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CITATION

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CAREER PROFILES Options and Insights

KATIE MATTHEWS | Deputy Chief Scientist, Oceana (kmatthews@oceana.org)

Degree: When, where, what, and what in?

I earned my bachelor of science degree in geological sciences from Tufts University, then a master of science (organochlorine pollutants in Arctic ice) and a PhD (geochemical proxies for upwelling in coral skeleton) from the University of Pennsylvania, completing the latter in 2007.

Did you stay in academia at all, and if so, for how long?

I took a two-year postdoctoral research associate position in analytical geochemistry at Los Alamos National Laboratory (LANL), where I spent most days in the clean lab wearing a Tyvek suit doing column chemistry and running an inductively coupled plasma mass spectrometer.

How did you go about searching for a job outside of the university setting?

Knowing that my two-year position was coming to an end, my options were to stay as a permanent staff member at LANL, apply for faculty jobs, or consider “something else”—but I wasn’t quite sure what that meant. Fortunately, I had been serving on the board of directors of a small professional society, the Association for Women Geoscientists, since grad school, working with colleagues from a variety of backgrounds: policy specialists, independent consultants, and small business owners, as well as professors and full-time researchers. A number had served as congressional fellows through geoscience professional societies (i.e., American Geophysical Union, American Geosciences Institute, Geological Society of America) and their descriptions of working in the nation’s capital were fascinating. I threw my hat in the ring for those fellowships, and was selected by the American Geosciences Institute to be the 2009–2010 William L. Fisher Congressional Geoscience Fellow.

Is this the only job (post-academia) that you’ve had? If not, what else did you do?

I spent an amazing year working for then-Representative (now Senator) Edward Markey of Massachusetts as a science fellow, learning about how the legislative sausage was made (or not) on Capitol Hill. That experience alone would have made the year a notable one in my career, but then the Deepwater Horizon disaster unfolded, and my boss was in the middle of it as chair of a subcommittee with oversight of one of the federal agencies involved and chair of the Select Committee on Energy Independence and Global Warming. It was the latter committee’s website that first put up the live stream of the “SpillCam.” I was blown away by the amazing scientists working on behalf of our country, notably marine geophysicist Marcia McNutt, who had just started her tenure as the head of the US Geological Survey. I realized then that my interests had permanently pivoted away from academia. I wanted to be where the rubber met the road of science, policy, and society.

What is your current job? What path did you take to get there?

After my time on the Hill, I spent a year as a AAAS Science and Technology Policy Fellow in the State Department’s Office of Marine Conservation working on international fisheries and co-chairing a working group drafting the US position on the ocean for the Rio+20 UN Conference on Sustainable Development. Since then, I’ve worked for three different nonprofit organizations supporting sustainable fisheries and marine conservation advocacy. For the past two years, I’ve served as the Deputy Chief Scientist for Oceana, the largest international advocacy organization focused solely on ocean conservation.



What did your oceanographic education (or academic career) give you that is useful in your current job?

The training we receive to become scientists serves us in so many other ways. Running dissertation research in a remote location with a limited budget and/or a team of assistants? That is project management. Giving talks at conferences and teaching undergrads? That’s public speaking. Distilling years of research into a single abstract? That’s concise writing. Having a question posed and knowing how to go out and find the answer? That research skill is useful if you’re wondering about geochemical proxies or fishery management policy!

Is there any course or other training you would like to have had as part of your graduate education to meet the demands of the job market?

Of the many fine scientists out there, only some can write with elegance and clarity. This is an especially valuable combination, and I would love to see graduate programs offer writing courses to improve our ability to reach non-technical audiences.

Is the job satisfying? What aspects of the job do you like best/least?

I love my job. In some ways, I feel like I’ve come full circle since my first science policy job here in Washington, DC. I decided to stay after the Deepwater Horizon oil spill,

and now with Oceana I'm helping lead the charge against the proposed massive expansion of offshore oil drilling in the United States. We all have different talents and passions, and I feel like I've found where mine can be put to best use.

Do you have any recommendations for new grads looking for jobs?

Look for opportunities through your professional societies that you might not be able to access on your own from grad school. This could be serving on a policy or communication committee, participating

in a congressional visits day, or taking a leadership position in the society itself. These posts can put you in the orbit of people from different backgrounds and in different places in their careers—great folks to tap as you explore your options. 🌐

JEFF STANDISH | Manager, Corporate Sustainability, Institute on the Environment, University of Minnesota (standish@umn.edu)

Degree: When, where, what, and what in?

Although my academic career began squarely in the Earth sciences, it migrated toward oceanography during my student years. It all started as an undergraduate at Colgate University, where I earned a BA in 1992, with a concentration in geology. I then moved on to University of Idaho, where my turn toward ocean science occurred. I completed my MS in 1996, working on volcanic rocks from the Galápagos Archipelago—true marine geology. After three years of environmental consulting work in the private sector, I returned for my PhD and entered in the MIT-WHOI Joint Program in Oceanography. My dissertation work focused on the geochemical variation of seafloor volcanic rocks along the Southwest Indian Ocean spreading ridge. My research was still quite focused on geology, however, my course work spanned most of the oceanographic disciplines. I earned my degree in 2005, and along the way interacted and worked with researchers and scholars from across oceanography and Earth science.

Did you stay in academia at all, and if so, for how long?

Upon finishing my PhD in 2005, I moved to a postdoctoral position at Harvard University and spent nearly three years pursuing my research. My intent was to pursue an academic, tenure-track position most likely at a liberal arts institution or smaller research university. For that reason, part of my time spent as a postdoctoral fellow included an eight-month stint back at Colgate as their inaugural Boyce Fellow. While there, I co-taught Introduction

to Oceanography with Amy Leventer, and had my first true classroom teaching experience. In 2009, I changed roles, but remained within Harvard's Department of Earth & Planetary Sciences (EPS). My new role was as the EPS Preceptor, which was a new position for the department, but not for Harvard. I then left academia for about five years and worked in the not-for-profit world while living in Washington, DC. For the past three years, I have been living in St. Paul, Minnesota, and working at University of Minnesota, but not as faculty. So I am back in academia, but not on a tenure-track professional path.

How did you go about searching for a job outside of the university setting?

What I failed to realize when faced with stepping outside the academic into the non-academic job market was that completing thesis research equips MS and PhD students with a unique skill. This skill set is very attractive and pertinent for many private and public-sector jobs. Whether we recognize it or not, we are each experts in our respective field of study. We have therefore developed various skills and capacities that are applicable to positions in many different professional spaces (e.g., R&D, marketing, policy, and communications).

Talking about timing and networking in relation to finding job opportunities seems so cliché, but in my experience, it is quite accurate. I took every opportunity to walk the expo floor at science conferences and engage representatives from the various science companies, some private, some public. Even if those interactions didn't result in an explicit job opportunity, the practice



of conversing with peers outside of academia about your skills, research, and passions is very, very valuable. Of course, effort is needed from your side to ensure that the network you seed is actually developed to be beneficial down the road. This requires deliberate, but not overbearing, follow-up and engagement. As you do more and more networking, you will become better at determining with whom to stay closely engaged. A final tip on networking—don't burn bridges. You never know who might end up being on the other side of the table as you interview for your dream job.

Is this the only job (post-academia) that you've had? If not, what else did you do?

My professional pathway has bounced back and forth between academic and non-academic roles. Upon completing my MS in 1996, I returned to the East Coast and took an environmental consulting position in Washington, DC. I anticipated focusing my efforts on groundwater consulting work, but ended up being part of a toxicology team that assessed human and ecological hazards related to facilities burning

hazardous waste. I stayed in that job for three years and then enrolled in the WHOI-MIT Joint Program to work toward a PhD.

Upon finishing my PhD in 2005, I spent 4.5 more years as a postdoctoral researcher and then a preceptor at Harvard University. I then left academia and moved back to Washington, DC, where I worked for the American Chemical Society, first as a curriculum developer and then as manager of that team.

In 2015, I again changed locations to St. Paul, Minnesota, where I joined the University of Minnesota community. My first role lasted about 12 months, until the research lab I was working within relocated to another university. I moved to a different unit on campus, and have been in my current position as Manager of Corporate Sustainability for nearly two years. Yes, I am part of the academic community again, but I am employed by the university as staff and not faculty.

What is your current job? What path did you take to get there?

My current role at the Institute on the Environment (IonE) at the University of Minnesota puts me at the interface between academia and organizational sustainability. My responsibilities as Manager of Corporate Sustainability are primarily focused on engaging professionals outside the university who are actively working to solve sustainability (environmental, social, and economic) challenges that face their organizations. My colleagues and I within IonE assist sustainability practitioners in various aspects of their work, especially with environmental research questions, professional training, and leadership development.

How I got to this point in my professional career is a bit complex, and importantly was guided by decisions that not only took into account my own professional aspirations and passions, but also family and spousal factors. If asked 10 years ago whether I thought I would be living in St. Paul and working at IonE, my answer would have certainly been “no.” However, the opportunities that have come before me, as my professional path has changed and pivoted, have been very fulfilling, challenging, and ultimately rewarding in ways I hadn’t anticipated. My work over

the past two years, especially, has opened my eyes to the critical need for knowledgeable scientists from academia to work, either formally or informally, across the space that connects academic research with enterprise research and sustainability implementation. This space, at least from the academic side, is often referred to as “engaged scholarship.” It is work that is in high demand, especially as funding models for basic and applied research focus more heavily on non-governmental resources.

What did your oceanographic education (or academic career) give you that is useful in your current job?

My academic career has provided me with a wealth of basic knowledge and understanding across a wide range of physical science disciplines (e.g., chemistry, physics) and areas of study (e.g., Earth sciences, oceanography, analytics). Additionally, I would say the biggest capacity gained from my many years in academia and one that I use regularly, is the ability to manage and complete multiple projects in parallel—project management skills.

Is there any course or other training you would like to have had as part of your graduate education to meet the demands of the job market?

It is tough to know, at the time, what specific courses might be the most beneficial to your professional career. However, from my perspective, I would recommend that graduate students seek out courses or opportunities that expose them to the traditionally termed “soft skills” such as communications, project management, personnel management, ethics, or even accounting. Candidates coming straight from academia are often disadvantaged because they don’t have capabilities or experience in these soft skills. Private-sector employers often cite these deficiencies in newly matriculated candidates as “the gap” that exists between academia and corporate America. Deficiencies in these private-sector skills and on-the-job experience in candidates coming straight from academia are often cited by employers who end up having to provide training in these areas at their expense.

In addition, I know that if I were able to go back and complete my graduate work again, I would certainly have integrated more programming course work. Programming and data management skills become more and more important as the volume of data increases and the importance of “science-based evidence” grows.

Is the job satisfying? What aspects of the job do you like best/least?

My current job is quite satisfying for a variety of reasons. Foremost, I continue to learn—from both the academic scientists I sit next to and from the sustainability practitioners trying to solve society’s biggest challenges. Specifically, I enjoy working across the translational research space, where academic tools and resources are applied to enterprise sustainability problems. This work is important in many aspects, and the passion and commitment that I see among my peers keeps me striving to have greater positive impact in the work that I do.

Do you have any recommendations for new grads looking for jobs?

One of the big trends right now across many academic institutions is “engaged scholarship.” The term can be defined in various ways, but to me, and in most cases, it refers to how students, researchers, and faculty are more closely working with organizations outside of academia to solve problems. For urban institutions, there are often multiple large organizations or companies that are looking for ways to partner with academia for mutually beneficial outcomes. Even institutions in rural settings can make use of small businesses, by setting up internship programs that provide upcoming or recent graduates with opportunities to apply their skill sets to different tasks. I know for a fact that all things being equal, organizations are more likely to hire a prior intern over an unknown candidate. Why, you might ask? It is all about risk and cost minimization. As long as you made a good impression as an intern, they know exactly what they are getting in a new full-time hire versus an equal candidate of whom they have little knowledge. Plus, as an intern you learned about their organizational culture! 📍