

2024 **GLOBE** ANNUAL MEETING
CLIMATE AND RESILIENCE
FREDONIA • NEW YORK • USA • 15-18 JULY







Meeting sponsored by:  Supported by:   

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SOCIAL MEDIA • CONNECT • SHARE • LEARN



Dear GLOBE community,

Welcome to the shores of Lake Erie, Western New York State, and the GLOBE Annual Meeting, the 28th since the founding of the Program in 1995.



Some of my earliest childhood memories include visits to Lake Erie exploring the flora and fauna along the shores of one of the five Great Lakes of the United States. Can you name the others? Some of my favorite memories include picnics on the beaches of Presque Isle, canoeing along the nearby waterways, as well as visiting the majestic falls at Niagara! I hope you too will enjoy some of the natural wonders of this region and use GLOBE protocols to learn more about them. However, these precious ecosystems are changing before our eyes due to climate change. Therefore, it is fitting that the theme of this year's meeting is Climate and Resilience.

Developing a deeper understanding of climate has been a central theme for The GLOBE Program in 2023-2024 with the GLOBE Year of Climate and Carbon (YCC) action and awareness campaign. Over the past year, students have engaged in regional research projects centered on climate and carbon topics and shared their work at the Student Research Symposia (SRS) in the United States and the International Virtual Science Symposium (IVSS).

I would like to thank Lyn Wigbels and Mike Jabot for leading the International Organizing Committee (IOC) and their work in helping to develop the meeting program that will enable all of us to explore the theme of Climate and Resilience over the course of the week. I would like to thank Simon Castro-Wooldridge, Tara Torres and Alison Mote for their work with pulling together the programming and logistics for this year's meeting. Both the adult and the student program promise to be engaging and relevant to our work in GLOBE and as citizens of our planet.

The GLOBE Annual Meeting is sponsored by the National Science Foundation (NSF). UCAR deeply appreciates the commitment of the NSF along with all of the federal sponsors (NASA, NOAA, and the US Department of State) for their continued support of GLOBE.

As this is the final GLOBE event organized by the GLOBE Implementation Office (GIO) at UCAR, I would like to provide my special thanks to all of the dedicated staff who have contributed to the mission of GLOBE over the last twenty years. It has been an honor to serve alongside so many who have made GLOBE what it is today.

Finally, I extend best wishes to the new GIO who will serve the GLOBE community into the future!

Sincerely,

John Ristvey
GLOBE Director of Operations and Implementation

HOST: SUNY FREDONIA



Mike Jabot

Distinguished Professor of Science Education, Department of Curriculum and Instruction, Fredonia State University of New York, USA

I want to welcome you to the State University of New York at Fredonia. SUNY Fredonia is so HONORED and HUMBLLED to have you be part of our campus community while you are here. As I think about our focus this past year on Climate and Carbon, I can not think of a location that is better “placed” to help share the impact of these ideas than SUNY Fredonia. We sit on the shores of a water body system that represents 20 percent of the World’s total freshwater; we sit on the edge of an escarpment that divides our region feeding into both the Great Lakes as well as the Mississippi watersheds and this all occurs within a distance of hundreds of meters; and we have a unique agricultural opportunity that owes its abundance to the last great glacial advance.

Our “place” serves as a great example of how earth system science serves to help us understand the importance of understanding the interconnectedness of these systems as well as the impacts that changes to these spheres has on the entire system. Try to take note of this uniqueness as we explore together and learn how we can bring GLOBE to play in the lives of those we support. So please enjoy your time exploring our “place” and NEVER hesitate to let me know how I can help.

KEYNOTE SPEAKERS



Rhiannan Price

Senior Advisor, DevGlobal Partners and Lead for NASA Lifelines

Rhiannan Price is a Senior Advisor at DevGlobal Partners and lead for NASA Lifelines, a new community building initiative bringing together humanitarians and scientists to accelerate use of satellite data for humanitarian action.

Rhiannan has over 15 years’ experience working at the intersection of technology and development, leveraging satellite imagery, AI, crowdsourcing, and other digital tools in support of the UN Sustainable Development Goals. She’s passionate about the potential for technology to break down our siloes and help us leapfrog to a more resilient, sustainable world.

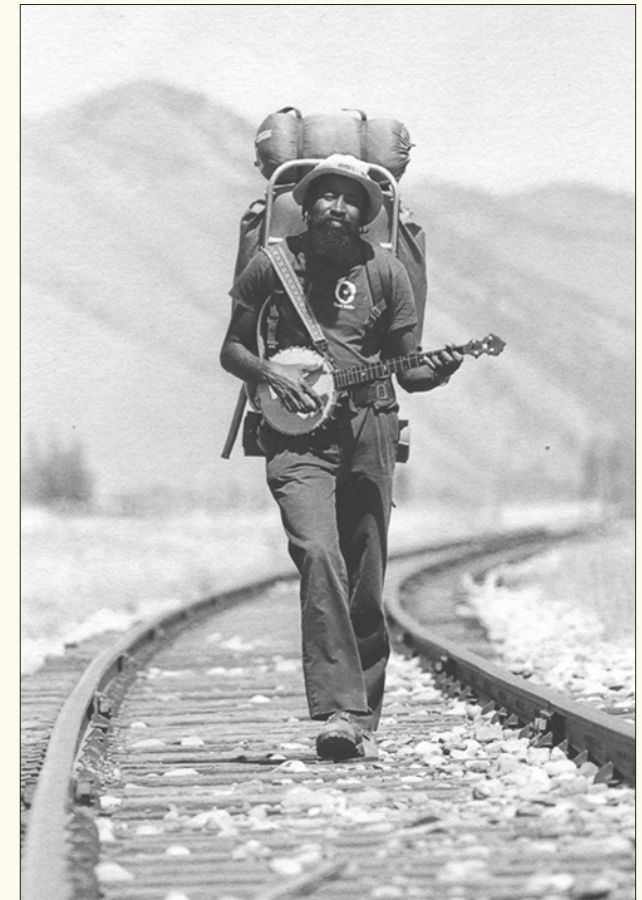
Prior to joining DevGlobal, Rhiannan led the Sustainable Development portfolio at Maxar Technologies where she founded their Open Data Program, among other initiatives.

Rhiannan has lived in Uganda, Tanzania, and Dominica and speaks four languages. A former Peace Corps Volunteer, Rhiannan has a master’s degree in International Human Rights from the Korbel School at University of Denver where she was a Boren Fellow.



Katie Spellman with Elena Sparrow, Christine Villano, and daughters Izzy and Simone Spellman

Katie Spellman is a professor, ecologist and educator at the University of Alaska Fairbanks International Arctic Research Center. Her research focuses on how climate change influences boreal and Arctic plant communities and education strategies to prepare people for navigating a rapidly changing climate. Katie has dedicated her career to making sure that youth, adults, and elders from diverse communities have a voice and active role in climate change research and action. She is an active leader in the GLOBE Alaska Partnership, is a founding faculty fellow of the UAF Climate Scholars Program and has designed and operated 7 major community and participatory science projects across Alaska and beyond. She will be joined in this intergenerational keynote by her mentor Elena Sparrow, her mother Christine Villano, and her daughters Izzy and Simone Spellman.



John Francis

The Planetwalker

John Francis, known globally as the Planetwalker, is an environmental activist who began his journey in 1971 after witnessing an oil spill in San Francisco Bay. Renouncing motorized vehicles and taking a vow of silence for 17 years, he founded Planetwalk, a nonprofit focused on environmental awareness.

He holds a B.S., a Master’s in Environmental Studies, and a Ph.D. in Land Resources. Appointed as the UN Environment Program’s Goodwill Ambassador in 1991, he has walked across the Americas and Caribbean, developed environmental curricula, and published books with the National Geographic Society. As a visiting professor, he taught at the University of Wisconsin-Madison and is currently walking from Cape Town to Cairo to promote science and kindness.

MAPS • ADD NOTES OR SKETCHES ABOUT YOUR EXPLORATIONS

Regional Snapshot



SUNY Fredonia



DETAILED AGENDA

| MONDAY • 15 JULY | | |
|-------------------|--|---------------------------|
| 8:00 am-5:00 pm | Registration Desk Helpdesk Open | Williams Center (WC) |
| 8:00 am-9:00 am | Networking Breakfast Breakfast Provided | Willy C Cafeteria |
| 9:00 am-10:00 am | <p>OPENING SESSION</p> <p>WELCOME REMARKS</p> <ul style="list-style-type: none"> • Host: SUNY Fredonia: Stephen H. Kolison, Jr. and Mike Jabot • Meeting Sponsor: National Science Foundation: Brandon Jones • Federal Sponsors: NASA Earth Science Division: Jack Kaye; Department of State, Irina Karmanova; NOAA: John McLaughlin • UCAR: John Ristvey <p>KEY LOGISTICS AND SAFETY BRIEF</p> <ul style="list-style-type: none"> • UCAR: Simon Castro-Wooldridge • Logistics and identification of on-duty UCAR and SUNY Fredonia staff • Student Experience <p>MEDIA AND OUTREACH</p> <ul style="list-style-type: none"> • A brief about social media, filming and photos during the meeting: Leana Nordstrom • GLOBE Observer: how to join GO activities this week: Holli Kohl and Kristen Weaver | Williams Center MPR |
| 10:00 am-10:30 am | Networking Break Tea and Coffee Provided | Rear of MPR |
| 10:30 am-11:30 am | <p>Program Session No. 1: Climate and Resilience Introduction</p> <ul style="list-style-type: none"> • GLOBE Year of Carbon and Climate (YCC) Campaign: Grace Crain-Wright • Introduction to meeting theme and strands: Mike Jabot and Julie Malmberg | MPR |
| 11:30 am-12:15 pm | <p>Keynote No. 1</p> <p>Speaker: John Francis, Planetwalk Title: <i>Planetwalk/GLOBE, Kindness in XR</i></p> | MPR |
| 12:30 pm-1:30 pm | Responses to the Keynote Working Lunch Provided | Willy C Cafeteria |
| 1:45 pm-2:30 pm | <p>The 2024 Eclipse See page 14 for detailed agenda</p> <ul style="list-style-type: none"> • Lightning talks | MPR |
| 2:30 pm-3:15 pm | <p>Community Presentations Session No. 1 See page 14 for detailed agenda</p> <ul style="list-style-type: none"> • Featured Strand: Exploring Climate through GLOBE Science and Data • Lightning talks | MPR |
| 3:15 pm-4:00 pm | Community Shareathon No. 1 Tea and Coffee Provided | Blue Lounge 1st floor, WC |
| 4:00 pm-6:00 pm | <p>Program Session No. 2</p> <ul style="list-style-type: none"> • Introduction: Amy P. Chen, GLOBE Program Manager, NASA • Jack Kaye, NASA Earth Science Division Associate Director for Research: NASA ESD Update • GIO Introductions: John Ristvey, Rebecca Lewis and Becky Boger • GLOBE Federal Sponsors and GIO: Fireside Chat and Q&A • David Hassler, Executive Director of Wick Poetry Center, and GLOBE Students: Community Poem | MPR |
| 6:15 pm-8:00 pm | Opening Reception and Poster Presentation Buffet Provided | WC 2nd Floor |

| TUESDAY • 16 JULY | | |
|-------------------|---|--------------------------------|
| 8:00 am-5:00 pm | Registration Desk Helpdesk Open | WC |
| 8:00 am-8:45 am | Networking Breakfast Breakfast Provided | Willy C Cafeteria |
| 8:45 am-10:00 am | Joint US Partner and Country Coordinator Meeting | MPR |
| 9:00 am-10:00 am | <p>DIS Clinic</p> <ul style="list-style-type: none"> • GLOBE Data Visualization System, Troubleshooting | Room 103B WC |
| 10:00 am-10:30 am | Networking Break Tea and Coffee Provided | Rear of MPR |
| 10:30 am-11:30 am | <p>Learning about Protocols Session</p> <ul style="list-style-type: none"> • Outdoors, six stations, participants carousel around three of their choice, 20-minute activities • Jessica Taylor: <i>A Hands-on protocol session that will train participants in the key elements of the Clouds protocol, engage them in a modified Cloudscape learning activity, and showcase how to use corresponding satellite data.</i> • Andrea Ventoso: <i>Learning activities in this session will be related to the Atmosphere and Biosphere spheres, including: air temperature, clouds, aerosols, precipitation, wind, land cover classification, MUC, etc.</i> • Lynne Hehr: <i>Temperature and precipitation/Weather and Climate using the 'What in the World is Happening to Our Climate' storybook.</i> • Cassie Soeffing: <i>Mosquito identification and GLOBE Observer Mosquito Habitat Mapper.</i> • Christi Buffington: <i>Frost Tube (soil freezing, air temperature, surface temperature), Land Cover Observations focused on freshwater ice.</i> • Todd Toth: <i>New, unexpected developments with CO2 sensor development and weather suite.</i> | Patio outside MPR |
| 11:30 am-12:15 pm | <p>Keynote Speaker No. 2</p> <p>Speaker: Rhiannan Price, NASA Lifelines Title: <i>A Community of the Future for Humanitarian Action</i></p> | MPR |
| 12:30pm-1:30 pm | NASA Lifelines 'Lunch Club' Activity Working Lunch Provided | Willy C Cafeteria |
| 1:45 pm-3:15 pm | <p>Community Presentations Session No. 2 See page 15 for detailed Agenda</p> <ul style="list-style-type: none"> • Featured Strand: <i>Amplifying GLOBE's Contribution to Improving Life on Our Planet</i> • Lightning talks | MPR |
| 3:15 pm-4:00 pm | Community Shareathon No. 2 Tea and Coffee Provided | Blue Lounge 1st floor, WC |
| 4:00 pm-5:00 pm | <p>Working Group Updates</p> <ul style="list-style-type: none"> • Member Introduction • WG Report Outs: Shareathon • Cross-WG Project Updates: Instrumentation | MPR |
| 5:15 pm-6:30 pm | Vendor Exhibition | Rear of MPR |
| 6:30 pm-7:30 pm | <p>Dinner Provided</p> <ul style="list-style-type: none"> • Cookout on the patio, weather permitting | MPR Patio or Willy C Cafeteria |

DETAILED AGENDA

| WEDNESDAY • 17 JULY | | |
|---------------------|--|--------------------|
| 8:00 am-5:00 pm | Registration Desk Helpdesk Open | WC |
| 7:30 am-8:15 am | Networking Breakfast Breakfast Provided | Willy C Cafeteria |
| 8:15 am-8:30 am | Boarding Field Trip Transport • Location: Meet outside Williams Center | Williams Center |
| 8:30 am-10:00 am | Transport to Niagara Falls | Shuttles |
| 10:00 am-2:30 pm | Niagara Falls State Park and Niagara Power Vista Field Trip • Bag lunch provided • Cave of the Winds visit • Niagara Power Vista Visitors Center | Offsite field trip |
| 2:30pm-4:00 pm | Transport to SUNY Fredonia • Will drop outside Williams Center | Shuttles |
| 4:15 pm-5:00 pm | Program Session No. 3 • DIS Update • GLOBE Observer Update • Classroom Twinning Pilot Project Update | MPR |
| 5:15 pm-6:30 pm | GLOBE Gives Back Panel Discussion: <i>The Future of Climate Education (consistent)</i> • Moderator: Mike Jabot • Panelists: Don Haas, Kelli Grabowski, Rebecca Lewis • Welcoming members of the Fredonia and Western New York State Earth System Science community | MPR |
| 6:30 pm-7:30 pm | Dinner Provided | Willy C Cafeteria |

| THURSDAY • 18 JULY | | |
|--------------------|--|---------------------------|
| 8:00 am-5:00 pm | Registration Desk Helpdesk Open | WC |
| 8:00 am-8:45 am | Networking Breakfast Breakfast Provided | Willy C Cafeteria |
| 8:45 am-9:00 am | Announcements Reminders | MPR |
| 9:00 am-10:00 am | Program Session No. 4 • GPO Update • New GIO Work Plan for Community Input | MPR |
| 10:00 am-11:00 am | Community Presentation Session No. 3 See page 14 for detailed agenda • Featured Strands: <i>Responding to a Changing Climate; Using GLOBE to Increase Resilience</i> • Lightning Talks | MPR |
| 11:00 am-11:30 am | Community Shareathon No. 3 Tea and Coffee Provided | Blue Lounge 1st floor, WC |
| 11:30 am-12:15 pm | Keynote Speaker No. 3 • Speakers: Katie Spellman: University of Alaska, Fairbanks, joined by Elena Sparrow, Chris Villano, and daughters Izzy Spellman and Simone Spellman • Title: <i>GLOBE Year of Climate and Carbon - Past, Present and Future of GLOBE Climate Change Research and Action</i> | MPR |
| 12:30 pm-1:30 pm | Responses to the Keynote Working Lunch Provided | Willy C Cafeteria |
| 1:30 pm-2:15 pm | Student Experience Report Out • Students Sharing What They have learned during the Student Experience | MPR |
| 2:15 pm-2:45 pm | Networking Break Tea and Coffee Provided | Rear of MPR |
| 2:45 pm-4:00 pm | Closing Session • Next Steps • GLOBE Observer Highlights of the Week • Social Media and Communications Highlights of the Week • <i>Week in Review</i> Film • Evaluation Survey • Acknowledgements | MPR |
| 6:00 pm-9:00 pm | Meeting Banquet and Official Closing Dinner Provided | MPR |

AGENDA SNAPSHOT

Networking, dining, snacks
 Keynote Speaker
 Programs Sessions
 Banquets and Events
 Field Trips and Off-Site Activities

| TIME | MONDAY • 15 JULY | TUESDAY • 16 JULY |
|---------------|--|---|
| | Registration / Helpdesk open • 7:00 am-5:00 pm | Registration / Helpdesk open • 7:00 am-5:00 pm |
| EARLY MORNING | Networking Breakfast | Networking Breakfast Joint US Partner and Country Coordinator Meeting DIS Clinic |
| | Opening Session | |
| MORNING | Networking Break | Networking Break |
| | Program Session No. 1 | Learning About Protocols Session |
| LUNCH | KEYNOTE SPEAKER NO. 1 John Francis Planetwalk Responses to the Keynote Working Lunch Provided | KEYNOTE SPEAKER NO. 2 Rhiannan Price NASA Lifelines NASA Lifelines 'Lunch Club' Working Lunch Provided |
| AFTERNOON | The 2024 Eclipse Community Presentations Session No. 1 Exploring Climate Through GLOBE Science and Data Community Shareathon No. 1 Program Session No. 2 | Community Presentations No. 2 Amplifying GLOBE's Contribution to Improving Life on Our Planet Community Shareathon No. 2 Working Group Updates |
| EVENING | Opening Reception Poster Presentation | Vendor Exhibition Dinner |

Networking, dining, snacks
 Keynote Speaker
 Programs Sessions
 Banquets and Events
 Field Trips and Off-Site Activities

| TIME | WEDNESDAY • 17 JULY | THURSDAY • 18 JULY |
|---------------|--|---|
| | Registration / Helpdesk open • 7:00 am-5:00 pm | Registration / Helpdesk open • 7:00 am-5:00 pm |
| EARLY MORNING | Networking Breakfast Transport to Niagara Falls | Networking Breakfast Announcements Reminders |
| MORNING | Visit to Niagara Falls State Park | Program Session No. 4 Community Presentations Sessions No. 3 Community Shareathon No. 3 |
| LUNCH | Bag lunch at Niagara Falls | KEYNOTE SPEAKER NO. 3 Katie Spellman University of Alaska with Elena Sparrow, Christine Villano, and daughters Izzy Spellman and Simone Spellman Responses to the Keynote Working Lunch Provided |
| AFTERNOON | Visit to Niagara Power Vista Visitor Center Transport Back to SUNY Fredonia Program Session No. 3 | Student Session Networking Break Closing Session |
| EVENING | GLOBE Gives Back Dinner | Meeting Banquet |

COMMUNITY PRESENTATION SESSIONS



| MONDAY • 15 JULY | | |
|--|--|---|
| THE 2024 ECLIPSE | LIGHTNING TALKS EXPLORING CLIMATE THROUGH GLOBE SCIENCE AND DATA | SHAREATHON NO. 1 |
| <p>1:45 pm-2:30 pm</p> <p>Kristen Weaver: <i>Engaging Audiences with Eclipses</i></p> <p>Marile Colon Robies: <i>GLOBE Eclipse: First Look at Results During the 2024 Total Solar Eclipse</i></p> <p>Femi Oluwafemi: <i>Engaging Directly with Students, Teachers, and Citizen Scientists: Before, During and After the 2024 Solar Eclipse Event</i></p> <p>John Olgin: <i>Understanding Desert Climate From Solar Eclipses and Varying Seasonal Effects Using GLOBE Observer Protocols and Professional Collaborators</i></p> <p>Dorian Janney: <i>Training Lifelong Learners to Share the Excitement of the Eclipses</i></p> <p>Theresa Schwerin: <i>GLOBE Eclipse Libraries: Fostering a Community of Practice</i></p> | <p>2:30 pm-3:15 pm</p> <p>Todd Toth: <i>Student Data Collection and Climate Change</i></p> <p>Cassie Soeffing: <i>STEM Enhancement in Earth Science: Engaging GLOBE Students in Research Across the Data Life Cycle</i></p> <p>Dana Votapkova: <i>Exploring Climate: A Journey Through Tree Observations</i></p> <p>Maria Royle: <i>Analyzing Global Patterns With the Earth System Satellite Images</i></p> <p>Rusty Low: <i>Climate Chronicles: A Research Framework to Explore Local Environmental Change Using GLOBE Observer and Remote Sensing Data</i></p> <p>Joe Carstensen: <i>Utilizing GLOBE to Engage Students</i></p> <p>John Moore: <i>Satellites and Remote Sensing: Observing Earth and Visualizing the Future</i></p> | <p>3:15 pm-4:00 pm</p> <p>Rosalba Giarratano</p> <p>Haley Wicklein / US Country Coordination Office</p> <p>Connie Atkinson</p> <p>Heather Mortimer</p> <p>Dana Votapkova</p> <p>John Moore</p> <p>Todd Toth</p> <p>Rusty Low</p> <p>Joe Carstensen</p> <p>Sheila Yule and alumni</p> |

| TUESDAY • 16 JULY | |
|---|---|
| LIGHTNING TALKS AMPLIFYING GLOBE'S CONTRIBUTION TO IMPROVING LIFE ON OUR PLANET | SHAREATHON NO. 2 |
| <p>1:45 pm-3:15 pm</p> <p>Claudia Maria Romagnoli: <i>The Study of Trees at School 1345 in Pujato, Argentina, as a Benefit to the Environment</i></p> <p>Larisa Schelkin: <i>Amplifying GLOBE's Global Impact Through UNESCO Story Circle Methodology</i></p> <p>Julie Houck: <i>Making History and Connections in the GLOBE Community!</i></p> <p>Dana Votapkova: <i>Amplifying GLOBE's Contribution: The Story of GLOBE Students</i></p> <p>Svetlana Darche, Kevin Czajkowski: <i>Scaling GLOBE Through an Online Course: Demo and Input Opportunity</i></p> <p>Christi Buffington, Ashlee Wells: <i>Sailing to the Future with GLOBE on the Tall Ship MIRAIE</i></p> <p>Yitong Jiang, Kevin Czajkowski, Margaret Pippin, Juthi Mitra: <i>Fostering Participation in Air Quality Studies using Small Sensors</i></p> <p>Dixon Butler: <i>Growing GLOBE Internationally with YLACES</i></p> <p>Pamela Zuniga: <i>Bridging Science Diplomacy and STEAM Education in Public Schools in Central America and the Caribbean: Supporting GLOBE Program Implementation Through the GLOBE Plus Post Initiative</i></p> <p>Beatrice Oyange: <i>Enhancing Science Education through the Integration of GLOBE Program Protocols</i></p> <p>Josephine Joy Tolentino-Antalan: <i>Unlocking Curious Minds: Transformative Learning of PSHS-CLC Students with the GLOBE Program Protocols</i></p> | <p>3:15 pm-4:00 pm</p> <p>Kevin Czajkowski</p> <p>Christi Buffington / Ashlee Wells</p> <p>GLOBE Accessibility Subcommittee</p> <p>Ana Prieto</p> <p>Katie Spellman</p> <p>Sheila Yule and alumni</p> <p>Julie Houck</p> <p>Dana Votapkova</p> <p>Dixon Butler</p> |
| THURSDAY • 18 JULY | |
| LIGHTNING TALKS RESPONDING TO A CHANGING CLIMATE USING GLOBE TO INCREASE RESILIENCE | SHAREATHON NO. 3 |
| <p>10:00 am-11:00 am</p> <p>Holli Kohl: <i>GLOBE Tool for Community Science and Resilience</i></p> <p>Eleanor Jaffee: <i>Evaluation Evolution: Adapting Evaluation of the GLOBE US Student Research Symposia 2016-2024</i></p> <p>Ngosse Fall: <i>Resilience to Low Rainfall in Ferlo: The Contribution of the GLOBE Senegal Program</i></p> <p>Aileen Bright: <i>GLOBE Ireland: Exploring Local Climate Risks and Resilience Opportunities Through GLOBE</i></p> <p>Cynthyny (Bo) Lebo: <i>Finding Connection to GLOBE Through Nature and Nurture, Rigor and Relevancy</i></p> <p>Nico Janik: <i>Urban Heat Island Design Challenge</i></p> | <p>3:15 pm-4:00 pm</p> <p>Holli Kohl</p> <p>Eleanor Jaffee</p> <p>Bo Lebo</p> <p>Sheila Yule and alumni</p> |

GLOBE ANNUAL MEETING STUDENT EXPERIENCE OVERVIEW

GLOBE students representing all six GLOBE regions will participate in a learning experience to discover the local environment and collect data in the Fredonia, New York area with distinguished GLOBE scientists and peers during the 2024 GLOBE Annual Meeting Student Experience. Students will explore the Annual Meeting theme of “Climate and Resilience” as they uncover how an understanding of Earth systems and processes can inform climate solutions in their local communities. Students will also explore one of the natural wonders of North America on a field trip to Niagara Falls State Park and the Niagara Power Vista. Student Experience projects will connect to the theme of the 2024 GLOBE Annual Meeting as students investigate the local environment using GLOBE Protocols and evaluate solutions to promote climate resiliency in their local communities.

Students will engage with meeting participants as they present their International Virtual Science Symposium (IVSS) and Student Research Symposia (SRS) research projects during the opening reception poster session. On the final day of the meeting, students will present their learning from the week to showcase their Student Experience projects. Students have also collaborated with David Hassler, Executive Director of the Wick Poetry Center at Kent State University, to co-create a community poem that will be read on the first day of the meeting.

Student Experience Facilitators



Alison Mote, Student Experience Lead, The GLOBE Program



Gregory Holmberg, Student Experience Facilitator, SUNY Fredonia.



Alyssa Wright, Student Experience Facilitator, SUNY Fredonia.



Peter Falcon, Student Experience Facilitator, NASA Jet Propulsion Laboratory



Elizabeth Mays, Student Experience Facilitator, UCAR Center for Science Education

In GLOBE, we find
our passions light,
exploring Earth,
both day and night.

Mahrah Salim
Mohammed Mahfoodh
Al-Mazruii

Student from Oman

2024 IVSS STIPEND RECIPIENTS

ASIA AND PACIFIC

Title: *A Comprehensive Investigation on Carbon Storage in the Vegetation of Our Schoolyard and Determining the Carbon Footprint of the School Through the Measurement of Carbon using GLOBE’s Carbon Cycle Protocols*

Educator: Arun Kumar Chhetri

Students: Sangay Choden, Yeshey Wangchuk, Kalpana Mongar, Usha Pyakurel, Shankar Ghimrey

Additional Contributors: Sahapati Gurung

School: Pelrithang Higher Secondary School, Gelephu, Bhutan

EUROPE | EURASIA

Title: *Monitoring and Protection of Marmont Alley*

Educator: Snježana Marković-Zoraja

Students: Josip Ferenčina, Marta Kupres

Additional Contributors: Domagoj Zoraja

School: OS Dubovac, Karlovac, Croatia

LATIN AMERICA AND CARIBBEAN

Title: *Reducing Our Carbon Footprint: Rochester School’s Strategies to Reduce Emissions*

Educators: Maria Del Pilar Tunarroza, Juan Pablo Aljure Leon

Students: Angelina Chiodo, Isabella Diaz, Maria Paula Garcia, Natalia Lopez, Luciana Lozano, Laura Pardo, Mariana Roa, Paula Romero, Diego Sierra

Additional Contributors: Juan Felipe Restrepo, Liliana Medina, Jorge Quintero, Emilia Rodriguez, Laura Valentina Perilla, Bautista Saavedra

School: Rochester School, Chia, Colombia

NEAR EAST AND NORTH AFRICA

Title: *The Effect of Soil Type on the Growth of Rose Flowers*

Educator: Hifa Rashid Al kaabi

Students: Taima Abdllah Al Alnsari, Mahra Saliman Mohamed Al Mazroii

School: Alshaffa bint Abdullah, Suhar, Oman

NORTH AMERICA

Title: *A Random Forest Analysis of Remote Sensing Driven Mosquito Habitat Prediction in West Africa*

Educator: Cassie Soeffing

Students: Ruchi Bondre, Ryan Chan, Andrew Liu

Additional Contributors: Dr. Russanne Low, IGES; Peder Nelson, OSU, Andrew Clark, IGES; Dr. Erika Podest, NASA JPL

School/Organization: Institute for Global Environmental Strategies (IGES) GLOBE v-School, NASA SEES Summer Program, USA

Title: *Water Temperature and pH Measurements on Gulkana Glacier and Phelan Creek, Alaska*

Teacher: Christina Buffington

Student: Teslin L. Brannan

Additional Contributors: Yi Luo, Lydia Patterson, Tori L. Brannan

School/Organization: Department of Natural Resources and Environment, Fairbanks, Alaska, USA

AFRICA

Title: *Impact of Industrial Emissions on Climate*

Educators: Maureen Achieng Okayo, Richard Muema, Beatrice Shiro Oyange

Students: Nishil Mahesh Patel, Hafsa Yasir Jamal, Agatha Rague Mambori

School: Shree Swaminarayan Academy, Mombasa, Kenya

SRS TEAMS ATTENDING 2024 GLOBE ANNUAL MEETING

NORTHEAST AND MIDATLANTIC

Title: *Onondaga County River Quality and Oswego County River Quality*

Educator: Jessica Halsey **Students:** William Francisco, Collin Hallock, Zym Goodberry, Nico Wejko, and Devin Eberly **School:** APW JR/SR High School, New York

PACIFIC AND NORTHWEST

Title: *Dissolved Oxygen and Fish and Wildlife Habitat in Gravel Pit Ponds*

Educator: Queen Anne Paninsoro **Students:** Ralph Steeves, Gavin Smith

School: Aniak Junior Senior High School, Alaska

SOUTHEAST

Title: *Pearl River Pollution*

Educator: Angela Lee **Students:** Kyle Triplett, Lauren Hanshaw, Jaden Sanford **School:** Bayou View Middle School, Mississippi

SOUTHWEST

Title: *Outdoors Air Quality on the Reservation*

Educator: Nate Raynor **Students:** Haleigh Shendo, Caydence Palmer, Miley Cojo

School: Mescalero Apache School, New Mexico

STUDENT EXPERIENCE AGENDA

| PLACE | TIME | ACTIVITY |
|---|-------------------|--|
| SUNDAY 14 JULY | | |
| SUNY FREDONIA AND COLLEGE LODGE | 2:20 pm-6:00 pm | Participants arrive, shuttle transport from BUF Airport to SUNY Fredonia Williams Center Free time in Williams Center Game Room |
| | 6:00 pm-6:20 pm | Transport to College Lodge |
| | 7:00 pm-8:00pm | Dinner at College Lodge |
| | 8:00 pm-8:30 pm | Welcome and Ice Breaker |
| MONDAY 15 JULY | | |
| COLLEGE LODGE, LAKE ERIE AND SUNY FREDONIA | 8:00 am-9:00 am | Breakfast and Icebreaker Activity at College Lodge |
| | 9:00 am-10:00 am | Student Experience Introduction and Geological History of the Great Lakes Region |
| | 10: am-12:00 pm | Earth System Operations: Data Collection at College Lodge |
| | 12:00 pm-1:00 pm | Lunch at College Lodge |
| POINT GRATIOT PARK | 1:00 pm | Transport to Point Gratiot Park |
| | 1:30 pm-2:45 pm | Data Collection at Point Gratiot Park on shores of Lake Erie |
| SUNY WILLIAMS CENTER | 2:45 pm | Transport to main meeting site at SUNY Fredonia Campus |
| | 3:00 pm-3:30 pm | Break |
| | 3:30 pm-4:30pm | Group 1: Community Poetry Reading Practice with David Hassler, Kent State University in Room G103A Group 2: Activity with Reem Hasan, GLOBE Educator in Room S222 |
| | 4:30 pm-5:15 pm | Set up posters and practice presentations |
| | 5:15 pm-6:00 pm | Attend Community Poetry Presentation |
| | 6:00 pm-6:15 pm | Break |
| | 6:15 pm-8:00 pm | Poster Session and Open Session; hors d'oeuvres provided |
| COLLEGE LODGE | 8:00 pm | Transport to College Lodge |
| TUESDAY 16 JULY | | |
| | 8:00 am-9:00 am | Breakfast and Icebreaker Activity at College Lodge |
| | 9:00 am-10:00 am | Guest Speaker: John Francis, Planetwalk at College Lodge |
| | 10:00 am-12:00 pm | Data Collection and XR Activity with John Anderson, University of Idaho, and John Francis, Planetwalk at College Lodge |
| | 12:00 pm-1:00 pm | Lunch at College Lodge |
| | 1:00 pm-2:15 pm | ArcGIS StoryMaps Introduction and Exploration |
| | 2:15 pm-2:30 pm | Break |
| | 2:30 pm-4:00 pm | Carbon Dioxide Solutions Activity with Julie Malmberg, UCAR Center for Science Education, at College Lodge |
| | 4:00 pm-5:30 pm | Choose Your Own Adventure! |
| | 5:30 pm-6:30 pm | Dinner |
| | 6:30 pm-8:30 pm | Game Night! |

| STUDENT EXPERIENCE LOCATIONS AND ADDRESSES | |
|--|--|
| <ul style="list-style-type: none"> • SUNY College Lodge, 8067 Rte 380, Brocton, New York 14717 • SUNY Williams Center, 280 Central Avenue, Fredonia, New York 14063 • Point Gratiot Park, NY-5 and Point Drive West, Dunkirk, New York 14048 • Niagara Power Vista Visitors Center, 5777 Lewiston Road, Lewiston, New York 14092 | |

| PLACE | TIME | ACTIVITY |
|---------------------------------|-------------------|--|
| WEDNESDAY 17 JULY | | |
| COLLEGE LODGE | 7:45 am-8:15 am | Breakfast at College Lodge |
| NIAGARA FALLS STATE PARK | 8:15 am | Transport to Niagara Falls State Park |
| | 10:00 am-11:00 am | Cave of the Winds Tour at Niagara Falls |
| | 11:00 am-11:20 am | Walk Across Bridge to Observation Tower |
| | 11:20 am-12:00 pm | Elevator to Base of Niagara Gorge |
| | 12:00 pm-1:00 pm | Picnic Lunch at Niagara Falls |
| | 1:00 pm-1:20 pm | Transport to Niagara Power Vista |
| | 1:30 pm-3:30 pm | Niagara Power Vista Exhibits and Tour |
| | 3:30 pm-4:00 pm | Niagara Power Vista Discussion / Reflection |
| COLLEGE LODGE | 4:00 pm-5:30 pm | Transport to College Lodge |
| | 6:00 pm-7:00 pm | Dinner |
| | 7:00 pm-9:00 pm | Movie Night! |
| THURSDAY 18 JULY | | |
| COLLEGE LODGE | 8:00 am-9:00 am | Breakfast at College Lodge |
| | 9:00 am-11:00 am | Finalize and Practice Presentations |
| SUNY FREDONIA | 11:00 am | Transport to SUNY Fredonia |
| | 11:30 am-12:30 pm | Keynote Speaker: Katie Spellman, University of Alaska at Fairbanks |
| | 12:30 pm-1:30 pm | Lunch and Response to Keynote Speaker |
| | 1:30 pm-2:15 pm | Student Experience Presentations at SUNY Williams Center |
| | 2:15 pm-2:45 pm | Break |
| | 2:45 pm-4:00 pm | Closing Session |
| COLLEGE LODGE | 4:00 pm-6:00 pm | Free Time |
| | 6:00 pm-9:00 pm | Closing Celebration and Banquet |
| | 9:00 pm | Transport to College Lodge |
| FRIDAY 19 JULY | | |
| SUNY FREDONIA | 5:30 am | Transport to SUNY Fredonia on Early Bus |
| COLLEGE LODGE | 8:00 am | Breakfast at College Lodge |
| SUNY FREDONIA | 9:00 am | Transport to SUNY Fredonia - Remaining Participants |

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