Jun 25th, 9:00 AM - 10:20 AM

A Web-based Healthy Watersheds Assessment Framework

Tyler Wible
Colorado State University, tyler.wible@colostate.edu

Mazdak Arabi
Colorado State University - Fort Collins

iEMSs International Congress on Environmental Modelling and Software

9th International Congress on Environmental Modelling and Software
Fort Collins, Colorado, USA, Mazdak Arabi, Olaf David, Jack Carlson, Daniel P. Ames (Eds.)
https://scholarsarchive.byu.edu/iemssconference/2018/

A Web-based Healthy Watersheds Assessment Framework

Tyler Wible[1], Mazdak Arabi[2]
[1] Dept. of Civil and Env. Engr., Colorado State University (tyler.wible@colostate.edu)
[2] Dept. of Civil and Env. Engr., Colorado State University (mazdak.arabi@colostate.edu)

Abstract: The U.S. Environmental Protection Agency Office created the Healthy Watersheds Program to highlight protection of high quality waters. Assessment of healthy watershed characteristics can be made with many publically available national scale datasets. These individual health indicators, like percent natural land cover, can be combined into sub-indices for categories, like landscape condition, and combined for a total watershed health index. When these indices are standardized, it allows a comparison of watersheds, which is useful for selection of ecologically sensitive watersheds for protection or impaired watersheds for restoration programs. Past healthy watershed assessments have compiled watershed scores at the catchment level. This study focuses on the assessment of the 12-digit hydrologic unit code (HUC12) scale. A decision support system was developed using the web-based GIS platform, the Environmental Resources Assessment and Management System (eRAMS), which enables rapid healthy watershed assessments. The system includes innovative capacities for access and retrieval of national scale datasets, multi-criteria decision analysis, and report generation.

***Keywords**:* watershed healthy; assessment; indicators; automated; webservice