Supporting the mission of USGS science through STEM learning activities

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Issue/Challenges:
Like all federal agencies, the work we do at USGS needs to be relevant to our stakeholders – primarily the public, U. S. citizens of all ages. This Action Learning Scenario revolves around the question: How can we use STEM* learning activities to bring the message of USGS's science mission to our constituents? The issue is complex and challenging in a variety of ways:

Geography: One advantage we have is that USGS is spread out widely across the country. That allows us to impact multiple communities in every state and territory. However, it also provides challenges in sharing ideas and best practices, and amplifying efforts that are happening across the landscape. How can we overcome the challenges and use the advantages of our dispersed workforce in STEM learning activities?

Communication: Great things are happening across USGS in youth and education activities. It is not necessary to reinvent the wheel in every office. What we need are strategies for building a community of practice. How can people share ideas across USGS and inspire each other in STEM efforts?

Mission: The USGS has a vast repository of data, and sharing that data with the public is our mission. How can we use USGS data as an entrée point for young people exploring science careers?

Culture: Most people working at USGS have a desire to serve the public, but very few have a job description that includes STEM learning activities. How can we build an agency culture to encourage and reward individuals who are engaged in STEM education and learning in both formal (classroom/curriculum) and informal settings?

Background material/resources:
The links below are examples of how other federal agencies present science information for students and educators, and the kinds of projects and programs they have. There are also links (SERC and Citizen Science) about the kinds of learning programs or resources people have created. The goal is to get you thinking about what might be possible.
http://www.smithsonianeducation.org/students/
http://www.noaa.gov/office-education/noaa-education-outreach
https://www.nasa.gov/audience/foreducators/index.html
https://www.citizenscience.gov/
https://serc.carleton.edu/usingdata/federal_data.html
https://thrivingearthexchange.org/

*STEM stands for Science Technology Engineering and Mathematics. Sometimes "A" is added because Arts can incorporate these fields, and they, in turn, can be enhanced by Arts: STEAM

Expectations:

We are in an opportune moment within USGS; we have a new director and he supportive of youth and education programs. There is a new Federal STEM Education 5-year strategic plan currently being written, and USGS is engaged in that. This is the time to bring new ideas and fresh energy to USGS STEM, or STEAM, efforts.

Develop creative strategies that address these challenges and that move our efforts in STEM learning forward. Some of these ideas should be easy to implement with our existing structure and tools, but some can be aspirational, requiring new resources or paradigms.

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