



# ST[EMpower]



SCIENCE, TECHNOLOGY,  
ENGINEERING, AND MATH  
COLORADO STATE UNIVERSITY  
EXTENSION

## 3 FREE CoCoRaHS Rain Gauges Tri-River Teachers (Mesa, Delta, Montrose, and Ouray)

Colorado Department of Education has adopted new science standards this year, and given schools until 2020 to meet them. We are here to help! We have a CoCoRaHS rain gauge to give to a school to support real-world science that will engage your students! By incorporating CoCoRaHS program into your classroom, you will make significant progress in meeting the newly adopted science standards!

CoCoRaHS is a citizen science program that only takes a few minutes each day. The data you submit are used by the National Weather Service, National Weather Service River Forecast Centers, USDA, National Drought Mitigation Center, scientists and others!

[https://www.cocorahs.org/Content.aspx?page=CoCoRaHS\\_Schools](https://www.cocorahs.org/Content.aspx?page=CoCoRaHS_Schools)

Besides the 3 rain gauges we have to give away, CSU Tri-River

COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK  
"Because every drop counts"

Home | Countries | States | View Data | Maps | My Data Entry | Login

Welcome to the CoCoRaHS School Pilot Program!

CoCoRaHS Schools Home Page | For Teachers | For Sponsors | For Mentors

Public, private and home schools are now joining "CoCoRaHS for Schools"!

View this video and then click on 'For Teachers' above for tips on getting started, FAQ's, training materials, lesson plans and more!

CoCoRaHS for Schools  
C.O.C.O.R.A.H.S!!!  
www.cocorahs.org  
Questions? Contact: education@cocorahs.org

### COLORADO ACADEMIC STANDARDS 2018

#### Third Grade Earth and Space Science Standard 3

1. Climate describes patterns of typical weather conditions over different scales and variations; historical weather patterns can be analyzed.
2. A variety of weather hazards result from natural process; humans cannot eliminate weather related hazards but can reduce their impacts.

#### Middle School Earth and Space Science Standard 3

6. Water cycles among land, ocean, and atmosphere, and is propelled by sunlight and gravity. Density variations of sea water drive interconnected ocean currents. Water movement causes weathering and erosion, changing landscape features.
7. Complex interactions determine local weather patterns and influence climate, including the role of the ocean.



8. Humans depend on Earth's land, ocean, atmosphere, and biosphere for different resources, many of which are limited or not renewable. Resources are distributed unevenly around the planet as a result of past geologic processes.

### High School Earth and Space Science Standard 3

7. The role of radiation from the sun and its interactions with the atmosphere, ocean, and land are the foundation for the global climate system. Global climate models are used to predict future changes, including changes influenced by human behavior and natural factors.
12. Global climate models used to predict future climate change continue to improve our understanding of the impact of human activities on the global climate system.

### NEXT GENERATION OF SCIENCE STANDARDS

#### 5-ESS2-1 Earth's Systems

Develop a model using an example to describe the ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. **[Clarification statement: Examples could include the influence of the ocean ecosystems, landform shape, and climate, the influence of the atmosphere on landforms and ecosystems, through weather and climate; and the influence of mountain ranges on winds and clouds in the atmosphere. The geosphere, hydrosphere, atmosphere, and biosphere are each a system.]** **[Assessment Boundary: Assessment is limited to the interactions of two systems at a time.]**

The screenshot shows the CoCoRaHS website interface. At the top, it says "COMMUNITY COLLABORATIVE RAIN, HAIL & SNOW NETWORK" with the tagline "Because every drop counts". There are navigation links for Home, Countries, States, View Data, Maps, My Data Entry, and Login. A language selection dropdown is set to "Select Language". Below the navigation are buttons for "CoCoRaHS Schools Home Page", "For Teachers", "For Sponsors", and "For Mentors". A main menu on the left lists Home, About Us, Join CoCoRaHS, Contact Us, and Donate. A resources section on the left lists various links like FAQ/Help, Education, Training Slide-Shows, Videos, Condition Monitoring, Evapotranspiration, Soil Moisture, Volunteer Coordinators, Hail Pad Distribution/Drop-off, Help Needed, Printable Forms, The Catch, Message of the Day, Publications, CoCoRaHS Blog, Web Groups, State Newsletters, Master Gardener Guide, State Climate Series, March Madness, WxTalk Webinars, Sponsors, Links, and CoCoRaHS Store. The main content area features a diagram of a rain gauge with labels: Funnel, Overflow Tube, Mounting Bracket, and Measuring Tube. Below the diagram, it says "Lesson Plans:" and lists seven lessons with PDF links: Lesson 1: Equipment and Measurements (PDF), Lesson 2: Registration and Data Entry (PDF), Lesson 3: It's Not Easy Being Green. (PDF) Accompanying slide show (PDF), Lesson 4: Practice Reading the Rain Gauge: Teacher Guide (PDF) Student Worksheet (PDF), Lesson 5: A History of the Sky: Observing Climate (PDF), Lesson 6: When Rain Reigns (PDF) Accompanying Excel Spreadsheet (excel), and Lesson 7: Rain Measurements Tell a Story (Created by UCAR Center for Science Education). Logos for AMBASSADOR WxN, NOAA, and a "Who uses CoCoRaHS Observations?" box are also visible.

Extension has equipment to borrow from us free of charge for all grades!

#### APPLY:

- Complete the application by 5:00 PM on September 17 and email it to: [barbara.shaw@colostate.edu](mailto:barbara.shaw@colostate.edu). Noah Newman of the Colorado Climate Center and Education Director for CoCoRaHS and Dr. Shaw, Extension Western Region STEM Specialist, will review the applications and notify you on 9/21/2018 if you have won.
- The goal is to provide rain gauges to teachers who develop a solid plan for their students to engage in relevant science, strongly supporting both the Colorado Academic Science Standard or the Next Generation Science Standards' concepts in weather and climate.
- The selection of the rain gauges is not determined by the number of students, but the plan you have to use it. We are requesting student

## Application for CoCoRaHS Rain Gauge and Snow Swatter



Your Name: \_\_\_\_\_

Grade: \_\_\_\_\_ How many students? \_\_\_\_\_

E-mail: \_\_\_\_\_ Phone Number: \_\_\_\_\_

School: \_\_\_\_\_

School's Address: \_\_\_\_\_

\_\_\_\_\_

Principal's Signature: \_\_\_\_\_

Suitable location found to install the rain gauge? \_\_\_\_\_

- Avoid large obstacles that could block precipitation.
- Avoid mounting the rain gauge where sprinklers or other sources of artificial precipitation can affect the data.
- Make sure the top of the rain gauge is level.
- Mount the rain gauge so that heavy rain could not splash into the gauge from any nearby surfaces.
- Mount the rain gauge in an area protected from strong wind, if possible.

**Describe your plan to use the rain gauge with your students and participate in the CoCoRaHS Citizen Science Program for at least one month a year.** You are not limited by the space below. Please include your full plan on additional pages as needed.

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**Confirm that you will report your data to CoCoRaHS at least one month in 2018-19 school, and plan to incorporate this program yearly:** \_\_\_\_\_