



2022 AMS Summer Community Meeting

July 26-28, 2022

University of Colorado-Boulder
Boulder, CO

The Current State and Future of Numerical Weather Prediction across the Weather, Water, and Climate Enterprise



Lewis Fry Richardson (1881 – 1953)

This year marks the 100th anniversary of the publication of Lewis Fry Richardson's book *Weather Prediction by Numerical Process*. In honor of this remarkable achievement, the AMS Summer Community Meeting (SCM) is excited to devote this year's meeting to an in-depth review of numerical weather prediction (NWP) across the weather community. This year's Summer Community Meeting will highlight many new, transformative initiatives in NWP now evolving across the Enterprise, while also soliciting community involvement to discuss some of our emerging challenges.

2022 AMS Summer Community Meeting

26-28 July 2022

Boulder, Colorado

ORGANIZERS:

The 2022 AMS Summer Community Meeting is organized by the AMS Board on Enterprise Communication, a part of the AMS Commission on the Weather and Climate Enterprise.

ACCOMMODATIONS:

Attendees are responsible for making their own hotel arrangements. Blocks of rooms have been reserved at two nearby hotels – the Hilton Garden Inn and Courtyard by Marriott Boulder. Thank you for booking rooms at these area hotels. In doing so, you're helping AMS maintain a strong pick-up history for future hotel contract negotiations, helping to keep registration rates as low as possible.

REGISTRATION:

All attendees must register to attend the conference. All in-person attendees must register by **21 July 2022**. No onsite Registration is available. Payment may be made with check, purchase order (hard copy required) or credit card (MasterCard/VISA/American Express). There will be no registration refunds after 07/16/22. Cancellations made before this date will be charged a \$25.00 processing fee.

LOCATION:

Sessions will take place at the **Village Center** at William's Village, University of Colorado, Boulder. University of Colorado, 500 30th Street, Boulder, CO 80309.

From hiking to shopping to stargazing there are so many fun things to do in Boulder. More on all the amazing things that Boulder has to offer can be found at <https://www.bouldercoloradousa.com/>

SHUTTLE AND PARKING INSTRUCTIONS:

Shuttle service will be provided from AMS-contracted hotels to and from the Village Center at William's Village as well as the icebreaker on Tuesday. Find the schedule at agenda end.

You can purchase a three-day parking permit via <https://cuboulder.pmreserve.com/>. Be sure to enter your license plate correctly for proper validation and park in lot 622. The permit does not need to be printed. Your license plate is your permit. Find the map at agenda end.

CONNECT

Follow conference updates on Twitter @ametsoc and share your posts using the hashtags #AMSSCM2022.

HEALTH AND SAFETY

Please review the AMS Commitment to Care statement on the meeting website. **In-person attendees must be fully vaccinated and it is required that you wear a mask while in the AMS meeting spaces.** All attendees have agreed agree to the AMS Meeting Health and Safety Policy and Waiver before completing their registration. Any attendee who is not able to adhere to the in-person guidelines set forth in that Policy and Waiver, or in the Commitment to Care Statement, should plan to participate in the robust virtual options we are offering during this fully hybrid meeting.

We advise everyone to take proper precautions when traveling to and from the conference. Please wear a mask while on an airplane or train and while in a rideshare vehicle. Wash your hands frequently and maintain distancing when possible.

YOUR HYBRID MEETING EXPERIENCE

Enjoy the Summer Community Meeting from the University of Colorado- Boulder Campus, the comfort of your own home, or on the go! All attendees (in-person and virtual) will have access to the same content and will be able to interact with each other - and with all presenters - at the same time. Please explore the presentation and participation options on the meeting's website to learn more about what an in-person and virtual experience will mean to you during this meeting.

Our Online Program will be the homebase for all content related to the Conference:
<https://ams.confex.com/ams/2022SCM/meetingapp.cgi>

You must log in with your registration Confirmation Number. Your number is error you will also find it at the top of your Registration Confirmation Email - see screenshot below.

Your registration for 2022 Summer Community Meeting at University of Colorado Boulder (CU) in 500 30th Street, Boulder, Colorado, 80309, USA is confirmed.

Your confirmation number is ExampleContactConfirmationNumber. Please save this email for future reference.

WIFI

Please follow these steps below for logging into the Wifi onsite:

- Select UCB Guest as your wireless network.
- Open a web browser and go to www.colorado.edu. You will be automatically redirected to a registration page.
- Review the Guest Wireless Policy.
- Click on the Agree button.
- You are now free to use UCB Guest Wireless for basic Internet activity for 24 hours.
- Re-registration is required every 24 hours.

MEALS AND NETWORKING EVENTS

Breakfast will be provided for all attendees each day of the conference 7-8:15am in the Dining Hall in the Village Center and Williams Village. Please pick up your dining card with your badge at the AMS Registration Desk.

Refreshments will be available at the morning and afternoon coffee breaks each day in the Pre-Function Space outside the Multipurpose Room, Village Center and Williams Village. Times for coffee breaks are below.

Tuesday 9:30- 10:00 AM Coffee Break- Sponsored by RCG Inc.

Tuesday 3:00-3:30 PM Coffee Break- Sponsored by Riverside Technologies Inc.

Wednesday 10:00- 10:30 AM Coffee Break- Sponsored by RCG Inc.

Wednesday 3:30- 4:00 PM Coffee Break- Sponsored by IBSS Corp.

Thursday 9:30- 10:00 AM Coffee Break- Sponsored by Millersville Department of Earth Sciences

Lunch will be provided for all attendees on Tuesday and Wednesday 12-1:30pm in the Dining Hall in the Village Center and Williams Village. Please pick up your dining card with your badge at the AMS Registration Desk.

IceBreaker Reception: The ice breaker reception will be held in-person on Tuesday 5:30-7:30pm at NCAR's Mesa Lab Tree Plaza, 1850 Table Mesa Dr, Boulder, CO 80305. Hors d'oeuvres and drinks, sponsored by NCAR, will be available.

SPECIAL NEEDS:

It is the Society's sincere desire to comply fully with both the letter and the spirit of the Americans with Disabilities Act (ADA) of 1990. Attendees with special needs at the conference should check with the AMS Meetings Department by email (accessibility@ametsoc.org) or phone (617) 226-3971, four–six weeks prior to the meeting to request special arrangements. Special housing needs should be requested when making hotel reservations.

Inclusivity at AMS

AMS is committed to creating an environment for meetings that “embraces diversity through the inclusion of individuals across age, gender, race, sex, nationality, ethnicity, physical ability, marital status, sexual orientation, body shape or size, gender identity and expression, socioeconomic status, and other facets of social diversity”

(see: <https://www.ametsoc.org/ams/index.cfm/about-ams/diversity-and-inclusion-at-ams/>).

Professional and Respectful Conduct at AMS Meetings

Need to report unprofessional or disrespectful conduct? Email conduct@ametsoc.org or call 617-226-3965.

- AMS is committed to safe and inclusive meetings for all attendees.
- Harassment, intimidation, or discrimination of any kind will not be tolerated at any meeting or event associated with the meeting.
- All communication should be appropriate for a professional audience including people of many different backgrounds. Be inclusive and respectful.
- The recording or transmissions of any education sessions, presentations, demos, videos, or content in any format is strictly prohibited.
- Participants should not copy or take screenshots of Q&A or any chat room activity that takes place in the virtual space.
- This statement is meant to cover all meeting-associated events, including those sponsored by organizations other than AMS but held in relation to AMS events. This includes the scientific program, short courses, and exhibitions, as well as receptions, town hall meetings, and other informal or formal gatherings associated with AMS. Similarly, participants shall adhere to this code of conduct in online spaces related to the meeting and meeting-associated events, including Facebook, Twitter, and other online venues.
- Those who violate the standards of professional and respectful conduct may be asked to leave the meeting immediately and without refund, may not be considered for service on AMS boards and committees, and may be subject to additional legal action.
- Harassment, intimidation, or discrimination includes offensive comments and actions related to age, gender and gender identity, sexual orientation, disability, physical appearance, body size, race, religion; sexual images in public spaces; deliberate intimidation, stalking, or following; harassing photography or recording; sustained disruption of talks or other events; inappropriate physical contact; and unwelcome sexual attention.
- If you are the subject of unacceptable behavior or have witnessed any such behavior, please immediately either:
 - Notify an AMS Staff Member (wearing a blue ribbon at an in person meeting)
 - Email conduct@ametsoc.org or call 617-226-3965
 - Email AMS Executive Director, Stella Kafka, skafka@ametsoc.org
- If you witness or experience behavior that constitutes an immediate and serious threat, please call 911.

Members of the response team:

- Stella Kafka, Executive Director (virtually attending this meeting)
- Stephanie Armstrong, Associate Executive Director (onsite at this meeting)
- Brian Papa, Associate Executive Director
- Jen Ives, Director of Meetings (onsite at this meeting)
- Jenn Rosen, Senior Meetings and Exhibits Manager
- Wendy Abshire, Education Program Director
- Katy Putsavage, Director of Diversity, Equity, and Inclusion (onsite at this meeting)

2022 AMS Summer Community Meeting

26-28 July 2022

Boulder, Colorado

A BIG **THANK YOU** TO OUR PROGRAM SPONSORS:

IBSS CORPORATION

MILLERSVILLE UNIVERSITY

NATIONAL CENTER FOR ATMOSPHERIC RESEARCH

RCG

RIVERSIDE TECHNOLOGY

UNIVERSITY CENTER FOR ATMOSPHERIC RESEARCH

TUESDAY, 26 JULY
(MOUNTAIN TIME ZONE)

8:15 A.M. – 8:30 A.M.

INTRODUCTIONS

Jerry Brotzge, BEC Chair

NYS Mesonet, University at Albany
Sue Ellen Haupt, AMS Commissioner,
Deputy Dir. RAL/NCAR

8:30 A.M. – 9:30 A.M.

STATE OF NWP ACROSS THE FEDERAL GOVERNMENT

Moderator(s): Brian Gross,
NOAA/NWS/NCEP/EMC

Panelist(s): Brian Gross,
NOAA/NWS/NCEP/EMC; Christi
Montgomery, US Navy/FNMOC;
Steve Pawson, NASA/GSFC/GMAO;
Anil Rao, USAF/A3W

9:30 A.M. – 10:00 A.M.

**COFFEE BREAK – Sponsored by
RCG Inc.**

10:00 A.M. – 11:00 A.M.

STATE OF NWP ACROSS THE PRIVATE SECTOR

Moderator(s): Don Berchoff,
TruWeather Solutions

Panelist(s): Chris Goode,
Climavision; Peter Neille, Weather
Company; Kevin Petty, Spire

11:00 A.M. – 12:00 P.M.
STATE OF NWP ACROSS THE
ACADEMIC SECTOR

Moderator(s): Xuguang Wang,
University of Oklahoma

Panelist(s): Dave Stensrud, Penn State
University; Istvan Szunyogh, Texas
A&M; Xuguang Wang, University of
Oklahoma

12:00 P.M. – 1:30 P.M.
LUNCH BREAK

1:30 P.M. – 2:00 P.M.
KEYNOTE SPEAKER
KEN GRAHAM

Speaker: Ken Graham, Director,
NWS

2:00 P.M. – 3:00 P.M.
UNIFIED FORECAST SYSTEM (UFS)
AND EARTH PREDICTION
INNOVATION CENTER (EPIC)

Moderator(s): Neil Jacobs, Chief
Advisor, UFS

Panelist(s): Maoyi Huang, EPIC
NOAA PM; Neil Jacobs, Chief
Advisor, UFS; Cliff Mass, University
of Washington; Ashley Stagnari,
Cornell University

3:00 P.M. – 3:30 P.M.
COFFEE BREAK – Sponsored by
Riverside Technologies Inc.

3:30 P.M. – 4:00 P.M.
KEYNOTE SPEAKER
STEVE VOLZ

Speaker: Steve Volz, NESDIS AA

4:00 P.M. – 5:00 P.M.
INNOVATIVE OBSERVATIONS FOR
NWP

Moderator(s): Jordan Gerth,
NOAA/NWS/Office of Observations

Panelist(s): Jennifer Haase, UCSD
Scripps; Todd Hutchinson, Windborne
Systems; Daryl Kleist,
NOAA/NWS/NCEP/EMC

5:30 P.M. – 8:00 P.M.
ICEBREAKER RECEPTION
NCAR MESA LAB TREE PLAZA –
Beverages sponsored by NCAR

WEDNESDAY, 27 JULY
(MOUNTAIN TIME ZONE)

8:15 A.M. – 9:30 A.M.
**EARTH SYSTEM MODELING AND
SUB-SEASONAL TO SEASONAL
(S2S) PREDICTION**

Moderator(s): DaNa Carlis, Deputy
Dir. GSL, NOAA

Panelist(s): Luke Madaus, Jupiter
Intelligence; Vijay Tallapragada,
NWS EMC; Kathy Pegion, GMU

9:30 A.M. – 10:00 A.M.
REANALYSIS/REFORECASTS

Speaker: Tom Hamill, IBM

10:00 A.M. – 10:30 A.M.
**COFFEE BREAK – Sponsored by
RCG Inc.**

10:30 A.M. – 11:00 A.M.
**HIGH-PERFORMANCE COMPUTING
RESOURCES**

Speaker: Frank Indiviglio, NOAA
Chief Technology Officer

11:00 A.M. – 12:00 P.M.
ENSEMBLE PREDICTION

Moderator(s): Curtis Alexander,
NOAA/OAR/GSL

Panelist(s): Craig Schwartz, NCAR;
Patrick Skinner, CIWRO,
NOAA/NSSL; Yuejian Zhu, NWS
EMC

12:00 P.M. – 1:30 P.M.
LUNCH BREAK

1:30 P.M. – 2:00 P.M.
**OVERVIEW OF THE *PRIORITIES FOR
WEATHER RESEARCH REPORT***

Speaker(s): Frederick Carr,
University of Oklahoma; Brad
Colman, Bayer/Climate, LLC; Scott
Glenn, Rutgers University

2:00 P.M. – 3:30 P.M.
**ROLE OF AI/ML AND HUMANS IN
THE FORECAST LOOP**

Moderator(s): Castle Williams,
NOAA; Amy McGovern, University
of Oklahoma

Panelist(s): Julie Demuth, NCAR;
David Gagne, NCAR; David Harrison,
CIWRO; Emilie Roth, Roth Cognitive
Engineering; John Williams, IBM

3:30 P.M. – 4:00 P.M.
**COFFEE BREAK – Sponsored by
IBSS Corp.**

4:00 P.M. – 4:30 P.M.
INVITED SPEAKER

Speaker: Denice Ross, U.S. Chief
Data Scientist, OSTP

Moderator(s): Shawn Miller,
Raytheon Intelligence and Space

4:30 P.M. – 5:45 P.M.
FORECAST DISSEMINATION:
DEMOCRATIZING ACCESS

Panelist(s): Marie Colton, IBSS;
Mohan Ramamurthy, UCAR; Greg
Pratt, NOAA/GSL

THURSDAY, 28 JULY
(MOUNTAIN TIME ZONE)

8:00 A.M. – 9:30 A.M.
NWP FOR DECISION-MAKING: THE
BOULDER WILDFIRES

Moderator(s): Gary Szatkowski,
OurWeather US, LLC; and Dr. Rachel
Carr, Nurture Nature Center

Panelist(s): Mike Chard, Boulder
County EM; Jennifer Mahoney,
Director GSL; Paul Schlatter, NWS
Boulder

9:30 A.M. – 10:00 A.M.
COFFEE BREAK – Sponsored by
Millersville University Department
of Earth Sciences

10:00 A.M. – 11:00 A.M.
FREQUENCY ALLOCATION UPDATE
Sharing 24 GHz - Impacts on NWP?

Moderator(s): Renee LeDuc,
Narayan Strategy; Jordan Gerth,
NOAA/NWS/Office of Observations

Panelist(s): Neil Jacobs, NCAR;
David Lubar, Aerospace Corporation;
Scott Palo, SpectrumX, Univ. of
Colorado-Boulder; Vijay
Tallapragada, NWS EMC

11:00 A.M. – 12:15 P.M.
WHERE TO NEXT? CROSS-SECTOR
COORDINATION OPPORTUNITIES

Moderator(s): Frederick Carr,
University of Oklahoma

Panelist(s): Frederick Carr,
University of Oklahoma; Richard
Clark, AMS President, Millersville
University; Brad Colman, AMS
President-Elect, Bayer/Climate, LLC;
Louisa Nance, DTC, NCAR; Maoyi
Huang, WPO/OAR, NOAA

AMS Summer Community Meeting (SCM) Conference Series

Note: The Commission on the Weather and Climate Enterprise was approved/formed at the AMS Council Meeting on 9 January 2005. There were no Summer Community Meetings prior to that date, but Corporate Forums (later to be named the Public-Private Partnership Forum, then the Washington Forum) were initiated in 2000 and Users Forums were initiated in 2003.

<u>Date</u>	<u>Location</u>	<u>Conference Title/Theme</u>
2005	Boulder, CO	“Boulder Workshop” – AMS Annual Community Meeting
2006	Boulder, CO	AMS Annual Community Meeting
2007	An SCM was not held in 2007 in lieu of a concerted effort to generate an AMS Statement on Community Priorities	
11 – 13 August 2008	Boulder, CO	2008 AMS Summer Community Meeting: The Intersection of Weather and Climate
10 – 13 August 2009	Norman, OK	2009 AMS Summer Community Meeting: The Weather & Climate Enterprise Response to the NRC Report “Observing Weather from the Ground Up – A National Network of Networks” & Meeting the Needs of the Renewable Energy Industry
9 – 12 August 2010	State College, PA	2010 AMS Summer Community Meeting
8 – 11 August 2011	Boulder, CO	2011 AMS Summer Community Meeting Building a Stronger Weather and Climate Enterprise – Keeping the Economy Moving
13 – 16 August 2012	Norman, OK	2012 AMS Summer Community Meeting: Weather Ready Nation: Communication and Partnerships to Meet the Challenges of Severe Weather

12 - 16 August 2013	Boulder, CO	2013 AMS Summer Community Meeting
11 - 13 August 2014	State College, PA	2014 AMS Summer Community Meeting: Improving Forecasts and the Communication of Forecasts
04 – 06 August 2015	Raleigh, NC	2015 AMS Summer Community Meeting: For the greater Good: Strengthening Collaboration, Consistency, and Trust to Support Informed Decision Making
19 - 21 July 2016	Tuscaloosa, AL	2016 AMS Summer Community Meeting: Water is Life: Societal Challenges & Enterprise Opportunities
02 - 03 August 2017	Madison, WI	2017 AMS Summer Community Meeting: Maximizing the Value Chain Across the Weather, Water, & Climate Enterprise
07 - 09 August 2018	Boulder, CO	2018 AMS Summer Community Meeting. One day was organized by the NAS BASC.
13 – 14 August 2019	Albany, NY	2019 AMS Summer Community Meeting
2020		No meeting was held due to COVID.
21 – 23 September 2021	Virtual meeting.	2021 AMS Summer Community Meeting: Building Forward Together: New Opportunities in Academic, Private, Public Collaboration
26 – 28 July 2022	Boulder, CO	2022 AMS Summer Community Meeting: The Current State and Future of Numerical Weather Prediction across the Weather, Water, and Climate Enterprise

2022 SUMMER COMMUNITY MEETING SPONSORS



AMS BUS SCHEDULE

Tuesday
June 26, 2022

AM Bus Loop

Departure Time <i>(Be outside ready for bus 5 mins prior)</i>	Pick up Location to Drop off Location
6:45 AM	Hilton Gardens to Williams Village
6:45 AM	Marriott Courtyard to Williams Village
7:15 AM	Hilton Gardens to Williams Village
7:15 AM	Marriott Courtyard to Williams Village

PM Bus Loop

Departure Time <i>(Be outside ready for bus 5 mins prior)</i>	Pick up Location to Drop off Location
5:00 PM	Williams Village to NCAR
7:30 PM	NCAR to Williams and Hotels

Wednesday
June 27, 2022

AM Bus Loop

Departure Time <i>(Be outside ready for bus 5 mins prior)</i>	Pick up Location to Drop off Location
6:45 AM	Hilton Gardens to Williams Village
6:45 AM	Marriott Courtyard to Williams Village
7:15 AM	Hilton Gardens to Williams Village
7:15 AM	Marriott Courtyard to Williams Village

PM Bus Loop

Departure Time <i>(Be outside ready for bus 5 mins prior)</i>	Pick up Location to Drop off Location
5:30 PM	Williams Village to Hotels
5:45 PM	Williams Village to Hotels

AMS BUS SCHEDULE

Thursday

June 28, 2022

AM Bus Loop

Departure Time <i>(Be outside ready for bus 5 mins prior)</i>	Pick up Location to Drop off Location
6:45 AM	Hilton Gardens to Williams Village
6:45 AM	Marriott Courtyard to Williams Village
7:15 AM	Hilton Gardens to Williams Village
7:15 AM	Marriott Courtyard to Williams Village

PM Bus Loop

Departure Time <i>(Be outside ready for bus 5 mins prior)</i>	Pick up Location to Drop off Location
12:15 PM	Williams Village to Hotels
12:30 PM	Williams Village to Hotels



Williams Village Center

