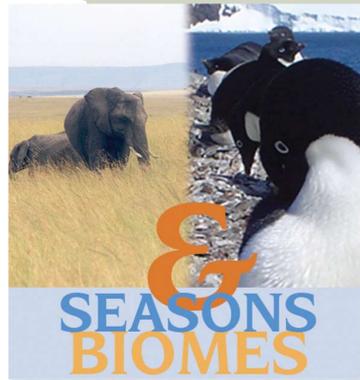




The
GLOBE
Program

GLOBE RESEARCH PROJECTS

Global Learning and Observations to Benefit the Environment



SEASONS & BIOMES

A biome is a large geographic area of distinctive plant and animal groups that are adapted specifically for a particular environment. Biome type is determined by the climate and geography of a region. Through the GLOBE Seasons and Biomes project, students and teachers

conduct scientific inquiries in their local environments and biomes. This project contributes critically needed measurements to validate satellite data used in research on regional climate change, prevention and management of diseases, and understanding of the water and carbon cycles.

University of Alaska, Fairbanks



From Local to Extreme Environments

FLEXE

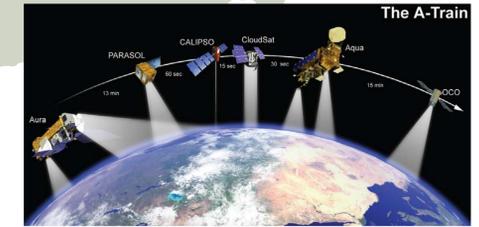
From Local to Extreme Environments (FLEXE) is a GLOBE project involving study of the deep ocean. Characterized by crushing pressure, near freezing temperatures, and no light, the deep sea is the largest environment on Earth. Students can join the scientists in the Ridge 2000 program and associated research programs by participating in GLOBE FLEXE. By

comparative measurements and online interactions with scientists and partner schools, students gain an understanding of local and deep-sea environments, the interconnected Earth system, and the process of science.

Pennsylvania State University

IPY International Polar Year

The International Polar Year Program and GLOBE are partnering to promote scientific research and educational activities intended to advance our understanding of Earth's polar regions and how they impact the rest of the world. GLOBE activities include the Seasons and Biomes Project Pole-to-Pole Videoconferences in 2007 and 2008 as well as international Web casts on polar issues.



NASA Satellite Missions

The Education and Public Outreach programs for two of NASA's A-Train satellites, CALIPSO and CloudSat, are partnering with GLOBE to provide students with research opportunities about clouds and aerosols. Students are learning how weather affects their daily lives and the difference between weather and climate.



Investigating the Carbon Cycle in Terrestrial Ecosystems

Carbon Cycle

Carbon is the most abundant element in living things and accounts for approximately 50% of the total mass of plants and animals. Carbon is also present in Earth's atmosphere, soils, oceans and crust, and cycles between these components on varying

time and spatial scales. Through field exercises, computer modeling, and remote sensing, teachers and students gain knowledge about current carbon cycle research, develop strong analytical skills, and increase their overall environmental awareness.

University of New Hampshire



Watershed Dynamics

The GLOBE Watershed Dynamics Project enables students to investigate their own watershed in order to understand the flow of water through the watershed, how human activities within the watershed both depend on and impact its hydrology, and how land use changes can affect the plant and animal communities in the watershed. Students will have the opportunity to conduct science investigations on local and regional watersheds using real-time and historical scientific data from the Consortium of Universities for Advancement of Hydrologic Science (CUAHSI).

Northwestern University (Evanston/Chicago, IL)



Median Ice Edge

Surface Temperature

Researchers at the University of Toledo are collaborating with GLOBE students to gather Surface Temperature observations through their international campaigns. The Surface Temperature field campaigns focus on the impacts of snow on Earth's temperature.

GLOBE at Night

GLOBE student scientists and their communities study issues related to light pollution observing the constellation Orion.

Thousands of citizen scientists from 96 countries have submitted over 20,000 observations for use in their research.



A. Courtesy of D. Kelley, University of Washington
B. Courtesy of Amy Chiachio, ©2006 McMurdo Dry Valleys LTER
C. Courtesy of National Snow and Ice Data Center, Boulder, Colorado
D. Courtesy of National Aeronautics and Space Administration (NASA)



U. S. Department of State

For more information, please visit the GLOBE Web site.
The GLOBE Program: www.globe.gov
Earth System Science Projects page: www.globe.gov/essp