

**RATIONALE FOR PALEOECOLOGY SYMPOSIUM AT LTER ALL-INVESTIGATORS
MEETING, ESTES PARK, COLORADO, SEPTEMBER, 1990**

Paleoecological investigations are being performed at only a small number of LTER sites (Harvard Forest, Niwot Ridge, North Temperate Lakes, Sevilleta and Virginia Barrier Island). The National Science Foundation mandates the development of broad-based, long-term ecological research at every LTER site, and paleoecology provides the longest perspective possible. We feel that paleoecology is a vital element in understanding modern biological communities, because it provides the link with past conditions and biological responses that have combined to shape the modern communities. Attempting to understand modern ecosystems without a knowledge of their long-term history is like trying to understand a novel by reading only the last page of the story.

Paleoecological research has shown that the current species composition of communities, even "climax" communities that appear quite stable, is largely the result of past distributional shifts in response to climatic changes, and that modern communities are not necessarily comprised of species that are best fit to the given environment, but rather of species which were available to exploit a given region as suitable climatic conditions arise. Some post-glacial migrations of plant species (e.g., trees) are still in progress. Stasis does not exist in nature. For instance, conifers have invaded southwestern Alaska only within the last few thousand years, although the climate has been suitable there for about the last 12,000 years. Biological communities are always in a state of flux, in response to climatic perturbations.

Very-long-term ecological changes cannot be discerned by direct observation, even if data are gathered over several decades.

They remain undetected by modern ecologists, simply because they are untraceable within a human lifetime, or several lifetimes. Therefore, we believe that it is important for all LTER investigators to learn more about paleoecology and its applications to their research sites.

With this in mind, we propose a paleoecology symposium to be held during the LTER All-Scientists Meeting next September in Estes Park, Colorado. The symposium will be organized by Scott Elias and Kerstin Williams, paleoecologists working in the Niwot Ridge LTER program. In this symposium, we want to 1) form an LTER Paleoecology Panel to facilitate organization of the symposium; 2) invite a nationally recognized paleoecologist to make a general presentation on the value and potential of paleoecological research for LTER sites (a talk to the full meeting); 3) hold a workshop of LTER paleoecologists to describe the ongoing paleoecological research at each participating site and to discuss techniques, hypotheses, database management, define common goals and develop joint projects. The immediate product of our symposium will be a document summarizing the current paleoecological research at the various sites. This document will contain, for each site, a list of paleoecological researchers, a short (2-3 page) summary, and a bibliography of paleoecological papers. Copies will be distributed to all sites.

Symposium Organizers: Scott A. Elias
INSTAAR, Box 450
University of Colorado
Boulder, CO 80309
(303)-492-5158
FAX: 492-6388

Kerstin Williams
INSTAAR, Box 450
Univ. of Colorado
Boulder, CO 80309
(303)-492-0197
FAX: 492-6388