Use of GIS and the Basin Model to Evaluate Surface Water Quality. (S06-huluka165000-Poster)

Authors:

- T.Tinsley* - *Tuskegee University*
- G.Huluka - *Tuskegee University, Tuskegee, AL*

Abstract:

Nonpoint source pollution scattered and diffuse in origin and manners, is the nation's largest water quality problem and accounts for two-third of the water quality impairments in Alabama streams and lakes. Major known contributors to impairment in Alabama are organics, low dissolved oxygen (DO), sedimentation, pathogens, and nutrients. The objectives of this study were to use geographic information systems (GIS) to facilitate identification of critical areas for the placement of best management practices (BMP) to mitigate total maximum daily load (TMDL) through modeling. Water samples were collected from different waterbodies during different seasons from agriculture, forest, and/or grass dominated areas. In situ temperature, pH, total dissolved solid, conductivity, and DO were measured, and nitrate, total nitrogen, orthophosphate, total phosphorus, and fecal coliform were determined in the lab. The data collected were analyzed, and integrated into a Better Assessment Science Integrating Point and Non-point Sources (BASINS) model that works in ArcView environment. Impact of location and agricultural ecosystems on TMDL will be discussed

Corresponding Author Information:

Gobena Huluka
Tuskegee University
210 Milbank Hall
Tuskegee, AL 36088

phone: (334)727-8455
fax: (334)727-8552
e-mail: huluka@tusk.edu

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