Presentation Information

Presenter	Scott Dryzyga
Title	Urban Growth and Water Supply in the Baltimore, MD Metropolitan Region
Affiliation	Shippensburg University
Authors	Claire Jantz, Scott Drzyzga, Claire Welty

Abstract:

Moratoriums on development have been enacted in some urbanized counties in Maryland where the water supply cannot meet demand during a drought. Water shortage events in Maryland might seem unlikely given the State's temperate climate, proximity to Chesapeake Bay and dense network of streams, but such events are occurring with greater frequency as growth pressures continue in the Baltimore-Washington metropolitan area. We are conducting an evaluation of the effects of urban growth on water supply in the Baltimore, MD, metropolitan region. A primary objective of our project design is to fully couple a regional urban growth model with a three-dimensional, process-based hydrologic model, which will allow us to model and assess feedbacks between growth pressures and water availability. Specifically, this paper reports progress made toward adapting the urban growth model SLEUTH to meet this objective. We have found urban growth tends to occur near less-than-fully-developed spaces that exhibit relatively high measures of primary road network accessibility. We can use such spaces to make predictions about the geospatial distribution of future growth, which we intend to leverage into a reasonable prediction of the geospatial distribution of future water supply.