

The National Stream Internet Project

Workshop: April 23-24, Boise Idaho

What is a Stream Internet? A network of people, data, and analytical tools that interact synergistically to 1) generate accurate, high-resolution information for status and trend assessments from existing information, and 2) fundamentally improve the quality and quantity of information about stream resources within individual landscapes, regionally, and nationally.

Workshop Goal: Assemble a diverse group of leading aquatic researchers, statisticians, resource managers, and geospatial experts for a two day workshop to discuss national priorities and brainstorm about the opportunities that big aquatic databases and new analysis tools present. The long-term project goal is developing a user-base and analytical infrastructure for data on stream networks that can be applied consistently with many existing databases anywhere in the country to create new information at low cost.

Stream Internet Components: 1) National digital stream hydrology layer and reach descriptors, 2) spatial statistical models for data on stream networks, 3) massive existing databases of water quality and biological surveys collected by state, federal, tribal, university, and private resource organizations.

Project Background: The Stream Internet project is an initiative funded by the U.S. Fish & Wildlife Service's Landscape Conservation Cooperatives program and led by researchers from USFS, CSIRO, NOAA, and USGS. Funding is available to partially defray travel costs to the workshop. For additional questions, please contact any of the workshop organizers listed below. RSVP by December 15.

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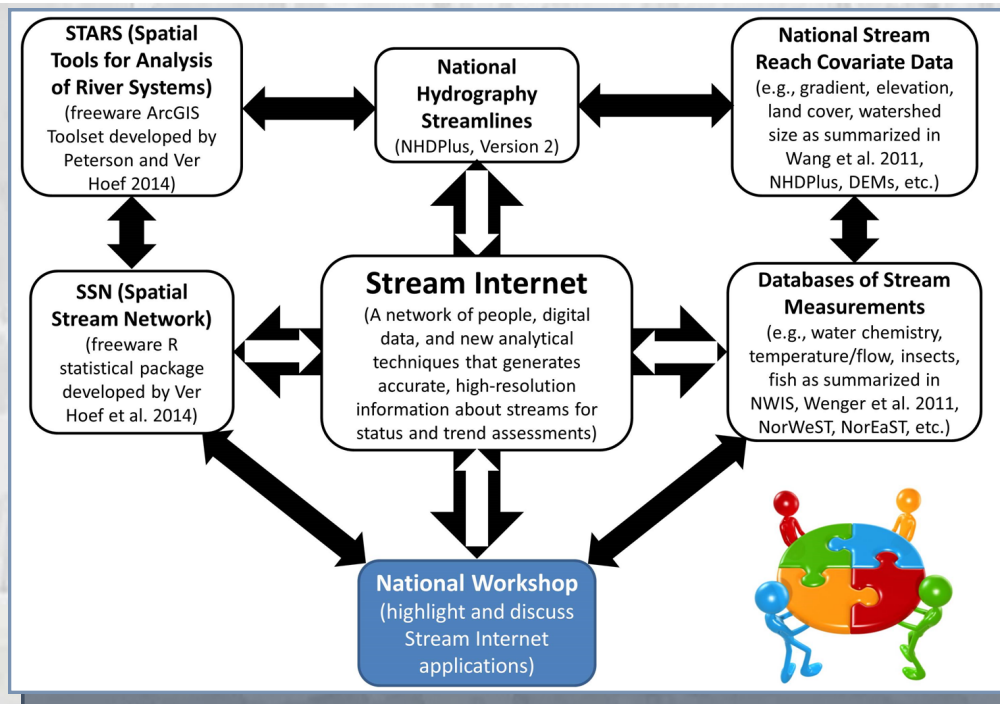
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A stream internet could provide a nationally consistent means of developing and scaling accurate information from local to regional to national domains.



There are only 2,500,000 kilometers of streams in the U.S. and massive aquatic databases exist in many areas. Why not develop high-resolution information for water quality parameters and aquatic organisms everywhere?

Key Resources:

- Cooter, W., J. Rineer, and B. Bergenroth. 2010. [A nationally consistent NHDPlus framework for identifying interstate waters: Implications for integrated assessments and interjurisdictional TMDLs](#). *Environmental Management* **46**:510-524.
- Isaak, D., E. Peterson, J. Ver Hoef, S. Wenger, J. Falke, C. Torgersen, et al. 2014. [Applications of spatial statistical network models to stream data](#). *Wiley Interdisciplinary Reviews - Water* **1**:277-294.
- Peterson, E., J. Ver Hoef, D. Isaak, J. Falke, M. Fortin, et al. 2013. [Modelling dendritic ecological networks in space: An integrated network perspective](#). *Ecology Letters* **16**:707-719.
- SSN/STARS: Tools for Spatial Statistical Modeling on Stream Networks. Webpage: www.fs.fed.us/rm/boise/AWAE/projects/SpatialStreamNetworks.shtml.
- Ver Hoef, J., E. Peterson, D. Clifford, and R. Shah. 2014. [SSN: An R package for spatial statistical modeling on stream networks](#). *Journal of Statistical Software* **56**(3):1-45.
- Wang, L., D. Infante, P. Esselman, A. Cooper, D. Wu, et al. 2011. [A hierarchical spatial frame-work and database for the national river fish habitat condition assessment](#). *Fisheries* **36**:436-449.