



## National Center for Ecological Analysis and Synthesis

University of California, Santa Barbara

<http://www.nceas.ucsb.edu>

The National Center for Ecological Analysis and Synthesis (NCEAS), a research center of the University of California, Santa Barbara, supports cross-disciplinary research that addresses major fundamental and applied problems in ecology and allied fields through the use of existing data. NCEAS is a unique institution with an explicit mission to foster synthesis and analysis, turn information into knowledge, and alter how we do science through effective collaboration. The mission of NCEAS is to:

- *Advance the state of ecological knowledge through the search for general patterns and principles in existing data*
- *Organize and synthesize ecological information in a manner useful to researchers, resource managers, and policy makers addressing important environmental issues*
- *Influence the way ecological research is conducted, and promote a culture of synthesis, collaboration, and data sharing*

### Research and Education Activities

***Ecological Research & Training:*** The Center hosts hundreds of visiting scientists each year. A primary mode of research at NCEAS is the Working Group, in which approximately a dozen scientists convene to concentrate on specific issues that require in-depth analysis of data and synthesis of ideas. An outgrowth of the Working Group concept is the Distributed Graduate Seminar. Students and faculty from institutions around the world collaborate remotely on the same research topic using local data. Subsequently, representatives from each of the regional seminars meet at NCEAS to conduct a final synthesis of the knowledge developed by each group.

The Center also hosts up to 25 resident scientists, including approximately 6 sabbatical visitors (Center Fellows) and 18 Postdoctoral Associates. Since its inception in 1995, NCEAS has hosted over 4,000 individuals from 50 countries. Topics addressed by research projects at the Center range across the core areas of ecology and into many adjacent disciplines in the environmental and social sciences. Over 25% of the projects at NCEAS include among their goals "informing environmental policy and management". NCEAS has supported 400 projects yielding nearly 1,500 scientific articles, many of these in top scientific journals, leading NCEAS into the upper 1% of 38,000 institutions ranked for scientific impact in ecological and environmental research.

***Ecoinformatics Research & Support:*** NCEAS is actively involved in developing tools for access to ecological data that are highly dispersed and heterogeneous. The research and implementation involve developing a desktop data management system for individual researchers and research groups. Embedded in the system are capabilities for developing metadata (data about data) and making both the metadata and raw data available to a broad community of users.

***Education and Outreach:*** NCEAS offers training at all levels of sophistication, from elementary school through graduate training and continuing education of professionals. NCEAS is committed to increasing the public understanding of science, fostering interest in ecology and technology professions, and contributing to the local community through programs such as Kids do Ecology. Many opportunities to gain experience in providing outreach activities are available to resident scientists.

