

Education Activities

Our education team has continued to develop and refine a suite of no-cost teaching resources that are based on the *Google Earth* user interface. These digital materials present a set of specific scenarios that engage student inquiries and that integrate learning objectives from the Life Science, Earth Science and Social Science (Geography) benchmarks of the *Michigan Curriculum Framework* (Michigan Department of Education). We are focusing on two case study areas that display steep environmental gradients (from alpine to savanna biomes) and increasing human population pressures: the southeast slope of Mt. Kenya and the northern slope of Mt. Kilimanjaro. The specific instructional materials (low-altitude, oblique airphotos; ground photos; maps and charts; and some text) have been compiled from both the previous LUCID (*Land Use Change, Impacts and Dynamics*) project and CLIP. The Google Earth interface and two human/environment teaching modules are available online on the educational page of the CLIP website (<http://clip.msu.edu>).

To ensure maximum educational impact, this project linked with the LATTICE group at MSU (<http://www.latticeworld.org/>). Developed in 1995 as an international education partnership, LATTICE (Linking All Types of Teachers to International Cross-Cultural Education) links mid-Michigan school districts with international graduate students and scholars at MSU. LATTICE concentrates on adult learning and promotes links to K-12 classrooms, with an overall mission of assuring a global perspective in classrooms. David Lusch and David Campbell presented at the LATTICE session held January 11, 2007 in Haslett, Michigan, and the Google Earth interface has been popular.

Lusch and Campbell from CLIP, along with Margaret Holtschlag (Vera Rayla Elementary School, Haslett, MI) and Judy Olson (Geography Dept., MSU) presented a one-hour session entitled “Teaching Integrated Life Science, Earth Science and Social Science (Geography) Benchmarks Using *Google Earth* – An East African Example” at the Regional meeting of the National Science Teachers Association in Detroit, MI.

The team is developing an interactive spatial simulation model to demonstrate the results of competition between cattle, wildlife and cropping in an uncertain climate. This simulation will also be online, and will be incorporated into PI undergraduate classroom activities. The PIs at Michigan State University and Purdue University are using CLIP results in their undergraduate and graduate classes already.

Finally, graduate students are engaged as members of the CLIP team and are focusing on CLIP topics for their theses or dissertations. Two are far along. Camille Washington-Ottobre, Bryan Pijanowski’s student at Purdue, is currently doing fieldwork for her dissertation on Mt. Kenya. She is examining adaptations to climate change and extremes (drought), in research titled “Using Role-Playing Games, Agent-Based Models, and Land Transformation Models to Simulate Land-Use Adaptations to Climate Change on the Slopes of Mount Kenya for Building Robust Strategies with Local Farmers.” Sarah Hession at Michigan State University, a spatial statistician, is also conducting her dissertation research now. She defended her proposal, titled “Fine-Scale Estimation and Evaluation of Geographic Variables Using Climate Data in East Africa.”