Making a Broader Impact at the Cooperative Institute for Research in Environmental Sciences (CIRES), a NOAA Joint Institute

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**Education and Outreach at CIRES**

NSF defines broader impacts as activities that:
- Advance discovery and understanding while promoting teaching, training, and learning.
- Broaden participation of under-represented groups.
- Enhance infrastructure for research and education.
- Broaden dissemination to enhance scientific and technological understanding.
- Provide benefits to society.

NASA and NOAA desire similar engagement. These activities benefit researchers as well.

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**CIRES and NOAA Researchers in the Community**

Some current examples:
- Water Spotters: Diverse student–scientists in an after-school environment (Noone)
- Extreme Ultraviolet Variability Experiment: Teacher professional development, classroom kits, Smart Board lessons. (LASP, SWPC)
- NOAA Coral Reef Task Force: Evaluation support to identify user needs, inform product development.
- Arctic Terrestrial Sites: Online data-rich modules for teachers (Grachev, Persson)
- Climate Education Online Course: NASA funded materials and webinars for educators (included Dilling, Nerem, Meier, Tans, Herring, Viereck, and CIRES grad students)
- Reviewing Climate and Energy educational materials
- Webinars on climate impact topics
- GK–12 STEM graduate students in middle school classrooms
- Air quality educator workshops and public engagement for NASA and Colorado Department of Health summer field campaign.

**REU in Critical Zone Observatory science for diverse community college students.**

**Need for models and best practices**

- Inreach: Engaging our researchers
- Broadening audiences: Working with stakeholders outside of education.
- Program evaluation: Existing models and metrics
- Information systems: Customer relationship management and project management.

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**Engagement opportunities**

- There are lots of ways to engage with CIRES EO:
  - Review a resource
  - Participate in an online course ($=$pays stipend)
  - Participate in a CLEAN review panel ($)
  - Host a brown bag for your research group
  - Volunteer for National Ocean Sciences Bowl
  - Get feedback on a presentation
  - Get resources for a course or classroom visit
  - Sign up to visit a classroom or present a webinar.

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**More information**

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