

From: P.J. Mulholland
To: LTER ASM Coordinators
Re: LINX2 Workshop

Wed, September 20, 2006

On Wednesday Sep 20, 2006, members of the Lotic Intersite Nitrogen EXperiment (LINX) project convened a full-day workshop addressing aspects of coordination and data analysis. In addition, we spent a considerable amount of time discussing how we might contribute to the LTER Planning Group process, particularly the subject area "Biogeochemical cycles".

The LINX project group suggests that LTER undertake a long-term, inter-site stream nutrient addition experiment. This experiment would consist of a controlled press manipulation (continuous nutrient addition) of approximately 10 years in duration in each stream. It would also involve assessment of effects of pulse disturbances at two temporal scales: weather events (storms) and climate variability (inter-annual variations in precipitation and long-term droughts). This experiment would be conducted simultaneously in ~10 different regions, ranging from the arctic (e.g., Alaska) to the tropics (e.g., Puerto Rico). Questions to be addressed would include changes in rates and controls on nutrient cycling and retention, as well as long-term changes in ecosystem structure and metabolism. This experiment would be highly relevant to the issue of human impacts (nutrient enrichment is one of the most pervasive of human impacts on streams) and how climate variability affects human impacts over long periods of time in different regions (biomes) of the U.S. This experiment could also be conducted in paired reference and human-impacted streams (e.g., agricultural, urbanizing areas) to address additional questions concerning how other effects of humans alter the capacity of streams to cycle and retain nutrients and resist changes to biotic structure and other ecosystem processes. Such an experiment is timely because of the many recent advances in methods and approaches for studying stream ecosystem processes (e.g., stable isotope additions and analyses, reach-scale measures of metabolism) and the existence of strong research groups such as the LINX project team. A large intersite experiment as described here would likely require an annual budget on the order of an existing LTER site (\$ 1M per year). However, the knowledge gained by such an experiment would more than justify this cost. The LINX team would welcome the opportunity to help design and lead such an experiment.

A total of 16 participants attended the meeting (Table 1) including personnel from six LTER programs and 13 institutions. The meeting was chaired by Pat Mulholland

Table 1. LINX 2 coordination meeting participants, Wednesday September 20, 2006.

Name	email	LTER or other affiliation
Mulholland Pat	mulhollandpj@ornl.gov	ORNL
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