Teaching and mentoring statement

I believe that an essential part of having a successful and fulfilling academic career is taking advantage of the opportunity to teach and mentor students. This includes not only students who are on their way to becoming young scientists, but also non-majors. Interactions with these students offers us the opportunity to reach outside the scientific community and share with them the importance of scientific research to society. As I have learned in my experiences teaching and designing classes for non-majors, often these interactions will be the only ones that these students will have with the scientific community. The impressions that we make on these students will, for many, form the basis with which they make future decisions pertaining to science and the environment. I believe, therefore, that it is our responsibility, as scientists, to provide them with the basic scientific tools in order to objectively evaluate scientific and ethical questions, without having to rely on the expertise of others. Furthermore, we have the responsibility to help them to understand, enjoy and respect the research that we all spend our careers producing. While I recognize the serious challenge behind putting these statements into action, I have also found, through personal experience, that we can be successful by (a) putting the scientific teaching in a context that is not just real-world, but also fun and relevant to the students in the class (like our AZ water issues class, which teaches science concepts through the policy issues surrounding water resources in the southwest, an issue that hits close to home for many of our students) and (b) by making the necessary time commitment to both the students and to the preparation of classes and class assignments.

Teaching and mentoring young scientists is also an essential aspect of being an academic. However, as important as these jobs are, I believe that as researchers, we also have the responsibility to be mentors to young scientists. Over the course of my academic career, I have had both the fortune of working with and being mentored by some of the best, and the misfortune of having to deal with some very difficult circumstances. These experiences have taught me some great lessons about both being a responsible scientist and about being a good mentor. Perhaps the most important thing that I have learned is that young scientists need support and encouragement, and that they need to be treated fairly and with respect. In addition to developing a top-level research program, one of
my primary goals as an academic researcher is to be such a mentor for students in my department. Someone who’s door is always open, and who is there to provide advising not only for their own students, but for any student who needs it.

**Teaching experience**

As a graduate student, I have been fortunate to have the opportunity to gain a great deal of experience in the classroom. While a Masters student in Hydrology, I led an senior-level undergraduate/introductory-level graduate laboratory in hydrogeology. In my first year, myself and the other teaching assistant decided that the lab needed to be redesigned and updated, and spent a semester writing an extensive laboratory manual, developing new laboratory experiments (including one that involved groundwater modeling) and building new lab setups. For several semesters, I was also a teaching assistant for some introductory classes targeted at non-science majors. Under the tutelage of Dr. J. Washburne and Dr. B. Ekwurzel in Hydrology, I had the opportunity to develop a number of class lectures and exercises, and to be the primary lecturer in a substantial (>30%) of the classes during the semester. This has been invaluable in developing my skills and expertise as a teacher.

**Potential classes**

In terms of teaching, I am interested in getting involved in a variety of courses. I hope to eventually teach least one class involving science for non-majors, perhaps about environmental change. For majors, I could teach a variety of classes including: Introductory Hydrogeology, Low temperature Geochemistry, Quaternary Paleoclimatology and Global Environmental Change. I would also be interested in developing upper level graduate seminars on Quaternary Geochronology, Methods in Paleoclimate Research, and Stable Isotope Geochemistry.