

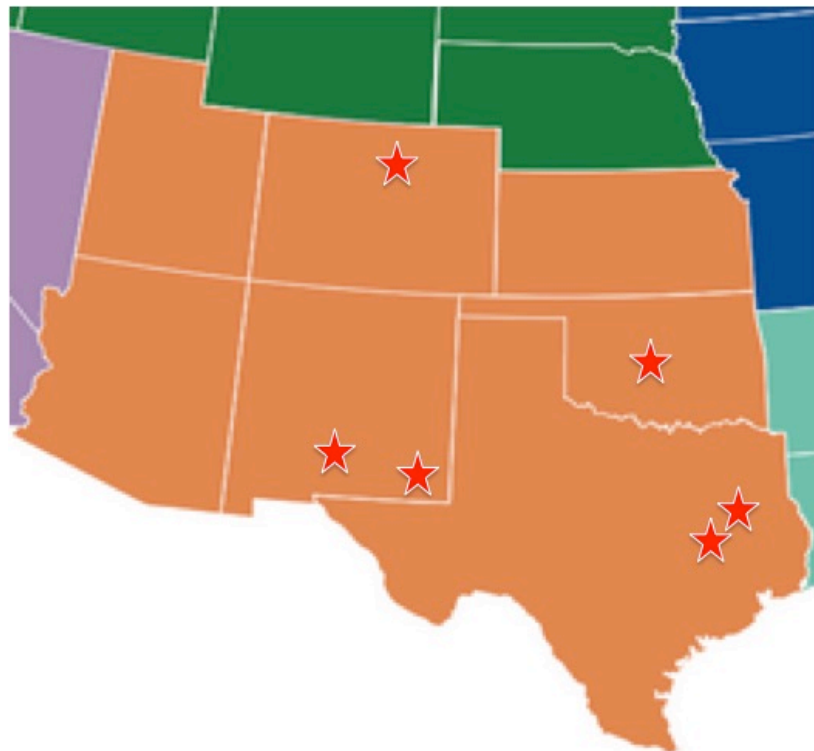


THE GLOBE PROGRAM

A Worldwide Science and Education Program

SOUTHWEST REGIONAL SCIENCE SYMPOSIUM

UNIVERSITY OF COLORADO AND
NATIONAL CENTER FOR ATMOSPHERIC RESEARCH
MAY 4-5, 2018



Welcome to the 2018 Southwest Regional Science Research Symposium. We are privileged to welcome you to the 3rd Annual Southwest Regional Science Research Symposium, held this year in Boulder, Colorado. The six regional symposia include students spanning from Puerto Rico to Alaska, representing more than half the states in the country. Our region is pleased to welcome students from New Mexico and Oklahoma, along with previously represented states of Colorado and Texas.

Students, teachers, and chaperones will be staying at the Millennium Harvest Hotel, located on the Boulder Creek at the edge of the campus of the University of Colorado-Boulder. We are very happy to welcome the 32 students and their teachers. And I would be remiss not to thank and applaud the great parents who support these young scientists.

Richard Wagner, Professor of Meteorology and GLOBE Partner
Center for Advanced STEM Education, Metropolitan State University of Denver

Hosts



CIRES Education Outreach is the engagement services support arm of the Cooperative Institute for Research in Environmental Sciences (CIRES) based at the University of Colorado Boulder. Their mission is to help people connect with CIRES to increase the use and understanding of science for a sustainable future. They help CIRES make contributions to education, training, learning resources, evaluation and community building.

NCAR/UCAR's mission for Education and Outreach is to provide transformative STEM educational experiences to all learners. Their programs support the advancement of careers in the atmospheric and related sciences, and complement university and K-12 teaching.

Students, teachers, and chaperones will be staying at the Millennium Harvest House, located on the Boulder Creek at the edge of the campus of the University of Colorado-Boulder. The hotel is providing a group dining area for Saturday breakfast as part of the symposium, but individuals or groups can also dine there on Sunday at cost. Enjoy the outdoor pavilion and beautiful grounds.

Sponsors

GLOBE Program

Introducing young scientists to the joys of scientific observations since 1994.

NASA

Primary Sponsor for GLOBE, with assistance from NSF and NOAA.

MSU Denver Center for Advanced STEM Education (CASE)

Supports STEM Education from K-12 through university and integrates GLOBE into its MULTI STEM Summer institute and Saturday workshops for science teachers.

Thanks for Sharing Facilities



Mobile Earth and Space Observatory (MESO)

Introducing GLOBE to students across Colorado through a grant from the U.S. EPA



Stories from the Collection

The CU-Boulder Museum has the largest natural history collection in the Rocky Mountain region with nearly five million objects. Learn the stories behind some of the highlights of the collection in this hands-on, interactive exploration of the Museum.

Schedule of Events

Friday May 4th, 2018 Hosted by University Corporation for Atmospheric Research (UCAR)

Time	Activity	Location
12:00 – 3:00 pm	Participants arrive in Boulder	Millennium Harvest House Hotel
3:00 3:30 4:00	Vans to National Center for Atmospheric Research, groups with own transport go when they wish	Hotel to NCAR Mesa Lab
3:15 – 4:30	Check in at Mesa Lab Explore Exhibits Mobile Earth and Space Observatory	NCAR Mesa Lab Mesa Lab Mesa Lab Parking Lot
4:30	Welcome and Expectations Welcome to NCAR John Ristvey, UCAR Center for Science Education Video Remarks Tony Murphy, GLOBE Director Expectations and Tips for Peer Review, Introductions Richard Wagner, MSU Denver, Symposium Lead Organizer	NCAR Mesa Lab Main Seminar Room
5:00	Leslie Hartten, University of Colorado, NOAA	Main Seminar Room
5:15-5:30	Split into two groups and gather at designated locations	

5:30	Group 1 (8 th and 9 th grade students and their teachers) Weather Trail and IR Thermometers Group 2 (10 th and 11 th grade students and their teachers) Dropsondes and Wind Tunnel	Weather Trail Chapman Room
6:15	Group 1 (8 th and 9 th grade students and their teachers) Dropsondes and Wind Tunnel – Chapman Room Group 2 (10 th and 11 th grade students and their teachers) Weather Trail and IR Thermometers	Chapman Room Weather Trail
7:00	Dinner	NCAR Mesa Lab Cafeteria
7:30-9:30	Explore NCAR Exhibits	NCAR Mesa Lab
7:30-8:00 8:00-8:30 8:30-9:00	Mobile Earth and Space Observatory (attend one of three sessions)	Mesa Lab Parking Lot
8:30 to 9:30	Return to Hotel	Millennium Harvest House Hotel

Saturday May 5th, 2018 Hosted by University of Colorado CIRES Education and Outreach

Time	Activity	Location
7:00 am	Breakfast	Millennium Harvest House Hotel
8:30	Walk to Poster Set-up Rooms	1.2 miles along Boulder Creek and University of Colorado Main Campus
9:00	Welcome from Anne Gold, Director of CIRES Education and Outreach Introductions, and Logistics	University Memorial Center Aspen Rooms 285, 287, 289 University of Colorado Main Campus
9:15	Set up Posters and Practice	
9:45	Student Peer Evaluation	
10:30-12:00	Science Symposium Presentations to Reviewers	
9:45-11:45	Professional Development for Teachers	CIRES Fellows Room
10:30-11:30	GLOBE Partner Roundtable	CIRES Reading Room
12:00 pm	Lunch	Aspen Rooms 285, 287, 289 or adjacent outside terrace
12:45-1:45	Reviewer Deliberations	Aspen Rooms 285, 287, 289
12:45-1:45	Interactive Science Activities (students and teachers)	University of Colorado Museum of Natural History
1:45-2:30	Awards Ceremony	Aspen Rooms 285, 287, 289
2:30	Adjourn, those staying another night return to hotel	Millennium Harvest House Hotel

POSTER SESSION (on display 10:00am to 2:00pm on Saturday)

Grade 5-8 Research Posters

1. Biodegradable “Plastic” and How it Affects Water Quality

Simone Kirkevold, Kayla Barton, Lilah Ruiz, Bruno Gallegos Sanchez
Westview Middle School – CO

Grade 9-12 Research Posters

2. How Climate Change affects our tribal water

Kaelene Chino, Derald Begay
Mescalero Apache School - NM

3. The Effects of the Dam on Water Quality of The Palestine City Lakes

Thomas Willingham, Cobe Birdwell
UT Tyler Palestine - TX

4. Analyzing Land Cover Type and Surface Temperature in McKittrick Canyon at Guadalupe Mountains National Park in Comparison to Chihuahuan Desert Landscape

Aaron Gonzales, Gavin Barnett, Skyler Hill
Carlsbad Early College High School - NM

5. An Investigation of Macroinvertebrates to Compare the Water Quality of Upper and Lower City Lakes

Rebecca Rutledge, Natalie Cobble, Travis Lestig
UT Tyler Palestine - TX

6. Can the type of soil influence weather patterns in a region?

Issac Johnson, Elena Hollopeter, JayLynn Cross, Jessica Bacolod, Paulina Sierra
Dove Science Academy - OK

7. Hydrosphere Investigation of the Upper/Lower Pecos River and McKittrick Canyon at Guadalupe Mountains National Park

Eliza Bierle, Zenas Granger
Carlsbad Early College High School - NM

8. Monitoring Nitrate Levels in Palestine City Lakes

Grace Kiser, Amira Riley
UT Tyler Palestine – TX

9. Investigation of New Mexican Soil: Characterization and Classification of Chihuahuan Desert and McKittrick Canyon at Guadalupe Mountains National Park

Aidan Brunnemann, Estevan Soto, Stephen Hollis, Ethan Nikkel
Carlsbad Early College High School – NM

10. Fish + Food = Science of Aquaphonic

Shylo Klinekole, Cora Breuninger
Mescalero Apache School – NM

11. The Effects of Time on Water Sources

Baker Wynne, Kennie Adams, David Huntsberger
UT Tyler - TX

THANK YOU FOR THE ASSISTANCE FROM:

Teachers

Jayne Margolin-Sneider	Westview Middle School
Monica Martinez	Westview Middle School
Ben Moran	UT-Tyler Palestine Campus
Emily Wood	UT-Tyler Tyler Campus
Catalina Vizuet	Dove Science Academy
Hannah VanScotter	Carlsbad Early College High School
Nate Raynor	Mescalero Apache School

GLOBE Partners & GLOBE Personnel

Rich Wagner	MSU Denver
Michael Odell	University of Texas - Tyler
Teresa Kennedy	University of Texas - Tyler
Jennifer Taylor	University of Colorado – CIRES
Kiley Remiszewski	University of New Hampshire (UNH)
Jennifer Bourgeault	UNH
Jorge Arias	GLOBE Implementation Office
John Ristvey	UCAR Education and Outreach
Deanna TeBockhorst	UCAR Education and Outreach
Jamila Rockette	GLOBE Implementation Office
Christy Wall	New Mexico Wildlife Center

Reviewers

Diann Cullen	Boulder Labs Library
Wyatt Merrill	NOAA
Janelle Johnson	MSU Denver
Cassie Hayter	MSU Denver
RoseAnn Vik	MSU Denver
Clara Draper	NOAA, ESRL, PSU/ CU-Boulder, CIRES
Leslie Hartten	CU-Boulder, NOAA/ESRL

Videographer

Keah Schuenemann	MSU Denver
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Conference Staff

Rich Wagner	MSU Denver
RoseAnn Vik	MSU Denver
John Ristvey	UCAR Education and Outreach
Deanna TeBockhorst	UCAR Education and Outreach
Jamila Rockette	GLOBE Implementation Office
Jennifer Taylor	University of Colorado – CIRES
Amanda Morton	University of Colorado – CIRES