



## 2013 AGENDA AT A GLANCE

Tuesday, August 6

Field Experience:
Rocky Mountain National Park

Networking Social: 6:00-7:00

Opening Night Dinner & Keynote: 7:00-9:00

Wednesday, August 7

■ Welcome: 8:30-9:00

Session 1: 9:00-10:15

Session 2: 10:30-11:30

Lunch: 11:45-12:45

Session 3: 1:00-2:00

Session 4: 2:15-3:15

Session 5: 3:30-4:30

■ Vendors: 8:00-5:00

Dinner on your own





## 2013 AGENDA AT A GLANCE

**Thursday, August 8** 

Session 6: 9:00-10:00

Session 7: 10:15-11:15

Session 8: 11:30-12:30

Lunch: 12:30-1:30

Session 9: 1:30-2:30

Session 10: 2:45-3:45

Session 11: 4:00-5:00

■ Vendors: 8:00-5:00

Dinner on your own

Silent Auction Ends 5:00

Friday, August 9

Session 12: 9:00-10:00

Session 13: 10:15-11:15

Session 14: 11:30-12:30

Lunch: 12:30-1:30

Session 15: 1:30-2:30

Session 16: 2:45-3:45

Session 17: 4:00-5:00

■ Vendors: 8:00-5:00

**■** Conference Ends: 5:00





## **Strand Descriptions**

ActionEducation™: **Applying Water Education** 

What are the most successful methods for addressing the most important water challenges of the day with water education and action education? This strand includes a wide array of topics and strategies such as:

Watersheds, Pharmaceuticals and personal care products in water, Risk (drought and floods), Weather and climate change, Ground water, Water and energy, Storm water and Water conservation. Presentations for this strand MUST include a component where the participants are engaged in applying skills learned from water education activities to real-life situations.

STEM & STEAM in Water Education

This strand will focus on increasing student success in science, technology, engineering, and mathematics with the arts and increase educators' capacity to include STEM/STEAM subjects in their curricula. Of particular interest are proposals that address integration of water-related topics and the implementation of STEM/STEAM education in a manner that reflects the interdependence of the five subjects, as well as proposals that focus on partnerships involving school districts, community colleges, four-year institutions, and business and industry to provide a comprehensive community-based approach to STEM/STEAM and

Water Education Beyond the Classroom

water education.

This strand provides the opportunity to examine successful water education programs in non-formal educational settings such as nature centers, museums, after-school programs, scouts, camps, etc.

Water Education in the Classroom

The Water Education in the Classroom Strand provides the opportunity to examine the best practices for integrating water-related environmental education into the PreK-16 educational system at the local, state and federal levels and improving environmental literacy across the nation.

**Other Water Topics** 

This strand is for those presentations that don't fit into the strands above. Requirements for this strand are that presentations be about water-related topics that currently or will affect students, teachers, schools and communities across the United States and around the world.





## Wednesday, August 7

■ Salon A ■ Salon BC

Welcome: 8:30-9:00

Plenary Session 1, 9:00-10:15 Panel Discussion: Reaching Millions: Foundations of Water Education Nicole Ritter, Nicole Seltzer, Brian Brown, Laurina Lyle (Moderator)

Session 2: 10:30-11:30

Amber Smith

Water Education Beyond the Classroom

Drops and Watts: The Water-Energy Connection

Session 2: 10:30-11:30

Kathryn Parker

Project WET Expansion: Adapting Project WET to fit Your Local

Issues

Lunch Plenary Session, 11:45-12:45: The Flipped Classroom: Teacher Created Online Videos - Not Just For Lecture Jerry Overmyer and April Gudenrath

Session 3: 1:00-2:00

**Other Water Topics** 

Kara Lamb

Getting to Know the Colorado-Big Thompson Project

Session 4: 2:15-3:15

Paula Pearce

Water Education in the Classroom

Saving Walter: Heightening Water Conservation & Environmental Literacy for the Next Generation.

Session 5: 3:30-4:30

Lori Diefenbacher

Water Education in the Classroom

Teacher Preparation: the Headwaters of Water Education

Session 3: 1:00-2:00

Julia Gallucci

Water Education

STEM & STEAM in

ActionEducation™:

Applying Water Education

Successful STEM/STEAM Water Education for K-12

Session 4: 2:15-3:15

Amber Smith

Water Education
Beyond the Classroom

Building Collaborative Partnerships with Local School Districts: Engaging Field Trips Emphasizing Hands-On, Real World Learning Hands-On, Real World Learning

Session 5: 3:30-4:30

Darryl Ramos-Young

Water Education
Beyond the Classroom

Ocean-Water Desalination 101: History, Technology and Environmental Issues to Empower the Water Educator

# WATER EDUCATION DEVELOPING 21ST CENTURY SOLUTIONS

## **Thursday, August 8**



■ Salon A ■ Salon BC

Plenary Session 6, 9:00-10:00: Panel Discussion: What to do with the Poo: A Storm Water/Water Quality Action Campaign Laurina Lyle, Molly Ward, Josef Kaul, Donny Roush, Theresa Schrum (Moderator)

Session 7: 10:15-11:15

**Donny Roush** 

ActionEducation™: Applying Water Education

KIC-NET (Keep It Clean Neighborhood Environmental Trios): Triangulating Next Generation Science Standards, Clean Water Act Education & Outreach, and Stewardship of Urban Waters

Session 8: 11:15-12:30

Joy Fields

Water Education Beyond the Classroom

Stormwater SMART - Classrooms to Creeks

Session 7: 10:15-11:15

**Thaddeus Taylor** 

Water Education
Beyond the Classroom

CLAW: Transforming conservation-minded teens into

conservation leaders

Session 8: 11:30-12:30

Janeil Rey

Water Education

Beyond the Classroom

Fish On! Reconnecting Youth to their Waterways through the

Tradition of Fly-fishing

Lunch Plenary Session, 12:30-1:30: Patricia Limerick, Author "A Ditch in Time"

Session 9: 1:30-2:30

Sarah Johnson

Water Education in the Classroom

Making Watershed Mapping Manageable, Meaningful and Memorable

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Session 10: 2:45-3:45

Page Hutchinson

Water Education in the Classroom

Developing and Implementing a Meaningful Watershed Educational Experience

Session 11: 4:00-5:00

James Brey

Water Education in the Classroom

Water in the Earth System: A K-12 Teacher Training Project of the American Meteorological Society

Session 9: 1:30-2:30

Janeil Rey

Water Education in the Classroom

Got Water? The Local Water System as a Learning Environment

Session 10: 2:45-3:45

Kristin Libberton & Steve Noud

Water Education in the Classroom

High Impact Public/Private Partnerships for 5th grade Water Education

Session 11: 4:00-5:00

Josef Kaul

Water Education
Beyond the Classroom

Working Together: A Watershed Approach to Education





## Friday, August 9

■ Salon A ■ Salon BC

Plenary Session 12, 9:00-10:00: David Haskell, Author "The Forest Unseen"

Session 13: 10:15-11:15

Janine Labak

Water Education in the Classroom

Expanding on Children's Natural Love for Water: Early Childhood Water Activities

Session 14: 11:30-12:30

Hussein A. Amery

Water education for Water Security

STEM & STEAM in Water Education

Session 13: 10:15-11:15

Drs. Lyndall Muschell & Holley Roberts

Water Education

STEM & STEAM in

Wanted - Confident and Knowledgeable Teachers of Science: Using Project WET to Support Pre-service Teachers

Session 14: 11:30-12:30

**Dotty Woodson** 

Water Education
Beyond the Classroom

Water Education in

the Classroom

Water Education in

the Classroom

Collecting Rainwater to Teach Water Quality and Conservation Science. Math and Practice

Networking Lunch 12:30-1:30:

Session 15: 1:30-2:30

Michelle Holmstedt

Water Education
Beyond the Classroom

Headwaters to Ocean: The Sonoma County Water Agency Hosts a Series of Investigative, Hands-on Field Trips in the Russian River Watershed

Session 16: 2:45-3:45

Kimberley M. Knox

Training Future Water Leaders Today

Water Education
Beyond the Classroom

Session 17: 4:00-5:00

Amber Dunlap

Water Education in the Classroom

Global Sustainability: The Best Water Stories Told Through

Multimedia

Session 15: 1:30-2:30

Doug Campbell

Engaging Communities with Water Education

Session 16: 2:45-3:45

Kory Hebner

Splish Splash! Water Education in Your Classroom

Session 17: 4:00-5:00

Noah Newman

Water Education in the Classroom

Citizen-Science in the Classroom: Learn how to measure and report precipitation to help the National Weather Service



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## **Workshop Descriptions**

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Title: Reaching Millions: Foundations of Water Education

Presenters: Nicole Ritter, Nicole Seltzer, Brian Brown, Laurina Lyle (Moderator)

Session: 1-P

Date: Wednesday, August 7

Time: 9:00-10:15

Description: This is an open discussion with Q&A

Title: Project WET Expansion: Adapting Project WET to fit Your Local Issues

Presenter: Kathryn Parker, Public Information/Education Officer, Central Colorado Water Conservancy District

Session: 2-A

Date: Wednesday, August 8

Time: 10:30-11:30

Description: Project WET activities are great for the big picture. However, each of us faces unique issues and concerns specific to our

geographic areas. I will discuss how the Central Colorado Water Conservancy District has created a new activity involving groundwater recharge, adapted from existing WET activities. I will explain our need for the activity, how we developed and

perfected it, and the process of formalizing it and submitting it to Project WET USA for their consideration into new curriculum. The group will then get a chance to participate in this recharge activity. If time allows, I can further go into how

Central has created a 4 day teacher workshop that uses Project WET activities, but goes above and beyond that to focus on

our local interests.

Title: Drops and Watts: The Water-Energy Connection

Presenter: Amber Smith, Environmental Educator, LOTT Clean Water Alliance - WET Science Center,

Olympia, WA

Session: 2-B

Date: Wednesday, August 8

Time: 10:30-11:30

Description: Hear about a creative partnership with a local school district to design a new middle school field trip. Drops and Watts: The

Water-Energy Connection incorporates an interactive multi-media Prezi, journal, scavenger hunt, and green building tour. This

experience connects to a number of topics currently being studied and prepares students for their dream green home

challenge.





Title: Successful STEM/STEAM Water Education for K-12

Presenter: Julia Gallucci, Water Education Coordinator, Colorado Springs Utilities, CO

Session: 3-A

Date: Wednesday, August 7

Time: 1:00-2:00

Description: Carefully tying water education to state standards helps assure program desirability and going the extra distance to offer a

cross-discipline of knowledge while integrating interactive activities assures resounding success. In this session, you'll receive a careful overview of the K-12 water education presentations offered in Colorado Springs schools and see, firsthand, how and

why they are so successful.

Title: The Flipped Classroom: Teacher Created Online Videos - Not Just For Lecture

Presenters: Jerry Overmyer and April Gudenrath

Session: Lunch Plenary Session
Date: Wednesday, August 7

Time: 11:45-12:45

Description: This presentation will show how the use of teacher created video can be extended to all fields as a more efficient way of

communicating. Jerry will attempt the world-record for shortest time to record and post an online video.

Title: Getting to Know the Colorado-Big Thompson Project

Presenter: Kara Lamb, Public Information Officer, Bureau of Reclamation, Loveland, CO

Session: 3-B

Date: Wednesday, August 7

Time: 1:00-2:00

Description: The Colorado Big-Thompson Project (C-BT) is a trans-mountain, trans-basin water storage, conveyance, and distribution

project that also generates hydro-electric power and enhances recreation, fish and wildlife. It is an excellent example of multiple water benefits. Water education about the C-BT is one way water managers in Northeastern Colorado make water

information tangible and applicable to their customers.

Title: Building Collaborative Partnerships with Local School Districts: Engaging Field Trips Emphasizing

Hands-On, Real World Learning

Presenter: Amber Smith, Environmental Educator, LOTT Clean Water Alliance - WET Science Center, Olympia, WA

Session: 4-A

Date: Wednesday, August 7

Time: 2:15-3:15

Description: The Water Education and Technology (WET) Science Center helps to teach the state science standards in a fun, student-

centered way. Working directly with the school district curriculum directors helps reach students in a targeted and strategic

way. Get tons of creative ideas for planning, designing, and delivering your water education programs!

STEM & STEAM in Water Education

**Other Water Topics** 

Water Education

Beyond the Classroom





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Title: Saving Walter: Heightening Water Conservation & Environmental Literacy for the Next Generation.

Presenter: Paula Pearce, Sebastopol, CA

Session: 4-B

Date: Wednesday, August 7

Time: 2:15-3:15

Description: Using Power Point, I will illustrate the classroom-tested, graphically-enhanced and artfully-illustrated adventure of "Walter,"

of "Saving Water," which inspires children to appreciate and save water. A need for water conservation involvement by

children inspired me and was supported by my research and work with science and water educators.

Title: Ocean-Water Desalination 101: History, Technology and Environmental Issues to Empower the

Water Educator

Presenter: Darryl Ramos-Young, Education Coordinator, West Basin Municipal Water District, Carson, CA

Session: 5-A

Date: Wednesday, August 7

Time: 3:30-4:30

Description: Come explore the historical perspective, global technology trends and current environmental issues surrounding this

controversial drinking water treatment process. West Basin Municipal Water District is one of 17 agencies proposing future desalination facilities along the California coastline. Learn about West Basin's two-year desalination education outreach strategy through the planning and construction of its 7,000 square foot Desalination Research Facility and Visitor Center. This informative, hands-on session will include a live videoconferencing virtual tour of the desalination visitor center located in

Redondo Beach, California, 1,000 miles distant from Denver.

Title: Teacher Preparation: the Headwaters of Water Education

Presenter: Lori Diefenbacher, Coordinator of Teacher Education for Sustainability, Webster Univ. St. Louis, MO

Session: 5-B

Date: Wednesday, August 7

Time: 3:30-4:30

Description: Front-loading our P12 teachers with awareness of water problems and possible solutions helps to assure that the next

generation will understand, assume responsibility and take action to change the habits and products that can make a

difference in our water availability and quality. However, the manner in which we teach the next generation is as important as the content. This session demonstrates how one School of Education (Webster University, St Louis, MO) is designing their

programs to prepare preservice teachers to integrate water education and other sustainability issues throughout all curriculum including literature, math, social studies, foreign language, and the arts. Sustainability is a philosophy and mindset;

water education is one of the most critical issues to address within that paradigm.

Water Education in the Classroom

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Water Education in

the Classroom





Title: Panel Discussion: What to do with the Poo: A Storm Water/Water Quality Action Campaign

Laurina Lyle, Molly Ward, Josef Kaul, Donny Roush, Theresa Schrum (Moderator) Presenters:

6-P Session:

Date: Thursday, August 8

Time: 9:00-10:00

Description: Project WET is kicking off its national pet waste disposal campaign to bring awareness to the impacts that pet waste have on

water quality.

Title: CLAW: Transforming conservation-minded teens into conservation leaders

Presenter: Thaddeus Taylor, Senior Educator, Tennessee Aquarium, Chattanooga, TN

Session: 7-A

Thursday, August 8 Date:

Time: 10:15-11:15

Description: This is an overview of the Tennessee Aquarium Conservation Institute's (TNACI) week-long high school residency summer

camp. CLAW focuses on freshwater resources and conservation leadership. The week culminates with presentation of

community enhancing projects created by participants after five days of exposure to salient topics through authentic learning

expeditions.

Title: KIC-NET (Keep It Clean Neighborhood Environmental Trios): Triangulating Next Generation Science

Standards. Clean Water Act Education & Outreach, and Stewardship of Urban Waters

Presenter: Donny Roush, Sr. Program Manager, Earth Force, Denver, CO

Session: 7-B

Thursday, August 8 Date:

Time: 10:15-11:15

We're creating hyper-local urban water education, partnering a city's school district, parks department and public works -- tied Description:

together through civic engagement. Together, we meet goals of all three agencies through youth voice and choice. We are

funded by EPA's Urban Waters Federal Partnership.

Water Education

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## **Workshop Descriptions**

Title: Fish On! Reconnecting Youth to their Waterways through the Tradition of Fly-fishing Presenter: Janeil Rev, Assistant Professor, State University of New York at Fredonia, Fredonia, NY

Session: 8-A

Date: Thursday, August 8

Time: 11:30-12:30

Description: This paper describes a community youth fly-fishing program developed to reconnect students to their local waterway through

catch and release fly-fishing and stewardship of a local creek. Students and mentors meet weekly to study entomology and tie flies, then regularly fish together locally using these flies. The creek stewardship includes stocking brook trout to reintroduce this native species (absent for over 100 years) and organizing the annual Canadaway Creek Clean-up. This project brings together community members to clear trash, eradicate invasive species and plant indigenous trees to preserve the creek bank

and provide shade over to support the fishery.

Title: Stormwater SMART - Classrooms to Creeks

Presenter: Joy Fields, Stormwater Educator, Piedmont Triad Regional Council, Greensboro, NC

Session: 8-B

Date: Thursday, August 8

Time: 11:30-12:30

Description: Stormwater SMART (Stormwater Management and Recovery of the Triad) serves as a model connecting local governments

with water education through creative use and adaptation of Project WET activities. We work with everyone from pre-K classes to elected officials, senior citizens and various neighborhood and community groups to meet regulatory education,

outreach and public participation requirements.

Title: Got Water? The Local Water System as a Learning Environment

Presenter: Janeil Rey, Assistant Professor, State University of New York at Fredonia, Fredonia, NY

Session: 9-A

Date: Thursday, August 8

Time: 1:30-2:30

Description: This paper explores the theoretical network of place-based education and its implementation in a school with a focus on

engaging students in critically examining their own community and its connection to local natural resources, particularly water. Students and teachers will embark on a collaborative study of water in their community: tracing and understanding the watershed; investigating the potable water system; identifying the impact of their local waterways on the economy, culture, and history of their community; and reaching and writing expository texts on the issues inherent in our choices about water,

its use, conservation, and preservation.

Water Education in the Classroom





Title: Making Watershed Mapping Manageable, Meaningful, and Memorable

Presenter: Sarah Johnson, Education & Outreach Coordinator, Roaring Fork Conservancy, Basalt, CO

Session: 9-B

Date: Thursday, August 8

Time: 1:30-2:30

Description: Learn to incorporate maps into your watershed curriculum in creative, authentic, meaningful, and dynamic ways. Participants

will do multiple interactive activities with a variety of maps and leave with concrete skills to start using maps regularly with

their students in and out of the classroom.

Title: High Impact Public/Private Partnerships for 5th grade Water Education

Presenter: Kristin Libberton, Watershed Education Specialist, Keep It Clean Partnership, Boulder, CO

Steve Noud, Watershed Education Specialist, Keep It Clean Partnership, Boulder, CO

Session: 10-A

Date: Thursday, August 8

Time: 2:45-3:45

Description: Explore Operation Water Festival, an award winning, model program that incorporates public/private partnerships to facilitate

education and action for sustainability. Learn how, through educational activities and a one day event, students are learning

about and taking actions to help conserve and protect local water resources.

Title: Developing and Implementing a Meaningful Watershed Educational Experience

Presenter: Page Hutchinson, Watershed Educator/State WET Coordinator, Virginia DEQ, Richmond, VA

Session: 10-B

Date: Thursday, August 8

Time: 2:45-3:45

Description: Most states and school systems have incorporated watersheds into their mandated curriculums. How can teachers help the

students understand their watershed and human impact on that watershed? This presentation will provide a framework for developing effective teacher-led MWEEs (meaningful watershed educational experiences) that will result in specific student driven action projects. We'll work through the process from idea to implementation including some outdoor exploration. Be

prepared to fully participate and share you expertise as we create together a unique MWEE.

Water Education in the Classroom

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Water Education in the Classroom





Title: Water a Living Lesson: Hosting Successful Professional Development Conferences
Presenter: Josef Kaul, Education Coordinator, San Antonio River Authority, San Antonio, TX

Session: 11-A

Date: Thursday, August 8

Time: 4:00-5:00

Description: The San Antonio River Authority has partnered with numerous private, public, and non-profit agencies to achieve its mission.

This workshop is designed for those interested in learning more about urban ecosystem restoration and ways to combine

resources from multiple sources to achieve organizational goals.

Title: Water in the Earth System: A K-12 Teacher Training Project of the American Meteorological Society

Presenter: James Brey, Director, Education Program, American Meteorological Society, Washington, DC

Water Education in the Classroom

STEM & STEAM in

**Water Education** 

Water Education

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Session: 11-B

Date: Thursday, August 8

Time: 4:00-5:00

Description: This presentation gives an overview of a highly successful AMS precollege teacher enhancement project, called Water in the

Earth System (WES) that examined water and water processes from an Earth System perspective. The project trained teachers

to promote the study of water and its role in the Earth System.

Title: Plenary Session Presenters: Valerie Gates

Session: 12-P

Date: Friday, August 9 Time: 9:00-10:00

Title: Wanted - Confident and Knowledgeable Teachers of Science: Using Project WET to Support

Pre-service Teachers

Presenter: Dr. Lyndall Muschell, Professor, Georgia College & State University

Co-Presenter: Dr. Holley Roberts, Assistant Professor, Georgia College & State University

Session: 13-A

Date: Friday, August 9 Time: 10:15-11:15

Description: Early Childhood pre-service teachers express reluctance to teach science based on lack of content knowledge and exposure to

engaging and motivating strategies. This presentation describes how Project WET resources are used to support pre-service

teachers in developing confidence and enthusiasm while connecting scientific concepts to real world applications.





Title: Expanding on Children's Natural Love for Water: Early Childhood Water Activities

Presenter: Janine Labak, Lead Teacher, Montessori School of Northern Virginia, Falls Church, VA

Session: 13-B

Date: Friday, August 9 Time: 10:15-11:15

Description: Come and gain ideas to foster the natural love young children have for water - new uses for water in the classroom; water

work lessons for the entire year; and more. Although these lessons were created for the Montessori classroom, they can be

easily adapted for any early childhood learning environment.

Title: Collecting Rainwater to Teach Water Quality and Conservation Science, Math and Practice

Presenter: Dotty Woodson, Extension Water Resource Specialist, Texas AgriLife Extension, Dallas, TX

Session: 14-A

Date: Friday, August 9 Time: 11:30-12:30

Description: In urban areas where stormwater is the largest source of non-point pollution, a rainwater collection system that collects and

stores water for later use in a garden or diverts stormwater into a rain garden is an active and applied learning opportunity to

teach students about water quality and conservation.

Title: Water education for Water Security

Presenter: Hussein A. Amery, Associate Professor, Colorado School of Mines, Golden, CO

Session: 14-B

Date: Friday, August 9 Time: 11:30-12:30

Description: Governance is critical in helping the Arab Gulf states achieve water security in a region where per capita water consumption is

one the highest in the world. There is an urgent need to devise culturally sensitive conservation awareness programs that

target residents as well as decision makers.

Water Education in the Classroom

Water Education
Beyond the Classroom

STEM & STEAM in Water Education





Title: **Engaging Communities with Water Education** 

Doug Campbell, Education Coordinator, Douglas County Water Resource Authority, CO Presenter:

Session: 15-A

Date: Friday, August 9

Time: 1:30-2:30

Description: This innovative water education and conservation program serves as a much-needed bridge between water education and

> community water conservation. Through the program, motivated high school students become Water Ambassadors and impart what they've learned to elementary students, teaching over 5,000 students per year and engaging the entire

community.

Title: Headwaters to Ocean: The Sonoma County Water Agency Hosts a Series of Investigative, Hands-on

Field Trips in the Russian River Watershed

Michelle Holmstedt, Water Agency Programs Specialist, Sonoma County Water Agency, Santa Rosa, CA Presenter:

15-B Session:

Friday, August 9 Date:

Time: 1:30-2:30

Description: Students explore the upper reaches of their watershed all the way down to the estuary. Students analyze how sediment,

weather, and water data change throughout the watershed. This workshop will include a Prezi presentation, several hands-on

activities, and participants will receive a copy of the program's student field journal.

Title: Splish Splash! Water Education in Your Classroom

Presenter: Kory Hebner, Water Education Programs Specialist, Sonoma County Water Agency, Santa Rosa, CA

Session: 16-A

Date: Friday, August 9

Time: 2:45-3:45

Description: This hands-on workshop will provide you with new exciting ways to teach about water in your elementary school classroom.

Topics to be covered: water conservation, storm drain pollution, and the water cycle.

Water Education in the Classroom

Water Education

Beyond the Classroom

Water Education in the Classroom





Title: Training Future Water Leaders Today

Presenter: Kimberley M. Knox, Community Outreach Manager, Washington Suburban Sanitary Commission

Laurel, MD

Session: 16-B

Date: Friday, August 9

Time: 2:45-3:45

Description: Washington Suburban Sanitary Commission (WSSC), Maryland's largest water and wastewater provider, connects with its

students through service learning opportunities. WSSC has forests throughout its service area and it uses the draw of planting trees with inner-city and rural students to create a conversation about the importance of source water protection among

students and other volunteers.

In 2012, WSSC planted over 450 trees as well as maintained the forested areas with approximately 860 volunteers. The student volunteer groups have become attached to the trees and this creates a strong environmental stewardship connection with WSSC as their water utility. WSSC uses the opportunity to teach about the water cycle, water storage, water treatment

and environmental careers.

Title: Citizen-Science in the Classroom: Learn how to measure and report precipitation to help the National

Weather Service.

Presenter: Noah Newman, CoCoRaHS Education Coordinator, Fort Collins, CO

Session: 17-A

Date: Friday, August 9

Time: 4:00-5:00

Description: Participants will learn how to measure all forms of precipitation that meet the standards of the National Weather Service. By

installing a rain gauge at a school, submitting data to the Community Collaborative Rain, Hail and Snow network is easy, fun,

and meets Next Generation Science Standards.

Title: Global Sustainability: The Best Water Stories

Presenter: Amber Dunlap, Education Program Coordinator, GLP Films / Green Living Project, Denver, CO

Session: 17-B

Date: Friday, August 9

Time: 4:00-5:00

Description: Green Living Project (GLP Films) is the leading film production company that documents and promotes global sustainability

projects. This presentation will explore positive solutions to water issues in Ecuador, Nicaragua and the U.S. Attendees will see

sample lesson plans and how they can bring these stories into the classroom.

Water Education
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Water Education in the Classroom

Water Education in

the Classroom





#### Hussein A. Amery:

Dr. Hussein A. Amery is an Associate Professor in the Division of Liberal Arts and International Studies (LAIS) at the Colorado School of Mines. He has held different administrative positions and his academic expertise include:

- Water security in the Middle East (focus on the countries of the Gulf Cooperation Council GCC)
- Food security in the Arab Gulf states (GCC)
- Security of critical infrastructure
- Security implications of labor migration to the Arab Gulf states (GCC)
- Indicators of increased risk of water wars in the Middle East
- River basins of the Middle East
- Role of Culture in water management Islamic perspectives on nature.

Dr. Amery has served as consultant on desalination and other water issues to various branches of the American and Canadian governments, and to different engineering firms and development organizations. In 2005, he was selected as Fellow by the International Water Association.

#### James Brey:

Dr. James A Brey has been the Director of the Education Program of the American Meteorological Society since May, 2008. Prior to that he was a Professor of Geography and Geology at the University of Wisconsin Fox Valley. He successfully used the AMS Weather Studies course in both online, on-campus, and blended lecture/laboratory settings for 8 years at the University of Wisconsin Colleges Online Program, where it is still offered. Brey is considered an expert in progressive educational delivery methods and the latest in pedagogical and technical innovation. Brey obtained his Bachelors, Masters and Ph.D. degrees in geography from the University of Wisconsin - Madison.

#### Doug Campbell:

Doug Campbell, the Education Coordinator for the Douglas County Water Resource Authority since 2010, partners with public schools to educate students about water issues and solutions and promotes personal responsibility for water efficiency. Born and raised in Pueblo, he has a degree in Political Science and will graduate in May with an MBA from Colorado State University.

#### Lori Diefenbacher:

Lori Diefenbacher is the coordinator of Education for Global Sustainability in the School of Education at Webster University in St. Louis, Missouri. She teaches courses in global citizenship and sustainability for preservice educators and, with regional NGOs, hosts an annual sustainability institute for P12 educators every summer. She works with school districts to provide education for sustainability for professionals in the context of education.





#### Amber Dunlap:

Amber Dunlap is Green Living Project's Education Program Coordinator. She manages GLP's new school assembly program, "Appetite for Adventure: Exploring Global Food Sustainability," and uses multimedia to bring global stories of sustainability into the classroom. Amber was a Teaching Assistant for the summer LEAP Program in Penn State's "Sustainability Research in Jamaica" course and received her B.S. in Meteorology from Pennsylvania State University.

#### Joy Fields:

Joy Fields has a B.A in Environmental Science from Warren Wilson College and a Master of Science in Biology from Appalachian State University. Joy has extensive experience in biological monitoring and environmental education. She currently develops and implements outreach and education programs through Stormwater SMART, a stormwater education program developed by the Piedmont Triad Council of Governments.

#### Julia Gallucci:

Julia Gallucci is the water education coordinator for Colorado Springs Utilities. In this capacity she's responsible for improving the value perceptions around water in the Colorado Springs community through youth and adult education, community collaboration and partnerships. She also is responsible for helping Colorado Springs Utilities lead the discussion to help our citizen owners engage in present and future water decisions. Each year, the Colorado Springs Utilities Water Conservation team provides free education to nearly 15,000 customers (of all ages) about water, our water system, conservation and how to care for this precious resource. Julia holds a B.A. with honors from the University of Michigan and has formerly held executive marketing roles within the technology industry.

#### April Gudenrath:

April Gudenrath is one of the pioneers of the flipped classroom and has been part of the flipped cadre for over four years. April teaches high school English and Philosophy at Discovery Canyon High School in Colorado Springs, CO. She currently speaks around the world about flipped classrooms and is going to be published this fall in a book on that same subject.





#### Kory Hebner:

Kory Hebner holds a BA in Environmental Education, a Multiple-Subject Teaching Credential, and a Science Single-Subject Teaching Credential. She is currently pursuing a Masters degree in Curriculum, Teaching, and Learning with an emphasis in Water Sustainability. Her education was completed at Sonoma State University in northern California.

Kory has been an environmental educator for the County of Sonoma for the past 9 years. During this time she has worked for Sonoma County Regional Parks and the Sonoma County Water Agency. In her current position as Water Education Programs Specialist for the Sonoma County Water Agency, Kory teaches students the value of water as an important natural resource, with a focus on personal responsibility for water conservation and the promotion of environmental stewardship for our local watershed.

#### Michelle Holmstedt:

Michelle Holmstedt holds a BA degree in Environmental Studies & Planning with an emphasis on Environmental Education from Sonoma State University (Rohnert Park, CA). She also holds a Multiple-subject teaching credential and a Foundational Science Single-subject teaching credential from Sonoma State University. Michelle has worked for the Sonoma County Water Agency (Santa Rosa, CA) for four years. She completed two seasons as a field-based fisheries technician monitoring Chinook, Coho and Steelhead populations in the Russian River watershed and two years as a Water Education Programs Specialist. As a Programs Specialist, Michelle implements upper and lower elementary lessons in both classroom and outdoor settings. Her lessons cover topics such as: storm drain pollution, watershed science and water conservation.

#### Page Hutchinson:

After more than 20 years of teaching middle school science Page realized her passion for the environment, particularly water and watersheds, had to lead her from the classroom to the outdoors. In 2008 she went back to school to get an MS in Ecological Leadership and Environmental Education from Lesley Univeristy through a specialized program called the Audubon Expedition Institute. As part of this learning community she traveled on a retrofitted school bus exploring and learning about a variety of ecosystems and cultures while living in a tent. Page currently works for the VA Dept. of Environmental Quality leading the Watershed Educators Institute to train formal and nonformal educators in meaningful watershed educational experiences, and as the state Project WET Coordinator. Personally she gets outside as much as possible to walk, hike, camp, canoe or kayak, and explore. Page says, "Life IS good!"

#### Michael Jabot:

Michael Jabot, PhD is Professor of Science Education in the College of Education at the State University of New York at Fredonia and a former high school physics teacher. He currently teaches science methods to pre-service teachers at SUNY Fredonia with a focus on the role of place-based education, sustainability and inquiry-based science. Michael is a member of the Lead Team for the Next Generation Science Standards convened by the National Research Council and Achieve.





#### Sarah Johnson:

Sarah Johnson has served as the Education and Outreach Coordinator at Roaring Fork Conservancy (RFC) in Basalt Colorado since 2008. She currently coordinates and conducts RFC's adult Watershed Exploration community outreach education series as well as the Watershed Education program in local schools. These programs focus on water quantity, water quality, riparian habitat, river ecology, groundwater, watershed economics, mapping and geography, regional water issues, Colorado River Basin issues, and more. RFC's Watershed Education program is a model for other state watershed groups. Sarah volunteers as the coordinator of the Roaring Fork Valley Environmental Education Regional Network. Sarah is a Certified Interpretive Guide and Certified Interpretive Trainer with the National Association for Interpretation. Sarah lives in Carbondale, Colorado.

#### Josef Kaul:

Josef Kaul is the education coordinator at the San Antonio River Authority. After growing up in Nashville, Josef graduated from the University of Tennessee with a Bachelor's of Science in Forestry and Wildland Recreation. He is currently pursuing a Master's of Science in Sustainability from Texas State University. He is trained as a Texas Master Naturalist and as an NAI Certified Interpretive Guide. Recently, Josef became the Project WET Host Institution Coordinator for the San Antonio area.

#### Kimberley M. Knox:

Kimberley M. Knox is the Community Outreach Manager for Washington Suburban Sanitary Commission. Prior to coming to WSSC, she was a Renewable Energy Specialist and the Water Conservation Administrator for the San Francisco Public Utilities Commission and the youth education manager for the American Water Works Association. She was the editor for "Landscaping for Water Conservation: Xeriscape!"

#### Janine Labak:

Janine Labak, MA, is a Lead Teacher and Primary Team Leader at the Montessori School of Northern Virginia (MSNV) in Falls Church, Virginia. She has worked at MSNV for 14 years. Prior to moving to Virginia, she taught at A Child'€™s Garden and Oak Grove Montessori in Connecticut. She received her American Montessori Society credential for Early Childhood from NEMTEC in Boston, Massachusetts. Janine, born in Colorado and growing up in Southern California, has a great love for the mountains and the ocean. Janine and her husband, Stan who is an Ocean Engineer have raised 2 children, both completing Montessori through grade school and completing degrees in engineering.





#### Kara Lamb:

Kara Lamb is the Public Information Officer for the Bureau of Reclamation in Eastern Colorado. She spends much of her time reaching out to the general public, elected officials, and myriad media to interpret public policy regarding water resources, and educate on water's many benefits and competing demands, specifically when it comes to the federal Bureau of Reclamation. Prior to her work in water, Kara received a Master's Degree in Environmental Ethics from Colorado State University.

#### Birgit Landin:

Birgit Landin has a geology degree with an emphasis on hydrogeology put to use in the municipal, private consulting and State government levels for environmental cleanup, water supply and water quality issues. She currently is responsible for the development of Colorado Springs Utilities water education programs, grades K-12.

#### Kristin Libberton:

Kristin Libberton is a native Coloradoan who works for the Keep It Clean Partnership, where she focuses on watershed education and storm water pollution prevention. Kristin has several years of experience combining her Masters degree in Environmental Policy and Management, along with work at an urban wildlife refuge where she got to see firsthand the effects of storm water, urban watersheds and wildlife habitat. She is also a Certified Interpretive Guide through the National Association (NAI) and a member of the Colorado Alliance for Environmental Education's (CAEE) Advisory Council. She has been a Project WET facilitator since 2001, and has presented at multiple national conferences. Kristin has two children and loves to spend her time on the water kayaking, and watching the wildlife that lives there.

#### Lyndall Muschell:

Lyndall Muschell is a Professor in the College of Education at Georgia College & State University, a public liberal arts university. She has worked in teacher education for over twenty years and has presented at state, regional, national, and international conferences including GAYC, AERA, NAEYC, AACTE, ACEI, and AESA. She has been a facilitator for Project WET, Project WILD, and Project Learning Tree for over fifteen years. She was chosen as Georgia Project WILD facilitator of the Year in 1998 and Georgia Project WET facilitator of the Year in 2000. She supervises pre-service teachers in their field placement experiences as well as teaches a range of courses. She developed and taught the science course, EDIS 3415 Investigating the Natural World: An Interdisciplinary Approach to Teaching the Sciences which is required of all early childhood education majors. Through the funding of STEM mini-grant projects, she has worked to provide early childhood pre-service and in-service teachers with increased knowledge of science concepts, a range of effective strategies, and necessary resources to improve science instruction, and to increase the confidence of early childhood teachers for teaching science. She has also authored a book chapter in *Personal\*Passionate\*Participatory: Inquiry into Social Justice Education* and most recently has had an article published by ACEI in *Childhood Education*.

# WATER EDUCATION DEVELOPING 21ST CENTURY SOLUTIONS

## **Presenters' Bios**



#### Noah Newman:

Noah Newman is the Education Coordinator for the citizen-science program called the Community Collaborative Rain, Hail and Snow network (<a href="www.cocorahs.org">www.cocorahs.org</a>). A third-generation native of Colorado, Noah loves water, however it falls from the sky. In the winter, he has been a skier since he was 5, and in the summertime, he was a white water rafting guide all throughout college. Noah graduated from Colorado State University in 1997 and began his career teaching informal science education in 2003. From astronomy to zoology with magnets and rocketry in-between, he currently enjoys teaching how to accurately measure precipitation. Noah has led professional development training sessions for teachers and class presentations for K-12 students for almost 10 years. During 2012 alone, spearheading a new effort to recruit schools to CoCoRaHS, he led presentations, classes and webinars for over 350 teachers and over 4,000 students in Colorado.

#### Jerry Overmyer:

Jerry Overmyer was originally a high school mathematics teacher, Jerry has been teaching college level mathematics for over 10 years. He is the creator of the Flipped Class Learning Ning a professional learning network with over 12,000 members and a pioneer in flipped learning. He gives frequent presentations on flipped learning and using teacher made videos and technology in education. Jerry is a strong advocate of inquiry-based learning, but feels that students still need direct instruction. Flipped learning perfectly addresses this dilemma

#### Steve Noud:

Steve Noud is a Water Education Specialist with the city of Boulder and Keep It Clean Partnership. The Keep It Clean Partnership provides water education and outreach to partner communities throughout Boulder County focusing on water pollution prevention and sustainability. The Keep It Clean Partnership has won numerous awards including the 2012 Colorado Alliance for Environmental Education's Award for Excellence in Environmental Education for their Operation Water Festival and Environmental Achievement and National Clean Water Act Recognition Awards from the Environmental Protection Agency. He is a Certified Interpretive Guide through the National Association for Interpretation (NAI) and a Master Certified Environmental Educator through CAEE. He has been a Project WET facilitator since 2001 and has led the Get to Know Your H20 Teacher Workshop in Boulder County since 2003.

#### Kathryn Parker:

Kathryn lived in several states while growing up and experienced different approaches to water conservation and management. Since graduating from the University of Colorado at Denver she has made Colorado her home and learned how to live in an area with an average rainfall of 14" a year. Kathryn is the Public Information/Education Officer for Central Colorado Water Conservancy District, and has been a Coordinator and Host Institution for Project WET since 2011. Kathryn loves anytime she can be in the water, and tries to make a water experience part of any training she does.





#### Paula Pearce:

Paula Cumming Pearce was born and raised in Marin County, California. The love of water was always a high priority. Her family camped every summer at Meeks Bay, Lake Tahoe where the clarity of the water left an indelible impression. Destined to be both an artist (B.A. in Art) and educator with an elementary teaching emphasis for 17 years, Paula was inspired to write *Saving Walter* from a dream after a serious community meeting concerning local wells going dry. Paula's gift of illustrating and storytelling has been known to inspire children in a very special way. The current *Saving Walter* book is her third edicition and with the help of her graphic designer, Pat Lachman, they have finally accomplished what they set out to do as far back as 2008. Paula is a member of the Society of Children's Writers and Illustrators. If it wasn't for the water research and support by water educator, Cary Olin, and science curriculum specialist, Mike Roa, *Saving Walter* would not be what it is today.

#### **Darryl Ramos-Young:**

Darryl Ramos-Young is the Education Coordinator for the West Basin Municipal Water District, a local government agency that provides a safe and reliable supply of high-quality water to over one million people in its coastal Los Angeles service area. He is responsible for developing, evaluating and managing the agency's numerous free water education programs that include classroom presentations, water treatment facility tours and water conservation art contests. He also served as the project manager for the exhibit development of the Ocean Water Desalination Research Facility and Water Education Center. Darryl celebrates over 27 years of Beyond the Classroom environmental education experience and visitor center strategic planning having also worked for the National Audubon Society, the National Wildlife Federation and the California Science Center.

#### Janeil Rev:

Janeil Rey, PhD is Assistant Professor of Educational Leadership in the College of Education at the State University of New York at Fredonia and a former rural school principal and superintendent. Her work is with aspiring school principals and superintendents with a research interest in the effectiveness of place-based education in high-needs rural schools.

#### Holley Roberts:

Holley Roberts is an Assistant Professor in the College of Education at a Georgia College & State University. She has been in teacher education for eight years and has eleven years experience in public and private education. She has assisted in facilitating Project Wet and Project Wild workshops over the past eight years and implemented a variety of science activities as a classroom teacher in fifth and first grades. She also supervises pre-service teachers in their field placement experiences as well as teaches a variety of courses, including Investigating the Natural World: An Interdisciplinary Approach to the Sciences. She has presented at state, regional, and national conferences including GAYC, NAEYC, AERA, GERA, and ACEI. Most recently she has had an article published by ACEI in *Childhood Education*.





#### Donny Roush:

Donny Roush spent 1,000s of hours of his childhood mucking around Old Town Run, a rural Midwestern creek. Four decades later, he is still mucking around streams whenever possible -- with students as part of Keep It Clean Denver, the city's stormwater education and outreach program. Denver Public Works contracts Earth Force to provide these services.

Earth Force, a Denver-based nonprofit, engages young people as active citizens who improve the environment and their communities now and in the future. Donny has worked with Earth Force since 2009, and for Earth Force since 2011.

Before Earth Force, Donny has worked for Expeditionary Learning Schools, Odyssey School, Denver Audubon, Idaho Environmental Education Association, Idaho Museum of Natural History, Idaho National Laboratory and The Ohio State University.

#### Nicole Seltzer:

Nicole Seltzer inspires curiosity, advocates for learning and creates community for the people of Colorado through great water education. She is the Executive Director of the Colorado Foundation for Water Education, a non-profit organization whose vision is that all Coloradans make more informed water resource decisions through exposure to accurate and balanced water information. Nicole developed a passion for water issues while at the University of Kansas, and then expanded her knowledge with a Masters degree in Water Resources from the University of Vermont. She previously performed community and media relations work for the U.S. EPA and the Northern Colorado Water Conservancy District, and volunteered on several non-profit Boards including the Colorado Watershed Assembly. She has led the Foundation through a period of growth resulting in doubled staffing levels, new programs reaching younger audiences, a 60% larger budget and new partnerships across Colorado. Nicole's work interests spill over into her personal life: most of her vacation time is spent guiding various inflatable boats down Western rivers.

#### Amber Smith:

Amber Smith is an Environmental Educator with LOTT Clean Water Alliance and manages their WET Science Center in Olympia, WA. She holds a Bachelor's of Science Degree in Environmental and Marine Science from The Evergreen State College. She previously worked as an Education and Outreach Specialist for Thurston County, Grays Harbor County, and the City of Bellingham. The WET Science Center's interactive exhibit gallery, Saturday programs for families, and school field trips offer opportunities for community members to learn about water conservation, wastewater treatment, reclaimed water, green building, career opportunities, and stewardship of the Puget Sound.

#### Thaddeus Taylor:

Thaddeus Taylor is a senior educator at the Tennessee Aquarium in Chattanooga, TN. Along with Dr. Anna George, Thaddeus produces the CLAW summer camp for high school students. While he currently works in freshwater conservation education, he formerly toured with Missoula Children's Theatre and taught Pre-K at a museum magnet school.





#### **Dotty Woodson:**

Dr. Woodson is a water resource specialist for Texas A&M AgriLife Research and Extension in Dallas, TX. Woodson's programs cover landscape water conservation design, plant selection and practices, rainwater harvesting, rain gardens, irrigation efficiency and drip irrigation. She works with and provides programs for County Extension Agents, water utilities and districts, elected officials, nurserymen, landscapers, irrigation and rainwater harvesting professionals, Master Gardeners, Master Naturalist and homeowners.

#### Brian Brown:

Brian Brown, California Project WET Coordinator, joined the Water Education Foundation in 2004 after a 14-year career as a Naturalist, Lead Teacher, Intern Coordinator and Trail Engineer at Whiskeytown Environmental School near Redding and YMCA Camp Campbell Outdoor Science School in Boulder Creek. Brian graduated from Humboldt State University with a B.S. degree in Forestry and a B.A. degree in Social Sciences. Brian holds California Professional Clear Credentials in Multiple Subjects, Life Sciences and Social Sciences. In addition to Project WET, Brian also is a facilitator for Project Learning Tree, Project WILD, the BLM 'Burning Issues' fire education program, and has been a staff member with the Forestry Institute for Teachers since its inception.





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