

Emily Weiss

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What is your current occupation?

I work at the Lawrence Hall of Science, which is the public science center for the University of California, Berkeley. I have a few different roles within the museum. I am a Senior Project Director, the Director of School Programs, the lead for Curriculum and Instruction for Extended Learning (camps, after school, teen research programs), and a Lecturer. In each of these roles I employ research-based effective practices in teaching and learning. Sometimes I do this through designing and leading professional learning experiences for science teachers, school district administrators, and informal educators, and sometimes I do this as an educator myself. All of the curriculum and courses I have designed have been marine or climate science themed.

What is your educational background?

B.A. in Public Policy, Brown University

M.Ed. in Language and Literacy, Harvard Graduate School of Education

M.A. in Marine Biology, Boston University

Teaching certifications: Reading (K–12); General Science (5–8); Biology (8–12)

A key message for students is that the geoscience workforce is dynamic, and boundaries between sectors and occupations are fluid. How has this been true in your career?

I had wanted to be a marine biologist from the age of 8 when my parents gave me a book on sharks and *The Undersea World of Jacques Cousteau* captured my imagination. I participated in a marine bio Earthwatch expedition when I was 16 and went to college planning to study marine bio. However, during college I ended up on another path, focused on education policy and literacy instruction. I was committed to providing equitable learning opportunities, especially ones that would support marginalized populations. I began my career as a literacy specialist, but I really couldn't shake my marine biology passion. I even kept a touch tank in my middle school classroom to spark reading and writing opportunities for my students and taught at the New England Aquarium during the summers. After a few years of teaching, I went back to graduate school to study marine biology in a terminal Masters degree program. When I entered the program, I decided I would get a PhD if I wanted to continue on as a scientist, or that I would end with a Masters if I wanted to remain in education. During the summers of my 3-year Masters program I taught marine science classes at a summer science camp, and I realized I really wanted to remain in education. When I graduated from my Masters program, I found a position at the Lawrence Hall of Science with a program called MARE (*Marine Activities, Resources, and Education*). MARE was doing cutting edge work in science and literacy integration and was highly committed to influencing policy and teaching practices that support equitable learning outcomes for marginalized populations. It was a perfect way to bridge all of my passions.

Through my work with MARE, I was invited to lead teacher professional learning experiences focused on inquiry-based instruction and academic discourse, co-teach an undergraduate course (*Communicating Ocean Sciences to Informal Audiences*), model effective classroom practices, and design high quality curriculum materials. Each of these experiences also supported the development of my own pedagogical skills, allowing me to develop enough expertise that I could lead a variety of projects in these areas as a Project Director, Principal Investigator, or other lead role. Throughout my career I have focused extensively on academic discourse and argumentation, as well as projects that support diversity, equity, and inclusion (DEI) efforts in the geosciences, especially pathways to geosciences for Latinx youth. As data literacy and climate science have become increasingly important societal topics, I've built expertise and developed programming in these areas as well, especially in combination with DEI efforts. We know that opportunities for highly engaging and relevant experiences, academic capacity building, and continuity between experiences, as well as the support of a trusted mentor are fundamental to creating successful pathways to science careers for underrepresented minorities. My work continues to evolve in ways that provide these opportunities, including supporting the development of a more effective educator workforce.

Where do you see your sector moving in future years? How would you advise students to prepare to be competitive job applicants and successful employees?

I work across the worlds of formal (school) and informal (out-of-school) science education. In both sectors, I see a need for educators and those who support educators to have a solid foundation in data literacy, a strong understanding of how science works especially through formal research experiences, and basic coding skills. Additionally, for science instruction to be relevant and prepare students to use science (as scientists or informed community members) to solve real-world problems, science educators should be prepared to frame science topics in the context of social and environmental justice whenever possible. Today's science standards ask learners to learn science in a way that mirrors how scientists do science, so reflecting on that process while studying science and participating in research experiences is important.

What is the role of networking in your sector? Do you have advice for a student who is just beginning to build their network? What is the best way for students to get their foot in the door?

I think networking is probably more important in the world of informal education than in the world of formal education, at least for early career positions. As you move farther in your career networking opportunities often present themselves as a part of your job anyway, but they also become more important to keep you up to date on the latest practices and to help you meet experts and mentors in your field. I have found that being part of professional organizations of varying sizes and with a variety of focus areas is really useful. For example, for my work in formal education spaces I like participating in the National Science Teachers Association and my state chapter of that organization. For informal, I really enjoy being a part of the Association of Science-Technology Centers (larger professional organization) and the National Marine Educators Association (more intimate professional organization). There is definitely overlap across all of these professional organizations, and each plays a different role in my professional life. I find I am able to have the most influence and form the closest relationships with others through NMEA due to its size and encouragement of all members to participate in globally-reaching activities. For example, I am an active member of NMEA's ocean literacy committee and as such have been able to influence how the ocean is taught about in the Next Generation Science Standards (NGSS) and in zoos and aquariums, as well as provide blueprints for other countries about how to do this work. When I want to learn about programs and approaches I make sure to attend a variety of conference sessions that feel relevant at the larger organizations' conferences. They're also great places to network, but you need to work harder at it and use your time efficiently—try to find meet-ups of folks interested in the same things you are (even if you're relatively new to that topic) or have intimate conversations at poster sessions. When you're early on in your career, take any opportunity you're given to attend conferences. Make sure you're clear on the expectations for your participation, but also make sure you make time to pursue your own interests at the conference.

What does a “typical” day of work look like for you?

I don't have a typical day. I work on so many different types of projects, so what I do on a given day is governed by the various projects I'm on at the time. My most enjoyable days are the ones that have a mix of collaborative meetings with colleagues to think through something complex, time with kids (especially when it's outdoors), and time coaching, plus a little time to catch up on my to-do list or emails.

What is the best part of your job?

I love that I get to work on a wide variety of things. I've gotten to design museum exhibits, teach every age from preschool to university to inservice teachers, lead programs for youth, serve as a mentor, share my passion for science and the ocean, design curriculum that's used internationally, and collaborate with creative and bright colleagues. I would get bored if I did the same thing all the time.

Do you have any other comments or advice for students looking to enter your sector of the geoscience workforce?

Follow your passion, even if it leads you down multiple seemingly disconnected paths. Everyone takes a different route to get to where they are, so you can't use someone else's route to map out yours.

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