

NATIONAL SCIENCE FOUNDATION SPECIAL COMPETITION

COLLABORATIVE RESEARCH AWARDS

May 1994

Collaborative Research: Belowground Productivity Comparisons
Across LTER+ Sites and Development of Applications Software
for Research in Ecology

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This project focuses on synthesis of belowground productivity by plant roots at a number of sites in North America (LTER sites and other sites with significant root biomass information). Belowground productivity is a key part of net primary productivity across different sites and develop synthetic hypotheses which might explain factors which control root growth and death and allocation of carbon to roots. This information is vital in understanding NPP, as well as in predicting effects of global change on NPP.

The dual objective of the project is, first, to develop a computer system which is suitable for intersite/synthetic research in root ecology and, second, to employ that system for new scientific research. A series of workshops involving computer systems professionals with expertise in databases, application software, and networking, are planned. The project will offer scientists information technology assistance in understanding how root ecology varies spatially and temporally across sites, and how it is affected by climate, soils, aboveground vegetation and other site-specific factors. Further, it will develop a series of databases and associated application software suites for intersite/synthetic work in ecology, to be published across the Internet, which may stimulate interest in similar efforts in other ecological disciplines.