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 rural 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 analyze qualitative, 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 High School, 4PKSL:OVYSZ:HY[:LH:OL:2020 school year engaging her students PU YVL:SWHS:HTLZ:SU:VPSK[FY[L data from the HEART Force curriculum. Then in October, the East Troublesome Fire was particularly devastating to the 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 brought up, she did not revisit it with her students until the spring. At first, she was hesitant to re-teach the curriculum due to the raw emotions and to increase enrollment in emergency preparedness, mitigation, or to build resilience. Students play a wildlife scenario-based role-play game with local firefighters to increase awareness in Redlands Mesa to wildlife risks and to increase enrollment in emergency preparedness. Students also have the opportunity to apply for a mini grant to complete a project if they choose.

Hotchkiss High School, Hotchkiss CO
"The Redlands Mesa area outside of Hotchkiss, Colorado, is at particularly high risk for wildfires," said Michael Muñoz, geophysical science teacher. "...The students who interviewed people who had lost their homes in the fire, their lives were completely changed as a result."

"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." - 2021 NOAA Education Accomplishments Report

Learn more about HEART Force: cires.colorado.edu/outreach/programs/heart-force