



# Creating Authentic Opportunities for Students to Engage with their Community to Build Resilience to Environmental Hazards in Rural Colorado

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## PROGRAM DESCRIPTION

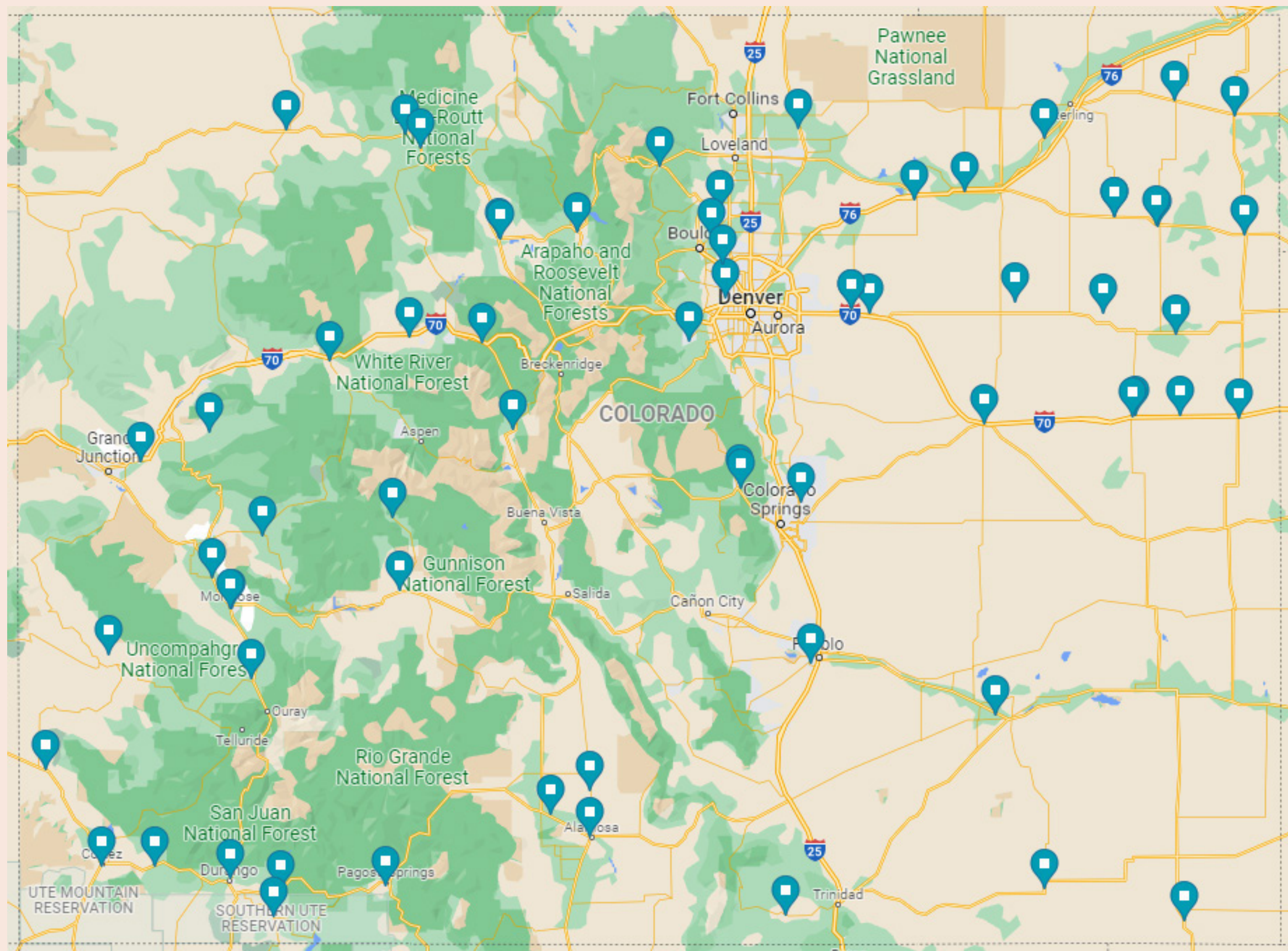
HEART Force engages rural Colorado secondary students, teachers, and communities to take proactive steps in preparing for hazards that are becoming more frequent due to climate change.



- 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 1-6 week unit using stand alone lessons or the entire lesson progression
- Active, engaging pedagogy based in a local context
- Partners include NOAA, the Colorado Resilience Office, the Colorado Division of Homeland Security and Emergency Management, and various rural schools and local government officials

## HEART FORCE TEACHER LOCATIONS

We have partnered with almost 80 teachers across Colorado to pilot the curriculum.



## CURRICULUM OVERVIEW

### Natural Hazards

Teachers begin by selecting a natural hazard to focus on throughout the unit.

### DROUGHT, WILDFIRE OR FLOOD?



### Introduction Lessons

Teachers can choose to begin the unit with vocabulary and/or a visioning exercise

- **Vocabulary of Hazards Lesson**

Students decide whether actions are considered to be for emergency preparedness, mitigation, or to build resilience.

- **Resilient Future Lesson**

Students participate in a visioning exercise, and then reflect on why resilience is important to create the future they hope for.

### Hazard Lessons

Students analyze quantitative, spatial, and observational data about the causes and impacts of natural hazards to create a local news story to educate their community. They also learn how to respond if a hazard occurs.

### Scenario-Based Role-Play Games

Students assume the role of community members responding to a natural hazard as it occurs in their hometown.

### Community Resilience Expo

Students either research existing resilience strategies, or develop their own strategy to present at a community expo. Students also have the opportunity to apply for a mini grant to complete a project if they choose.

## PROGRAM STORIES

### East Grand Middle School, Granby CO

Rebecca C., a chemistry teacher at East Grand Middle School, started off the 2020 school year engaging her students in role-play games and local wildfire data from the HEART Force curriculum. Then in October, the East Troublesome wildfire rapidly overtook the Grand Lake community, and students were evacuated from the very hazard they had been learning about in school. Suddenly it all became too real for Rebecca and her students. With a need to step away from the curriculum due to the raw emotions it brought up, she did not revisit it with her students until the spring. At first hesitant to re-engage in the topic, she charged forward and discovered that people from the local fire department were ecstatic to work with her students to create public service announcements about wildfire preparation. *"It was so wonderful to see the students get so passionate about something. The students who interviewed people who had lost their homes in the fire, their lives were completely changed as a result."* She used to have nightmares about the fire, but as a result of taking action with her students, no longer does. She found a way to heal through the experience and thinks that the students and adults involved probably did too.



### Hotchkiss High School, Hotchkiss CO

"The Redlands Mesa area outside of Hotchkiss, Colorado, is at particularly high risk for wildfires. With the help of the...HEART Force project funded by NOAA's Environmental Literacy Program, freshmen at nearby Hotchkiss High School were able to help that community. Students played a wildlife scenario-based role-play game with local firefighters to identify potential strategies to increase awareness in Redlands Mesa to wildlife risk and to increase enrollment in emergency notifications. *'The firefighters' enthusiasm after participating in the game 'stoked the fire' and made the students feel like they could be changemakers,*" said Michael Muñoz, geophysical science teacher."... The students are now busy putting the plans they created during the wildfire game into action, with a Community Resilience Expo event scheduled for spring 2022." - 2021 NOAA Education Accomplishments Report

