

PNNL AT AGU24 FALL MEETING

FEATURED PRESENTATIONS

MONDAY, DECEMBER 9

Global Environmental Change

Jill Brandenberger, Brian O'Neill, Nicholas Parker
Co-Conveners | 16:00–17:30

GC14B - Climate Change in Fragile Contexts: Responses, Adaptation, and Security II Oral.

Neal Graham
Poster | 13:40–17:30

GC13M-0349 Examining the Role of Biomass-to-Hydrogen Systems in Reaching India's Net-Zero Emission Goal.

Di Sheng
Talk | 15:22–15:30

GC11C-01 The Use of SLCF Emissions Data in Climate Models: New Data, Past Biases, and A New CMIP Approach.

Steven Smith
Invited Talk | 08:30–08:40

GC13X-10 Omitting Labor Response Underestimates Future Climate Impact on Agriculture.

Wenyu Zhou
Poster | 13:40–17:30

GC13B-0174 Steady threefold Arctic Amplification of externally forced warming masked by natural variability.

Hydrology

Ning Sun
Poster | 08:30–12:20

H11S-0938 Mapping Philadelphia's Floodscape: A 35-Year Analysis of Property-Level Flood Hazards through Integrated Coastal Flood Modeling.

Natural Hazards

Donghui Xu
eLightning | 16:00–17:30

NH14C-03 Assessing Compound Flooding Risks caused by Harvey-like Hurricane under Warmer Climate.

Planetary Sciences

Julian Chesnutt
Poster | 13:40–17:30

P13E-3108 Geophysical Survey Methods for Mars Exploration.

TUESDAY, DECEMBER 10

Atmospheric Sciences

Anastasiia Zagoruichyk
Poster | 13:40–17:30

A23B-1970 Projections of Methane Emissions from Ukraine's Active and Abandoned Coal Mines through 2060.

Global Environmental Change

Kerem Ziya Akdemir
Talk | 17:00–17:10

GC24H-07 Evaluating Grid Stress and Reliability under a Range of Future Climate, Emissions, and Socioeconomic Scenarios in the U.S. Western Interconnection.

Cameron Bracken
Talk | 16:35–16:45

GC24I-04 Compound seasonal renewable energy droughts in the United States.

Jessica Cross
Poster | 13:40–17:30

GC23B-0240 Towards Marine Carbon Dioxide Removal (mCDR) Centers of Excellence.

Rachel Hoesly
Session Convener | 10:20–11:50

GC22C Improvements in Regional and Global Air Pollutant and GHG Emissions Inventories I Oral.

Rachel Hoesly
Poster | 13:40–17:30

GC23F-0316 A global anthropogenic emissions inventory of reactive gases and aerosols (1750 – 2023): an update to the Community Emissions Data System (CEDS).

Parvathi Madathil Kooloth
Poster | 08:30–12:20

GC21V-0153 How optimal control of polar sea-ice depends on its tipping points.

Di Sheng
Poster | 08:30–12:20

GC21M-0027 Employment implications under the U.S. Decarbonization.

Eva Sinha
Poster | 08:30–12:20

GC21R-0101 Interactions between climate mean and variability drive future agroecosystem vulnerability.

Steven Smith
Poster | 08:30–12:20

GC21S-0112 Complementary global temperature effects of methane and carbon dioxide abatement.

Zeli Tan
Talk | 11:20–11:30

GC22B-07 Fast and accurate high-resolution simulations of river dynamics.

Hydrology

Dalei Hao
Poster | 08:30–12:20

H21S-0891 Exploring Climate Risks of Historic Rain-on-Snow Flood Extreme Events in a Warmer World.

Union Sessions

Page Kyle
Talk | 14:15–14:25

U23A-01 Disaggregating the Green Ammonia Transformation: Impacts Of Supply, Demand, And Technology Drivers On Food Security.

WEDNESDAY, DECEMBER 11

Atmospheric Sciences

Yuzhi Chen
Primary Convener | 14:10–15:40, 16:00–17:30

A33F - Atmospheric Aerosol Processes, Properties, and Impacts Across Scales II Oral.

A34C - Atmospheric Aerosol Processes, Properties, and Impacts Across Scales III Oral.

Zezen Cheng
Poster | 08:30–12:20

A31F-1785 Prevalent tar ball particles in aged wildfire smoke.

John Shilling
Poster | 08:30–12:20

A31B-1686 Early Results and Overview of New Experimental and Modeling Capabilities for Cloud Chamber Research from PNNL's DREAM2 Project.

ManishKumar Shrivastava
Poster | 08:30–12:20

A31J-1862 Intense formation of secondary ultrafine particles from Amazonian vegetation fires and their invigoration of deep clouds and precipitation.

Wenyu Zhou
Talk | 10:30–10:40

A32B-02 An analytic theory for the degree of Arctic Amplification.

Biogeosciences

Kyle Larson
Talk | 15:10–15:20

B33I-07 Machine Learning Approach to Improve Monitoring Active Wildfires with Multispectral Satellite Imagery.

Ruby Leung
Invited Talk | 15:00–15:10

B33L-06 A Glimpse of Summer Convective Storms and Hot-Dry Spring in the Amazon Under Future Warming and Implications for Tropical Forests.

Global Environmental Change

Meredydd Evans
Poster | 08:30–12:20

GC31M-0007 Building Energy Decarbonization: The Importance of Hot Climates.

GC41I-0055 Linkages across Scales to Understand Decarbonization.

Nazar Kholod
Poster | 08:30–12:20

GC31U-0098 Informing Ukraine’s climate and energy policies by coupling energy and integrated assessment models.

Stephen Ferencz
Poster | 08:30–12:20

GC31M-0007 Building Energy Decarbonization: The Importance of Hot Climates.

Neal Graham
Poster | 08:30–12:20

GC31U-0093 Uncovering Key Drivers of Future Virtual Water Trade and Global Water Use.

Kendall Mongrid
Poster | 08:30–12:20

GC31U-0096 High Resolution Power Plant Siting Projections Under Alternative Climate and Socioeconomic Scenarios.

Carolina Torres Sanchez
Poster | 13:40–17:30

GC33C-0158 Using Electrochemical Ocean Alkalinity Enhancement for Marine Carbon Dioxide Removal.

Heng Wang
Poster | 08:30–12:20

GC31Q-0053 What technical choices matter to characterize thermal events in support of bulk power grid reliability studies?

Maridee Weber
Poster | 08:30–12:20

GC31M-0006 Carbon neutrality in Malaysia and Kuala Lumpur: Insights on the role of city-level action to meet national climate mitigation targets.

Nathan Wiens
Poster | 08:30–12:20

GC31M-0004 Integrated Assessment and Sensitivity of Methane Mitigation Pathways in China.

Jim Yoon
Poster | 08:30–12:20

GC31V-0115 Identifying the Drivers of Future Groundwater Depletion in the United States: An Exploratory Farm-Groundwater Modeling Analysis.

Xin Zhao
Poster | 08:30–12:20

GC31V-0107 Agroeconomic and environmental implications of future labor market evolution.

Hydrology

Tasneem Ahmadullah
Poster | 08:30–12:20

H31R-0846 Detection and Quantitation of Microplastics in Environmental Samples.

Yicheng Huang
Talk | 14:50–15:00

H33P-05 Modeling Microplastics Pollution in the Delaware River Basin: From Watershed Sources to Estuarine Accumulation.

Anna Turetaica
Poster | 08:30–12:20

B41I - Biogeochemical and Microbial Processes Across the Urban Terrestrial-Aquatic Continuum.

Natural Hazards

Nicholas Lalo
Poster | 08:30–12:20

NH31C-2131 Projected North Atlantic tropical cyclone intensity through 2100 based on thermo-dynamic modifications of historical environments.

THURSDAY, DECEMBER 12

Atmospheric Sciences

Andrew Gettelman
Poster | 13:40–17:30

A43E-2000 A Process Level View of Cloud Feedback Sensitivity and the Interaction Between Climate Feedbacks and Forcing.

Ruby Leung
Primary Convener | 14:10–15:40

A43V - High-Resolution Earth System Modeling on Large Supercomputers II Oral.

Jianfeng Li
Primary Convener | 14:10–15:40, 16:00–17:30

A43Q - AI-Driven Innovations in Earth and Climate Sciences I Oral.

A44B - AI-Driven Innovations in Earth and Climate Sciences II Oral.

Fan Mei
Poster | 13:40–17:30

A43D-1998 Vertical Atmospheric Properties Observed over the Southern Great Plain with Uncrewed Aerial System in 2023.

Zihua Zhu
Poster | 13:40–17:30

A43D-1994 Revealing fine 3D structure and origin of individual organic aerosol particles using Correlative ToF-SIMS and SEM imaging.

Biogeosciences

Alicia Amerson
Talk | 11:40–11:50

B42A-08 Soaring Above the Surface: Leveraging Tethered Balloons and Optical Sensors for Marine Biodiversity Monitoring.

Global Environmental Change

Meredydd Evans
Poster | 08:30–12:20

GC41I-0055 Linkages across Scales to Understand Decarbonization.

Jay Fuhrman
eLightning | 08:30–10:00

GC41F-07 Towards Improved Spatial Resolution and Technology Breadth in Carbon Dioxide Removal Modeling.

Hydrology

Donghui Xu
Talk | 14:20–14:30

H43S-02 Climate change will reduce North American inland wetland areas and disrupt their seasonal regimes.

Natural Hazards

Preston Spicer
Poster | 08:30–12:20

NH41D-2349 Evaluating past and future contributions to compound flooding in the Duwamish River estuary, WA using a coupled atmospheric-hydrologic-ocean modelling framework.

FRIDAY, DECEMBER 13

Atmospheric Sciences

Jianfeng Li
eLightning | 16:00–17:30

A54K - AI-Driven Innovations in Earth and Climate Sciences IV.

Pengfei Shi
Poster | 13:40–17:30

A43D-1994 Revealing fine 3D structure and origin of individual organic aerosol particles using Correlative ToF-SIMS and SEM imaging.

Biogeosciences

Casey McGrath
Poster | 08:30–12:20

B51H-1618 Mixed Model Approach to Partitioning Transparent and Opaque Aerosols in Satellite Imagery to Improve Wildfire Mapping.

Earth and Planetary Surface Processes

Lilian Engel
Talk | 14:50–14:58

EP53H-05 Modeling larval dispersal and its implications for marine ecosystem management.

Education

Jennie Rice
Talk | 11:40–11:50

ED52C-09 Reproducible Integrated Modeling: It Takes a Village...and a Mayor.

Global Environmental Change

Huilin Huang
Poster | 08:30–12:20

GC51DD-0049 Elevated forest loss after wildfires in moister and cooler forests in the Pacific Northwest.

Rohit Mukherjee
Talk | 09:10–09:20

GC51F-05 Global Satellite Analysis Reveals Higher Local Flooding Tendency in Major Cities.

Ye Liu
Poster | 08:30–12:20

GC51DD-0046 Advancing wildfire prediction and ecosystem interaction modeling using an integrated framework.

Nathalie Voisin
Poster | 13:40–17:30

GC53C-0377 A series of climate-informed power grid planning studies: successes and next steps.

Hydrology

Zeli Tan
Poster | 08:30–12:20

H51P-0929 The past and future changes of river sediment in the U.S. Mid-Atlantic.