NATIONAL SCIENCE FOUNDATION SPECIAL COMPETITION

COLLABORATIVE RESEARCH AWARDS

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

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$130,055, 36 months

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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.