

Interactive Earth: Tools for Geospatial Thinking and Learning

Dr. Kirk Bergstrom
WorldLink Media

Ms. Lori Takeuchi
Stanford University

Abstract:

Presentation Overview

This presentation will introduce the Interactive Earth project funded by the National Science Foundation. Dr. Kirk Bergstrom and Ms. Lori Takeuchi will demonstrate the multimedia software and illustrate how Interactive Earth serves as a tool for teaching and learning. The presenters will also review the Interactive Earth curriculum focused on global issues and the theme of sustainability.

Interactive Earth: Building Geospatial Literacy

Interactive Earth is a new geospatial learning platform for schools and homes. The program features a multimedia software application, a secondary school curriculum, extensive global datasets, and a companion website.

Principal goals of the Interactive Earth project include:

- To provide access to a large and expanding collection of geospatial data and visualizations that build scientific and geographic literacy.
- To develop easy-to-use tools that allow learners to explore the dynamics of Earth systems and global change processes.
- To artfully visualize satellite imagery and global data in a way that inspires new understandings.
- To engage students with curricula that is relevant to real-world issues, their communities, and their lives.

Tools for Exploring Earth System Science

Interactive Earth contains an integrated tool set for displaying and interpreting data and visualizations. These tools enable students to hypothesize, inquire, analyze, and communicate with peers — replicating the work of real scientists. Among the features that distinguish Interactive Earth as a teaching and learning resource:

- The ability to view data and visualizations on either a 3D globe or flat world map.

- The synthesis of visualization and analysis tools.
- An interdisciplinary set of curated content and datasets for quick access and display.
- An emphasis on time-series animations that illustrate patterns of change.
- A companion curriculum that explores global themes and issues.

Curriculum Themes

The Interactive Earth curriculum will serve secondary teachers and students in subjects such as Earth science, environmental science, biology, geography, and economics. Primary themes of the curriculum include:

- Biodiversity
- Oceans
- Food & Agriculture
- Energy and Climate Change
- Urbanization and Megacities
- Water
- Natural Hazards

Interactive Earth provides teachers and students a valuable resource for learning about Earth and visualizing patterns of global change. In the course of using Interactive Earth, students develop essential skills such as systems thinking, scientific inquiry, geographic literacy, and the ability to apply their knowledge to a range of real-world issues.

Topic of Session Area: Education

Technical Requirements:

- We expect to demonstrate Interactive Earth from a Macintosh laptop computer.
- We will need a Mac compatible projector.