

## **SEPTEMBER 2006 UPDATE**

### **Establishment of MyCOE Youth Cadre**

### **Projects in Honduras, Panama, Jamaica, Puerto Rico and Texas**

Local projects were selected by circulating a call for proposals and identifying those with the greatest capacity to accommodate students according to MyCOE goals. Priority was given to projects with ongoing activities during 2006 that could benefit from the collaboration in a way that otherwise would not be accomplished.

Students were selected from among applicants responding to broadly and locally distributed calls for participation within many different universities and disciplinary departments. Selection committees chose each student, balancing their ability to contribute significantly to the projects as well as their potential to benefit and learn from the MyCOE experience.

### **Honduras**

#### **Integrating community mapping into land use planning**

A student from the National Forestry School, ***Miriam Reyes*** worked with communities in the municipality of Guaimaca to design a legally required local land use plan. The larger project was jointly implemented by the Ministries of Agriculture and Justice, local municipalities, and local organizations as the Project for Forests and Rural Productivity. Miriam conducted training in the use of GPS to empower community members to participate in the mapping activities of the effort. Their results were then integrated into the planning process. The project also produced a small community atlas that contains information on location of local community facilities, roads, settlements, irrigation, infrastructure, health services, and educational services, among other data.

"My experience working with the communities was unforgettable . . . they learned not only to create their own maps but also to interpret them. . . It was very dynamic, interesting and enriching."

**Miriam**



#### **Watershed Risks: Preparing for Natural Hazards along the Mosquito Coast**

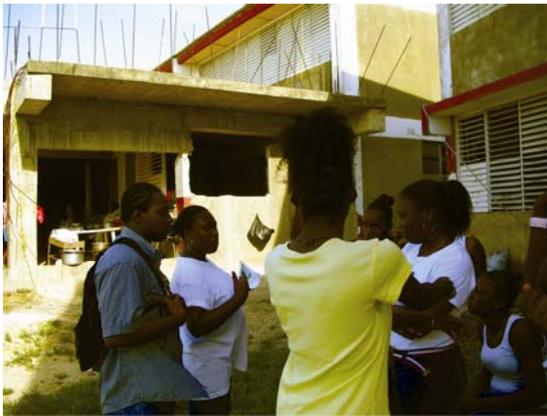
Two students are working in tandem with local communities, government and university researchers to apply geographic technologies and concepts to understanding watershed risk issues. ***Tobo Benny Bodden Cooper*** and ***Medardo Balmore Lemus Valle***, students from the National Autonomous University of Honduras, will contribute to an ongoing effort to setup a geodatabase for spatial modeling of water quality and related watershed risk issues such as pollution, erosion, flood risk, human health, and other related issues within five municipalities that belong to a high-poverty and high disaster prone region along the Mosquito Coast. The team will use GPS to help identify major point sources of pollution from cattle/dairy farming and ranching, verify and fill in data on human

sources of pollution and erosion, flood hazards, agricultural practices, and other spatial information. These datasets will become the basis for both impact analyses of the current watershed system as well as for modeling risk scenarios under possible future natural hazards events.

### **SWERA Tool Testing and Viability Analysis of Renewable Energy Projects**

The USGS's role in the Solar and Wind Energy Resource Assessment SWERA project (<http://swera.unep.net>) is being supported by the participation of MyCOE graduate student *Claudia Caceres* from Honduras. She is working directly with USGS staff to use and test the assessments and related tools to evaluate the renewable energy potential for locations in Honduras. Her feedback will help staff learn how to make the system better and easier to use. Particularly through the Geospatial Toolkit, she also is conducting a viability analysis of wind and solar projects for households of low income, that often lack electricity or potable water.

## **Jamaica**



### **Exploring urban environmental problems in Trelawny and Portland**

The Ministry of Land and Environment conducted a community-based project to map urban environmental problems in anticipation of major development in key Kingston parishes. Undergraduate student in Urban and Regional Planning at the University of Technology of Jamaica, *Stephanie Linton* helped the effort to formulate planning strategies and guides that enhance the communities' historical character and

safeguard their environmental integrity. She interviewed residents about local environmental problems and discussed possible protection measures. In addition, she worked with students from the William Knibb High School in Trelawny to gather information about development issues the community faces. After her MyCOE fellowship Stephanie was offered and accepted a position with the local organization to continue working in the area professionally.

"I personally think that the MYCOE program must be commended in what they are doing in giving students such opportunities in countries around the world. "

Stephanie

### **National Forestry Data Bank**

An undergraduate student with outstanding skills in geographic technologies, *Ted Smith*, worked to help create a national Forest Resource Data Bank, a project sponsored by the Ministry of Land and Environment. Outputs of the project include maps of the watershed where the ministry has completed a biophysical inventory, a geospatial database of forest reserves and management areas, and the collection and input of initial spatial data to create and maintain this forest resource database, including boundary surveys for delineation of forest reserves, aerial photo interpretation to determine forest types and present land use, orthophotos (using PCI Ortho Engine or ERDAS IMAGINE and digitizing data, field

verification, and operational field maps. The end product is intended for use by a wide variety of stakeholders in the conservation and management of forests in Jamaica.

### **Western Jamaica Environmental Geography Project for Teachers**

With the intention of substantially increasing the awareness of, and necessity for, environmentally sustainable development in Jamaica, a project to educate a cohort of 35 teachers-in-service in elementary and secondary schools has been launched. The program builds and collaborates with a cooperation between Central Connecticut State University (CCSU) in New Britain and Sam Sharpe Teachers College (SSTC) in Montego Bay. Two MyCOE students, *Patricie Beharie* and *Linda Salmon* are helping to understand what teachers-in-service have learned about environmental issues, and how they are introducing this environmental understanding into their school teaching. They also are conducting and analyzing surveys to discover what are the needs of educators as well as to assess their interest in continuing education programs in geographic dimensions of environmental sustainability.

## **Panama**

### **Web mapping watersheds for small agricultural producers**

The Ministry of Agriculture is conducting a multi-year national level project to compile and serve data on watersheds and natural resources for public access and use via web-based mapping tools. Targeted beneficiaries include small agro-producers undertaking sustainable development activities. *Luis Antonio Domínguez Baso*, working on his masters in Environmental Engineering at the Technological University of Panamá has been helping with first phase spatial database building, consolidating, organizing, and spatializing, and publishing existing information on the internet. His efforts helped to create synergies among a variety of institutions that provide and use data related to agricultural production and rural development. A second student, *Ruth Gisele Reina Hernandez* is continuing this work focusing on scenario analyses that will identify zones of appropriate agricultural production and development that are sustainable for local communities.

“Now I’m beginning to understand how important working with the community is, and the link that is necessary to make between science and the community in order to have successful, effective sustainable projects. It’s not just words on paper; the communities involved can start to benefit directly.”

Ruth

### **Guiding Teachers’ use of GIS as core educational tool**

Didactic resources in Spanish for middle and secondary school teachers will be produced through this project spearheaded by Panama’s Ministry of Science & Technology. Besides improving the quality of basic science education by employing GIS as a core integrative tool, the project encourages students to address local issues by relating



theory with practical action focused toward sustainable development. *Oscar Alexis Torrez Ríos* of the Universidad Latina Panamá has combined his technological fluency with experience working in schools to participate with the effort and create curriculum materials intended for use in the classroom. *Carlos Acosta* is doing graduate studies in Teaching Media and continues the project work by designing additional practical exercises and testing them in actual classrooms of participating secondary schools.

### **Sustainable Urban Transportation Redesign**

As urban population and related development expands in the Panama City area, traffic volume and congestion increases, along with multiple interrelated environmental problems. A poor transportation system also stifles further development and renders it less sustainable over the long term. MyCOE student *Ramiro Gonzalez* from the Technological University of Panama is working with a project sponsored by the Ministry of Science and Technology, the Transit and Land Transport Authority and the Technological University of Panama to use geographic technologies to assess the current transportation system. The project is developing modeling capacity to design alternatives for redesign of existing infrastructure as well as recommendations for improved future transportation planning.

### **Forest Conservation and Natural Resource Management Planning**

In conjunction with the Forest Stewardship Council in Latin America and the Caribbean, MyCOE student *Ricardo Stanzola* is using GIS to develop a master plan of Donoso and Santa Fe regions with the participation of stakeholders, aiming to conserve forest resources and manage other natural resources of the area in a sustainable way.

### **Capacity Building for Geography and GIS in Latin American Academic Institutions**

One of the goals of the MyCOE partnership, and in particular its work in the region, is to build capacity for applying geographic concepts and technologies to sustainable development problems. A University of Panama geography and history undergraduate, *Noris Martinez*, is directly assisting MyCOE project administrators toward this goal by participating in regionwide information gathering activities about academic program offerings and needs in university geography departments. In addition, her work is helping to create a community of practice more knowledgeable about the contributions of geography toward sustainable development applications.

## **Puerto Rico**

### **Coffee Agriculture and Biodiversity**

The International Institute of Tropical Forestry (USDA-Forest Service) worked with Casa Pueblo and other local organizations toward better practices of land stewardship in the central mountains of Puerto Rico. The project explored sun and shade coffee agriculture through analyses of landscape attributes, ecosystem services, and affects on biodiversity. **Mario Flores Mangual**, a



graduate student with the University of Wisconsin's Department of Soil Science and **Nicole Anderson**, master's student in Environmental Science at Washington State University teamed up with another student volunteer –Lindsay Cray of New York – to work on the project.

## Texas, USA

### **Rural & Urban Sustainability through Regional Natural Resource Management**

Aiming toward sustaining the quality and health of natural resources in Texas' "Hill Country," this project seeks to understand the dynamic relationship between rural land use, sprawling cities, and a changing environment in a place growing with tourists, homeowners, high-tech industry, and – more recently, refugees from Hurricanes Katrina and Rita. In conjunction with the National Resources Conservation Service (USDA-NRCS), **Noah Hopkins** joins the MyCOE cadre while completing his honors thesis in Geography/Environmental Resource Studies at Texas State University, San Marcos.

## MyCOE Youth Cadre Forum

In addition to supporting the involvement of youth using geographic learning for local sustainability projects, MyCOE has provided mentoring, software, data, and other resources. Special thanks to USGS, ESRI and AAG for their engagement of these activities.

"I think that sharing my work with all of the others in MyCOE was very interesting because we weren't alone working, everyone was sharing, exchanging questions, and in a very personal way, I would like to thank them a lot because they treated me very well, always clarifying my doubts and orienting me."

Miriam

Each MyCOE youth in the Cadre have joined an online forum, where they respond to questions that staff pose about their experience (e.g. what do you hope to learn, how are experiences going, etc.) and interact among themselves about their projects and related issues. The forum serves as a learning connection among the students and a means of informally evaluating their experience in real time.

It is wonderful to keep in touch with such a good working team and I guess that the main achievement will arrive with our "shared" capacity. I feel that the experience is the best accomplishment for each of us and to leave a fingerprint in a new successful project is our global task. A successful project is not based on money or luxury, but is measured on how many people we helped or just encouraged to do something good...

Alexis

Thanks to:

