



ECOLOGY PROJECT  
INTERNATIONAL

# COLORADO EDUCATOR TRAINING

## EXPLORE HUMAN IMPACTS ON THE ENVIRONMENT

The front range of the Rocky Mountains in Colorado provides an extraordinary opportunity for exploring the far-reaching consequences of human impact on our environment. The high peaks of the Rockies are the collection areas for snow and rain that provide water to the millions of people living on the plains below. Alpine regions provide habitat for a remarkable collection of species and ecosystems that are becoming increasingly isolated and threatened as the landscape morphs due to climate change. Warmer temperatures, changing precipitation patterns, immense wildfires, and expanding cities are changing the landscape and disrupting the niches available to species adapted to life in this biome.

During this course, we'll explore phenomena in the field and contribute to ongoing research projects as we collectively build our understanding of the science and impacts humans are having on our environment. We'll delve into the consequences of species extirpation, habitat destruction & fragmentation, climate change, and over-use of natural areas, and discuss how to create positive change in an effort to understand, preserve, and protect.

Teachers will leave this course with increased understanding of a variety of impacts humans are having on the environment. They will also experience classroom ready curriculum developed by EPI and other organizations, preparing them to deliver this materials in their own classrooms. Leave the program refreshed, inspired, and connected to a peer group of passionate educators.

**PROGRAM LENGTH:** 7 days

**LODGING:** Shared rooms in a mountain lodge

**PD HOURS:** 40 hours



## SAMPLE ITINERARY

- Day 1:** Arrive in Denver, Colorado. Meet your EPI instructor team and spend a day adjusting to the altitude in the Denver area, along the front range of the Rockies.
- Day 2:** Travel to the Mountain Research Station dive into the program. We'll define Environmental Literacy, explore the research station, discuss how we can build student-centered lessons—from phenomena to inquiry—and learn the fundamentals of climate science.
- Days 3-6:** Engage in aspen and pika research—threading field experiences, exploration, reflection, and curriculum exploration together. Explore EPI's classroom curriculum and teaching best practices.
- Day 7:** Close the course by sharing final insights and connections with your cohort. Expect a mid-morning departure for the airport.





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## HOME (AWAY FROM HOME) ON THE RANGE

Two principle phenomena we'll engage with are the current and future reality of the American pika, and the ecology of aspen forests. Both of these phenomena are being impacted by humans in unique ways. The pika, limited to cooler alpine and subalpine environments, is facing a future in a warmer world where they must climb to higher ground to find suitable habitat, creating more disconnected islands of refuge.

Changes in the aspen forest are extensive and historic. Some of these changes are due to the way in which humans first dramatically altered the interconnected ecosystem through the elimination of wolves in the early 1900's. Looking to the future, we'll explore what might happen if wolf populations are successfully re-established by wildlife managers in the future, an idea that was approved by Colorado voters in 2020. To explore this complex social and ecological issue, we'll connect with researchers from the University of Colorado to learn about and participate in investigating the impacts that large mammals have on Aspen forests.

Weaving these experiences together we'll engage in learning fundamental to EPI's goal of inspiring youth with nature and empowering them with science to foster tomorrow's leaders. We'll define and probe our understanding of Environmental Literacy, the nature and practice of science, and experience resources and lesson plans that are ready and available for you to apply in your classrooms after your time in the field.

## DEVELOP A PEER NETWORK

From your cozy basecamp at the Mountain Research Station, you'll have time to collaborate, plan, and write lessons with other science teachers. You'll also have space to share your teaching challenges, best practices, and opportunities to enhance science education with your cohort. Return home with a template for creating future lesson plans, as well as new resources and peers to support and guide you on your continuing teacher journey.

## KEY CONCEPTS:

- Human impacts on the environment
- Climate change
- Species adaptation & resilience
- Equilibrium in ecological systems
- American pika
- Aspen, ungulate, and wolf ecology
- Keystone and indicator species



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