



Geographic Information Technologies as an outreach activity in geo-scientific education

Shimrit Maman, Sivan Isaacson, and Dan G. Blumberg

Department of Geography and Environmental Development, Ben-Gurion University of the Negev, Beer-Sheva, Israel

In recent years, a decline in the rates of examinees in the academic track that were entitled to an enhanced matriculation certificate in scientific-technological education was reported in Israel. To confront this problem the Earth and Planetary Image Facility (EPIF) at Ben-Gurion University of the Negev fosters interdisciplinary exploration through educational programs that make use of the facility and its equipment and enable the empowerment of the community by understanding and appreciating science and technology. This is achieved by using Geographic Information Technologies (GIT) such as remote sensing and Geographical Information Systems (GIS) for geo-physical sciences in activities that combine theoretical background with hands-on activities.

Monitoring Earth from space by satellites, digital atlases and virtual-based positioning applications are examples for fusion of spatial information (geographic) and technology that the activity is based on. GIT opens a new chapter and a recent history of Cartography starting from the collection of spatial data to its presentation and analysis. GIS have replaced the use of classical atlas books and offer a variety of Web-based applications that provide maps and display up-to-date imagery.

The purpose of this workshop is to expose teachers and students to GITs which are applicable in every classroom. The activity imparts free geographic information systems that exist in cyberspace and accessible to single users as the Israeli national GIS and Google earth, which are based on a spatial data and long term local and global satellite imagery coverage.

In this paper, our "Think global-Map Local" activity is presented. The activity uses GIS and change detection technologies as means to encourage students to explore environmental issues both around the globe and close to their surroundings. The students detect changes by comparing multi temporal images of a chosen site and learn how to map the alterations and produce change detection maps with simple and user friendly tools. The activity is offered both for students and supervised projects for teachers and youth.