NExUS Ongoing Projects and Activities Sat Feb 24 22:37:29 EST 2018

Name	Delaware River Streamflow Reconstruction Using Tree Rings
Description	Using Hierarchical Bayesian Statistical techniques for understanding and modeling the hydrologic systems is one of the emerging areas of research. Given their ability to explicitly quantify the process model and parameter uncertainty through each estimation stage, Bayesian methods can be employed to better represent model and estimation uncertainties and indeed to find ways to reduce them by appropriate shrinking across spatial instances. In this project, we developed various Hierarchical Bayesian statistical techniques for reconstructing Delaware River flows using paleoclimatic information such as tree rings. This analysis will serve as the necessary building block for simulating water system operation and to provide a more objective evaluation of operating rules for reservoir systems consider changing conditions. The reconstructions also provided insights in to the probability of severe sustained droughts in this region.
Category	- Research
Sector	- Infrastructure - Managed Ecosystems - Natural Ecosystems
Focus Area	- Climate Impacts on Water Resources - Changes in Extremes of Weather and Climate
Region	- Regional Or State
Lead Agencies	NOAA Regional Integrated Sciences and Assessments
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