Coarse Woody Debris Workshop

Background:
The original workshop funding request grew out of several fruitful discussions at the LTER-All-Scientists-Meeting. The original goals were to review available information available on the effects of CWD on soils in different systems for the purpose of a review/synthesis paper and to serve as the basis for a subsequent NSF proposal to support coordinated cross-site experiments.

Participants	LTER	interest
Bruce Caldwell	AND	SOM, soil enzyme activities
Dave Coleman	CWT	Decomposition, Foodwebs
Bill Currie	HFR	Nutrient cycling Models
Mark Harmon	AND	CWD decomposition
Scott Holub	AND	PhD student, N cycling
Kate Lajtha	AND	nutrient cycling,
Jean Lodge	LUQ	mycology
Julie Spears	AND	PhD student
Dave Valentine	BNZ	decomposition, nutrient cycling
Yuriko Yano	AND	PhD student
Xiaoming Zou	LUQ	earthworms, nutrient cycling

Results & Highlights: Individuals gave overviews on specific LTER site CWD research. Mark Harmon (AND) summarized the 200Year Log Decomposition study. Dave Valentine (BNZ) summarized a boreal forest log decomposition study initiated by John Yarie. Jean Lodge discussed her work on tropical wood decomposing fungi from CWD at LUQ. Xiaoming Zou gave an overview on the effects of CWD on tropical earthworm populations and activities. Bill Currie discussed possible modeling approaches to CWD inputs to SOM.

Julie Spears (OSU PhD student; Kate Lajtha) summarized her dissertation studies on the effects of downed logs on soil chemistry. Yuriko Yano (OSU PhD student; Kate Lajtha & Phil Sollins) introduced her work on DOC chemistry at the Detritus Input & Removal Treatments (DIRT) experiment in the Andrews Experimental Forest. One of the six detritus input treatments is coarse woody debris.

A field trip was held of the Log Decomposition Experiment and the Detritus Input & Removal Treatment (DIRT) sites at the Andrews-LTER.

Considerable time was spent developing a CWD framework integral to the existing Detrital Inputs and Removal Treatments (DIRT); in place at AND, HFR, Bousson Research Forest (PA), and SIK (Hungary-ILTER). AND and SIK have existing CWD treatments. We decided against attempting a synthesis paper for CWD and decomposition, as our experiments and data were not really able to be synthesized. Instead, we agreed to apply for funding based on hypotheses and ideas developed in this workshop. Two proposals were subsequently submitted to NSF to continue and expand the basic DIRT network. One has recently been funded:

> LTREB: Long-term detrital controls on soil organic matter stabilization $400,000 (NSF DEB-0817064; Kate Lajtha PI; co-PI Caldwell).

We also used ideas developed in this workshop to plan a special session for AGU:

Soil Carbon: Mechanisms of Stabilization, .American Geophysical Union (AGU), 2007, Lajtha and Cavallero, session organizers.

We are planning a larger group proposal, with Andy Moldenke as PI, that more directly addresses the goals of this workshop – and that will involve most participants and at least 4 LTER sites.