



Education
& Outreach

NEWSLETTER

AUG
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Highlights from our Water Resources Programs ...



CIRES Education & Outreach empowers teachers and engages learners in environmental science through high-quality resources, research, and programming.

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Curious About Water in the Southwest?



Learn about the We are Water project

With support from rural communities and their libraries [We are Water](#) creates a place to meet and share stories about water, and explore and learn about water together. Explore our website to hear about what water means to communities across the Four Corners Region of the Southwestern U.S., and learn about upcoming events!

Our traveling exhibition for We are Water is coming! The first stop on the tour is [Carbon Valley Regional Library](#) in Firestone, Colorado. Our library partners will be hosting parts of this exhibition in August and September 2021.

[Learn more about We are Water](#)

Explore Water Resources and More With New Data Puzzles!



This summer, middle and high school educators from around the country have been co-designing their own Data Puzzle activities using authentic scientific datasets. [Data Puzzles](#) are data-driven inquiry-based activities that engage students in making sense of natural phenomena. While the [current collection](#) of Data Puzzles have an Arctic focus, these new educator-designed Data Puzzles will cover a wider range of topics, including climate and plant growth, wind energy, wildfires, and even drought and water resources! Stay tuned - the new Data Puzzles will be added to the current collection throughout the Fall.

[Learn more about Data](#)

How Fire Today Will Impact Water Tomorrow



Photo: Grand County Sheriff's Office

[CU Boulder Today spoke with CIRES Fellow Ben Livneh](#), a hydrologist who studies how climate change affects water supplies and how fires and rain influence landslide risk, about how fire may shape the future of water in the West.

How can wildfire affect water quantity and timing in a landscape?

Livneh: In the western U.S. we really rely on water that flows in rivers and streams, and that fills the reservoirs for our supply. So when we think about even small changes to the amount of water that comes off of the hill slope, or across the landscape, that can have a big impact on the total availability of water.

One of the most notable things that happens in a fire is that the texture of the soil changes. Initially, less rain will soak into the soil, and more rain will become surface runoff. There's a lot of reason to think that you will get more total water—but it'll be much more “flashy” when it comes. On one hand, that can be good if you have a reservoir to collect it. But we've heard of water utilities actually turning off their intakes after a fire if the quality of the water is too low.

What are the factors that affect the likelihood of floods or mudslides after wildfire?

Livneh: We have research funded by NASA where we looked at 5,000 landslide sites around the world. We found that sites that had a fire in the past three years required less precipitation to cause a landslide. But there's also a lot of local variability that really matters. Moderately steep, heavily vegetated areas, types of soils—especially sandier soils—increase risk. Also we now have a lot of people who have built structures on steep slopes in these areas, so there's a human element there, too. And the time of the year that it happens can matter. A fire right before your rainy season is an important factor.

What can we do to prepare for the future?

Livneh: One of the most robust features of climate change is warming, right? As rain becomes more prevalent, we're just going to have to continue expanding our portfolio of things we do to keep up. The

more open-minded we can be about managing for these things is important.

Read more

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We Are Water Stories: Perspectives from the Pueblo of Kewa, NM

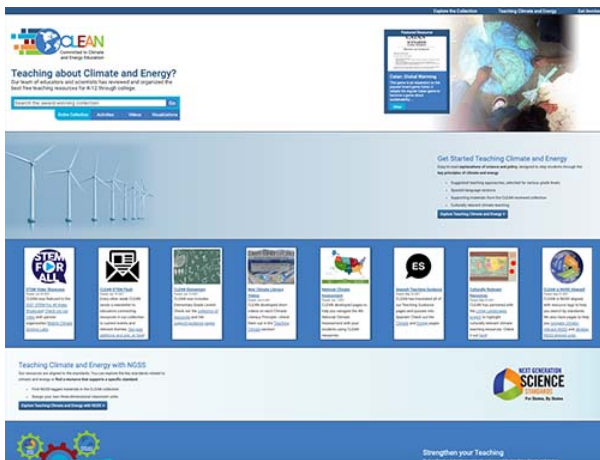


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The We are Water project has a Four Corners water story to share with you! Hear from Trisha Moquina (Cochiti, Ohkay Owningeh, Kewa) share how her family and Pueblo traditions have shaped her views on water. [Listen to Trisha's story](#) on the We are Water website!

We are Water Podcasts

CLEAN's New Website



The Climate Literacy and Energy Awareness Network (CLEAN) has a [new and improved website!](#) Come check it out and explore CLEAN's collection of over 750 high-quality and rigorously reviewed climate and energy educational resources.

Explore CLEAN

Free Resource for Educators Colorado's Water Mini Film Fest

September 16 at 6:00 pm
Carbon Valley Regional Library

Come join the We are Water team and Water Education Colorado to learn about water in Colorado! [This event](#) will include screening of short Colorado-focused water films and a speaker

panel. Speakers include Jeff Stahla, Public Information Officer with Northern Water and Noah Newman from CoCoRaHS. Learn about the work it takes to bring water to the region and learn more about challenges around climate change and Colorado's water future.

[Learn more](#)



Free Resource for Students Engaging ALL Students in Student-Led Projects

September 7 at 4:00 pm
Virtual Meeting

Join us for a webinar with Dr. Alison Boardman, Engaging ALL Students in Student-Led Projects, on Tuesday, September 7th from 4-5 pm. The event is part of a kickoff for [HEART Force](#) teachers, but is open to everyone curious about how to teach project based learning effectively to students with disabilities.



[Link to register or learn more](#)

Other Ongoing Events Water in the Western US

A self-paced, free, online course exploring water and climate in the western United States

Log in anytime to answer your questions like:

- Why is there so much conflict over water in the American West?
- How do major cities and industrial agricultural systems thrive in semi-arid environments and deserts?
- How will tens of millions of people in the region cope with a warming climate?

[Link to register or learn more](#)



Water: A Zero Sum Game

Did you know that 60-90% of all usable water in the Western US comes from snowmelt?

Explore water sources, snowmelt, and changes in water supply in this [5 minute video](#)!

This video takes viewers high into the Rocky Mountain snowpack, where researchers dig snow pits to explore the source of Colorado's water supply.

[Watch the video here](#)



We are Water Kahoot Trivia - Beginner Level

Just starting to learn about water topics and water in the Four Corners Region? Start here!

[Play Trivia](#)



We are Water Kahoot Trivia - Intermediate Level

Do you already know a bit about water topics and water in the Four Corners Region? Start here!

[Play Trivia](#)



We are Water Kahoot Trivia - Advanced Level

Do you already know a lot about water topics and water in the Four Corners Region? Start here!

[Play Trivia](#)



We are Water Kahoot Trivia - Expert Level

Are you an expert? Test your knowledge.

[Play Trivia](#)

Play Some Water Trivia

Answer some fun trivia questions about the science of water and the geography of the Four Corners Region! Pick a level where you want to start and see how far you can go!

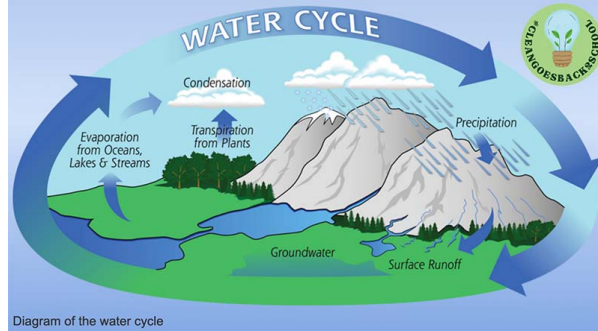
Test your knowledge on beginner, intermediate, advanced, and expert levels!

[Play trivia games here](#)

Water Cycle Webquest!

Explore the water cycle with a hands-on [NASA Atmosphere activity](#) and have your students build a model illustrating how water moves through Earth's four systems!

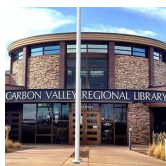
[View Water Cycle activity here](#)



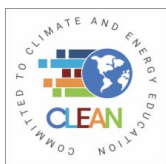
Upcoming Events



HEART Force Kickoff
Engaging ALL Students in Student-Led Projects
September 7, 4:00 - 5:00 PM
[Link to register or learn more](#)



Colorado's Water Mini Film Fest
September 16, 6:00 PM
Carbon Valley Regional Library
[Link to register or learn more](#)



Virtual Colorado Science Conference: CLEAN Session
November 6, 1:05-1:55 PM (MDT)
Speaker: Heidi Ragsdale, STEM Educator Advocate and Trainer
[Link to register or learn more](#)



Virtual Colorado Science Conference: Data Puzzles Session
November 6, 2:00-2:50 PM (MDT)
Speakers: Lynne Harden, Jon Griffith, and Katya Schloesser, CIRES E&O
[Link to register or learn more](#)



Virtual Colorado Science Conference: Resilient Colorado Session
November 6, 2:55-3:45 PM (MDT)
Speakers: Katya Schloesser, Curriculum Developer, CIRES E&O
[Link to register or learn more](#)

Keep up to date on opportunities & news from CIRES E&O

