

## **2007 Bonanza Creek LTER Symposium – Pikes Waterfront Lodge**

**Friday February 23, 2007**

8:00 Continental Breakfast – Binkely Room

8:30 Terry Chapin            Workshop goals and 2007 overview: Site review and site synthesis

8:45 Dave McGuire        Overview of Climate Sensitivity Synthesis

9:45 Roger Ruess         Overview of proposed successional research

10:00 Coffee

10:30 Eric Kasischke        Climate impacts on disturbance regime

11:00 Teresa Hollingsworth Legacy and disturbance effects on successional dynamics

11:30 Terry Chapin         Legacy and disturbance effects on ecosystem processes

12:00 Lunch Provided by Pikes

1:00 Roger Ruess    Charge to the Breakout Groups

1:30 Breakout Groups on Changing successional dynamics:

(1) Direct linkages between climate change and altered disturbance regimes – Rupp and Jones

(2) The species that really drive successional trajectories and how they might be influenced by climate change and/or altered disturbance regimes – Mack and Taylor

(3) The consequences of changing successional dynamics on ecosystem processes – Juday and Valentine

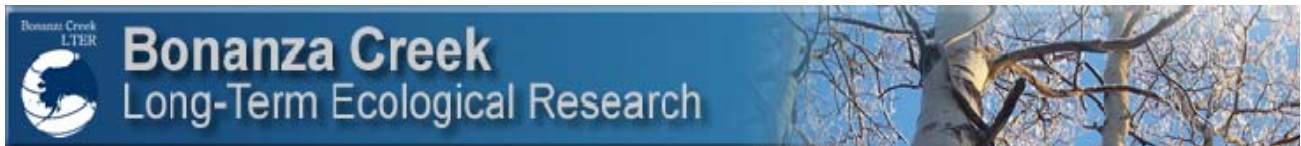
3:00 Coffee

3:30 Breakout Group Reports

4:30 Discussion

5:00 Adjourn

6:00 Potluck @ Pikes Waterfront Lodge, Copper Room, upstairs



## **2007 Bonanza Creek LTER Symposium – Pikes Waterfront Lodge**

**Saturday February 24, 2007**

- 8:00 Continental Breakfast and Posters (Graduate Students) Binkley Room
- 9:40 Roger Ruess LTER Network planning and inter-site opportunities
- 10:00 John Laurence USDA Forest Service
- 10:20 Jamie Hollingsworth State of Site Management at BNZ LTER
- 10:40 Brian Riordan State of Data Management at BNZ LTER
- 11:00 Elena Sparrow State of Outreach at BNZ LTER
- 11:20 Gary Kofinas Opportunities for expanded human dimensions research
- 11:40 Terry Chapin Looking to 2010: Shift in LTER leadership and approach
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- 12:00 Lunch Provided by Pikes Group discussion of leadership changes - Kielland
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- 1:00 Knut Kielland Summary of lunch discussion of leadership change
- 1:20 Dave McGuire Improving our core datasets
- 2:00 Roger Ruess Synthesis plan for 2007: Successional dynamics
- 2:30 Discussion
- 5:00 Adjourn

## **Charge to the Breakout Groups:**

In the LTER proposal, we proposed that we would conduct a synthesis for each of our three major themes over the four years of our current LTER grant: (1) Climate Sensitivity in 2006; (2) Successional Dynamics in 2007; (3) Thresholds in 2008; (4) Integration/synthesis in 2009. So our breakout groups for this year's symposium are specifically focused on making progress in the synthesis and integration of the successional dynamics theme. This section of the BNZ LTER proposal is organized around (1) effects of climatic change on disturbance regime and (2) the effects of legacies and post-disturbance succession on community and ecosystem processes. We proposed seven tasks in the successional dynamics section of the proposal:

- Task S1. *Develop predictive relationships among climate, glacier melt, and discharge within and among years to assess their effects on water availability and nutrient supply in the Tanana River floodplain.*
- Task S2. *Develop predictive relationships between climate and fire regime, specifically the number, size, and severity of fires.*
- Task S3. *Analyze the relationships among climate, disturbance regime, ecosystem structure (vegetation composition and organic layer depth) and permafrost distribution.*
- Task S4. *Analyze the relationship between disturbance properties and plant successional pattern as a basis for rule-based models of succession.*
- Task S5. *Document the effects of key plant functional types on ecosystem processes.*
- Task S6. *Determine the long-term effects of snowshoe hares and moose on ecosystem processes in floodplain succession.*
- Task S7. *Establish baseline characterization of soil fungal community composition among successional stages, soil horizons, and seasons in floodplain and upland ecosystems.*

Two tasks (S1 and S2) are focused on analyzing how climate change has affected disturbance regime. The other 5 tasks address the interactions between the changes in disturbance regime and legacies of pre-disturbance properties of the system in altering successional dynamics and community and ecosystem processes.

***We want to integrate more effectively our research efforts among these tasks and with tasks in the other major thrusts of the research program (changing climate sensitivity, and thresholds/state changes). The overall goal of the breakout group activity in today's symposium is to help put together a road map of how we can achieve more effective integration of the successional dynamics research being conducted by BNZ LTER.***

To accomplish this, we will break into three groups organized around responses to different aspects of a changing successional dynamics in interior Alaska: (1) Direct linkages between climate change and altered disturbance; (2) The species that really drive successional trajectories and how community responses might be influenced by climate change and/or altered disturbance regimes, (3) The consequences of changing successional dynamics on ecosystem processes.

Each of the breakout groups should address the following issues:

- A. How can we achieve more effective integration of successional dynamics research
  1. among the successional dynamics tasks?;
  2. with the tasks in the climate sensitivity and threshold themes?;
  3. with human dimensions research? – think about ISSE loops!
  
- B. What product or products should we work towards producing over the next year to provide a preliminary synthesis of our understanding of the climate-induced changes in successional dynamics in interior Alaska? Should we work towards a *BioScience* paper or towards a special issue of a journal?
  
- C. What “successional dynamics” talks specific to your particular breakout group should we organize for the monthly BNZ LTER meeting that we will hold over the next year? Please identify both speakers and titles. For each breakout group, we should identify a minimum of three talks, but feel free to propose more talks if there is interest.