



Earth Challenge 2020: Research Questions to Help Citizen Science Scale

Your knowledge + Small digital acts of science = Answers to the world's most pressing challenges

April 22nd, 2020 marks the 50th anniversary of Earth Day. In recognition of this milestone a consortium of partners is launching Earth Challenge 2020 (EC2020) as the world's largest coordinated citizen science campaign to date. By working with existing citizen science projects and building capacity for new activities, EC2020 will foster the collecting and integration of one billion open, interoperable data points to strengthen links between science, the environment, and society. In addition to integrating existing citizen science data, Earth Challenge 2020 will also create a new mobile application and app framework, available in six UN languages, to help communities around the world participate in citizen science.

To make sure that Earth Challenge 2020 is relevant to everyday people's lives, we launched a public call for questions and insights around "*critical topics in environmental and human health*" in fall 2018. We collected hundreds of responses, with engagement from all seven continents. After analyzing common themes with our partners, we identified six high-level questions to become focal points for our work:

1. What is the extent of plastic pollution?
2. What's in my drinking water?
3. What are the local impacts of climate change?
4. How are insect populations changing?
5. How does air quality vary locally?
6. Is my food supply sustainable?

We've mapped United Nations Sustainable Development Goals (SDGs) to each research question to highlight their intersectional nature, create links to an international policy framework, and further engage the global community. Now, we're reaching out to a range of communities, including experts working in citizen science and complementary research areas, to understand where exactly Earth Challenge 2020 can provide the most value and to invite potential partners to join us on this endeavor.

Contribute Your Expertise

Join us in developing the research methods we'll use to guide the Earth Challenge 2020 effort. We understand that partnering with the research community is critical for making sure that Earth Challenge 2020 data are useful, usable, and used. We're enlisting citizen science practitioners, other scientists, educators, and others to decide what data and information will be most helpful to answer these questions using citizen science. We're organizing six Research Teams—each focused around one of the research questions.

Research Teams will work with us and each other to:

- Take a critical look at how the research questions align with the relevant SDGs.
- Decide how the SDG indicator and target structure will influence data collection and integration in Earth Challenge 2020.
- Identify what citizen science data already exists.
- Ensure existing data can be documented in a harmonized way.
- Determine what new data should be collected using the Earth Challenge 2020 mobile app.
- Help identify and/or design protocols for data collection, validation, and integration.
- Identify complementary data and information, including data from sensors (Earth observations and low cost/ open source).
- Offer strategic advice on other aspects of the project, including the design of educational materials and a what-you-can-do toolkit.

We're seeking individuals to serve as volunteer advisors to research teams who:

- Are committed to helping collaborative citizen science scale.
- Have an interest in one or more of the research questions.
- Value and/or have expertise in data interoperability.
- Value scientific rigor.
- Value and/or have experience in engagement, education, and impact evaluation.
- Are willing to share their knowledge with a broader community.
- Can commit to monthly or bimonthly phone calls and periodic emails.

Join a Research Team

Some of you previously expressed interest in becoming a member of one of the Earth Challenge 2020 research teams. Others of you may be learning of this project for the first time. Either way, please **email Sarah Newman, Research Team Coordinator, at sarah.newman@colostate.edu if you are interested in participating AND indicate which research team question(s) you are interested in.**

Earth Challenge 2020 is a collaboration between the Wilson Center, Earth Day Network, and U.S. Department of State and many more partners. Learn more at: <http://earthchallenge2020.earthday.org/>

