



USDA-CSREES 2007 National Water Quality Conference

[Water Quality and Nutrient Management & Geospatial Information Technologies](#)

During the summers 2005 & 2006, 40 high school students (grades 10-12) and 13 undergraduates participated in a two-week summer internship program. Students were from high schools in MD, NJ, OK, AK, PA, and Washington, D.C. High school scholars were coached to prepare poster presentations highlighting their experiences during the internship. Other experiential learning activities included mapping drainage ditches using GIS and GPS techniques, and testing soil and water samples collected from these ditches for nitrate-nitrogen, soluble potassium-phosphorus and sulfur, and pH. Additionally, water samples were analyzed for electrical conductivity, salinity, and suspended sediments. Interns also participated in rainfall demonstrations to learn about the effects of rainfall and tillage practices on soil erosion, and how erosion affects the environment. Interns also classified different soil strata based on texture and color differences and conducted various experiments using mesocosms. A 3-day ESRI workshop was held and both sets of interns were introduced to ArcGIS followed by a 1-day training session on GPS. High school interns also visited Popular Island (well-liked environmental resort area), collected and analyzed water samples (pH, nitrate, phosphorus, etc.) based on protocol set by Popular Island staff. Interns were introduced to the history and heritage of the Inland, and were treated to a hands-on visit with wildlife that has inhabited the Island for centuries. All interns were required to keep journals, develop and present scientific posters on their assigned GIS and water quality management projects. Undergraduate Interns were employed for up to 12 weeks and worked with various local agency collaborators; interns received additional training in GIT while stationed with these agencies. The main mission of this internship program was to provide students, especially minorities, with a basic knowledge of laboratory research methodologies used in water testing, and an exposure to GIT.

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