

# The GLOBE Program in Europe and Eurasia

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 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.



Scoop

### **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

Do You Know That Clouds Have Names?

¿Sabías Que las N Tienen Nomb

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 formation, content cloud 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!





### **GLOBE Country Coordinators**

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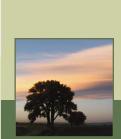


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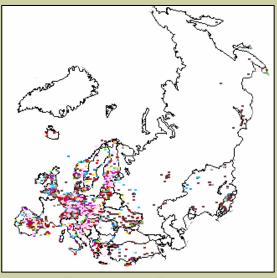
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Europe and Eurasia Teachers: 4,075 Schools: 2,677 Data Reported: 6,068,426



### **GLOBE Online Newsletters**







# Highlights of GLOBE Activities in Europe and Eurasia

### Regional Events/Collaboration:

- 2 GLOBE Learning Expedition (GLE) student conferences (Finland in 1998 and Croatia in 2003). Participants at the 1998 GLE included nearly 300 teachers and students representing 98 schools in 21 countries; participants at the 2003 GLE included over 300 teachers and students representing 100 schools in 24 countries;
- Student conferences focusing on Arctic POPs (Persistent Organic Pollutants) have occurred in Alaska (U.S.) in 2001, Iceland in 2002, Sweden in 2003, and Norway in 2004;
- GLOBE Games have been held annually in Czech Republic since 1997. Estonia, Latvia, Norway, Poland, and other countries have also held GLOBE Games;
- Student exchanges have occurred between Bahrain, Canada, Croatia, Czech Republic, Estonia, Finland, Iceland, Lebanon, Norway, Russia, Sweden, the U.S. and others.
- The GLOBE Alumni Network originated in Europe.

### Trainings of Regional Significance:

- Train-the-Trainer (TTT) workshops: The first and second International TTTs were held in Prague, Czech Republic in 1995. TTTs have also occurred in Estonia, Germany (including Department of Defense Education Activity schools), Lithuania, Poland, Russia (GLOBE and UNESCO cooperative workshop), and the United Kingdom;
- Regional Teacher Trainings: Trainers from neighboring countries have assisted in other countries' teacher training workshops. For example, in 2005, trainers from Croatia assisted the Country Coordinator in Macedonia in holding a teacher training.

### GLOBE Europe Regional Consortium:

GLOBE Europe, while meeting both formally and informally since 1996, drafted a constitution on 10 October 2004. Objectives of the European Consortium include:

- Increasing the number of participating GLOBE teachers and schools (locally, nationally, and regionally);
- Increasing the activities of GLOBE teachers and schools including, but not limited to, GLOBE Games and GLEs;
- Developing joint GLOBE projects and collaborations between schools (both within the countries and regionally) and between countries within the region (but not excluding non-European countries);
- Increasing the involvement of European scientists with GLOBE activities and creating a European Scientific Board;
- Supporting the infrastructure of Country Coordinators across Europe, through regional Training workshops, fundraising for projects, and other exciting activities.







### **Highlights of GLOBE Stars** and News and Events in Europe and Eurasia





#### International Collaboration Opportunity

GLOBE Europe wants to highlight The World Year of Physics by conducting the Eratosthenes experiment. This means that we will repeat a 2200 year old experiment and measure the size of the Earth by using shadows. This experiment was chosen by physicists to be the seventh most beautiful experiment in the history. If you want work together with your national World Year of Physics committee, you can find the contact person here: http://www.wyp2005.org/activities.html

We invite all GLOBE schools to participate in this event. But we will also open the experiment to al schools in the world. Therefore we ask all GLOBE schools to invite at least one non-GLOBE



IES "Marques de Suanzes", Madrid

Manoures de Suanzes Estudiantes y profesores del Instituto de Educación Secundaria Marqués de Suanzes de Madrid (España) han obtenido el Primer Premio en la XVII convocatoria de Becas de una de las empresas spañolas más importantes en el ámbito de la distribución. El Corte Inglés. Las Becas han sid



Czech Republic hosts 1st European GLOBE Games

The town of Ceská Trebová, Czech Republic, hosted the 1st European GLOBE Games from May 6 to 8, 2005, an expansion from the traditional Czech GLOBE Games. More than 400 students and teachers from 13 countries (Croatia, Cyprus, Czech Republic, Demmark, Estonia, Hungary, Latvia, Lebanon, Netherlands, Norway, Poland, Slovak Republic and Switzerland) participated in the event. Organizers, visitors and special guests brought the total number to nearly 5501 Pet Baboucek, Director of TEREZA Association, which is the Country Coordinating body for GLOBE in the Czech Republic, said, 'Tm quite happy that GLOBE Games allowed for so many students and teachers from different countries to meet an ebelieve that this meeting will facilisate their continued cooperation. In ope that this year's (Europ CLOBE Games have begun a European tradition which will continue in the coming years in difficuntries.)



FAQS

TEREZA has now hosted GLOBE Games in the Czech Republic for eight years in a row and has always welcomed schools from other countries to participate This year they accepted the challenge to organize the This year they accepted the challenge to organize the European GLOBE Games to begin a new tradition. Dana Votapkova, Country Coordinator for GLOBE in the Czech Republic, said, "We organize GLOBE Game every year with one of the most active Czech GLOBE schools. This year the GLOBE Games were hosted by Gymnazium Ceská Trebová. The Games were held



#### Schülerkongress es Umweltprogramms GLOBE Germany im DLR School Lab in Köln-Porz

November 29, 2005

Die Projektstelle "Agenda 21 in Schule und Jugendarbeit" des Landesinstituts für Schule NRW als betreuende Einrichtung der GLOBE-Germany-Schulen in NRW veranstaltete am 8. Juni 2005 zum zweiten Mal gemeir ol Lab in Köln-Porz den GLOBE-



GLOBE and UNESCO Join to Support TTT in Lake Baikal World Heritage

September 21, 2004



From July 5 -13, GLOBE and UNESCO jointly sponsored a Train-the-Trainer workshop on the shores of Lake Baikal, Russia. The workshop was located in the village of Goryachinsk, about 4 hours from the Buryat capital of Ulan Ude on the eastern side of Lake Baikal. Participants arrived from both the eastern and



### GLOBE démarre en France

La France a été le 107 eme pays à rejoindre le programme GLOBE, le 4 octobre dernier.

### on pour les enseignants français

a participation de la France à GLOBE a été concrétisée par la signature d'un accord entre le Centre National d'Etudes Spatiales (CNES) et la NASA. L'objectif poursuivi est double: Intégrer le orogramme éducatif international GLOBE et développer en France des actions pédagogiques autour de CALIPSO, un satellite franco américain dédié à l'étude des aérosols qui sera lancé en juin 2005. Pour initier le projet, le CNES a organisé du 18 au 21 février inclus, le premier séminaire de ormation des enseignants GLOBE à destination des enseignants français. Le programme de cette ormation incluait les protocoles de GLOBE correspondant aux mesures dans le domaine tmosphérique ainsi que des activités spécifiques du programme d'accompagnement de CALIPSO

Une trentaine d'enseignants du primaire et du secondaire ont participé à ce séminaire, qui s'est déroulé à la Cité de l'Espace à Toulouse. Ceux ci représentaient une vingtaine d'établissements scolaires ainsi que liverses instances académiques Inspections de l'éducation nationale, Rectorat) répartis dans cinq académies



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 Country 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.







### For more information contact:

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GLOBE Europe www.globe-europe.org



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."

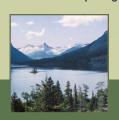


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