3)CNRS, Paris Cedex 16, France, (4)CSIRO Land and Water Flagship, Canberra, Australia, (5)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (6)University of Montana, Missoula, MT, United States, (7)CSIRO, Ocean and Atmosphere Flagship, Aspendale, Australia

08:30 - 08:45

📍 Moscone West - 2004

**B41J-03** Susceptibility of Permafrost Soil Organic Carbon under Warming Climate

Ziming Yang¹, **Stan D Wullschleger**¹, **Liyuan Liang**¹, **David E Graham**² and **Baohua Gu**¹, (1)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States, (2)Oak Ridge National Laboratory, Biosciences Division, Oak Ridge, TN, United States

📍 Moscone West - 3008

**A41R-03** Impact of land use and land cover change on climate and air quality in the CESM

Natalie M Mahowald¹, **Daniel S Ward**¹, **Silvia Kloster**², **James Tremper Randerson**³, **Scott C Doney**⁴, **Keith T Lindsay**⁵, **Ernesto Munoz**⁵, **Sarah Schlunegger**⁶, **Danica Lombardozzi**⁷, **David M Lawrence**⁷, **Peter Lawrence**⁷ and **Forrest M. Hoffman**³, (1)Cornell University, Department of Earth and Atmospheric Sciences, Ithaca, NY, United States, (2)Max Planck Institute for Meteorology, Hamburg, Germany, (3)University of California Irvine, Department of Earth System Science, Irvine, CA, United States, (4)Woods Hole Oceanographic Inst, Woods Hole, MA, United States, (5)National Center for Atmospheric Research, Climate & Global Dynamics Division, Boulder, CO, United States, (6)Princeton University, Princeton, NJ, United States, (7)National Center for Atmospheric Research, Boulder, CO, United States

08:45 - 09:00

📍 Moscone West - 3010

**A41P-04** Confronting the Global Climate Response to Black Carbon Aerosols with its Uncertainty

Mahesh Kovilakam and **Salil Mahajan**, Oak Ridge Nat'l Lab, Oak Ridge, TN, United States

10:20 - 12:20

📍 Moscone South - 102

**PA42A** Climate Adaptation, Mitigation, and Resiliency Toolkits for Cities I

Jack D Fellows¹, **Anthony Janetos**², **Donald J Wuebbles**⁴, **Budhendra L Bhaduri**¹, **Jack D Fellows**¹, **Donald J Wuebbles**⁴ and **Anthony Janetos**², (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States(2)Boston University, The Frederick S. Pardee Center for the Study of the Longer-Range Future, Boston, MA, United States(3)University of Illinois at Urbana Champaign, Department of Atmospheric Sciences, Urbana, IL, United States(4)University of Illinois at Urbana Champaign, Urbana, IL, United States

📍 Moscone West - 3022



H42B Hot Spots and Hot Moments at System Interfaces: Novel Sensors and Modeling Approaches for Transforming Understanding of Catchment Heterogeneity I

Melanie A Mayes¹, Jonathan M Duncan², Stefan Krause³, Melanie A Mayes¹, Jonathan M Duncan², Stefan Krause³ and Melanie A Mayes¹, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States(2)University of North Carolina at Chapel Hill, Chapel Hill, NC, United States(3)University of Birmingham, Birmingham, United Kingdom

10:50 - 11:05

📍 Moscone South - 102



PA42A-03 Integrated Framework for an Urban Climate Adaptation Tool

Olufemi Omitaomu, Esther S Parish, Phil Nugent, Rui Mei, Linda Sylvester, Kathleen Ernst and Mariya Absar, Oak Ridge National Laboratory, Oak Ridge, TN, United States

11:05 - 11:20

📍 Moscone West - 2008



B42B-04 A global scale mechanistic model of the photosynthetic capacity

Chonggang Xu¹, Ashehad Ashween Ali², Rosie Fisher³, Stan D Wullschleger⁴, Alistair Rogers⁵, Nathan G McDowell¹ and Cathy Jean Wilson¹, (1)Los Alamos National Laboratory, Los Alamos, NM, United States, (2)Organization Not Listed, Washington, DC, United States, (3)National Center for Atmospheric Research, Boulder, CO, United States, (4)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (5)Brookhaven National Laboratory, Upton, NY, United States

11:20 - 11:35

📍 Moscone South - 102



PA42A-05 Toolbox for Urban Mobility Simulation: High Resolution Population Dynamics for Global Cities

Budhendra L Bhaduri, Wui Lu, Cheng Liu, Gautam Thakur and Rajasekar Karthik, Oak Ridge National Laboratory, Oak Ridge, TN, United States

11:50 - 12:05

📍 Moscone West - 2004



B42C-07 The Temporal Evolution of Changes in Carbon Storage in the Northern Permafrost Region Simulated by Carbon Cycle Models between 2010 and 2300: Implications for Atmospheric Carbon Dynamics

Anthony David McGuire, U.S. Geological Survey, University of Alaska Fairbanks, Fairbanks, AK, United States, David M Lawrence, National Center for Atmospheric Research, Boulder, CO, United States, Eleanor Burke, Met Office Hadley Centre, Exeter, United Kingdom, Guangsheng Chen, Oak Ridge National Laboratory, Oak Ridge, TN, United States, Elchin E Jafarov, Institute of Arctic and Alpine Research, Boulder, CO, United States, Charles Koven, Lawrence Berkeley National Laboratory, Berkeley, CA, United States, Andrew H MacDougall, University of Victoria, Victoria, BC, Canada, Dmitry Nicolsky, University of Alaska Fairbanks, Fairbanks, AK, United States, Shushi Peng, Peking University, Beijing, China and Annette Rinke, Alfred Wegener Institute Helmholtz-Center for Polar and Marine Research Potsdam, Potsdam, Germany

12:05 - 12:20

📍 Moscone West - 2004



B42C-08 A simplified, data-constrained approach to estimate the permafrost carbon-climate feedback: The PCN Incubation-Panarctic Thermal (PInc-PanTher) Scaling Approach

Charles D Koven¹, Edward Schuur², Christina Schaedel², Theodore J Bohn³, Eleanor Burke⁴, Guangsheng Chen⁵, Xiaodong Chen⁶, Philippe Ciais⁷, Guido Grosse⁸, Jennifer W Harden⁹, Daniel J Hayes¹⁰, Gustaf Hugelius¹¹, Elchin E Jafarov¹², Gerhard Krinner¹³, Peter Kuhry¹¹, David M Lawrence¹⁴, Andrew MacDougall¹⁵, Sergey S Marchenko¹⁶, Anthony David McGuire¹⁷, Susan Natali¹⁸, Dmitry Nicolsky¹⁶, David Olefeldt¹⁹, Shushi Peng⁷, Vladimir E Romanovsky¹⁶, Kevin M Schaefer²⁰, Jens Strauss⁸, Claire C Treat¹⁶ and Merritt R Turetsky²¹, (1)Lawrence Berkeley National Laboratory, Berkeley, CA, United States, (2)Northern Arizona University, Flagstaff, AZ, United States, (3)Arizona State University, Tempe, AZ, United States, (4)Met Office Hadley Centre, Exeter, United Kingdom, (5)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (6)University of Washington Seattle Campus, Seattle, WA, United States, (7)LSCE Laboratoire des Sciences du Climat et de l'Environnement, Gif-Sur-Yvette Cedex, France, (8)Alfred Wegener Institute Helmholtz-Center for Polar and Marine Research Potsdam, Potsdam, Germany, (9)USGS Geological Survey, Menlo Park, CA, United States, (10)University of Maine, Orono, ME, United States, (11)Stockholm University, Stockholm, Sweden, (12)Institute of Arctic and Alpine Research, Boulder, CO, United States, (13)LGGE Laboratoire de Glaciologie et Géophysique de l'Environnement, Saint Martin d'Hères, France, (14)National Center for Atmospheric Research, Boulder, CO, United States, (15)University of Victoria, Victoria, BC, Canada, (16)University of Alaska Fairbanks, Fairbanks, AK, United States, (17)University of Alaska Fairbanks, Institute of Arctic Biology, Fairbanks, AK, United States, (18)Woods Hole Science Center Falmouth, Falmouth, MA, United States, (19)University of Alberta, Edmonton, AB, Canada, (20)University of Colorado, National Snow and Ice Data Center, Boulder, CO, United States, (21)University of Guelph, Guelph, ON, Canada

12:30 - 13:30

📍 Moscone West - 2004



TH43H The AmeriFlux Network: Celebrating Its 20th Anniversary

Margaret S Torn¹, **Dennis D Baldocchi**², **Sebastien Biraud**¹, **Deb Agarwal**³, **Tom Boden**⁴, **Dario Papale**⁵, **Daniel B Stover**⁶, **Gilberto Pastorello**⁷ and **AmeriFlux Management Project (AMP) Team**, (1)Lawrence Berkeley National Laboratory, Berkeley, CA, United States(2)University of California Berkeley, Dept of Environmental Science, Policy, & Management, Berkeley, CA, United States(3)LBL, Berkeley, CA, United States(4)Oak Ridge National Laboratory, Carbon Dioxide Information Analysis Center, Oak Ridge, TN, United States(5)Tuscia University, Department for Innovation in Biological, Agro-food and Forest systems (DIBAF), Viterbo, Italy(6)Department of Energy Germantown, Washington, DC, United States(7)Lawrence Berkeley National Laboratory, Advanced Computing for Science, Berkeley, CA, United States

13:40 - 13:55

📍 Moscone West - 2004



B43M-01 Thermokarst terrain: pan-Arctic distribution and soil carbon vulnerability

David Olefeldt¹, Santonu Goswami², Guido Grosse³, Daniel J Hayes⁴, Gustaf Hugelius⁵, Peter Kuhry⁵, Anthony David McGuire⁶, Vladimir E Romanovsky⁷, Britta Sannel⁵, Edward Schuur⁸ and Merritt R Turetsky⁹, (1)University of Alberta, Edmonton, AB, Canada, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (3)Alfred Wegener Institute Helmholtz-Center for Polar and Marine Research Potsdam, Potsdam, Germany, (4)University of Maine, Orono, ME, United States, (5)Stockholm University, Stockholm, Sweden, (6)University of Alaska Fairbanks, Institute of Arctic Biology, Fairbanks, AK, United States, (7)University of Alaska Fairbanks, Fairbanks, AK, United States, (8)Northern Arizona University, Flagstaff, AZ, United States, (9)University of Guelph, Guelph, ON, Canada

13:40 - 15:40

📍 Moscone West - 2010



B43J Natural Wetlands and Open Waters in the Global Methane Cycle: Modeling, Observations, and Challenges II

Elaine Matthews¹, Ruth K Varner⁵, Changhui Peng³, Paul J Hanson⁴, Ruth K Varner⁵, Paul J Hanson⁴ and Changhui Peng³, (1)NASA, Ames Research Center, Moffett Field, CA, United States(2)Univ New Hampshire, Durham, NH, United States(3)University of Quebec at Montreal UQAM, Montreal, QC, Canada(4)Oak Ridge National Laboratory, Oak Ridge, TN, United States(5)University of New Hampshire Main Campus, Durham, NH, United States

13:40 - 18:00

📍 Moscone South - Poster Hall



PA43A-2180 Multi-Model Framework for Investigating Potential Climate Change Impacts on Interdependent Critical Infrastructure

Linda Sylvester¹, Melissa R Allen¹ and Thomas J Wilbanks², (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)Oak Ridge National Lab, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall



PA43A Climate Adaptation, Mitigation, and Resiliency Toolkits for Cities II Posters

Jack D Fellows¹, Anthony Janetos², Donald J Wuebbles³, Budhendra L Bhaduri¹, Anthony Janetos², Budhendra L Bhaduri¹ and Budhendra L Bhaduri¹, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States(2)Boston University, The Frederick S. Pardee Center for the Study of the Longer-Range Future, Boston, MA, United States(3)University of Illinois at Urbana Champaign, Department of Atmospheric Sciences, Urbana, IL, United States

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IN43A-1719 Scalable Algorithms for Global Scale Remote Sensing Applications

Ranga Raju Vatsavai¹, Budhendra L Bhaduri² and Nagendra Singh², (1)North Carolina State University Raleigh, Raleigh, NC, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States

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B43C-0549 Mapping Vegetation Canopy Structure and Distribution for Great Smoky Mountains National Park Using LiDAR

Jon Weiner, University of California Berkeley, Berkeley, CA, United States, **Jitendra Kumar**, Oak Ridge National Laboratory, Climate Change Science Institute, Oak Ridge, TN, United States, **Steven P Norman**, USDA Forest Service, Asheville, NC, United States, **William Walter Hargrove**, USDA Forest Service, Eastern Forest Environmental Threat Assessment Center, Vallejo, CA, United States, **Nathan Collier**, Oak Ridge National Laboratory, Oak Ridge, TN, United States and **Forrest M. Hoffman**, University of California Irvine, Department of Earth System Science, Irvine, CA, United States

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IN43A Big Data in the Geosciences: New Analytics Methods and Parallel Algorithms Posters

Jitendra Kumar¹, Forrest M. Hoffman², Jitendra Kumar¹, Jitendra Kumar¹ and Forrest M. Hoffman², (1)Oak Ridge National Laboratory, Climate Change Science Institute, Oak Ridge, TN, United States(2)University of California Irvine, Department of Earth System Science, Irvine, CA, United States

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IN43A-1723 Landscape Characterization of Arctic Ecosystems Using Data Mining

Algorithms and Large Geospatial Datasets

Zachary Lance Langford, Oak Ridge National Laboratory, Oak Ridge, TN, United States, **Jitendra Kumar**, Oak Ridge National Laboratory, Climate Change Science Institute, Oak Ridge, TN, United States and **Forrest M. Hoffman**, University of California Irvine, Department of Earth System Science, Irvine, CA, United States

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**IN43A-1721** Scalable Algorithms for Unsupervised Classification and Anomaly Detection in Large Geospatiotemporal Data Sets

Richard T Mills¹, **Forrest M. Hoffman**^{2,3} and **Jitendra Kumar**³, (1)Intel Corporation, Hillsboro, OR, United States, (2)University of California Irvine, Department of Earth System Science, Irvine, CA, United States, (3)Oak Ridge National Laboratory, Climate Change Science Institute, Oak Ridge, TN, United States

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**GC43C-1205** Sensitivity of land surface modeling to parameters: An uncertainty quantification method applied to the Community Land Model

Rui Mei¹, **Daniel M Ricciuto**², **Jiafu Mao**², **Forrest M. Hoffman**³ and **Jitendra Kumar**⁴, (1)Oak Ridge National Lab, Oak Ridge, TN, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (3)University of California Irvine, Department of Earth System Science, Irvine, CA, United States, (4)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States

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**H43C** Hot Spots and Hot Moments at System Interfaces: Novel Sensors and Modeling Approaches for Transforming Understanding of Catchment Heterogeneity II Posters

Melanie A Mayes¹, **Stefan Krause**², **Jonathan M Duncan**³, **Melanie A Mayes**¹, **Jonathan M Duncan**³ and **Stefan Krause**², (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States(2)University of Birmingham, Birmingham, United Kingdom(3)University of North Carolina at Chapel Hill, Chapel Hill, NC, United States

13:55 - 14:10

📍 Moscone West - 2004

**B43M-02** Multi-scale Evidence of Large CO₂ and CH₄ Emissions from Permafrost During Spring Thaw in Northern Alaska

Naama Raz Yaseef¹, **Margaret S Torn**^{1,2}, **David P Billesbach**³, **Yuxin Wu**¹, **Timothy J Kneafsey**¹, **Vladimir E Romanovsky**⁴, **David R. Cook**⁵, **Roisin Commane**⁶, **John Henderson**⁷, **Charles E Miller**⁸ and **Stan D Wullschlegel**⁹, (1)Lawrence Berkeley National Laboratory, Berkeley, CA, United States, (2)University of California Berkeley, Berkeley, CA, United States, (3)University of Nebraska Lincoln, Lincoln, NE, United States, (4)University of Alaska Fairbanks, Fairbanks, AK, United States, (5)Argonne National Laboratory, Argonne, IL, United States, (6)Harvard University, Cambridge, MA, United States, (7)Atmospheric and Environmental Research, Lexington, MA, United States, (8)NASA Jet Propulsion Laboratory, Pasadena, CA, United States, (9)Oak Ridge National Laboratory, Oak Ridge, TN, United States

14:10 - 14:25

📍 Moscone West - 2004



B43M-03 Drivers and Estimates of Terrain Suitability for Active Layer Detachment Slides and Retrogressive Thaw Slumps in the Brooks Range and Foothills of Northwest Alaska, USA

Andrew Balseer, Oak Ridge National Laboratory, Oak Ridge, TN, United States, **Jeremy Jones**, University of Alaska Fairbanks, Fairbanks, AK, United States and **ARCSS-Thermokarst Team**

📍 Moscone West - 2006



B43K-03 Future of Plant Functional Types in Terrestrial Biosphere Models

Stan D Wullschleger¹, **Eugenie Susanne Euskirchen**², **Colleen M. Iversen**³, **Alistair Rogers**⁴ and **Shawn Serbin**⁴, (1)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States, (2)University of Alaska Fairbanks, Fairbanks, AK, United States, (3)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (4)Brookhaven National Laboratory, Upton, NY, United States

16:00 - 16:15

📍 Moscone West - 2010



B44B-01 The Stability of Peatland Carbon Stores to Global Change: Evidence for Enhanced Methane and Carbon Dioxide Production

Jeffrey Chanton¹, **Rachel Wilson**², **Malak M Tfaily**², **Stephen D Sebestyen**³, **Cassandra Medvedeff**⁴, **Karis J McFarlane**⁵, **Randy K Kolka**⁶, **Joel E Kostka**⁷, **Jason Keller**⁴, **Paul J Hanson**⁸, **Thomas P Guilderson**⁵, **Florentino de La Cruz**⁹, **William T Cooper**¹⁰, **Scott D Bridgman**¹¹ and **Morton Barlaz**⁹, (1)Florida State Univ, Tallahassee, FL, United States, (2)Florida State University, Tallahassee, FL, United States, (3)USDA Forest Service, Grand Rapids, MN, United States, (4)Chapman University, Orange, CA, United States, (5)Lawrence Livermore National Laboratory, Livermore, CA, United States, (6)U.S. Forest Service, Grand rapids, MN, United States, (7)Georgia Institute of Technology Main Campus, Atlanta, GA, United States, (8)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (9)North Carolina State University, Raleigh, NC, United States, (10)Florida State University, Department of Chemistry & Biochemistry, Tallahassee, FL, United States, (11)University of Oregon, Eugene, OR, United States

16:00 - 18:00

📍 Moscone West - 2010



B44B Natural Wetlands and Open Waters in the Global Methane Cycle: Modeling, Observations, and Challenges III

Elaine Matthews¹, **Ruth K Varner**⁵, **Changhui Peng**³, **Paul J Hanson**⁴, **Paul J Hanson**⁴, **Ruth K Varner**⁵ and **Elaine Matthews**¹, (1)NASA, Ames Research Center, Moffett Field, CA, United States(2)Univ New Hampshire, Durham, NH, United States(3)University of Quebec at Montreal UQAM, Montreal, QC, Canada(4)Oak Ridge National Laboratory, Oak Ridge, TN, United States(5)University of New Hampshire Main Campus, Durham, NH, United States

FRIDAY, 18 DECEMBER 2015

08:00 - 12:20

📍 Moscone South - Poster Hall



H51C-1379 Effect of Internal Aperture Variability on Tracer Transport in Large Discrete Fracture Networks (DFN)

Nataliia Makedonska¹, **Scott L Painter**², **Jeffrey Hyman**³, **Satish Karra**¹, **Carl W Gable**¹ and **Hari Selvi Viswanathan**¹, (1)Los Alamos National Laboratory, Los Alamos, NM, United States, (2)Oak Ridge National Lab, Oak Ridge, TN, United States, (3)University of Arizona, Tucson, AZ, United States

 Moscone South - Poster Hall

H51C-1370 Influence of Injection Mode on Transport Properties in Kilometer-Scale Three-Dimensional Discrete Fracture Networks

Jeffrey Hyman¹, **Scott L Painter**², **Hari Selvi Viswanathan**³, **Natalia Makedonska**³ and **Satish Karra**³,
(1)University of Arizona, Tucson, AZ, United States, (2)Oak Ridge National Lab, Oak Ridge, TN, United States, (3)Los Alamos National Laboratory, Los Alamos, NM, United States

 Moscone South - Poster Hall

NH51D-1930 Computational Performance of an OpenMP-enabled, MPI-enabled and GPU-accelerated Two-dimensional Flood Model

Tigstu TSIGE Dullo¹, **Alfred J Kalyanapu**¹, **Sheikh K Ghafoor**¹, **Ryan Marshall**¹, **Kevin J Tindall**¹, **Valentine G Anantharaj**², **Shih-Chieh Kao**³ and **Sudershan Gangrade**³, (1)Tennessee Technological University, Cookeville, TN, United States, (2)Oak Ridge National Laboratory, National Center for Computational Sciences, Oak Ridge, TN, United States, (3)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States

 Moscone South - Poster Hall

A51H-0169 Summer 2015 Extremes over South Asia within the Historical Perspective

Deeksha Rastogi, Oak Ridge National Lab, Oak Ridge, TN, United States and **Moetasim Ashfaq**, Oak Ridge National Laboratory, Oak Ridge, TN, United States

 Moscone South - Poster Hall

C51C-0741 Building Confidence in the Community Ice Sheet Model (CISM) with LIVVkit, the Land Ice Validation and Verification Toolkit

Joseph H Kennedy¹, **Andrew R Bennett**¹, **Katherine J Evans**¹, **Patrick Worley**¹, **Stephen F Price**² and **Matthew J Hoffman**², (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)Los Alamos National Laboratory, Los Alamos, NM, United States

 Moscone South - Poster Hall

B51F-0489 Synchrony and Divergence in Stream Metabolism across the Continental United States

Alison Appling, University of Wisconsin Madison, Madison, WI, United States; U.S. Geological Survey Center for Integrated Data Analytics, Middleton, WI, United States, **Jordan Stuart Read**, USGS Wisconsin Water Science Center, Middleton, WI, United States, **Robert O Hall Jr**, University of Wyoming, Laramie, WY, United States, **Edward Stets**, National Research Program Boulder, Boulder, CO, United States, **Emily H Stanley**, Univ Wisconsin, Madison, WI, United States, **Emily S Bernhardt**, Duke University, Durham, NC, United States, **James B. Heffernan**, Florida International Univ., Miami, FL, United States, **Maite Arroita**, University of the Basque Country, Faculty of Science and Technology, Bilbao, Spain, **Natalie Griffiths**, Oak Ridge National Laboratory, Oak Ridge, TN, United States, **Jud W Harvey**, USGS Central Region Offices Denver, Denver, CO, United States, **David L. Lorenz**, USGS Minnesota Water Science Center, Mounds View, MN, United States, **Luke Winslow**, U.S. Geological Survey, Middleton, WI, United States and **Charles B Yackulic**, USGS Grand Canyon Monitoring and Research Center, Flagstaff, AZ, United States

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B51C-0437 Characterizing biotic and abiotic properties of landscape and their implications for ecohydrological processes across scales

Jitendra Kumar, Oak Ridge National Laboratory, Climate Change Science Institute, Oak Ridge, TN, United States, **Zachary Langford**, Oak Ridge National Laboratory, Oak Ridge, TN, United States and **Forrest M. Hoffman**, University of California Irvine, Department of Earth System Science, Irvine, CA, United States

 Moscone South - Poster Hall



A51J-0203 The resolution dependency of atmospheric blocking in the aqua-planet experiments

Tianyu Jiang, Oak Ridge National Laboratory, Oak Ridge, TN, United States

📍 Moscone South - Poster Hall



A51H-0159 Fidelity of the Simulation of Non-stationary Climate Extremes in Low- and High- Resolution Climate Models

Salil Mahajan, Oak Ridge National Laboratory, Oak Ridge, TN, United States

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B51C-0439 Isotopic and Geochemical Fingerprinting of a Polygonal Arctic Ecosystem

*Heather Throckmorton*¹, *Jeffrey M Heikoop*¹, *Brent D Newman*¹, *Cathy Jean Wilson*¹ and *Stan D Wullschleger*², (1)Los Alamos National Laboratory, Los Alamos, NM, United States, (2)Oak Ridge National Laboratory, Oak Ridge, TN, United States

08:15 - 08:30

📍 Moscone West - 3020



H51P-02 Site Specific Probable Maximum Precipitation Estimates and Professional Judgement

*Barbara Dean Hayes*¹, *Shih-Chieh Kao*², *Joseph Francis Kanney*³, *Kevin R Quinlan*¹ and *Scott T DeNeale*², (1)Nuclear Regulatory Commission, Washington, DC, United States, (2)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States, (3)US Nuclear Regulatory Comm, Rockville, MD, United States

08:30 - 08:45

📍 Moscone West - 2010



B51K-03 Linking Belowground Plant Traits With Ecosystem Processes: A Multi-Biome Perspective

*Colleen M. Iversen*¹, *Richard J Norby*¹, *Joanne Childs*¹, *M. Luke McCormack*², *Anthony P Walker*¹, *Paul J Hanson*¹, *Jeff Warren*¹, *Victoria L Sloan*³, *Patrick F Sullivan*⁴, *Stan Wullschleger*¹ and *A. Shafer Powell*¹, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)University of Minnesota Twin Cities, Minneapolis, MN, United States, (3)ORNL, Bristol, United Kingdom, (4)University of Alaska Anchorage, Anchorage, AK, United States

09:30 - 09:45

📍 Moscone West - 2010



B51K-07 Improving the representation of Arctic photosynthesis in Earth system models

*Alistair Rogers*¹, *Shawn Serbin*¹, *Kim Ely*², *Victoria L Sloan*³, *Rachel A Wyatt*⁴, *David S Kubien*⁴, *Ashehad Ashween Ali*⁵, *Chonggang Xu*⁶ and *Stan D Wullschleger*⁷, (1)Brookhaven National Laboratory, Upton, NY, United States, (2)Brookhaven National Laboratory, Biological, Environmental & Climate Sciences, Upton, NY, United States, (3)ORNL, Bristol, United Kingdom, (4)University of New Brunswick, Fredericton, NB, Canada, (5)Organization Not Listed, Washington, DC, United States, (6)Los Alamos National Laboratory, Los Alamos, NM, United States, (7)Oak Ridge National Laboratory, Oak Ridge, TN, United States

13:40 - 18:00

📍 Moscone South - Poster Hall



H53A-1640 An Integrated Modeling Framework for Probable Maximum Precipitation and Flood

Sudershan Gangrade¹, **Deeksha Rastogi**², **Shih-Chieh Kao**³, **Moetasim Ashfaq**¹, **Bibi S Naz**¹, **Erik Kabel**², **Valentine G Anantharaj**¹, **Nagendra Singh**¹, **Benjamin L Preston**¹ and **Rui Mei**¹, (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)Oak Ridge National Lab, Oak Ridge, TN, United States, (3)Oak Ridge National Laboratory, Environmental Sciences Division, Oak Ridge, TN, United States

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PA53A-2232 Challenges for Data Archival Centers in Evolving Environmental Sciences

Yaxing Wei¹, **Robert B Cook**¹, **Lianhong Gu**¹, **Suresh Kumar Santhana Vannan**¹ and **Tammy Beaty**², (1)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (2)ORNL, Oak Ridge, TN, United States

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C53C-0799 Validation of Modelled Ice Dynamics of the Greenland Ice Sheet using Historical Forcing

Matthew J Hoffman¹, **Stephen F Price**¹, **Ian M Howat**², **Jennifer A Bonin**³, **Don P Chambers**⁴, **Irina Tezaur**⁵, **Joseph H Kennedy**⁶, **Jan Lenaerts**⁷, **William H Lipscomb**¹, **Thomas Neumann**⁸, **Sophie Nowicki**⁹, **Mauro Perego**⁵, **Jack L Saba**⁹ and **Andrew Salinger**⁵, (1)Los Alamos National Laboratory, Los Alamos, NM, United States, (2)OH St Univ-Earth Sciences, Columbus, OH, United States, (3)University of South Florida, St. Petersburg, FL, United States, (4)University of South Florida Tampa, Tampa, FL, United States, (5)Sandia National Laboratories, Albuquerque, NM, United States, (6)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (7)Utrecht University, Utrecht, Netherlands, (8)NASA Goddard Space Flight Ctr, Greenbelt, MD, United States, (9)NASA Goddard Space Flight Center, Greenbelt, MD, United States

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B53D-0600 Influence of the Tussock Growth Form on Arctic Ecosystem Carbon Stocks

Adrian V Rocha¹, **Salvatore Curasi**¹, **Oliver Sonnentag**², **Stan D Wullschleger**³, **Isla H Myers-Smith**⁴, **Ned Fetcher**⁵, **Michelle C Mack**⁶, **Sue Natali**⁷, **Michael M Lorant**⁸, **Thomas Parker**⁹ and **The CATT Network**, (1)University of Notre Dame, Notre Dame, IN, United States, (2)University of Montreal, Montreal, QC, Canada, (3)Oak Ridge National Laboratory, Oak Ridge, TN, United States, (4)Université de Sherbrooke, Sherbrooke, QC, Canada, (5)Wilkes University, Biology, Wilkes-Barre, PA, United States, (6)Northern Arizona University, Flagstaff, AZ, United States, (7)Woods Hole Research Center, Falmouth, MA, United States, (8)Colgate University, Geography, Hamilton, NY, United States, (9)Marine Biological Laboratory, Ecosystems Center, Woods Hole, MA, United States

14:25 - 14:40

📍 Moscone West - 2008



B53J-04 Continental Asymmetry in Climate-Induced Tropical Drought: Driving Mechanisms and Ecosystem Response

James Tremper Randerson¹, **Abigail L. S. Swann**², **Charles D Koven**³, **Forrest M. Hoffman**¹ and **Yang Chen**⁴, (1)University of California Irvine, Department of Earth System Science, Irvine, CA, United States, (2)University of Washington Seattle Campus, Seattle, WA, United States, (3)Lawrence Berkeley National Laboratory, Berkeley, CA, United States, (4)University of California Irvine, Irvine, CA, United States

14:55 - 15:10

📍 Moscone West - 3018



H53I-06 dfnWorks: A HPC Workflow for Discrete Fracture Network Modeling with
Subsurface Flow and Transport Applications

Carl W Gable¹, Jeffrey Hyman¹, Satish Karra¹, Nataliia Makedonska¹, Scott L Painter² and Hari Selvi Viswanathan¹, (1)Los Alamos National Laboratory, Los Alamos, NM, United States, (2)Oak Ridge National Lab, Oak Ridge, TN, United States

17:30 - 17:45

📍 Moscone West - 2020



IN54A-08 Towards a New Assessment of Urban Areas from Local to Global Scales

Budhendra L Bhaduri, Pranab K Roy Chowdhury, Jacob McKee, Jeanette Weaver, Edward Bright and Eric Weber, Oak Ridge National Laboratory, Oak Ridge, TN, United States
