



# The GLOBE Program in the United States

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 31,000 teachers in more than 17,000 schools in over 100 countries have been trained to implement GLOBE.





## GLOBE Program Summary

The GLOBE Program brings together students, teachers and scientists to:

- Increase scientific understanding of the Earth;
- Support improved student achievement in science and math; and
- Enhance environmental awareness of individuals worldwide.

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 toward an understanding of how the Earth functions as a system.

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](http://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. GLOBE students have collected and entered more than 14 million data for their use as well as by scientists studying the Earth system.

The next step in the evolution of the GLOBE Program is called the “Next Generation GLOBE (NGG).” The features of NGG are based on an intensive self-study of the past 10 years of GLOBE conducted by GLOBE Program Office staff, with extensive input and recommendations from the worldwide community of GLOBE participants, and guidance from GLOBE’s U.S. Government funding agencies.

The vision of NGG is of a Program supporting students, teachers, and scientists to collaborate on inquiry-based investigations of the environment and the Earth system, working in close partnership with two U.S. agencies, the National Aeronautic and Space Administration (NASA) and the National Science Foundation (NSF), and their Integrated Earth System Science Programs (IESSPs) to give the entire GLOBE community access to top scientists around the world and expose students to programs that are on the cutting edge of Earth system science research. To achieve this vision, GLOBE will promote focused activities around the NSF IESSPs, develop GLOBE Project School Networks (PSNs) and strengthen GLOBE Learning Communities through the development of Regional Consortia of GLOBE countries around the world.

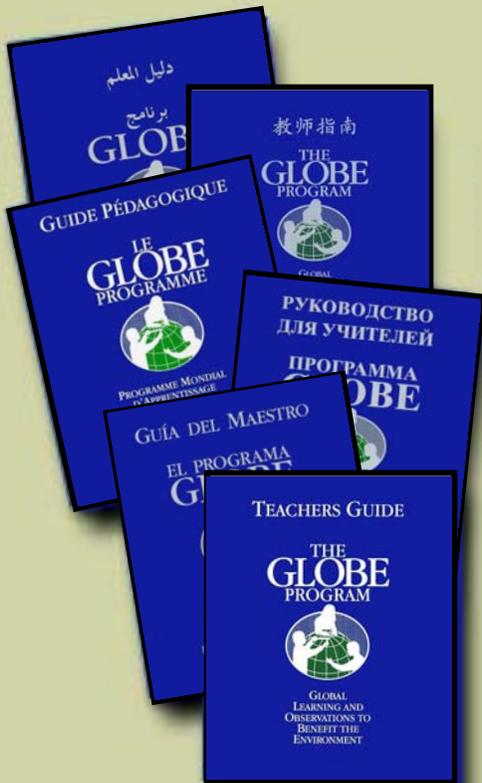
This transformation will be accomplished while retaining the Program’s essential elements of being both education and Earth system science, a bridge between these two international communities, a worldwide collaborative community of practice, and a program that employs inquiry-based educational activities 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-2 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

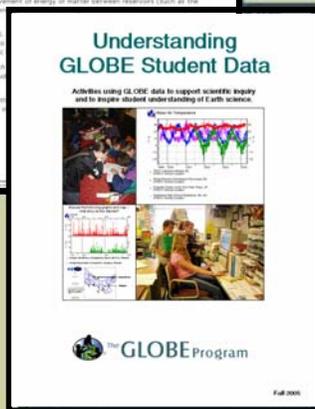
The GLOBE Program has developed Interactive online resources to promote understanding of GLOBE Program content and scientific protocols. Resources combine graphics and interactivity to promote understanding through a hands-on approach that has been established as a successful model for online learning. 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 2 to 3 years in order to provide students from around the world the opportunity to meet one another, establish friendships and develop collaborative partnerships that will enhance their future GLOBE experience. These conferences also provide teachers an opportunity to share ideas and challenges from their GLOBE experiences, to attend protocol and activity enrichment sessions, and to build connections for research efforts between schools. GLEs have occurred in 1998 (Helsinki, Finland), 2000 (Arkansas, U.S.A.), and Šibenik, Croatia (2003). The next GLE is tentatively scheduled for 2008 in a location still yet to be determined.

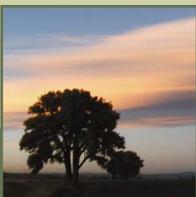


## GLOBE Annual Conference

The 9th Annual GLOBE Conference, "GLOBE 2005: Global - Regional - Local," was held on 31 - July - 5 August, 2005, in Prague, Czech Republic. The Annual Conference brought together GLOBE Country Coordinators and U.S. Partnership Coordinators, Education and Science Principal Investigators, GLOBE Program Staff, and others to address key education and science elements of GLOBE. This event was the first GLOBE Annual Conference to be held outside of the U.S. The meeting was organized by GLOBE Europe, in collaboration with the GLOBE Program Office, and was graciously hosted by Tereza Association, the organization responsible for GLOBE in the Czech Republic. More than 150 individuals from 34 countries participated actively in presentation, discussions, workshops and social events.



The 10th Annual GLOBE Conference, "The New Decade for Global Sustainable Development", will be hosted by GLOBE Thailand in 2006. Look for updates on the GLOBE Web site about this event!





## Current GLOBE schools in the U.S. can be found in.....

United States		
State	GLOBE Schools	GLOBE Teachers
Alabama	664	2256
Alaska	185	290
Arizona	276	532
Arkansas	187	418
California	1,016	1,635
Colorado	204	291
Connecticut	180	310
Delaware	33	44
District of Columbia	62	114
Florida	377	558
Georgia	346	592
Hawaii	58	87
Idaho	175	454
Illinois	248	329
Indiana	116	203
Iowa	223	339
Kansas	120	178
Kentucky	152	308
Louisiana	128	272
Maine	86	107
Maryland	167	263
Massachusetts	172	306
Michigan	364	567
Minnesota	69	93
Mississippi	263	614
Missouri	132	157
Montana	152	414
Nebraska	32	33
Nevada	53	87
New Hampshire	92	214
New Jersey	146	197

State	GLOBE Schools	GLOBE Teachers
New Mexico	49	68
New York	823	1561
North Carolina	652	1306
North Dakota	29	41
Ohio	602	1133
Oklahoma	185	272
Oregon	119	160
Pennsylvania	317	545
Rhode Island	17	18
South Carolina	248	396
South Dakota	59	134
Tennessee	217	430
Texas	914	1791
Utah	56	91
Vermont	53	66
Virginia	195	324
Washington	138	192
West Virginia	156	276
Wisconsin	159	203
Wyoming	48	67

U.S. Territories	GLOBE Schools	GLOBE Teachers
Puerto Rico	283	397
Virgin Islands	12	18

<b>Grand Total</b>	<b>11,809</b>	<b>21,751</b>
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**How To Join GLOBE**

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## U.S. Partners

The U.S. GLOBE Program enters into partnerships with U.S. organizations which undertake efforts to recruit GLOBE schools, train GLOBE teachers, and mentor GLOBE students in their areas. States and territories where GLOBE partners are active are noted on the map below.

If you are interested in more information about the GLOBE U.S. Partner concept, or for any general questions about GLOBE in the U.S., please [contact the U.S. Regional Director](#).

See the list of [all U.S. Partners](#), or click on a dot on the map below to see how to contact that Partner.

Select a state

Alaska  
Hawaii  
Puerto Rico and U.S. Virgin Is.

## The GLOBE Program in the USA

Schools: 11,809 Teachers: 21,751  
Data Reported: 5,530,488

To contact your closest U.S. partner:

1. [www.globe.gov](http://www.globe.gov)
2. Select 'Enter the GLOBE Site'.
3. Select 'U.S. Partners' under GLOBE PARTNERS in the navigation bar.
4. Select a partner indicated by the yellow symbol -OR- Select a state in the drop-down menu.
5. Selecting the U.S. Partner name will lead you to partner contact information.
6. Call 1-800-858-9947 or send Email to [help@globe.gov](mailto:help@globe.gov) if you need further assistance.





GLOBE Partners in the U.S. belong to the following types of organizations:

**129 Active U.S. Partners**

Partner Type:	Number	Percent
Higher Education (Universities and Colleges)	74	57%
School Districts	13	10%
Non-Profit Organizations	8	7%
NASA Centers and Affiliates (Ames, Goddard, Langley, Stennis, and 3 ERCs)	7	5.5%
Learning Centers	7	5.5%
Office of Education	6	5%
Educational Consortiums	5	4%
State-Funded Organizations (Institutes)	3	2%
Board of Cooperative Educational Services (BOCES)	2	1%
Foundations	2	1%
Museums	1	1%
Private Organizations	1	1%
<b>Total:</b>	<b>129</b>	<b>100%</b>

Highlights of GLOBE Achievements:

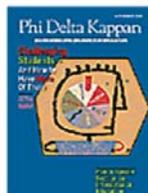


The Goldman Sachs Foundation  
Prizes for Excellence  
in International Education

*The GLOBE Program:  
Winner of the 2004 Media  
and Technology Category*

**Technology Provides International Link**

“The awardees reflect new ways of teaching world languages and focus on the international dimension of every major subject, including math, science, language arts, history, geography and economics. They also feature creative and innovative uses of technology.”



**Phi Delta Kappa International—  
November 2004 • Volume 86 • Number 3**  
of the *Phi Delta Kappan* journal featured GLOBE  
in the International Studies Resource Guide.  
[http://www.pdkintl.org/kappan/k\\_v86/k0411ka3.htm](http://www.pdkintl.org/kappan/k_v86/k0411ka3.htm)





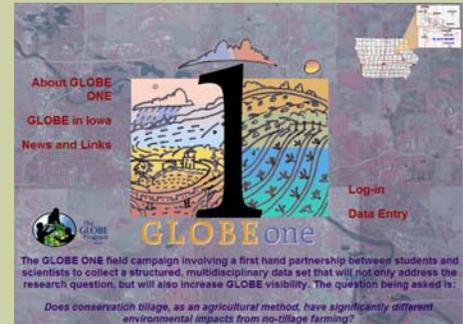
## Highlights of GLOBE Activities in the U.S.

### Regional Collaborative events:

- Field Campaigns:

1. Contrail Count-a-thon
2. Surface Temperature Campaign
3. Where on Earth? GIS Day Activity and Campaign
4. GLOBE ONE Field Campaign in Iowa

<http://www.globe.gov/fsl/globeone/index.pl>



- GLOBE Learning Communities Initiatives:

April 6, 2006: the GLOBE Program Office is hosting an evening reception in conjunction with the NSTA Annual Conference.

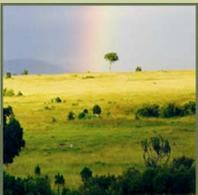
April 5, 2006: the GLOBE Program Office is hosting a one-day U.S. Partner GLOBE Learning Communities Meeting in conjunction with the NSTA Annual Conference.

September 12-13, 2005: the first GLOBE Learning Communities meeting for U.S. GLOBE Partners took place in Corpus Christi, Texas. 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.

March 31st 2005: the GLOBE Program hosted a reception for all GLOBE Partners and Trainers at the NSTA Convention in Dallas, Texas. In attendance were over 200 GLOBE Partners, Trainers, and Teachers.

### 2005 Annual Conference Presentations by U.S. Partners:

GLOBE Partners, Trainers, PI's and Teachers at the 10th Annual GLOBE Conference made the following 24 presentations on July 31 – August 5, 2005 in Prague, Czech Republic. Many of the publications were the result of regional collaborations between these groups.





# Highlights of GLOBE Stars and News and Events in the USA



**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.



**100,000 Points of Data**

*October 14, 2005*

Recently, four juniors at Norfolk High School, Renee L., Jacob M., Breanna V., and Kendra R. visited their former science classroom to celebrate the schools' achievement of reaching 100,000 data. The purpose of their visit was to share their enthusiasm for GLOBE with the present



**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



**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."

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



**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.

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.

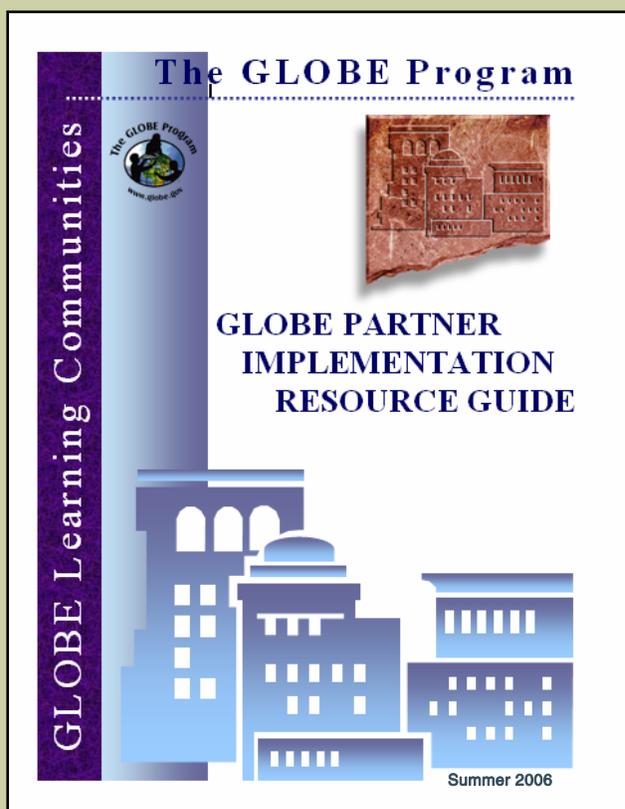
This partnership began before the school year started when teachers from both schools participated in a GLOBE teacher training workshop co-sponsored by Grand Valley State University (Annis Water Resources Institute and Regional Math/Science Center) and the Michigan Environmental Council. "At the GLOBE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

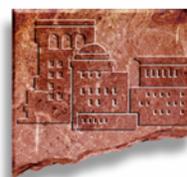


Coming Summer 2006!

### GLOBE PARTNER IMPLEMENTATION RESOURCE GUIDE

#### Contents

- I. Initiating and Sustaining School and Community Partnerships
- II. Developing Higher Education Programs
- III. Building a Robust Science Community of Practice
- IV. Participating in Project-based Collaboratives
- V. Designing Successful Funding Strategies



**The GLOBE Program**

The GLOBE Learning Community (GLC) concept encourages the participation of a broad range of community members who share a common commitment to supporting teachers and students in the implementation of GLOBE for the benefit of their community. A GLC might begin as a GLOBE Partner based at a university working with teachers and students from primary and secondary schools in the local school district, and then branch out to include parents, youth clubs, scientists, senior citizens, other colleges and universities, daycare centers, museums, businesses, government agencies and more.





The GLOBE Program  
[www.globe.gov](http://www.globe.gov)

## For more information contact:

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Winner of the 2004 Media and Technology Category

“The awardees reflect new ways of teaching world languages and focus on the international dimension of every major subject, including math, science, language arts, history, geography and economics. They also feature creative and innovative uses of technology.”

**PDK**  PHI DELTA KAPPA *International*

Featured in the Phi Delta Kappan International Studies Resource Guide – November  
2004 • Volume 86 • Number 3 [www.pdkintl.org/kappan/k\\_v86/k0411ka3.htm](http://www.pdkintl.org/kappan/k_v86/k0411ka3.htm)

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