

# NLC Climate Change Work Group

## Module 05: Climate Change Education

### Workshop



April 10, 2025

# Workshop Agenda



## Climate Change Workgroup

- History
- Mission

## Climate Change Resource Modules

- Module 1 - Coordinator Role
- Module 2 - Science
- Module 3 - Adaptation
- Module 4 - Advocacy
- **Module 5 - Education**

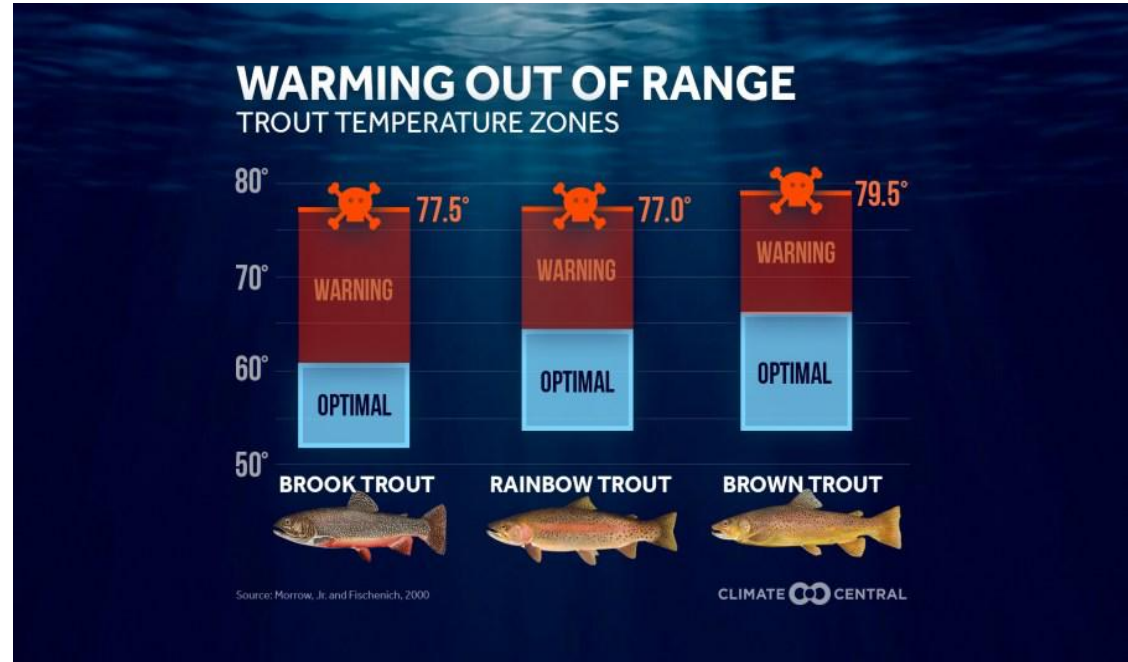
## Next Steps

- Conduct training
- Continue recruiting coordinators



Ed Northern, Mackay Reservoir Idaho

Founded in 2013  
to raise awareness  
of climate change.



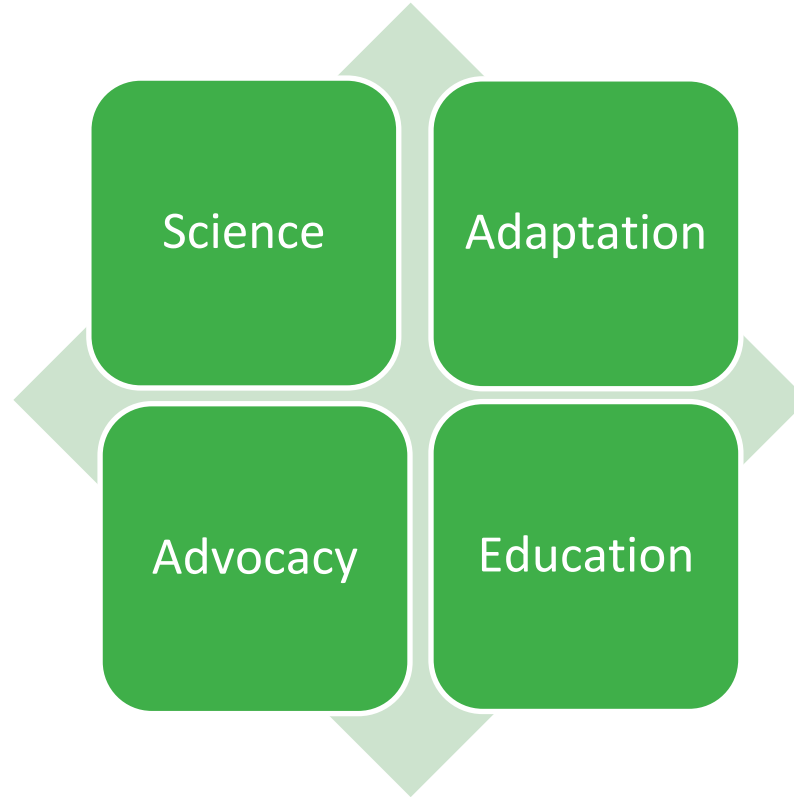
# Climate Change Work Group Mission



**Empower** TU members to become **effective champions** for TU climate change policy and initiatives, in their communities, regionally and nationally, through science-based education, communication, and advocacy.



# CCWG Resource Modules



## CCWG Module Resources

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- Tools
- Tips
- Facts
- References
- Links
- Contacts

*Note that third party perspectives and opinions presented in the resources and examples may not be endorsed by TU.*

You can draw upon and adapt the CCWG resources to your own situation and outlets such as newsletters, websites and social media, in person presentations, articles, and more ...



# Climate Change Coordinator Training - Trout Unlimited



Home > Get Involved > Volunteer Tacklebox > Council Leader Resources > National Leadership Council > NLC Conservation Workgroups > Climate Change Workgroup > **Clim**





### Climate Change Education

- Empowers people and motivates them
- Helps eliminate fear
- Encourages the adoption of sustainable practices!



RESOURCE 01: Trout Unlimited  
Headwaters Youth Programs

RESOURCE 02: TU Stream Explorer  
Magazine

RESOURCE 03: Trout Unlimited  
Youth Education Committee

**Simply put, the Headwaters program  
is the source of tomorrow's TU.**



TU's youth education efforts encompass a range of programs and projects known as the Stream of Engagement, serving children, teenagers and young adults.



From the nationally-recognized, science-based Trout in the Classroom and Adopt-a-Trout programs to fly-fishing and conservation camps, Expeditions and college fly-fishing clubs, TU involves young people in our mission to protect and restore the nation's coldwater resources.

# CCWG Resource Module 05: Education



## RESOURCE 01: Trout Unlimited Headwaters Youth Programs

**Explore Watersheds**

*STREAM Girls, TIC, SOS Clubs, Adopt-A-Trout & Stream Explorers*

Clean water is essential to all life. Discover what lives in and around a stream and you will find what clean water means to you! We offer a wide array of programs for volunteers, educators, and young people.

**Explore Fishing**

*Camps, Scouts BSA, Summer Programs, TU Teens & 5 Rivers College Clubs*

Experience the simple joy of fishing and you'll have a lifetime of fun. Through kids fishing days, summer camps, and Scouts programs, young people learn to slow down and connect with the natural world around them.



### Explore Watersheds

[READ MORE](#)

*STREAM Girls, TIC, SOS Clubs, Adopt-A-Trout & Stream Explorers*

Clean water is essential to all life. Discover what lives in and around a stream and you will find what clean water means to you! We offer a wide array of programs for volunteers, educators, and young people.

# CCWG Resource Module 05: Education



## RESOURCE 01: Trout Unlimited Headwaters Youth Programs

Cecily Nordstrom, Stream Education Manager, STEM/STREAM K-12 education initiatives

### ALWAYS ENGAGING

Hands-On STEAM Learning All Year

### CUSTOMIZE YOUR CURRICULUM

Find Lesson Plans That Fit Your Curriculum

### GET STARTED

A Turnkey Program for Public & Private Schools



# CCWG Resource Module 05: Education



- [STREAM Girls](https://vimeo.com/296060481) <https://vimeo.com/296060481>





## CCWG Resource Module 05: Education



Stream Explorers TU Chapters provide meaningful watershed experiences for Stream Explorers that are elementary-aged.



## Trout in the Classroom

*Connecting Students to their Watersheds*

Home > Conservation > Outreach & Education > Headwaters Youth Program > Explore Watersheds > **Trout in the Classroom**



**What is Trout in the Classroom?**

**TIC is for Students of All Ages**



# CCWG Resource Module 05: Education



TROUT  
UNLIMITED  
IN THE  
CLASSROOM

[Home](#) [About](#) [Lessons](#) [Resources](#) [Help](#)

[Get Started](#)

ENVIRONMENTAL EDUCATION

## Trout in the classroom connects students with their watershed

Trout Unlimited's environmental education program is a gateway stewardship experience for students. It fosters a new generation of advocates for salmonids and the watersheds in which they live.

[Learn how it works](#)

[View Lesson Plans](#)

[Start a Program](#)



## RESOURCE 01

A photograph of four young women standing in a field of tall grass near a body of water. They are all wearing hats and sunglasses, and some are holding fishing rods. The scene is bright and sunny.

**Explore Fishing**

*Camps, Scouts BSA, Expeditions, TU Teens, Student Clubs & 5 Rivers College Clubs*

Experience the simple joy of fishing and you'll have a lifetime of fun. Through kids fishing days, summer camps, and Scouts programs, young people learn to slow down and connect with the natural world around them.

[READ MORE](#)



# CCWG Resource Module 05: Education



Trout Unlimited volunteers and staff offer a spectrum of fishing education opportunities for young people of all ages.

From kids fishing days in communities to fly fishing camps, there are many ways to learn and get involved!



# CCWG Resource Module 05: Education



## Headwater Youth Education

Cliff Watson, Youth Fly Fishing Programs Manager

### 5 Rivers College Clubs



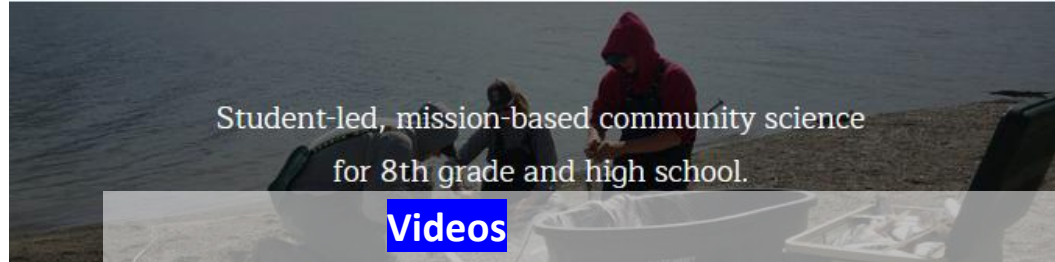
### TU High School Student Clubs



# CCWG Resource Module 05: Education



## RESOURCE 01: [Explore Fishing](#)



[Scouts BSA Fly Fishing Merit Badge](#)

[TU Teens & TU Teen Summit](#)

[TU Summer on the Fly](#)

[TU Costa 5 Rivers College Clubs](#)

[Youth Fishing & Conservation Camps](#)

a national network of TU-affiliated college fly fishing clubs.





## Headwater Youth Education

Zoe Mihalas – Trout Unlimited chapter and council sponsored camps and academies



<https://www.tu.org/conservation/outreach-education/headwaters-youth-program/explore-fishing/tu-summer-camps-and-academies/>

## RESOURCE 01: Support Headwaters Youth Programs

### TU Youth Memberships

Trout Unlimited offers Stream Explorer and TU Teen memberships for young conservationists under the age of 18.

Stream Explorer

\$12.00

Visit our [sign up](#) page today to learn more.

# CCWG Resource Module 05: Education



## RESOURCE 02: 15 TU Stream Explorer Magazines

### Popular products



#### Human Impact Newsletter

~~\$22.53~~ \$20.28 for 50 (\$0.41 per item)

Start Customizing



#### Stream Ecology Newsletter

~~\$22.53~~ \$20.28 for 50 (\$0.41 per item)

Start Customizing



#### Trout Biology Newsletter

~~\$22.53~~ \$20.28 for 50 (\$0.41 per item)

Start Customizing



# CCWG Resource Module 05: Education

## RESOURCE 02 What's a watershed?

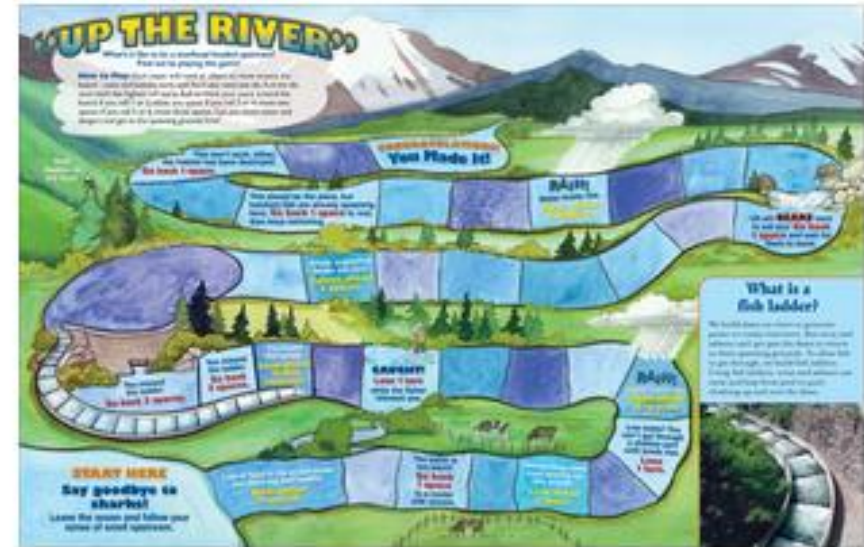




# CCWG Resource Module 05: Education



## RESOURCE 02 Upstream Adventure



## RESOURCE 03



[Home](#) > [Get Involved](#) > [Volunteer Tacklebox](#) > [Chapter Leader Resources](#) > [Chapter Committee Resources](#) > **[Youth Education Committee Resources](#)**

## Youth Education Committee

By interacting with youth, not only will your committee introduce young people to the conservation science behind trout and salmon, but the joy of angling for wild fish in the waters where they belong.

Trout Unlimited's [Headwaters Youth Program](#) consists of comprehensive guides and resources to trout and salmon conservation for America's young people, ranging from [Stream Explorers](#) and [Trout in the Classroom](#) as primary students all the way to our [Five Rivers Program](#) for college students.

As your committee determines your plans moving forward, review the program opportunities below to help meet your strategic plan goals.

# CCWG Resource Module 05: Education

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RESOURCE 04: Resources for Teachers and Educators  
(Clackamas River Water Providers)

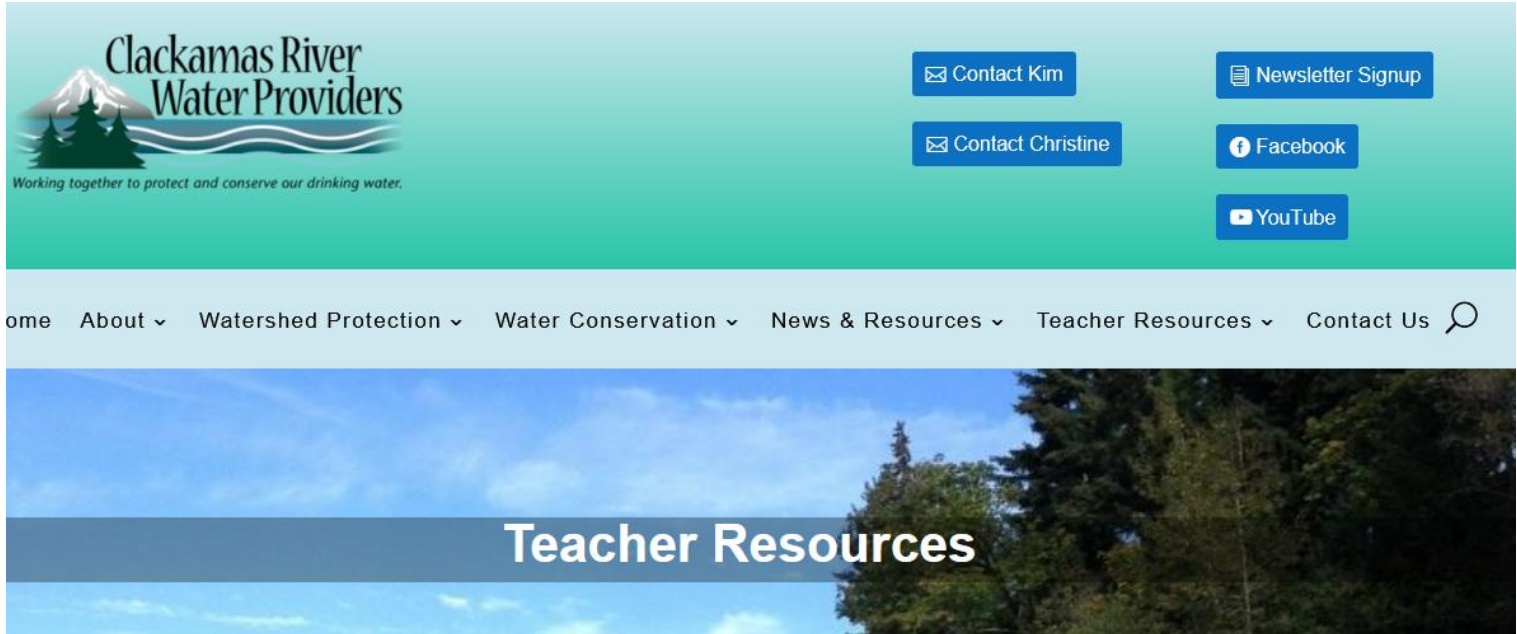
RESOURCE 05: West Virginia Climate Change Professional  
Development by West Virginians for West Virginians

RESOURCE 06: Why (and How) Astronomers should Teach Climate Change

RESOURCE 07: Teaching Climate Change: Climate Change Science  
and Storytelling (Chesapeake Exploration)



## RESOURCE 04



The screenshot shows the website for Clackamas River Water Providers. The header features the organization's logo on the left, which includes a mountain, trees, and the text "Clackamas River Water Providers" and "Working together to protect and conserve our drinking water." On the right side of the header are four blue buttons: "Contact Kim", "Contact Christine", "Newsletter Signup", "Facebook", and "YouTube". Below the header is a navigation bar with links: "Home", "About", "Watershed Protection", "Water Conservation", "News & Resources", "Teacher Resources", and "Contact Us", followed by a search icon. The main content area features a large image of a forest under a blue sky, with a dark blue horizontal band across the middle containing the text "Teacher Resources" in white.

Clackamas River  
Water Providers

Working together to protect and conserve our drinking water.

Contact Kim

Contact Christine

Newsletter Signup

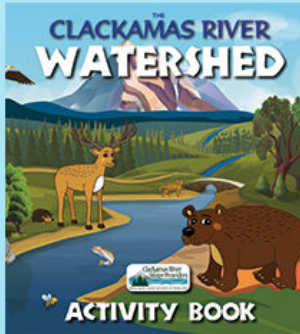
Facebook

YouTube

Home About Watershed Protection Water Conservation News & Resources Teacher Resources Contact Us

Teacher Resources

## RESOURCE 04: Resources for Teachers and Educators (Clackamas River Water Providers)



### BECOME A CLACKAMAS RIVER HERO!

Through the book's activities you will learn more about where your drinking water comes from, and what you can do to protect and conserve our drinking water source. The booklet contents include: What Do You Know? What is a Watershed? Build Your Own Watershed, Watershed Protection, Stormwater Pollution, The Water Cycle, Word Search, Ways of Water Conservation, Water Conservation Crossword Puzzle, Did You Know?-Fun Facts, and your Certificate of Protection & Conservation that recognizes your efforts to protect and conserve the Clackamas River Water. Take the Pledge!

To order copies of the booklet contact the Public Outreach & Education Coordinator, [christine@clackamasproviders.org](mailto:christine@clackamasproviders.org). Click [here](#) to see, read, copy, and play with the Activity Book!

[NEW! Climate Change Lesson Plans](#)

[Click Here!](#)

## RESOURCE 05

### West Virginia Climate Change Professional Development

*by West Virginians for West Virginians*



Photo Credit: ForestWander (Wikimedia Commons)

## RESOURCE 05

**New Resource!**

### **Free Climate Change Lesson Plans**

**Developed by West Virginia Teachers for West Virginia Teachers**

*Free to download and use!*

Join the growing number of West Virginia educators who are teaching climate change science and climate communications to West Virginia students. These Climate Change Lesson Plans were created by West Virginia teachers for West Virginia high school and middle school students and meet West Virginia Educational Standards.

Most lesson plans were developed during teachers' participation in the West Virginia Climate Change Professional Development Project. All were featured at the 2023 West Virginia Science Teachers Association Conference, made possible by a grant from the West Virginia Space Grant Consortium.

Contact [wvccpd@gmail.com](mailto:wvccpd@gmail.com) for more information or to collaborate with lesson plan authors.

## RESOURCE 06: Why (and how) Astronomers Should Teach Climate Change

Many years ago one day in my solar system astronomy class, we were talking about the searing hellscape of Venus. A student asked me, "**Is that what climate change is going to do to the Earth?**"

Why astronomers? Should we be teaching about climate change? Or should we leave it to the "experts"?

- the science is woven into the topics we teach.
- the astronomer's perspective is important.
- astronomers are highly trusted.
- astronomers reach a lot of people.

# CCWG Resource Module 05: Education



## RESOURCE 07: Teaching Climate Change: Climate Change Science and Storytelling



### CHESAPEAKE EXPLORATION

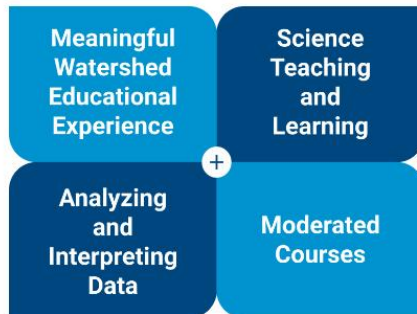


#### Welcome to Chesapeake Exploration!

This is an online learning platform hosted by the NOAA Chesapeake Bay Office. This site provides educators with access to courses that will advance their knowledge about Meaningful Watershed Educational Experiences, science topics, teaching and resources. The courses are free and self-paced, meaning you can work on them at your own speed. Many courses have continuing professional development credits approved for some states. Use the Course Search Box below or explore the Course Categories to find the currently available courses.

If you have any questions or suggestions for online courses, contact Krysta Hougen-Ryall ([krysta.hougen@noaa.gov](mailto:krysta.hougen@noaa.gov)).

In addition to these online courses, check out other educational resources and training opportunities:



#### Chesapeake Exploration Online Courses

Search the currently available courses below!



#### Workshops and Webinars

In-person and virtual workshops and webinars hosted by NOAA's [Environmental Science Training Center for educators across the Chesapeake Bay watershed](#). [Presentation last saved: just now]



#### Resources and Curriculum

Explore resources on [Bay Backpack](#) to help you plan and implement a Meaningful Watershed Educational Experience and, local environmental issues and data using the K-12 [Oysters in the](#)

RESOURCE 08: 8 Ways to teach Climate Change in Almost any Classroom (NPR)

RESOURCE 09: Resources for teaching about Climate Change  
with the New York Times

RESOURCE 10: For Educators – Climate Change: Vital Signs of the Planet (NASA)

RESOURCE 11: Project WILD: Teach WILD. Learn WILD. Be WILD  
(Educational Resources for Wildlife and Climate Change)



## RESOURCE 08:

- How to Broach the Subject with Student, No Matter What Subject Your Teach
- Dozens More Resource for Climate Education

### EDUCATION

## 8 Ways To Teach Climate Change In Almost Any Classroom

APRIL 25, 2019 · 9:11 AM ET

By Anya Kamenetz



Angela Hsieh/NPR

Related Article: "The Science of Climate Change Explained: Facts, Evidence and Proof" Photo Illustration by Andrea D'Aquino

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# CCWG Resource Module 05: Education



## RESOURCE 10



# CCWG Resource Module 05: Education



## RESOURCE 10

The following organizations provide reviewed listings of the best available student and educators resources related to global climate change, including NASA products.



### NASA's Climate Kids

NASA's Climate Kids website brings climate science to life with fun games, interactive features and exciting articles.

› <https://climatekids.nasa.gov/>



### Climate Change Lessons: JPL Education

This collection of climate change lessons and activities for grades K-12 is aligned with Next Generation Science and Common Core Math Standards and incorporates NASA missions and science along with current events and research.

› <http://www.jpl.nasa.gov/edu/teach/tag/search/Climate+Change>

### Latest Resources



Video: Global Warming from 1880 to 2022



Video: Annual Arctic Sea Ice Minimum 1979-2022 with Area Graph



Video: Ozone Watch 2018



### NASA's Goddard Institute for Space Studies: STEM Educator Resources

This page contains high school and undergraduate instructional modules (PDFs and YouTube videos) developed as part of NASA GISS's Climate Change Research Initiative.

› <https://www.giss.nasa.gov/edu/res/>



### NOAA: Teaching Climate

This website contains reviewed resources for teaching about climate and energy.

› <http://www.climate.gov/teaching>



### Climate Literacy & Energy Awareness Network

The CLEAN project, a part of the National Science Digital Library, provides a reviewed collection of resources to aid students' understanding of the core ideas in climate and energy science, coupled with the tools to enable an online community to share and discuss teaching about climate and energy science.

› <http://www.cleanet.org/>



# CCWG Resource Module 05: Education



## RESOURCE 11



ASSOCIATION *of* FISH & WILDLIFE AGENCIES

AFWA Is

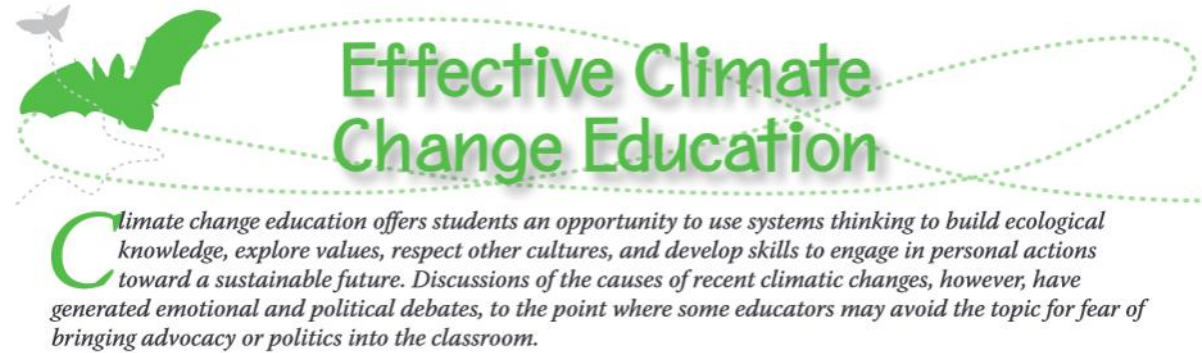
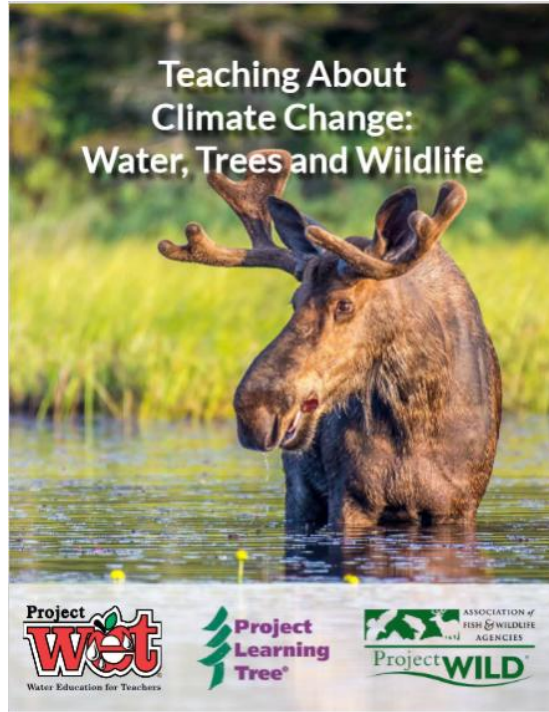
AFWA Acts

AFWA Informs

AFWA Inspires



## RESOURCE 11



Discussion of the effects of a changing climate on populations of fish, wildlife, and marine species and their habitats can potentially avoid the politically fraught discussion of cause and instead **shift the focus of the conversation to concrete conservation and adaptation actions that can be taken by all responsible stewards of our natural resources.**

# The #1 Reason



What's the #1 reason people care about climate change?  
Science says it's LOVE—especially for the next generation.

Katharine Hayhoe

[@science\\_moms](#)  
potentialenergycoalition

# Climate Change Coordinator Training Plan



**Climate Change Workgroup Module Orientation**

By TROUT UNLIMITED

*Join the NLC Climate Change Workgroup to learn more about their resources and becoming a coordinator*

**Free**

 Thu, Nov 14 at 8:00 PM (EST)

 After you purchase tickets you'll get instructions and a link to attend the event online.

January 16 – Science Workshop  
February 13 – Adaptation Workshop  
March 13 – Advocacy Workshop  
**April 10 – Education Workshop**



## [Climate Change Coordinator Training - Trout Unlimited](https://www.tu.org/ClimateChangeCoordinator)

Recordings of the introductory Climate Change Coordinator and the recent workshops.

And a PDF with the Climate Change Resource modules on Science, Adaptation, Advocacy and Education.



URL for CCC Resources and Recordings <https://www.tu.org/ClimateChangeCoordinator>



Our most effective messaging is peer-to-peer!



# NLC Climate Change Work Group

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## **Please join us as a Climate Change Champion!**

Climate Change Work Group meetings, 4<sup>th</sup> Thursday of the month at 8pm EDT.

Climate Change Focus NLC Workgroup Community Forum

<<https://community.tu.org/home>>

## **CCWG Module Development Team**

Chair, Jeff Holzem - [jeff2002h@yahoo.com](mailto:jeff2002h@yahoo.com)

Co-chair, Peter Gray - [bccpjgray@yahoo.com](mailto:bccpjgray@yahoo.com)

Mark van Roojen, Peter Tovar, Neal Anderson, Paul Mckay, Debbie McKay