



**Candace Major** received her PhD from Columbia in 2002 for work she did at Lamont-Doherty on the paleoceanography of the Mediterranean and Black seas. Today, she is a program officer in the Marine Geology and Geophysics (MGG) Program at the National Science Foundation (NSF). In between, Candace was an NSF International Research Postdoctoral Fellow at the Laboratoire des Sciences du Climat et de l'Environnement in Paris and a Comer Postdoctoral Research Scholar and then visiting scientist at the Woods Hole Oceanographic Institution (WHOI). In 2008, before joining NSF, she participated in the American Meteorological Society Summer Policy Colloquium, which brought together scientists and policy makers for an immersion course in atmospheric and global climate change policy.

#### **How did you get interested in working at NSF?**

I think the inclination to work outside of academia has always been there. I remember attending a Friday colloquium in my first year as a grad student at Lamont-Doherty that was given by a woman who had been a Congressional Science Fellow and who said that, of the people who finish the program, one-third continue with policy work, one-third go back to science, and one-third go on to something completely different. The idea that there are ways to impact science without being at the bench, in the field, or in the classroom stuck with me. Also, the more I thought about it, the more I felt that policy decisions could be improved by better and more direct input from the science community. After graduation, I continued on a fairly typical research trajectory until my last year at Woods Hole, when I decided I was ready for a change. Over the course of that year I talked to a lot of people who had connections with science policy. WHOI's Congressional lobbyist said the divide between the funding agencies and policy makers was more porous than most people think, so I moved down to Washington DC and scheduled an informational interview at NSF.

## Q & A with Candace Major, PhD '02

By Ken Kostel

They called me a couple of months later with an opening and I started in August 2008.

#### **What do you do as a program officer?**

Before I started at NSF, I had the misperception this was a thankless job that largely involved declining scientists' proposals. Now I have a much different perception—though sadly, we do need to say no to a lot of excellent projects because of funding limitations. My primary job is to coordinate the peer-review process for proposals and to decide on a portfolio of funding for the MGG Program and within the Paleo Perspectives on Climate Change (P2C2) program, taking into consideration all the information we get from the reviewers, plus issues of balance, risk, timeliness, and diversity. My other roles include getting a sense from the community of new directions to explore in science in order to help develop programs and deciding what kinds of calls for proposals would help move such initiatives forward.

#### **Have you found the wall between science and policy to be as porous as was suggested?**

I've only been here a year and a half, so in one sense I'm still getting up to speed. But one of the things I like about being at NSF is that there are lots of opportunities to contribute to policy discussions through interagency work and through task forces that directly inform policy decisions.

#### **What do you see in the proposals you turn down that could have been improved?**

Not that this is always missing from those we reject, but throughout NSF there is a push to fund science that is both relevant and transformative. Certainly, the case for societal relevance is easier to make for some projects than others, but with the level of competition for funding, it's incumbent on principal investigators to make the best case they can. It doesn't mean they have to change what they're doing—everyone at NSF understands the need for basic research in all areas of the sciences. Still, scientists need to think expansively about the impacts of their work. Also, by expressing the relevance of their work, PIs are helping NSF make the case to Congress that basic research will eventually benefit society. The same is true of what we call transformative science. Incremental work is important and needs

to receive funding, but it should always be in the back of a PI's mind to consider how his/her work will change the way people think about a particular problem or the field in general.

#### **Have things changed in your time at NSF and what do you see ahead?**

The change in administration was a game-changer. We have new priorities and there has been a significant change in the amount of money Congress and the White House are willing to invest in the geosciences. Much of the budget growth is expected to be in priority fields through new programs that focus on areas related to global climate change. This will include interdisciplinary research on topics like ocean acidification that bring together a physical, chemical, biological, and ecosystem-level understanding of how changes are occurring and the impacts of those changes. To help lay the groundwork for more interdisciplinary science, we try to organize community development opportunities—workshops, special publications, conferences—to get people from different fields talking to each other. There will be even more of this in the coming months and years.

#### **You were recently involved in producing a series of videos about climate change for young people (viewable at [www.youngvoicesonclimatechange.com](http://www.youngvoicesonclimatechange.com)). Is there a connection between this and your interest in outreach to policy makers?**

Absolutely. Just as there is a need to help inform policy makers, there needs to be a more direct conversation between scientists and the public—especially with children—about a big, scary issue like climate change, which they might not feel they can do anything about. Often, you see science filtered through the media's understanding of what a study has found or why a piece of research is important. Even worse is the tendency for the media to report on the media's coverage of science. That can only confuse things. As a result, I think people often misunderstand what scientists do or even what science is. The way to inform more people about science in general is to reach them at younger ages and to give them good, solid information. That will help everyone involved make better decisions.