Summary Report

Long-term experiments in the LTER Network: Synthesis and hypothesis testing

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The goals of this working group were: 1) to bring together a group of LTER scientists to write a manuscript entitled "Past, Present and Future Roles of Long-term Experiments in the LTER Network" for the LTER Special Section in *BioScience*, and 2) to compile and synthesize datasets from a broad array of long-term experiments conducted across the LTER network in order to test emerging global change hypotheses. To achieve these goals, we held two 2-day meetings in Hartford, CT – the first, February 17-18 (Feb 16 and 19 travel days) and the second, October 3-4, 2011 (Oct 2 and 4 were travel days).

The two meetings were successful in achieving the working group goals. From the first meeting, we produced a paper that reviews the motivation, role and significant findings of long-term experiments in LTER; highlights their current role and status at sites across the network; and provides a vision for the types of long-term experiments that will be key in the future as LTER moves into is 4th decade. The paper has been accepted for publication in *BioScience* (expected publication is April 2012, see below). Prior to the second meeting we compiled datasets from more than 25 long-term experiments, from both within and outside of the LTER network. During the second meeting, we conducted a broad array of analyses to address a series of hypotheses having to do with the relative sensitivities of ecosystems to chronic resource manipulations, as well as drafted the outline of paper summarizing these results. We are currently finalizing these analyses and expect to have a manuscript ready for submission by May 2012.

Products:

Knapp, A.K., M.D. Smith, S.E. Hobbie, S.L. Collins, T.J. Fahey, G.J.A. Hansen, D.A. Landis, K.J. LaPierre, J.M. Melillo, T.R. Seastedt, G.R. Shaver, and J.R. Webster. 2012. Past, present and future roles of long-term experiments in the LTER Network. In press, *Bioscience*.