



GLOBE and USAID



USAID Program Sectors and GLOBE Activities and Protocols

The USAID has program sectors that align with GLOBE’s programmatic activities and science protocols. Some of the ways USAID can and is using GLOBE are listed in this document.

USAID

AGRICULTURE AND FOOD SECURITY

GLOBE protocols are used as indicators for agriculture and food security. Collaboration with GLOBE’s NASA Satellite Mission Field Measurement Campaigns, such as the Global Precipitation Measurement (GPM) and the Soil Moisture Active Passive (SMAP), provide context for soils and precipitation protocols to document environmental impacts on agriculture.

USAID

EDUCATION

GLOBE is an international science and education program that provides the ability to view and interact with data measured around the world and communicate scientific findings. The GLOBE Teacher’s Guide provides grade-level appropriate, interdisciplinary activities and investigations that allow students to conduct real, hands-on science about their local environment and put them in a global perspective. GLOBE trainings provide K-12 teachers, pre-service teachers, and scientists access to science and educational resources and pedagogy. Various GLOBE materials and resources have been translated in over 15 languages.

DIRECT LINKS TO USAID PROGRAMS

Improving Early Grade Education: Elementary GLOBE science-based storybooks can be used as curriculum for English language learning and science-content learning to introduce students to key concepts in water, soil, clouds, seasons, aerosols, and Earth System studies.

Workforce Development: GLOBE Trainers and Mentor Trainers gain access to professional development (including STEM pedagogy and science content) and a worldwide community of training professionals. The GLOBE International STEM Network is an international network of STEM professionals (Science, Technology, Engineering, and Mathematics) that work with GLOBE students around the world conducting science. GISN members share their expertise with the next generation of STEM professionals. Additionally, SERVIR, a joint venture between NASA and USAID, is a good connection for GISN members.

Expanding Access to Higher Education: GLOBE countries host GLOBE Teacher Trainings to train teachers in science content and pedagogy. For example, GLOBE Kenya conducted a teacher training workshop at the Centre for Mathematics, Science and Technology in Africa. GLOBE participated in a regional scientific cooperation meeting at the invitation of the USAID Middle East Regional Cooperation Program which organized the meeting for researchers in the region.

Letting Girls Learn: GLOBE is used as curriculum for all-girls schools, after school programs and Girl Scout groups. For example, GLOBE Saudi Arabia participated in the First Workshop for Women and Children held in Jeddah, Saudi Arabia. GLOBE’s Earth system science protocols and emphasis on science literacy connect. GLOBE protocols can be incorporated into environmental assessment and risk management for practitioners, scientists, and students.

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ENVIRONMENT

GLOBE field measurement campaigns/Intensive Observation Periods foster collaboration among students, teachers, scientists and the public on inquiry-based research on the environment. In 2023-2024, “The Year of Climate and Carbon” is engaging students in considering what environmental changes are emerging in their local ecosystems and how they can pursue further understanding by collecting phenological and biomass data. **GLOBE community-led research campaigns** lead to actions in response to environmental changes. For example, Croatian students used GLOBE protocols to understand toad migrations near busy roads; Estonian students organized a tree planting event with the U.S. Embassy and the State Forest Management Center as part of a GLOBE 20th Anniversary Celebration; and GLOBE students in Peru monitored bio-indicator species to carry out water impact assessments. **Environmental Impact and Assessment:** In 2016, USAID supported UCAR scientists to conduct a Weather Ready Nations Ambassador Program training at a GLOBE school in Nairobi, Kenya, as part of the GLOBE Lake Victoria Learning Expedition. **Earth Day Celebrations:** Earth Day marks the anniversary of The GLOBE Program, founded on Earth Day in 1995. GLOBE celebrates local Earth Day celebrations around the world, as well as connects schools internationally through the GLOBE International Virtual Science Symposium, Earth Day video competitions, including videos on how students learn about their local climate through data collection. GLOBE has been used to leverage Embassy and USAID Programs outreach on Earth Day. In 2022, GLOBE students around the world joined in an Earth Day air temperature data challenge, collecting a massive amount of data and then visualizing and connecting the worldwide data they collected.

USAID

GLOBAL HEALTH

Scientific Observations: The GLOBE community can be a conduit for USAID health efforts. For example, scientific observations by GLOBE students also support public health. In 2016, GLOBE, in partnership with the Institute for Global Environmental Strategies was funded to develop, test, and deploy a solution to mitigate the spread and impact of the Zika virus as part of USAID’s Grand Challenge to Combat Zika. The project engaged South American school-age children, parents and community decision makers in the identification and mitigation of local mosquito breeding sites and provided them with tools to determine whether the mosquito larvae they identify and map are vectors for disease. **GLOBE Zika Education and Prevention Project:** In 2018-2021, the GLOBE Zika Education and Prevention Project, funded by the U.S. Department of State, engaged thousands of students, teachers and communities to collect data on mosquitoes for a global mapping project and connect with their community public health officials to disseminate educational material. This focus on mosquitoes continues in the **GLOBE Mission Mosquito Measurement Campaign**, with students, educators and citizen scientists submitting data on mosquitoes and NASA scientists working with local governments, doctors and public health officials to find new ways to combat mosquitoes.

USAID

WATER AND SANITATION

The GLOBE Hydrosphere Investigation Area engages students to understand the condition of Earth’s surface waters- streams, rivers, lakes, and coastal waters- and how they change from year to year. Some of the measurements that students take include transparency, water temperature, dissolved oxygen, and pH. GLOBE provides K-12 students resources and tools to understand their local watersheds and communicate environmental changes. For example:

- ▶ **Students in Thailand** conducted scientific investigations about outdoor water containers, mosquito larvae and dengue as part of the GLOBE International Virtual Science Symposium.
- ▶ **In Nepal**, GLOBE, the Environment Camps for Conservation Awareness (ECCA) partnered with the Ministry of Education, the Nepali Government, and the UN Habitat to create a Water Classroom for students to learn about pond ecology and how to preserve it.
- ▶ **SERVIR West Africa** conducted a Train-the-Trainer session on GLOBE water quality protocols
- ▶ **World Water Day:** GLOBE countries lead national and local celebrations as part of World Water Day. For example, GLOBE Italy hosts an annual “Rivers in Spring” festival in Mantua, Italy to connect Italian research scientists and schools on themes such as “Water Conservation in Agriculture.”