



USDA-CSREES 2006 National Water Quality Conference

Temperate Rainforest Watershed Project

The goal of this project is to develop a process-based understanding of the nutrient dynamics that influence watershed functions in temperate rainforest systems. In particular, we will focus on evaluating how abundant wetlands and anadromous fish inputs influence the amount and chemical quality of dissolved organic matter (DOM) and nitrogen and phosphorus in temperate rainforest streams in the Pacific Northwest (PNW) and Alaska. Study watersheds for this project are located in the Tongass National Forest in southeastern Alaska. The need to develop novel integrative indicators of watershed health in managed systems such as the Tongass has been recognized. And DOM, because it is important in its own right and also reflects the integrated impact of several key ecosystem processes, may provide a new perspective on the impact of human and natural disturbance at basin scales. This project will look at the sources and quality of DOM in northern forested watersheds, with a particular focus on the relative importance of wetlands and salmon to the overall DOM budget of aquatic systems. Because of their importance to key ecosystem processes and their chemical association with carbon, various forms of nitrogen and phosphorus will also be quantified in source pools and streamwaters. This information will further our understanding of baseline productivity in these systems and provide insights that will be useful for predicting the effects that changes in management practices or global climate will have on watershed health and productivity.

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