



The GLOBE Program in North America



.....
● An international hands-on, school-based education and
● environmental science program uniting students,
● teachers, and scientists in study and research
● about the dynamics of Earth's environment.
● Over 49,000 teachers in more than 22,000
● schools in over 100 countries have been
● trained to implement GLOBE.
.....





GLOBE Program Summary

GLOBE (Global Learning and Observations to Benefit the Environment) is a worldwide hands-on, primary and secondary school-based science and education program. Announced in 1994, GLOBE began operations on Earth Day 1995. Today, the international GLOBE network has grown to include representatives from 110 participating countries and over 100 U.S. Partners coordinating GLOBE activities that are integrated into their local and regional communities. Due to their efforts, there are more than 49,000 GLOBE-trained teachers representing over 22,000 schools around the world. GLOBE students have contributed more than 18 million measurements to the GLOBE database for use in their inquiry-based science projects. The goals of the GLOBE Program are to:

- Improve student achievement across the curriculum with a focus on student research in environmental and Earth system science;
- Enhance awareness and support activities of individuals throughout the world to benefit the environment;
- Contribute to scientific understanding of Earth as a system; and
- Inspire the next generation of global scientists.

Scientists and educators have developed environmental science educational materials as a resource for GLOBE teachers, including 54 scientific protocols, 60 Learning Activities, and many additional supplemental resources and activities.

GLOBE students measure and report physical, chemical and biological properties of Atmosphere and Climate, Hydrology, Soil, Land Cover/Biology and Phenology. The resulting global data sets are made freely available via the Internet at <www.globe.gov> to users including the worldwide environmental science community. GLOBE students also access these data for classroom studies, research, student-scientist partnerships, and worldwide school-to-school collaborations.

The current step in the evolution of the GLOBE Program, referred to as the “Next Generation GLOBE” (NGG), is aimed at increasing the number of student inquiry-based research projects focused on international large-scale science initiatives. The National Aeronautics and Space Administration (NASA) and the National Science Foundation (NSF) have identified 4 new Earth System Science Projects (ESSPs) to add to the suite of educational activities and resources GLOBE has offered to students and teachers since 1995:

- Watershed Dynamics
- From Local to Extreme Environments (FLEXE)
- Seasons and Biomes
- Carbon Cycle

The GLOBE Program provides opportunities for students, teachers, scientists, and community members to work together through the GLOBE Schools Network, the international GLOBE Alumni organization, and the GLOBE Parent Council in support of student learning and research.

GLOBE supports education by providing hands-on experience in authentic science. GLOBE students are doing science, not just learning about the work of others. Students begin with measurements of individual environmental parameters and build how to better understand, sustain and improve Earth’s environment at local, regional, and global scales.

NGG highlights GLOBE’s essential elements of being both education and Earth system science, a bridge between these two international communities, a worldwide collaborative community of practice, and a program that employs inquiry based educational activities that involve students in “authentic” hands-on science, the analysis of data and the use of scientifically-tested protocols.





Educational Materials

GLOBE provides a variety of K–12 educational materials, from hands-on inquiry activities for classroom use to online interactive learning experiences and investigations using student-collected data.

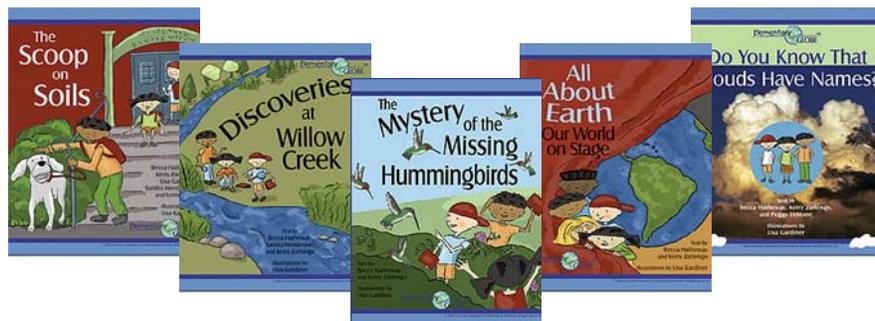


GLOBE Teacher's Guide

The GLOBE Teacher's Guide provides the scientific and educational foundation for the first generation of GLOBE investigations: Atmosphere, Hydrology, Land Cover, Phenology, and Soil. It includes information necessary for accurate data collection such as measurement procedures, student lab and field guides, instrument specifications, and scientific background information. The Teacher's Guide also includes a variety of Learning Activities that complement data collection and extend student understanding of the Earth as a system through a hands-on and inquiry-based approach.

Elementary GLOBE

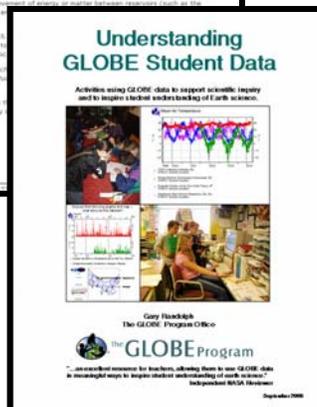
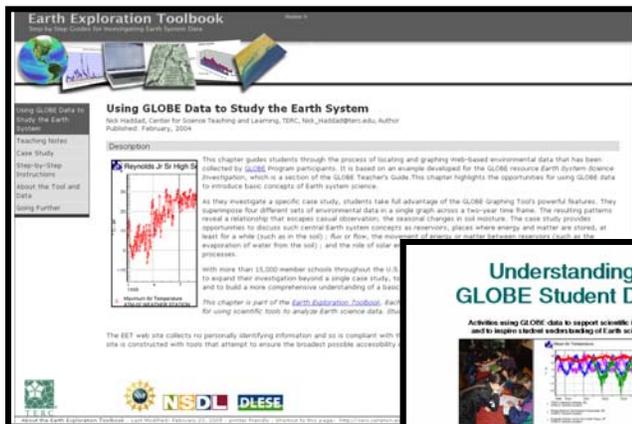
GLOBE has developed a suite of storybooks and learning activities specifically designed for grades K–4 that form the Elementary GLOBE Unit. This unit engages the youngest GLOBE students in an age-appropriate fashion. These standards-based and classroom-tested resources include five modules that each address parts of the Earth system while also building literacy skills.





Online Teaching Modules

The GLOBE Program has developed Interactive online resources to promote understanding of GLOBE Program content and scientific protocols. Resources combine graphics and interactivity to promote understanding through a hands-on approach that has been established as a successful model for online learning. The Cloud Protocols module (shown here) promotes scientific understanding of cloud formation, content on identification of cloud types, and interactive features to help online learners to accurately collect data related to the GLOBE Cloud protocols.



Data Use Activities

Educational materials have been designed to encourage student analysis and interpretation of data. The data use activities foster student investigation of environmental data using the GLOBE Web site and its online graphing tools. GLOBE educational technologists are exploring additional learning models to encourage student interpretation of data in an online and inquiry-based format.





GLOBE Learning Expeditions

GLOBE Learning Expeditions (GLEs) are organized every few years in order to provide students from around the world the opportunity to present their research projects to their peers, to GLOBE scientists, and the greater GLOBE community. These conferences also provide students with opportunities to establish friendships and to develop collaborative partnerships that will enhance their future GLOBE experiences. GLEs provide teachers with opportunities to share innovative ideas and challenges, to attend protocol and related professional development sessions, and to build connections for research efforts between schools. GLEs have occurred in 1998 (Helsinki, Finland), 2000 (Arkansas, U.S.A.), 2003 (Šibenik, Croatia), and 2008 (Cape Town, South Africa). For more information visit: www.globe.gov/gle2008.



GLOBE Annual Conferences

GLOBE Annual Conferences bring together GLOBE Country Coordinators, U.S. Partnership Coordinators, Science and Education Principal Investigators, and Partnering Organizations from around the world to address key science and education issues. These events offer a unique opportunity for participants to learn about the latest scientific research, interact with the GLOBE community, and develop collaborative student research partnerships with scientists and schools from around the world. The next GLOBE Annual Conference will occur in August 2009 in Calgary, Canada. For more information visit: www.globe.gov/annualconferences.





GLOBE Partner Coordinators in North America (2 Countries)



Canada
286 Schools

Country Coordinator:

Mr. Bill Batycky
SEEDS Foundation - Science Specialist
Program Development and Support
#400, 144 - 4th Avenue S.W.
Calgary, Alberta
CANADA T2P 3N4
Telephone: 403 239 3611
Fax: 403 221 0876
Email: bbatycky@shaw.ca
GPO: canada@globe.gov



United States
14,942 Schools

Country Coordinator:

Dr. Teresa J. Kennedy
Deputy Director
The GLOBE Program
University Corporation for Atmospheric Research
3300 Mitchell Lane, Rm. 2104
Boulder, CO 80301 USA
Telephone: 1 800 858 9947
Fax: 1 970 491 8768
Email: help@globe.gov
GPO: united-states@globe.gov

GLOBE International Advisory Committee Representative: Dr. Paul Ruscher (USA) <ruscher@met.fsu.edu>

The GLOBE Program in the United States enters into partnerships with U.S. organizations which undertake efforts to recruit GLOBE schools, train GLOBE teachers, and mentor GLOBE students in their areas.

To contact your closest U.S. Partner:

1. Go to www.globe.gov;
2. Click on 'For Partners';
3. Click on 'U.S. Partners' under Partners;
4. Click on a yellow circle, identifying locations of U.S. Partners, or select a state or territory in the drop-down menu (see below);
5. Clicking the U.S. Partner name will lead you to the Partner contact information;
6. Call 1 800 858 9947 or e-mail help@globe.gov if you need further assistance.



U.S. Territories



American Samoa
16 Schools



Guam
3 Schools



Northern Mariana Islands
2 Schools



Puerto Rico
342 Schools

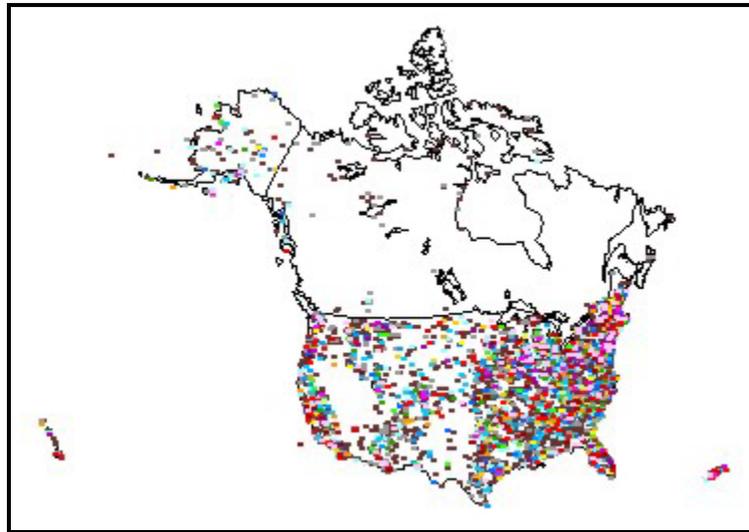


U.S. Virgin Islands
12 Schools

Note: Schools in U.S. Territories are included in total U.S. School numbers



U.S. Partners represent a variety of professional organizations, such as: (BOCES) Board of Cooperative Educational Services, Educational Consortia, Foundations, Institutions of Higher Education, Learning Centers, Museums, NASA Centers and Affiliates, Non-Profit Organizations, Offices of Education, Private Organizations, School Districts, and State-Funded Organizations.



North America

Teachers: 38,802 Schools: 15,237
Data Reported: 6,485,238

English Español Français Русский اللغة العربية Deutsch Nederlands

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GLOBE PARTNER Newsletter

North America Newsletters

- [GLOBE PARTNER Newsletter](#) [GLOBE Newsletter 2008](#) (Aug 2008)
- [GLOBE PARTNER Newsletter](#) [GLOBE Newsletter 2007](#) (21 Nov 2007)
- [GLOBE PARTNER Newsletter](#) [GLOBE Newsletter 2006 Vol 2](#) (16 Oct 2006)
- [GLOBE PARTNER Newsletter](#) [GLOBE North America Regional Update](#) (2 Oct 2006)
- [GLOBE PARTNER Newsletter](#) [GLOBE Regional News in the U.S., 2006 Vol. 1](#) (2 Mar 2006)
- [GLOBE PARTNER Newsletter](#) [U.S. Newsletter](#) (30 Sep 2005)
- [GLOBE PARTNER Newsletter](#) [U.S. Spring Newsletter](#) (29 Mar 2005)

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[GLOBE International Advisory Committee](#)

[The Fourth GLOBE Learning Expedition and 12th Annual GLOBE Conference](#)

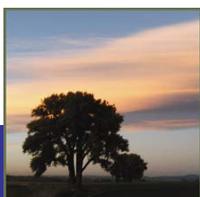
[2009 Annual Conference](#)

[The GLOBE Online Annual Partner Survey](#)

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GLOBE Online Newsletters

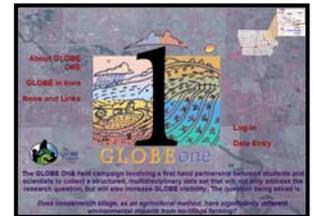


Highlights of GLOBE Activities in North America

Regional Collaborative events:

• Field Campaigns:

- Contrail Count-a-thon, held on Earth Day, 2005
www.globe.gov/fsl/html/templ.cgi?sciweek2005&lang=en&nav=1
- Surface Temperature Campaign, held Oct 17 – Nov 23, 2005
www.globe.gov/fsl/html/templ.cgi?surftemp_oct2005&lang=en&nav=1
- Where on Earth? GIS Day Activity and Campaign, held November 15-19, 2004
www.globe.gov/fsl/html/templ.cgi?gis_day_2004&lang=en&nav=1
- GLOBE ONE Field Campaign in Iowa, from 2003 to 2006
www.globe.gov/fsl/qlobeone/index.pl
- CALIPSO-CloudSat Launch and related activities, from 2004 to 2008
www.globe.gov/fsl/html/templ.cgi?CalipsoCloudsat&lang=en&nav=1
CALIPSO Outreach <http://calipsooutreach.hamptonu.edu/>
CloudSat Education & Outreach <http://cloudsat.atmos.colostate.edu/education>



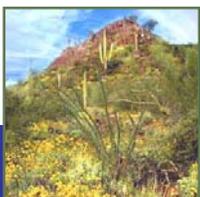
• Partner—Teacher Events:

- NSTA 2008 Annual Conference, Boston, Massachusetts (March 29 - April 1, 2007)
 - U.S. Partner Meeting — 24 Partners from 11 states participated in the meeting.
- NSTA 2007 Annual Conference, St. Louis, Missouri (March 29 - April 1, 2007)
 - U.S. Partner Meeting — 26 Partners from 14 states participated in the meeting.
- NSTA 2006 Annual Conference, Anaheim, California (April 5-6, 2006)
 - U.S. Partner Meeting — Partners from 16 states participated in the meeting.
- U.S. GLOBE Learning Communities Meeting, Corpus Christi, Texas (September 12-13, 2005)



Participants came from 19 states representing most sectors of the GLOBE community including the NASA network, State Departments of Education and State-based teacher organizations, HBCUs, Tribal schools, Hispanic populations, Schools for the Deaf and Blind, informal science education communities, and university representatives. The business community was also represented in order to assist partnerships with issues regarding capacity building and programmatic sustainability. The GLOBE Learning Community model in the U.S. continues to place a high priority on collaborations that include state NASA representatives from Space Grant, the Broker Facilitator Network, NASA Educator Resource Centers, NASA Aerospace Education Specialists, the NOVA Program and Explorer Schools.

- NSTA 2005 Annual Conference, Dallas, Texas (March 31, 2005); GLOBE Program





Highlights of GLOBE Stars and News and Events in North America



Eagle Scout Project Leads to Construction of 11 GLOBE Instrument Shelters, Ft. Collins, CO, USA

August 25, 2004

Eagle Scout candidate Greg Colton with Troop 83 from Ft. Collins, Colorado, led the construction effort of building 11 GLOBE instrument shelters which will be donated to local GLOBE schools.



GLOBE Canada Tapped to Further Youth Science Skills

September 16, 2003

GLOBE Canada, through a proposal by the Yukon Teachers Association, has been awarded a three-year \$45,000 grant by the Natural Sciences and Engineering Research Council of Canada for its Promoscience competition.



Payback Time for Students in Waynesboro

April 05, 2002

Students at the Waynesboro (PA) Area High School once turned to local businesses and government offices for help in buying the instruments and other equipment they needed to participate in GLOBE. Now those same institutions benefit from daily weather information that Waynesboro students supply.



Queens College/GLOBE NY Metro Partnership: Corporate Funding & Collaboration Key to a Metropolitan Scale

Queens College's Dr. Alan Ludman and New York's Con Edison are true "GLOBE Stars" at the center of GLOBE NY's Metro Partnership. Queens College is the GLOBE Partner for southern New York State, responsible for introducing and supporting GLOBE in New York City, Nassau, and southern Westchester counties. Con Edison is one of New York City's major energy



A Student's Question Leads to National Award, IA, USA

April 26, 2002

"Can the actions of man change a pixel's MUC code?" In the course of her land cover studies, fifth-grader Megan of Shenandoah Middle School in Iowa asked that question. Her quest for an answer led her to a national science award. The National Aeronautics and Space Administration (NASA) Stennis Space Center awarded Megan first place in the "Watching Earth Change" division of the NASA Student Involvement Program (NSIP), grades 5-8 division, for her project, "Loess Hills, Gentle Giants."



Hudsonville High School and King Elementary Unite to Learn about the Environment

January 31, 2005

This fall, a class of eighteen fifth-graders from Muskegon Heights, MI, teamed with a group of fifteen high school students from Hudsonville, MI, in a collaborative effort to collect water and air quality data. The link between these two schools was an interest in the environment through GLOBE - a global network of teachers, students and scientists dedicated to gathering and understanding accurate environmental data.



The Iowa Academy of Science and the Iowa Junior Academy of Science added to the honor April 19 when they awarded Megan special recognition for "extending her GLOBE Iowa classroom learning to win" the NASA prize.

"Megan is an example of the success of the GLOBE inquiry process," says Marcy Seavey, Education Director of the Iowa Academy of Science, also a GLOBE Partner. "She looked at the world around her, asked how that world was changing, and then answered her own question using research and GLOBE skills."

Megan's GLOBE class was studying MUC classification, matching pictures from magazines of trees, shrubs, grasses and other land cover vegetation types to the GLOBE MUC classification guide. She knew a rare soil - "loess" - is found only in the Missouri River corridor in the United States, which is near her home in western Iowa, and in China, halfway across the GLOBE.

Megan knew some private landowners were developing the hills in ways she thought might impact the land cover and biology of the area. In the course of her research, she spoke with Brad Cutler, a Geographic Information Systems (GIS) specialist with Golden Hills Resources Conservation and



On Tuesday, November 16, 2004, students from Ms. Gill's class from Dr. Martin Luther King, Jr. Elementary School traveled 40 miles to join students from Mrs. Webster's class from Hudsonville High School for a day of environmental study. Together they collected baseline biological, chemical, and physical stream data for Rush Creek and Buttermilk Creek using GLOBE protocols. Surface ozone data was also collected. This data will then be compared to other West Michigan water sources such as the Grand River, Rogue River, and Little Black Creek in Muskegon Heights. The information will also be used to track seasonal changes in stream conditions.

This partnership began before the school year started when teachers from both schools participated in a GLOBE teacher training workshop co-sponsored by Grand Valley State University (Annis Water Resources Institute and Regional Math/Science Center) and the Michigan Environmental Council. "At the GLOBE workshop," remembers Ms. Paula Meijn VanOveren,



Highlight your special GLOBE events as well as any GLOBE activities that your teachers and students would like to share with others. These stories often provide ideas and inspiration to other schools, teachers and Partner Coordinators. Acknowledge these events by creating a draft article and submitting it with a few photographs. Please remember that all pictures must have a completed release form in order to be posted on the GLOBE Web site.





The GLOBE Program
www.globe.gov

For more information
contact:

The GLOBE Program
P.O. Box 3000
Boulder, CO 80307 USA
Telephone: 800 858 9947
Fax: 970 491 8768
Email:
northamerica@globe.gov

For more information from the GLOBE Program Office regarding activities in the North American region
contact the GLOBE Regional Desk Officer at:
<canada@globe.gov> or <united-states@globe.gov>



For more information on GLOBE Alumni activities in the North American region
contact the regional representative: <na-alumni-regionalrep@globe.gov>



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www.pdkintl.org/kappan/k_v86/k0411ka3.htm



GLOBE was the winner of the 2004 Goldman Sachs
Foundation Prize for Excellence in International Education in
the Media and Technology Category.

The Goldman Sachs Foundation and the Asia Society stated
that GLOBE was selected “for the unique reach of its work
around the world and its ability to bring international
education to life through the process of scientific inquiry.
GLOBE serves as inspiration and a model of excellence to
schools and programs seeking to bring the world into our
classrooms.”

GLOBE is an interagency program funded by the U.S. National Aeronautics and Space Administration (NASA) and the
U.S. National Science Foundation (NSF), supported by the U.S. Department of State, and implemented
through a cooperative agreement between NASA and the University Corporation for Atmospheric Research
Research (UCAR) in Boulder, Colorado.

