

XXV IUGG General Assembly: Earth on the Edge: Science for a Sustainable Planet. Melbourne, Australia. 28 June to July 7, 2011

Presentation type: contributed poster

Session: HW05 Revisiting paired catchment experiments in forest hydrology

TITLE: Synthesizing stream chemistry data from Forest Service sites in the Experimental Forest and Range Network.

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ABSTRACT: A series of Experimental Forest and Range (EFR) sites were established by the USDA Forest Service over the past century for watershed studies. The sites span the USA encompassing gradients of forest types, climate, topographic, atmospheric deposition, and disturbance regimes. Long-term data on streamflow, precipitation, air temperature, and stream chemistry at these sites are: 1) important records of climate, hydrology, and ecosystem productivity, and 2) instrumental in quantifying how diverse ecosystems respond to disturbances. We are synthesizing stream chemistry data from EFR watersheds to evaluate ecosystem responses to climate change, atmospheric deposition, natural disturbance, and forest management practices to gain a broader understanding at national and global scales. This poster summarizes research directions that we are pursuing and preliminary findings. For example, long-term trends of stream nitrate concentrations differ among reference basins from all sites as well as between reference basins and disturbed basins within a site. We use these long-term stream chemistry data to evaluate nutrient criteria that are being proposed for streams in the USA. Finally, we present the framework for the StreamChemDB Project— a web-accessible portal to data from participating EFR watershed sites that is being developed.