

BIG DATA IN HYDROLOGY: INFORMATION MANAGEMENT FROM HILLSLOPE TO CONTINENTAL SCALES

Todd C. Rasmussen

AFFILIATION: UGA Warnell School of Forestry & Natural Resources

REFERENCE: *Proceedings of the 2017 Georgia Water Resources Conference*, held April 19-20, 2007, at the University of Georgia

Hydrologic data, information, and knowledge resolve differently depending upon the spatial and temporal scales of interest. A multi-scale hydrologic information system (HIS) is presented that can be designed and populated for a broad range of spatial (e.g., hillslope, local, regional, continental) and temporal (e.g., current, recent, historic, geologic) scales. Surface and subsurface hydrologic and transport processes are assumed to be scale-dependent, requiring unique governing equations and parameters at each scale. This robust and flexible framework is designed to meet the inventory, monitoring, and management needs of multiple federal agencies (Forest Service, National Park Service, Fish & Wildlife Service, National Wildlife Reserves). Multi-scale HIS examples are provided using Geographic Information Systems (GIS) for the Southeastern US.

Program reference: 4.6.1