



GLOBE REGIONAL CONSORTIA

Development Concept Paper

Updated September 25, 2005

GLOBE is increasingly expanding worldwide, and interest on the part of GLOBE countries in working collaboratively on a regional basis is growing. This interest began in Europe when a European Country Coordinator Committee (CCC) was established in May 1996, resulting in many regional activities including the development of the first GLOBE Regional Web site. GLOBE countries in Africa, Asia, the Middle East, and the wider Caribbean region and Latin America are currently focusing their efforts on establishing CCCs.

GLOBE countries are seeking these regional relationships because they offer them an opportunity to work together on a variety of activities that benefit their programs and schools such as securing funding, promoting school-to-school communications, developing regional science projects, and holding regional events for their GLOBE schools.

With the ten-year anniversary of the GLOBE Program in 2005, it is appropriate to look at how GLOBE has been operating and to ask if there are new ways of doing business that would benefit our Partners and enhance worldwide implementation of GLOBE. The GLOBE Program Office is very interested in promoting regional collaboration because of the many benefits it provides to GLOBE countries. Therefore, an important component of the *Next Generation GLOBE* focuses on activities directly related to promoting regionalization among all of GLOBE's Partner Countries. We would like to further promote the discussion of regional consortia development, encourage regions to take on more leadership and responsibility for GLOBE, and work with GLOBE Partners to find the means to accomplish this. By doing so, these consortia could enhance the synergy of GLOBE activities in a region, minimize duplication and overlap of efforts currently undertaken by individual GLOBE countries, identify capabilities that are missing within a region and find ways to address them. As a result, these consortia would foster stronger GLOBE activities worldwide.

Involving government and related industry or business leaders and scientists in the region would strongly enhance the effectiveness of GLOBE Regional Consortia. However, critical to the development of these consortia is that the leadership established within each one has a high degree of autonomy to develop the consortium and its activities according to regional needs and interests. With this in mind, the following list of responsibilities is offered in order to initiate discussions regarding ideas and examples of the types of activities that a GLOBE Regional Consortium could undertake.

- Provide leadership and support for GLOBE in the region or targeted area(s).
- Develop and implement a strategy for the sustainability of GLOBE in the region (identification of partners, sponsors, fundraising, public and political awareness, etc.).
- Partner with organizations, institutions, universities and networks in the region in order to enhance the overall regional program as well as program content and structure for partners and schools in the region.
- Recruit new countries in the region to join GLOBE.
- Work with GLOBE to collaboratively train a regional corps of Master Trainers who would train GLOBE Trainers to train and mentor teachers in each country.
- Provide support to partners, trainers, and teachers in the region.
- Organize regional GLOBE conferences, workshops, and learning expeditions.
- Develop regional science field campaigns focused on issues relevant to the region and involve scientists within the region.
- Develop links with researchers/universities in the region.
- Develop publications and implementation materials relevant to the region.
- Develop periodic E-newsletters to disseminate within the region and to share with nearby countries.
- Operate a regional GLOBE Web site that would mirror the GLOBE Web site, translate Web pages into regional languages, and provide scientific, educational and environmental information of interest to the students, teachers and scientists in the region. See pages 4-5 of this document for the history and benefits of establishing a mirror server.
- Translate GLOBE materials into regional languages.
- Represent the region at meetings of regional consortia organized by the GLOBE Program Office.

In the spirit of initiating formal discussions within regions, the GLOBE Program Office has made it a priority to work with GLOBE Partners in the traditional GLOBE regions to seek partners and sponsors for establishing and supporting regional consortia and to work with these consortia on a continuous basis from initiation to steady-state operations. By focusing its efforts on supporting these regional consortia, the GLOBE Program Office will be better able to support GLOBE Partners while they collectively strengthen their

capabilities and expand their activities to meet their goals and objectives as well as maximize the benefits of GLOBE for their schools.

Regional Consortium could encompass an entire geographic region or subregions. Therefore, Consortia can be defined in numerous ways according to the needs of the constituent organizations. For instance, a consortium may be based on spatially defined regions or even based on a common theme (Oceans, Polar, etc.). In some cases, Regional Consortia may want to include countries outside their regions which have similar languages or other interests. Again, critical to the establishment and success of these consortia is that GLOBE countries in a region have a high degree of autonomy to develop the consortium and its activities according to their own regional needs and interests.

International examples could include:

- Traditional Regional Consortia such as Europe, Asia, Latin America, Africa, etc.
- Subregional Consortia such as Wider Caribbean Region, West Africa, Southeast Asia, Pacific, etc.
- GLOBE Countries forming a consortium centered on worldwide research activities such as UNESCO World Heritage Sites, the International Polar Year, etc..
- GLOBE Countries on one continent.
- GLOBE Countries that speak the same language.

U.S. examples could include:

- State Consortia combining existing Partnerships within one state.
- Regional distinction based on traditional regions in the country such as the SE, NW, SW, NE, and Central to form Regional Coordinating Committees. (E.g. NW Consortia consisting of the states of Alaska, Idaho, Oregon and Washington).
- North America Regional Consortia (Canada, Mexico and the U.S.).
- State Space Grant, Broker Facilitators, ERC Directors, AESP Representatives, and Explorer Schools working with the State Department of Education, Local Businesses and Community Members.

- NASA Explorer Schools could form a consortium of schools within the United States.

Note: Since schools in the U.S. are governed at the state level, not the federal level, it makes sense that they have “state” education entities collaborating with partners to form State Coordinating Committees.

Please let us know your ideas about GLOBE Regionalization by contacting:

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Mirror Server Concept

Definition:

A Mirror Server “mirrors” an existing primary Web server or database server or both. In other words, the mirror server serves the identical content (like Web pages) as the primary server. System administration of a mirror server is easiest when the hardware and operating systems are identical to the configuration of the primary server, but this is not a requirement. In order to mirror a server the primary server and the mirror server need to be always synchronized, i.e., any change made on one server site needs to be “replicated” (i.e. passed on) to the other site. This applies to changes to Web pages just as well as to changes made to the database. Database servers which accept records (like the GLOBE database accepting school data) need to run replication processes very frequently (for GLOBE this is done every 5 to 10 minutes).

Purpose:

- 1) A mirror server provides a full back up to the primary server:
If the primary server is not operational, the mirror server will take over the entire user traffic. By default, the mirror server is also a full back-up server in case of a catastrophic failure at the primary site.
- 2) The mirror server can be configured such that all schools from the country, where the mirror server resides, will access solely this mirror server (for example Germany, which operated the first GLOBE mirror site). This will ensure much better response times for the GLOBE users of this country.
- 3) In addition to what is described under 2) the mirror servers can be used to load balance the primary server. A predetermined percentage of traffic can be routed to the mirror server, in order to ensure good response times for the primary server and the mirror server.
- 4) Mirror servers can work in combination with “intelligent routers” (GLOBE uses Cisco’s Distributed Director, referred to as DD). An Internet request to www.globe.gov page will first go to the specially configured GLOBE DD. The DD will test which server (primary or mirror) will provide the faster response time to the user and then direct the user’s request to that very server. This improves server response times to GLOBE users

world wide. In addition, the DD can be configured with any predetermined load percentage, so that the mirror server never has to handle any more traffic than its bandwidth or its licenses permit.

GLOBE server site history:

Primary server site:

NOAA/FSL, Boulder, Colorado, USA	1994 – July 2003
UCAR, Boulder, Colorado, USA	since July 2003

Mirror site just serving Germany:

DLR, Cologne, Germany	Feb 1998 – Sep 2003
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Load Balanced DD-Mirror sites:

NASA/GSFC, Greenbelt, Maryland, USA	Feb 2001 – Sep 2003
DLR, Cologne, Germany	Sep 2003 – Sep 2004
NASA/Ames, San Jose, California, USA	starting Oct 2004

GLOBE Countries which have expressed interest in providing GLOBE mirror servers:

Germany (mirror site service since 1998)

Additional countries:

France
Thailand
GLOBE Middle East Regional Consortia

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