

2023: Connecting the Data Points: Enriching Today's Students to Become Tomorrow's Scientists

Saturday, January 7, 2023:

7:30–8:45 AM	STUDENT CONFERENCE REGISTRATION	Kiosks outside of Hall A
7:30–8:45 AM	COFFEE + NETWORKING	
8:45–10:00 AM	SESSION 1: Welcoming Remarks & Keynote Mile Hile Ballroom 2/3 & Zoom <i>Session Chairs:</i> <i>Holly Mallinson, University of Illinois at Urbana-Champaign, Urbana, IL</i> <i>Aaron Alexander, University of Wisconsin-Madison, Madison, WI</i> <i>Margaret Orr, Center for Climate Change Communication, George Mason Univ., Fairfax, VA</i>	
8:45–9:05 AM	Welcome from the Student Conference Planning Committee <i>Student Conference Co-Chairs</i>	
9:05–9:15 AM	Welcome from the AMS President <i>Rich Clark</i>	
9:15–9:25 AM	Welcome from the AMS Executive Director <i>Stella Kafka</i>	
9:25–9:40 AM	Establishing Foundations in Meteorology <i>Paul Sirvatka (Lorenz Winner)</i>	
9:40–10:00 AM	Crowdsourced Data- How it Works and CoCoRaHS's Successful Harnessing of it <i>Henry Reges (Keynote)</i>	
10:00–10:30 AM	COFFEE + NETWORKING	
10:30 AM–11:30 AM	SESSION 2: Mind, Body, Attitude Mile Hile Ballroom 2/3 & Zoom <i>Session Chair: Brandon Cohen, University of Oklahoma, Norman, OK</i> <i>Sometimes we get so caught up in trying to find the perfect job or get into the best graduate school that we forget to take care of our mental and physical health. This session will focus on just that; stretching your mind, taking care of your body, and maintaining a healthy attitude towards work and personal time.</i>	
10:30 - 10:45 AM	Setting Boundaries as a Key to Your Professional and Personal Success <i>Steve Nesbitt</i>	
10:45 - 11:00 AM	What's wrong with me? Why can't I just...: Mental Health and ADHD <i>Annareli Morales</i>	
11:00 - 11:15 AM	Finding Your Superpowers...Managing Physical and Mental Health <i>Jamese Sims</i>	
11:15 - 11:30 AM	Taking Care of Your Sensors: Obtaining and Retaining a Sense of Self When the Stakes Feel High <i>Elizabeth Smith</i>	

11:40–12:25 PM

SESSION 3: RQ Panels

Education

Mile High Ballroom 2/3 & Zoom

Session Chair: Haven Cashwell, Auburn University, Auburn, AL

Have you ever wondered how you can continue learning about and researching education in the atmospheric sciences? This session will show students a glimpse into what discipline based education research is within the realm of atmospheric science as well as current research that is being conducted in this field. Students will have the opportunity to ask panelists questions after hearing about various education research during lightning talks by panelists.

11:40 - 11:50 AM

Overview of topic - Developing and Inspiring the Next Generation of Scientists: An Overview of Research in Teaching and Learning in the Atmospheric Sciences

Casey Davenport

11:50 - 11:55 AM

Lightning Talk #1 - Geocognition and Geoscience Education Research

Karen McNeal- virtual speaker

11:55 - 12:00 PM

Lightning Talk #2 - Momentum in ASER: Join the Movement!

Wendi Flynn

12:00 - 12:05 PM

Lightning Talk #3 - Creating Educational Experiences About Our Planet, Its Weather, and Climate

Lisa Gardiner

12:05 - 12:25 PM

Q&A

Insurance and Risk Analysis

Room 501 & Zoom

Session Chair: Laura Shedd, University of Oklahoma, Norman, Oklahoma

The weather and climate impacts our day to day lives, but how might it impact corporations who rely on an understanding of the forecast in order to stay in business? How does weather and climate impact our built environment and what can be done to better mitigate the risk? In this session, students will learn about the connections between the insurance industry and weather, water and climate sciences along with how risk analysis comes into play with this. This will be done through an overview of the topic and three "lightning talks" from experts in this field as well as an open Q&A time for our panelists.

11:40 - 11:50 AM

Overview of topic - What you need to learn to do climate risk analysis that you may not get in your meteorology degree

Luke Madaus

11:50 - 11:55 AM

Lightning Talk #1 - Science, Engineering & Insurance: A Career at the Intersection of Weather and Our Built Environment

- Ian Giammanco*
- 11:55 - 12:00 PM Lightning Talk #2 - Catastrophe Modeling: Why Insurance Isn't Always Boring
Emily Sambuco
- 12:00 - 12:05 PM Lightning Talk #3 - Agricultural Risk Modeling and Crop Insurance: Where Weather and Climate Impacts are Extra "Croppy"
Ryann Ashley Wakefield- virtual speaker
- 12:05 - 12:25 PM Q&A

Renewable Energy

Room 605 & Zoom

Session Chair: Jacob Hale, Texas A&M University, College Station, Texas

Alternative sources of energy such as solar, hydropower, and wind generated electricity are key in sustainability plans for our climate. In this session, students learn about the connections between renewable energy and weather, water, and climate sciences with an overview of the topic and three "lightning talks" from experts in the field. In addition, there is ample time for Q&A and conversation with these professionals.

- 11:40 - 11:50 AM Overview of topic - Renewable Energy, Meteorology, and the Future Power Grid
Bri-Mathias Hodge
- 11:50 - 11:55 AM Lightning Talk #1 - Weather and climate consulting in renewable energy
Faith Groff
- 11:55 - 12:00 PM Lightning Talk #2 - Modeling wind flows across scales
Caroline Draxl
- 12:00 - 12:05 PM Lightning Talk #3 - Meteorology in the Expanding Market of Renewable Energy
Christi Eastham
- 12:05 - 12:25 PM Q&A

Artificial Intelligence/Machine Learning

Room 610/612 & Zoom

Session Chair: Keenan Eure, Pennsylvania State University, State College, PA

As computers get more advanced, so does our ability to use them for our needs. We will dive into some of the artificial intelligence and machine learning techniques used today to solve tomorrow's problems related to the weather and climate enterprise with a general overview and three 'lightning talks', complete with ample time for a discussion-based Q&A.

- 11:40 - 11:50 AM Overview of topic - Machine Learning for Climate Extremes
Maria Molina
- 11:50 - 11:55 AM Lightning Talk #1 - Explainable AI for Climate Science: why opening the

- black box feels like your birthday!
Libby Barnes
- 11:55 - 12:00 PM Lightning Talk #2 - Machine learning for climate: hybrid models and emulation
Andre Perkins
- 12:00 - 12:05 PM Lightning Talk #3 - My Experiences with AI/ML for Earth and Environmental Sciences in Academia and Industry
Grey Nearing
- 12:05 - 12:25 PM Q&A

Weather and Engineering

Room 601 & Zoom

Session Chair: Angelie Nieves Jiménez

In this session we will dive into the intersection between Weather and Engineering. The engineers in this session will give you an overview of this topic and what they encounter in their daily work with a general overview and three 'lightning talks' with a Q&A at the end.

- 11:40 - 11:50 AM Overview of topic - The engineering-meteorology connection, and the future of tornado resilient communities
Christine Alfano
- 11:50 - 11:55 AM Lightning Talk #1 - The Path to a Career as an Engineer and Meteorologist
Zach Wienhoff- virtual speaker
- 11:55 - 12:00 PM Lightning Talk #2 - AI for Long-Lead Forecasting
Ana Barros- virtual speaker
- 12:00 - 12:05 PM Lightning Talk #3 - Extreme Rainfall Studies for Critical Infrastructure
John England
- 12:05 - 12:25 PM Q&A

12:30–2:00 PM

LUNCH + NETWORKING

Mile High Ballroom 1

1:30–1:50 PM

INTRODUCTION TO CONVERSATIONS WITH PROFESSIONALS

Mile High Ballroom 1

Session Chairs (in-person): Melissa Piper (University at Albany), Karen Papazian (University of Miami, Rosenstiel School of Marine, Atmosphere and Earth Sciences)

1:30–1:50 PM

INTRODUCTION TO CONVERSATIONS WITH PROFESSIONALS (Virtual)

Zoom

Session Chair (online): Elena Fernandez (University at Albany)

2:00–3:45 PM

SESSION 4A: Conversations with Professionals (In-person)

Session Chairs (in-person): Melissa Piper (University at Albany), Karen Papazian (University of Miami, Rosenstiel School of Marine, Atmosphere and Earth Sciences)

Ever had a burning question to ask professionals within the atmospheric sciences? Here, we have a wide variety of professionals from diverse parts of the atmospheric science field ready to answer your questions! This session will give you the opportunity to ask our speakers about their education, career path, and more in a small-group conversation setting. Choose one room for each rotation and get to know professionals in sectors of our field that interest you!

Christine Alfano	Room 501
Luke Madaus	Room 501
Bernadette Woods-Placky	Room 605
Stella Kafka	Room 605
Tevin Wooten	Room 610/612
Kathy Sabine	Room 610/612
Jennifer Hastings	Room 601
Kelly Nunez-Ocasio	Room 601
Matt Lanza	Room 603
Eric Pytlak	Room 603
Ayesha Davis	Mile High Ballroom 2/3/4
Gretchen Mullendore	Mile High Ballroom 2/3/4
Heather Holbach	Mile High Ballroom 2/3/4

2:00 - 2:20 PM
 2:25 - 2:45 PM
 2:50 - 3:10 PM
 3:15 - 3:35 PM

Rotation 1
 Rotation 2
 Rotation 3
 Rotation 4

2:00–3:45 PM

SESSION 4B: Conversations with Professionals (Virtual)

Session Chairs (online): Elena Fernandez, University at Albany, Albany, NY

Ever had a burning question to ask professionals within the atmospheric sciences? Here, we have a wide variety of professionals from diverse parts of the atmospheric science field ready to answer your questions! This session will give you the opportunity to ask our speakers about their education, career path, and more in a small-group conversation setting. Choose one room for each rotation and get to know professionals in sectors of our field that interest you!

Alicia Bentley	Zoom 1
Zach Wienhoff	Zoom 2
Kaylee Nix	Zoom 3
Philippe Papin	Zoom 4
Wendi Flynn	Zoom 5

Rosimar Rios-Berrios	Zoom 6
Kenzie Krocak	Zoom 7
Lisa Bucci	Zoom 8

2:00 - 2:20 PM	Rotation 1
2:25 - 2:45 PM	Rotation 2
2:50 - 3:10 PM	Rotation 3
3:15 - 3:35 PM	Rotation 4

3:45–4:10 PM COFFEE BREAK + NETWORKING

4:10–5:00 PM SESSION 5: Stories of the Storms Mile High Ballroom 2/3/4 & Zoom
Session Chair: Eddie Wolff, University of Illinois Urbana-Champaign, Urbana, IL

Field work plays a vital role in atmospheric science, facilitating data collection that can result in new observations, ground-breaking discoveries, and new innovation throughout the entire field. Hear from leading researchers about recent and ongoing field campaigns and get a look at some of the new data they've gathered as well as what it takes to organize these projects.

4:10 - 4:20 PM	Karen's X-cellent Adventure <i>Karen Kosiba</i>
4:20 - 4:30 PM	Field Work Adventures in Academia: Graduate School and Beyond <i>Wendi Flynn</i>
4:30 - 4:40 PM	Building your field campaign toolkit: lessons and insights from the field <i>Steve Nesbitt</i>
4:40 - 4:50 PM	Navigating back-to-back field campaigns PRECIP and NASA CPEX-CV: the research, the challenges, and the connections that have contributed to my next career step <i>Kelly Núñez Ocasio</i>
4:50 - 5:00 PM	Q&A

5:00–5:30 PM BREAK

5:30–7:30 PM CAREER RESOURCE & GRADUATE SCHOOL FAIR Hall A

Sunday, January 8, 2023:

8:00–9:00 AM COFFEE + NETWORKING

9:00–10:00 AM SESSION 6: Datapalooza Mile High Ballroom 2/3/4 & Zoom
Session Chair: Matthew Hamel, Texas Tech University, Lubbock, Tx

Inspired by the up-and-coming movement for open-source science initiatives, we present Datapalooza. Students in this session will learn

effective ways to access and work with earth science data from leading scientists in the field. Additionally, students will be able to ask questions during a Q&A period with the speakers to ask specific questions.

9:00 - 9:20 AM

Building a Living Atlas: Federal Science Agencies Share to Succeed
Nicole Grams-Herzog

9:20 - 9:40 AM

NASA Open Science: supporting a more equitable, impactful, and efficient scientific future
Cynthia Hall & Yaitza Luna-Cruz

9:40 - 10:00 AM

Q&A

10:10–10:55 AM

SESSION 7A: Skills for the Field (in-person)

Session Chair (in-person): Dillon Blount, University of Wisconsin-Milwaukee, Milwaukee, WI

Professional skills are important to develop as you navigate your student career. These skills vary from research skills to academic skills. This session will be a chance for you to learn how to build and master these skills to help you get that dream job! This session will be broken into 3 rotating breakout sessions for a chance to meet different speakers.

What skills do I need to be a successful researcher in atmospheric science?

Manda Chasteen

Room 406

Title TBD

Rosimar Rios-Berrios

Room 407

Navigating a Winding Career Path: Skills to help you go with the flow

Matt Lanza

Room 603

Communicating with computers and with people: The value of programming for sharing your science

Kim Wood

Room 605

10:10–10:55 AM

SESSION 7B: Skills for the Field (virtual)

Session Chair (online): Megan Franke, Colorado State University

Professional skills are important to develop as you navigate your student career. These skills vary from research skills to academic skills. This session will be a chance for you to learn how to build and master these skills to help you get that dream job! This session will be broken into 3 rotating breakout sessions for a chance to meet different speakers.

Useful Skills for a Career in Climate Data Science

Maria Molina

Zoom 1

The Skills That Urged Me Onward In My Academic Journey

Eric Maloney

Zoom 2

Overlooked Skills That Can Set you Apart

Scott Landolt

Zoom 3

We're Not in Academia Anymore Toto: The Skills That Helped Me
Transition to the Private-Sector

Ali Cole

Zoom 4

10:10 - 10:22 AM

Rotation 1

10:25 - 10:37 AM

Rotation 2

10:40 - 10:52 AM

Rotation 3

10:10–10:55 AM

SESSION 7C: Jumping Out of Academia

Mile High Ballroom 2/3/4

Session Chair: Brandon Cohen, University of Oklahoma, Norman, OK

This session focuses on making the transition from academia into industry and the private sector, and how the skills and experiences you have picked up can be used to build a successful career. Topics will include resume crafting tips, options for private sector positions, and funding opportunities to help with the transition.

Industry Job Searches for Graduate Students

Andrew Zeidell

10:55–11:10 AM

COFFEE BREAK

11:10–11:55 AM

SESSION 8: BRAID: Cultivating Leadership for an Inclusive Workforce

Mile High Ballroom 2/3/4 & Zoom

Session Chair: Angelie Nieves Jiménez, Colorado State University, Fort Collins, CO

This session will focus on the importance of having a diverse, equitable, and inclusive community. Leaders from the AMS Board on Representation, Accessibility, Inclusion and Diversity (BRAID) and the AMS Committee for Hispanic and Latinx Advancement (CHALA) community will provide important tools for the workforce as well as insights of the different activities that support our membership.

11:10 - 11:23 AM

What is BRAID?

Ayesha Davis

11:23 - 11:35 AM

¡El pueblo unido jamás será vencido! The Origins of the AMS
Committee for Hispanic and Latinx Advancement

Joseph Trujillo-Falcon

11:35 - 11:47 AM

¡El pueblo unido jamás será vencido! The Origins of the AMS
Committee for Hispanic and Latinx Advancement

Karimar Ledesma-Maldonado

11:47 - 11:50 AM

Q&A

- 11:55 AM–12:00 PM** **Pause/Reset**
- 12:00–12:30 PM** **SESSION 9: Keynote Presentation & Closing Remarks** Mile High Ballroom
2/3/4 & Zoom
Session Chairs:
Holly Mallinson, University of Illinois at Urbana-Champaign, Urbana, IL
Aaron Alexander, University of Wisconsin-Madison, Madison, WI
Margaret Orr, Center for Climate Change Communication, George Mason Univ., Fairfax, VA
- 12:00 - 12:20 PM From Tornadoes to Turbines and Back Again: Lessons from an Unconventional Career Path
Catherine Finley (Keynote)
- 12:20 - 12:30 PM Concluding Remarks
Student Conference Co-Chairs
- 12:35–2:00 PM** **LUNCH (on your own)**
- 12:30-2:00 PM** **Minding the Gap: A Working and Mentoring Luncheon to Understand and Address the Education Gaps Facing Atmospheric Scientists** Mile High Ballroom 4EF
Co-sponsored with BECP- sign-up required, limited slots available
<https://www.signupgenius.com/go/10C0D48A8A62DA7F8C34-mind>
- 2:00–3:45 PM** **SESSION 10: Breakout Session: Hands-on Experiences**
Sign-up required, limited slots available
<https://www.signupgenius.com/go/10C0D48A8A62DA7F8C34-workshop>
- Integrated Warning Team (IWT)- Room 404**
Session Chair: Dillon Blount, University of Wisconsin-Milwaukee, Milwaukee, WI
- The Integrated Warning Team workshop will consider a fire weather event in the Denver, Colorado area. Students will have the opportunity to be part of a group that represents different areas that play a role in the event's information dissemination. The roles students could participate in are: emergency management, broadcast, National Weather Service, and private companies. The workshop will walk through pre-event, event, and post-event roles.*
- Greg Heavener
Bruno Rodriguez
Tom Bedard
Matthew Moreland
Hannah Kinnett
Shundra Stewart
Matt Meister
Seth McKinney
Raya Maday

Michael Souza
Bernie Rayno

Earth Prediction Innovation Center (EPIC) Workshop: Building the SRW using containers and on-bare metal systems Room 405 & Zoom
Session Chair: Victor Araya, St. Cloud State University, St. Cloud, MN

This workshop will focus on how to build the SRW application starting with a singularity container with the source code and spack-stack installed. If time permits, there will also be a discussion of how to build the spack-stack on a bare metal system.

Activity/Method	Content Description
Introductions	Introduce speakers and their backgrounds. Let students know how they can ask questions and to whom they should direct questions to. Introduce slack and how to use it.
Log In to cloud and go over basics of using singularity	Have students SSH into AWS using the PEM file Brief overview of how to build a singularity container. Create sandbox version of container. Explore what is in the container.
Build the SRW	Download a new copy of the SRW Make minor changes to either configuration or source code. Build the SRW on the host system using container modules
Describe how to set up a script to run containerized executables on the host system	Students will modify a script and learn how to run different executables inside the container Run a sample forecast with a model built in container
Re-run Sample forecast again	Re-run forecast with model built using container modules
Wrap-Up	Have students fill our survey and address remaining questions.

Michael Kavulich
Amanda Parson
Natalie Perlin

Jessica Wheeler

Elevator Speech Workshop- Room 406

Session Chair: Bobby Saba, University of Oklahoma, Norman, OK

Students in this session will hear from professionals all across the field and their tips and tricks to effective communication. You will learn the good and the not so good about selling yourself in those quick conversations with potential mentors, employers, or internship directors. Students will have the chance to give it a go themselves and get real-time critique from our panel. At the end of this session, there will be nothing to worry about when it comes to those awkward elevator conversations!

Charlie Woodrum
Matt Janiga
Gretchen Mullendore
Bernadette Woods-Placky
Rob Reale

Getting Reel- Room 407

Session Chair: Jennifer Cook, Louisiana Sea Grant, Baton Rouge, LA

In this session, participants will hear from broadcast meteorologist regarding the best techniques for creating an exceptional tape. Participants will have an opportunity to showcase their pre-recorded broadcast to the panel of professional broadcast meteorologists. The panelist will provide feedback and suggestions that will make the recordings stand out. All participants are welcome to attend and learn these unique set of skills.

Kathy Sabine
Adam Clayton
Rob Lydick
Tevin Wooten
Fernanda Ramos-Garces

NWS Forecasting Uncertainty- Room 605

Session Chair: Keenan Eure, Pennsylvania State University, State College, PA

As much as we think we know in a forecast, we can never be 100% certain. This workshop allows students to understand how the National Weather Service communicates confidence, uncertainty, and everything in between in their forecasts. This workshop will be collaborative and interactive in nature.

Eric Allen
Chad Gravelle
Katie Magee
Ryan Ellis

Python Workshop- Room 603

Session Chair: Matthew Hamel, Texas Tech University, Lubbock, Tx

Are you looking to make the transition to Python but unsure of where to start? Do you already know Python but want to see atmospheric science specific applications? Are you looking for data? If so, then please join us for a hands-on Python Users' Workshop where beginners and experts alike will learn skills that will enhance your ability to find, analyze, and explore data, all while doing so in the cloud. Specialized local software installations are not necessary. All you need is a laptop or tablet (a keyboard may be helpful) and a GitHub login to participate.

Drew Camron
Shay Carter
Julien Chastang
Nicole Carbin
Hassanpreet Kaur Dhaliwal
Bobby Espinoza
Rhoen Fiutak
Hailey A Johnson
Thomas Martin
Tiffany Meyer
Kevin Tyle

Resume/CV Review**Room 601**

Session Chairs:

*Holly Mallinson, University of Illinois at Urbana-Champaign, Urbana, IL
Aaron Alexander, University of Wisconsin-Madison, Madison, WI
Margaret Orr, Center for Climate Change Communication, George
Mason Univ., Fairfax, VA*

Have your resume or CV reviewed by professionals and get feedback to help you land your dream job.

Andrew Zeidell
Jake Carstens
Eric Pytlak

Speed Networking**Room 610/612**

Session Chairs:

*Holly Mallinson, University of Illinois at Urbana-Champaign, Urbana, IL
Aaron Alexander, University of Wisconsin-Madison, Madison, WI
Margaret Orr, Center for Climate Change Communication, George
Mason Univ., Fairfax, VA*

Get the chance to meet-up and talk with other attendees and professionals in this networking event!

Speed Networking (virtual)

Zoom

Session Chair: Laura Shedd, University of Oklahoma, Norman, OK

Get the chance to meet-up and talk with other attendees and professionals in this networking event!

4:00–6:30 PM

Presidential Forum & Awards Ceremony

Mile High Ballroom 2/3 & Zoom

6:30–8:30 PM

Poster Session

Hall A & Zoom

Session Chair: Holly Mallinson, University of Illinois at Urbana-Champaign, Urbana, IL