TEACHING STATEMENT  

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My interdisciplinary background and interests have me ready to teach a range of undergraduate and graduate classes in the environmental sciences. My undergraduate studies provided me with a solid grounding in physical geology, which my graduate course work broadened to include paleoclimatology, paleoecology, remote sensing, global change, and biogeochemistry. At NCEAS I have continued my arc of knowledge by learning about current theory and research in ecology. Both my undergraduate training at Oberlin and my graduate work presented me with several different models of good teaching. While at Brown, I served as a teaching assistant in the Physical Geology course for majors and in an upper-level Sedimentology and Stratigraphy course. This fall I am teaching an Earth System History course for upper-level undergraduates and graduate students at the University of Minnesota, Twin Cities Campus; it is a writing-intensive course.

Whenever possible, I have taken advantage of opportunities to improve my teaching skills. While a teaching assistant, I conceived, organized, raised funding, and led a weeklong field trip to the Florida Keys in order to introduce the students to a modern carbonate-platform sedimentary system. I worked closely with the Sheridan Center for College Teaching, receiving a voluntary teaching certificate and was trained as a teaching consultant. As a consultant, I attended other graduate students’ classes to critique their teaching style. At NCEAS, I participated in Kids Do Ecology, in which another scientist and I helped a 5th-grade class design and implement their own scientific experiment. I also have participated in ScienceLine, in which I answer on-line questions from elementary students. Most recently, I organized a series of workshops in which the postdocs at NCEAS collaboratively developed a comprehensive syllabus and reading list for an introductory course in ecology.

Other courses that I could teach directly related to my research interests include Biogeography, Paleoclimatology, Paleoecology, Quaternary Landscapes, and the Geosphere and Biosphere. Related courses that I could teach include Issues in Global Change, Global Biogeochemical Cycles, Physical Geology, and Weather and Climate. When choosing seminar topics, I like to pick areas that will expand my own knowledge, so that my students and I can learn together. Topics that currently interest me include the manifestations of El Niño and other decadal-scale climatic oscillations in geologic records, advances in terrestrial biogeochemical modeling, fire and vegetation dynamics, and phylogeography.

I plan to experiment with my pedagogical style. I certainly plan to use many of the traditional tools of teaching: lectures are still an effective way for communicating to a large number of students, and tests are still an effective means for assessing learning. But with these I plan to try additional approaches, in order to experiment with new ways for communicating ideas and encourage critical thinking. Ideas include:

- **Active and Group-Based Learning**: Including in-class presentations by students and group-based class assignments.

- **Incorporation of the Internet and World-Wide Web**: I plan to create a website for each class, which would contain at minimum the class syllabus, assignments, class notes, announcements, and electronic bulletin boards among the students and professor.

- **Core Projects**: Each class should have at least one core project that engages a variety of critical, analytical, and communication skills. These may be individual or group-based. Term papers are one possibility; another is to give them (or have them collect) real data for analysis and interpretation. Another possibility would be to have the students create mock grant proposals, to be evaluated by their peers and myself.

- **Teaching assessment**: I seek to continually improve my teaching, and so value feedback from students and peers.