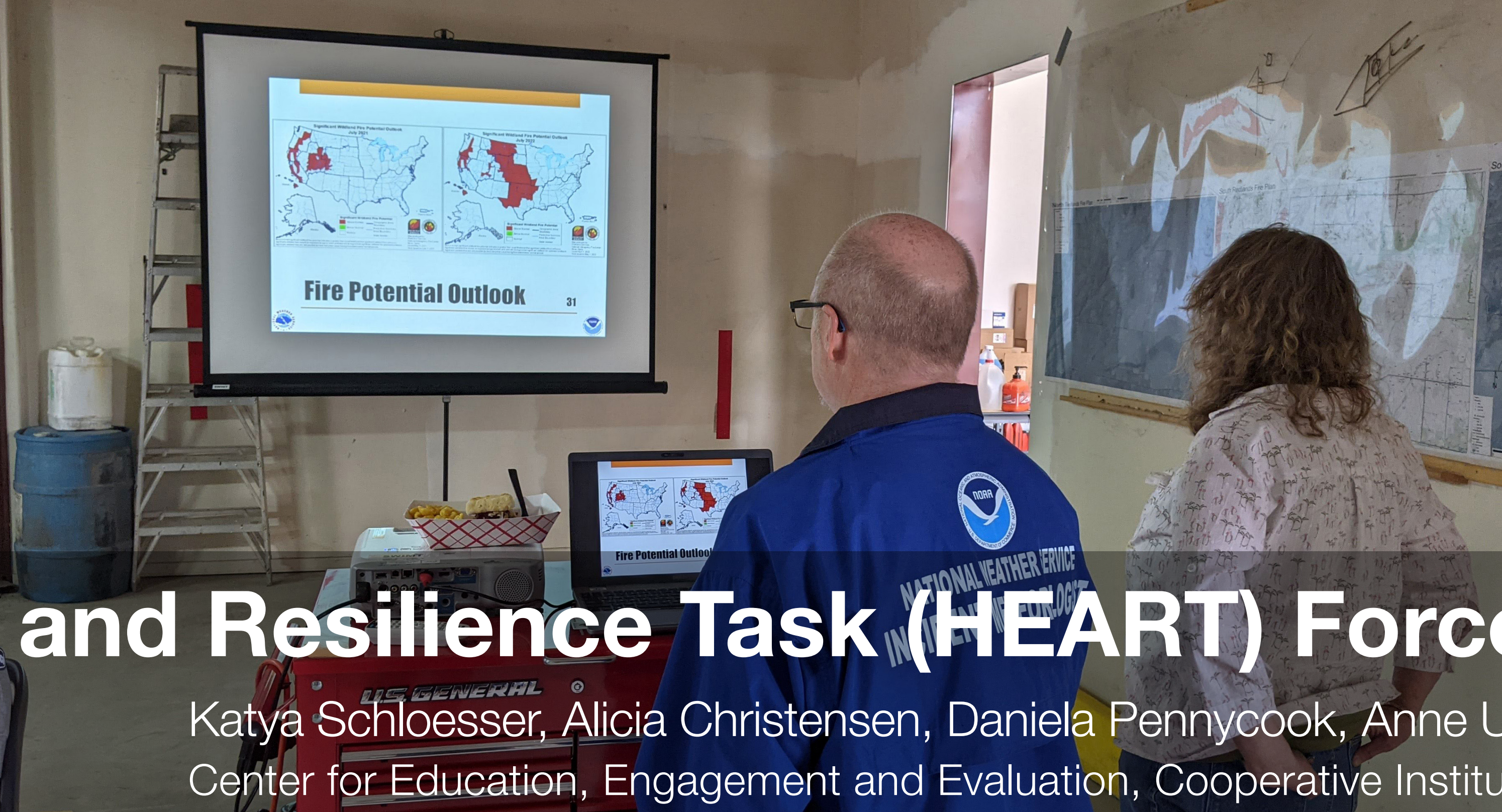




Center for Education,  
Engagement and  
Evaluation

# The Hazard Education, Awareness and Resilience Task (HEART) Force: Working to Create a More Resilient Future in Rural Colorado

Katya Schloesser, Alicia Christensen, Daniela Pennycook, Anne U. Gold, Megan K. Littrell, Kathryn Boyd, Chelsea Zaniboni  
Center for Education, Engagement and Evaluation, Cooperative Institute for Research in Environmental Sciences at the University of Colorado Boulder



## WHAT DO WE DO?

The Hazard Education, Awareness and Resilience Task (HEART) Force engages Colorado secondary students, teachers, and communities to take proactive steps in preparing for hazards that are becoming more frequent due to climate change.



- Middle and high school curriculum designed to build towards NGSS (NGSS MS-ESS3-2 and NGSS HS-ESS3-1)
- Flexible formatting: teachers can teach a 1-16 week unit using stand-alone lessons or the entire lesson progression
- Active, engaging pedagogy based in a local context

## HOW DO WE DOT IT?

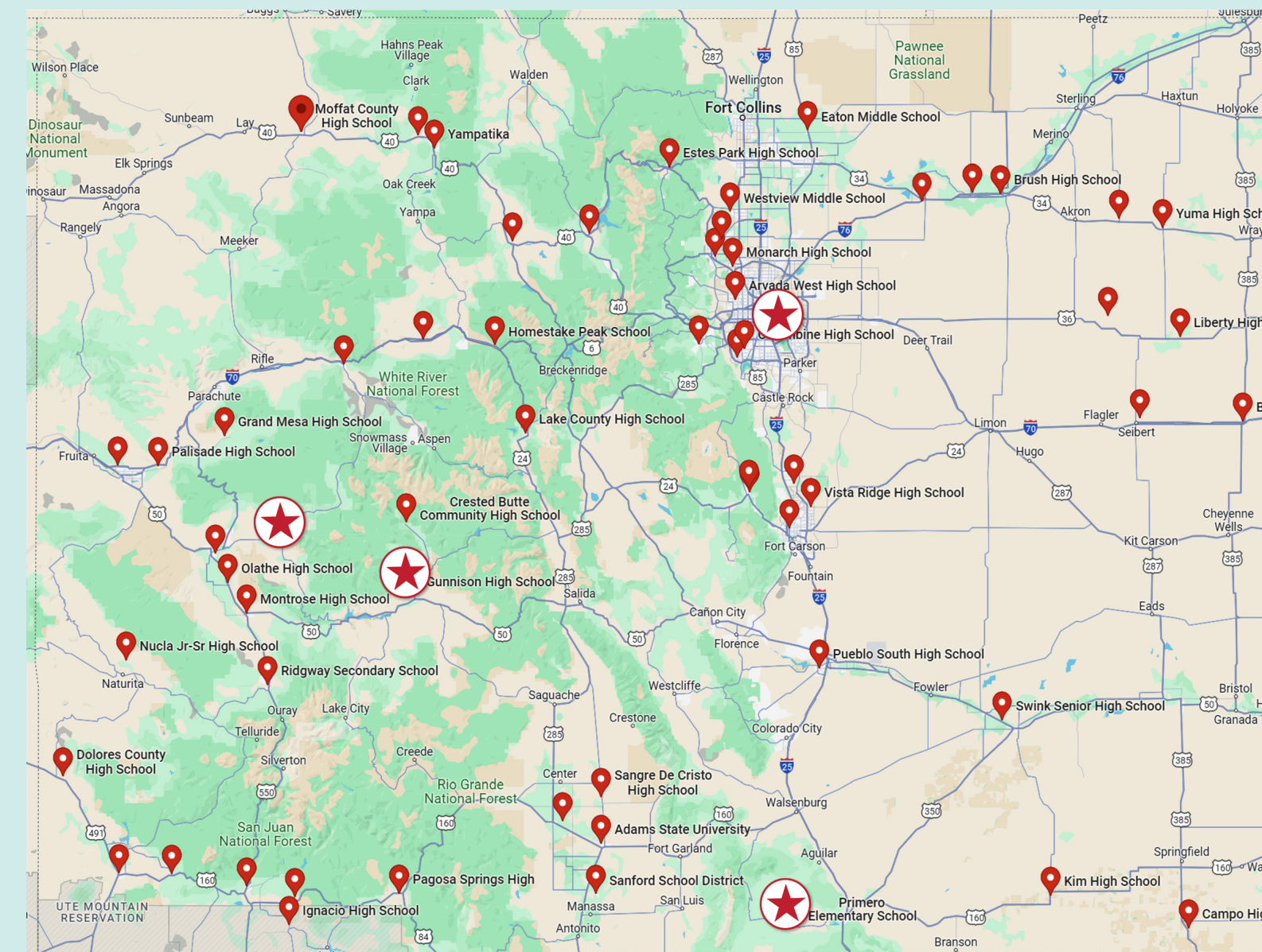
The HEART Force curriculum uses a project-based learning approach, with the driving question “How can we make our community more resilient to (wildfire, flood or drought)?”. Units include the following components:

- Data analysis lessons use local datasets to introduce students to causes, impacts, local risks and vulnerabilities
- Scenario-Based Role Play Games
- Student-led action projects to increase resilience in student’s communities



## WHERE HAVE WE BEEN?

The program began in 2019, with a pilot implementation of the curriculum with four teachers. Since then, over one hundred teachers have participated in program workshops, and more than forty classes have participated in research and evaluation efforts after using the curriculum.



Teacher Fellowship Communities



In 2023, we began the HEART Force Teacher Fellowship, a program for a select group of veteran HEART Force teachers who have committed to teach a quarter or semester long course on resilience. Teachers came together for three days in Gunnison for a Summer Teacher Institute, and presented at the National Science Teachers Association Conference in March 2024.

## WHAT ARE STUDENTS DOING?

### Gunnison Wildfire Resilience Expo

In the fall of 2023, students in Krystal Brown’s high school Environmental Science class engaged with a variety of local wildfire experts with a focus on the Spanish & Cora speaking immigrant community. Students planned and hosted a Community Resilience Expo at the local fairgrounds, where they translated preparedness and mitigation information to Spanish and Cora, raffled off safety items and shared local resources with the immigrant community.



### State WUI Building Code Board Legislation

During the 2022-23 school year, middle school students in the Estes Park Environmental Resilience Team engaged with their local fire district and Colorado State Senator to lobby for the passage of SB 23-166, The Establishment of a Wildfire Resiliency Code Board. Many of the students on the team experienced evacuation during the East Troublesome and Cameron Peak fires in 2020, and felt strongly about taking action to decrease wildfire risk across the state through policy changes. The bill passed!

## Wetland Health & Defensible Space at Chatfield State Park

In spring of 2024, students in Jaime Breitner’s English class partnered with the Audubon Society and Chatfield State Park to learn more about the role that Chatfield has played historically in flood mitigation efforts. Students planted native plants and pulled cattails at a wetland on park grounds to increase flood and wildfire resilience and cleared brush close to park buildings to increase defensible space.



## WHAT ARE TEACHERS SAYING?

I think this brought some perspective to the reality of climate change that encouraged students to become better prepared and look for actionable steps to help elicit change.

The biggest highlight was definitely playing the wildfire game. My students came up with some really excellent questions about dealing with emergency in the real world.

## IS IT WORKING?

83% of teachers said the curriculum was very or somewhat **impactful for students**. Teachers appreciated how the curriculum connected to the local community or real-world issues, making it relevant to students.

