



Global Learning and Observations to Benefit the Environment



5th Annual GLOBE North America Partner Meeting at NSTA 2010

Philadelphia, Pennsylvania Wednesday, 17 March 2010

Teresa J. Kennedy, Ph.D.
Director, International Division, The GLOBE Program
tkennedy@globe.gov













1st: Anaheim, California: 5 April 2006

2nd: St. Louis, Missouri: 28 March 2007

3rd: Boston, Massachusetts, 26 March 2008

4th: New Orleans, Louisiana: 18 March 2009

5th: Philadelphia, Pennsylvania: 17 March 2010





Sponsoring Agencies









Founding Organizations













Cooperating Organizations-







EARTH OBSERVATIONS





Geosynchronous

Spectrometer





































The Association of American Geographers



















AWS / International

Partners in Education





Institute of Electrical and

Electronics Engineers









Lilacs Special 💥 Measurement

























United Nations Educational, Scientific and Cultural Organization







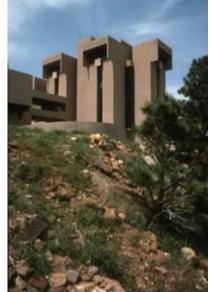




United Nations Environment Program



University Corporation for Atmospheric Research Boulder, Colorado



Tall towers of the Mesa Laboratory



Manages the GLOBE Program Worldwide

UCAR is a non-profit consortium of research universities, serving as an international hub for research, education, and public outreach for the atmospheric and Earth-system science community:

28 countries plus the U.S.



The Mesa Laboratory and the Flatirons
© 2003 UCAR





-- There are over a million GLOBE students--

GLOBE Around the World



GLOBE has trained over 53,000 teachers representing more than 23,000 schools worldwide.

"GLOBE is the quintessentially ideal program for involving kids in science." Nobel Laureate Dr. Leon Lederman

GLOBE Countries by Region

Africa (22)

- ■■Benin
- Burkina Faso
- Cameroon
- <u> Cape Verde</u>
- Chad
- Congo
- Ethiopia
- <u> Gabon </u>
- <u>Gambia</u>
- Ghana
 Guinea
- Kenya
- ■Madagascar
- Mali
- Mamibia
- <u></u>
 ■Niger
- Nigeria
- <u>Rwanda</u>
- Senegal Material South Africa
- Tanzania
- <u>■</u>Uganda

Asia-Pacific (16)

- Australia (GLOBE site)
- Bangladesh
- 🏪 Fiji
- India (GLOBE site)
- Japan (GLOBE site)
- Korea, South
- Maldives Maldives
- Marshall Islands
- Micronesia
- Mongolia Mongolia
- Nepal (GLOBE site)
- New Zealand (GLOBE site)
- Palau
- Philippines
- Sri Lanka
- Thailand (GLOBE site)

111 Partner Countries

China is currently inactive although no formal request has been received in writing to discontinue participation in The GLOBE Program.

Europe-Eurasia (40)

- Austria

 Austria
- Belgium

 Bulgaria
- Croatia (GLOBE site)
- **Cyprus**
- Czech Republic
- (GLOBE site)
- Denmark (GLOBE site)
- Estonia (GLOBE site)
- Finland (GLOBE site)
- France
- Germany (GLOBE site)
- Greece (GLOBE site)
- Hungary (GLOBE site)
- Israel
- tceland !
- Ireland
- Italy (GLOBE site)
- Kazakhstan
- Kyrgyzstan
- Latvia (GLOBE site)
- Liechtenstein
- Lithuania (GLOBE site)
- <u>Luxembourg</u>
- Macedonia (GLOBE site)
- Malta Marta
- Moldova
 Monaco
- Netherlands (GLOBE site)

- Norway (GLOBE site)
 Poland (GLOBE site)
- Portugal
- Romania
- Russia Russia
- Serbia and Montenegro
- Spain
- Sweden
- Switzerland (GLOBE site)
- Turkey
- Ukraine
- **M**United Kingdom
- (GLOBE site)

Near East-North Africa (13)

- <u>Bahrain</u>
- <u>Egypt</u>
- Jordan Kuwait
- Lebanon
- Mauritania Mauritania
- Morocco Oman
- Pakistan
- Qatar
- Saudi Arabia
- Tunisia
- United Arab Emirates

Latin America-Caribbean (18)

- Argentina (GLOBE site)
- <u>Bahamas</u>
- Bolivia
- Chile Chile
- Colombia
 Costa Rica
- Dominican Republic
- <u>Ecuador</u>
- El Salvador
- Guatemala
- Honduras
- <u>Mexico</u> ₩ Panama
- Paraguay
- Peru (GLOBE site)
- Suriname
- Trinidad and Tobago
- Uruguay

North America (2)

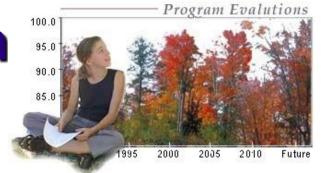
- Canada (GLOBE site)
- United States of America



GLOBE Program Evaluation

Stanford Research Institute (SRI International)

Program Evaluation 1994 - 2006



Positive impact on student learning and performance

- GLOBE contributed to the development of students' science knowledge
- More time hands-on / Less time memorizing

Improved student higher order thinking skills

- Interpreting data
- Drawing inferences

Enhanced student appreciation of what scientists do

- Studying problems without a clear solution
- Collaboration with other scientists

Heightened teacher expectations of students

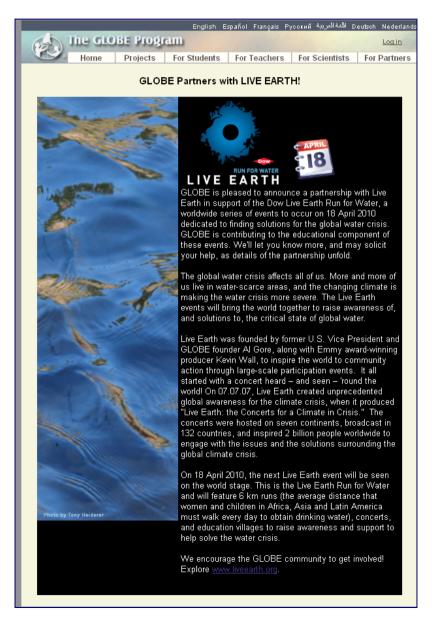
"By 2004, GLOBE positioned itself as a leading and worldwide environmental science program that could significantly impact students' learning and understanding of science." (SRI, 2006) Current
evaluation
efforts are
focused on the
impact of
GLOBE's
inquiry-based
learning model:
Dr. Valerie

Williams



GLOBE 15th Anniversary Celebration

Global Learning and Observations to Benefit the Environment



Earth Day 2010: GLOBE students around the world will have a special opportunity to share their climate research with their peers around the world through the GLOBE 15th Anniversary Forum on the GLOBE Web site!





GLOBE Student Research Campaign on Climate 2011-2013

GOALS

- Engage > 1 million K-16 students in climate research.
- Enhance Climate literacy and understanding for millions of people around the world.
- Empower students, teachers, and citizens to "take action" on climate and environmental issues affecting their communities.

ACTIVITIES

- Climate Campaign Planning meeting at the WMO (2009)
- GLOBE Collaboratory and Materials Development (2009-2011)
- Begin Campaign (2011)
- Fifth GLOBE Learning Expedition (2013) on Climate Research



Dr. Donna Charlevoix













Students collaborate with scientists

The

GLOBE Program



http://www.globe.gov





Atmosphere/Climate,
Hydrology, Soil,
Land Cover/Biology,
Phenology and
4 NSF Earth
System Science
Projects



Over 20 million environmental measurements





International
Science Education
Program in 111
countries



Thank you!



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