Policy Interests

First Preference:
Environment and Climate Science

Second Preference:
STEM Education

Third Preference:
Forestry, Water, and Natural Resources

Skills and Proficiencies
Select up to six:

Big Data & Analytics, Fieldwork Analysis, Community Outreach, Data Visualization/Infographics, Graphic Design

Professional Bio | 1500 Characters
Provide a brief summary of your background, work history, and interests.

I am an interdisciplinary ocean and climate scientist with a passion for science communication. I began at my local aquarium, translating climate change complexities through hall of fishes tours and kelp tank dive shows. This catalyzed a persistent curiosity about the ocean. Eager for more, I completed a BA in Biology at the University of California, Santa Barbara (UCSB). I joined the Valentine Lab for oceanographic cruises, investigating local methane seeps, illegal DDT dumping, and post oil spill nutrient cycling. I continued this work during my Caltech PhD in the Sessions Lab, where I developed and applied novel analytical techniques for isotope analysis. As a postdoctoral scholar at UCSB and the Large Lakes Observatory, I led a biochemical examination of carbon storage in Lake Superior, a critical freshwater ecosystem. While I grew as a scientist, I flourished as a communicator and advocate, leveraging science communication as a powerful agent of change. In 2018, I launched the social media platform *Women Doing Science*, sharing 800+ posts of diverse women in STEM to an international audience of ~100,000. As a 2019-2020 American Geophysical Union (AGU) *Voices for Science* policy fellow, I successfully advocated for science legislation by training and connecting ocean and climate scientists with federal representatives. Now, as a science communication and policy officer at UCSB, I continue to work at this nexus, transforming scientific discovery into meaningful change.

Climate Short Answer | 1500 Characters
Tell us about your interest and relevant experience in Climate Science

In my hometown of San Diego, I have watched what were once climate anomalies become common: heat waves disrupt power grids, warm waters usher in red tides, and smoky wildfires threaten air quality. As a teenager, I volunteered at my local aquarium to enlighten others about the global threat greenhouse gasses pose, explaining the history of climate science and its local impacts using interactive tools. These formative experiences inspired my scientific career, which focused on researching how lakes and oceans respond to climatic change. In collaboration with the USGS, I linked extreme El Niño events with altered biochemistry in Mono Lake, a pivotal environmental ecosystem and Indigenous heritage site. I am also passionate about carbon sequestration as a research topic and a policy area. As a graduate student, I led research in the deep sea to identify processes that store organic matter, strengthening our understanding of how the ocean regulates climate. I continued this research at Lake Superior as a postdoc, where I studied how carbon is sequestered in sediments over geological time. While these fundamental investigations are critical steps to tackling climate change, I am eager for direct involvement in solutions. With the passing and coming implementation and oversight of legislation like the Inflation Reduction Act, there is a new dawn for climate policy — and I'm ready to leverage my skills as an interdisciplinary geoscientist to make that future as bright as possible.

Legislative Applicant Statement | 7000 Characters
Provide a statement about your qualifications for the fellowship and your career goals. The statement should address: reasons for applying, qualifications, areas of interest, role as a fellow, and career goals.

There is something beautiful and humbling about being out at sea. In every direction, all there is to see is an endless expanse of powerful, peaceful blue. But, in the Gulf of Mexico, this solitude is overshadowed by the massive infrastructure crowding the horizon — thousands of oil platforms, rigs, and pipelines. As an undergrad, I spent a month on the research vessel Atlantis with the Valentine Lab, investigating the ocean's long-term response to the Deepwater Horizon Oil Spill. This formative experience, where I so clearly viewed humanity's reliance on fossil fuels, solidified my desire to research the intersection of marine science and climate change. As a researcher and science communicator, I have dedicated my career to this passion. Now, as a prospective AAAS legislative fellow, I hope to bring this energy to Congress as we usher in a new era of ocean and climate policy.

My interdisciplinary scientific work across marine and climate science has directly contributed to policy knowledge. During my PhD at Caltech, I developed and implemented new methods for studying sulfur and carbon in lakes and oceans. In the deep ocean, my research challenged a leading hypothesis on how the ocean stores carbon. This transformed our understanding of carbon sequestration, which better informs climate mitigation strategies. I continued this work as a postdoc, leading an investigation of carbon sequestration in Lake Superior, an important source of clean drinking water for millions of Americans. My research there shed light on the undervalued role large lakes play in climate mitigation. Finally, in a collaborative project with the USGS, I monitored Mono Lake's response to an abrupt 2017 El Niño Southern Oscillation event that temporarily alleviated California's historic "five-year" drought. This sudden input of freshwater prevented lake mixing and caused a buildup of toxic chemicals that threatened the base of this important ecosystem and Indigenous heritage site. Our results on Mono Lake's extreme biochemistry informed policymakers about the unintended consequences of freshwater diversions in drought-ridden states, a feedback system only amplified under a changing climate.

As my research brought me closer to policy, I applied and was selected for the American Geophysical Union Voices for Science program. During my fellowship I brought Earth scientists and policymakers closer together. I often heard from peers that while they believe scientists and stakeholders should communicate more, their own research was too esoteric to be relevant. After my own visits with congressional offices to discuss Mono Lake research, I realized first-hand that policymakers were eager to hear from experts across interdisciplinary fields. Recognizing the need to tackle this divide, I co-wrote a peer-reviewed article outlining a ten-step guide for academics to engage in federal science policy. I coordinated congressional visits to the Los Angeles offices of Senator Dianne Feinstein and Representative Judy Chu for a dozen Caltech graduate students, where I facilitated dialogue between staffers and scientists that quickly oscillated from freshwater policy to climate change risks to science funding. This culminated in Rep. Chu and Sen. Feinstein's co-sponsorship of the House and Senate versions of the science legislation we advocated for. The scientists who participated consistently reflected that their research mattered to policymakers. Two participants are now in Washington DC, as a NOAA Knauss fellow and an AAAS AGI legislative fellow.

My PhD policy experience led me to my current role as the Science Communication and Policy Officer at UCSB's National Center for Ecological Analysis and Synthesis (NCEAS), where I continue to help scientists communicate with diverse stakeholders. Working with the NOAA RESTORE science program, I revisited the Gulf of Mexico and helped launch the $3.5 million Gulf Ecosystem Initiative. This five-year collaboration funds research in fisheries and climate change to better understand the ecological impacts of past and present management. I led our external communications, including press releases, website content, logo and image assets, social media outreach, and infographic summaries. Although this project and others at NCEAS have brought me closer to federal decision-making, my desire to impact climate policy is not fully satiated.

As a congressional AAAS fellow, I would have an unparalleled opportunity to apply and grow my skills as a scientist and communicator. I have always been drawn to the fast-paced, dynamic environments in academia and see clear parallels for a career close to Congress. Successful legislation like the Inflation Reduction Act demonstrates a deep commitment to the climate crisis, including a jump-start on carbon sequestration technology and a revisiting of Gulf of Mexico oil and gas leases. I would be thrilled to lend my expertise to help facilitate its historic implementation. I am also interested in working on the next wave of related bills like the National Climate Adaptation and Resilience Strategy Act to establish a coordinated network for community climate resilience. I am also passionate about the intersection of climate and energy policy with STEM education. As jobs in the clean climate economy expand, there is a distinct need to train the next generation of American geoscientists. Both climate mitigation and STEM education necessitate a lens of diversity, recognizing the current system produces mostly white geoscientists and the effects of our warming planet unequally burden people of color. I would be excited to work on bipartisan bills like the Rural STEM Education Research Act, which directs the National Science Foundation to expand science courses, mentorship, and teacher support in communities that need it most.

In the House, I might best serve the Energy or Environment subcommittees of the Science, Space, and Technology committee; the Water, Oceans, and Wildlife subcommittee of the Natural Resources committee; the Select Committee on the Climate Crisis; or relevant appropriations subcommittees. In the Senate, I would similarly best serve subcommittees of Agriculture, Nutrition, and Forestry; Commerce, Science, and Transportation; Energy and Natural Resources; Environment and Public Works; or Health, Education, and Labor. I would also be interested in joining a personal office, recognizing that House and Senate committees reflect party current controls that may change by the fellowship start.

Ultimately, I view the AAAS legislative fellowship as a perfect alignment of my flexible expertise across climate, education and water with our current federal priorities. This fellowship is an opportunity to pursue my passion for a federal career where my science and service makes a tangible difference, preserving pristine ocean views for generations to come.

Extracurricular Activities | 3500 Characters
Provide brief examples of your activities beyond the lab, classroom, or office, and your role and accomplishments in these efforts. These might include activities with community groups, professional associations, advisory committees, nonprofit organizations, outreach, and teaching to non-scientific audiences.

My childhood memories are rich with late night trips to my mom's medical research lab. I played with stretchy parafilm and brightly colored test tubes while she fed her cells and investigated new treatments for diabetes. I never doubted I could be a scientist because I saw that representation every day. Throughout my scientific career, I have strived to pass on this privilege to others, especially women and students of color.

As my scientific career developed, I was inspired to become a long-term mentor for young scientists as my mother was for me. In graduate school, I worked with the Westridge School for Girls for three years. My students visited Caltech throughout the year to work on research, learn about safety, write protocols, process data, and present at conferences. I mentored incoming women in my lab group and was formally recognized with the Caltech Graduate Student Council's annual mentorship award. I continued this practice as a postdoc, partnering with UC Santa Barbara LEADS, a program that elevates opportunities for under-represented STEM students. I met with my student throughout my postdoc and we continued the relationship after the project to discuss his continuing geoscience career.

Eager to expand my impact after seeing the direct positive consequences of my mentorship, I turned to community activism. I founded the social media movement *Women Doing Science*, which highlighted over 800 international scientists to an audience of ~100,000 followers on Instagram, Facebook, and Twitter. I led a cohort of 50+ international volunteers, training teams of science writers, recruiters, and translators. *Women Doing Science* also partnered with the American Geophysical Union (AGU) to fundraise ($30,000) for the Wonder Fund, a conference scholarship for Black and Indigenous geoscientists. My work with *Women Doing Science* was formally recognized by Caltech, both as a published chapter in my thesis and through the division's Diversity, Equity, and Inclusion award. I grew further as a science communicator and activist as an AGU Voices for Science Policy fellow. Here, I successfully advocated for co-sponsorship from Sen. Dianne Feinstein and Rep. Judy Chu on STEM Education bills like *Combating Sexual Harassment in the Sciences Act* and the *21st Century STEM for Girls and Underrepresented Minorities Act*.

I am also a passionate educator at the local level. In high school through graduate school, I volunteered as a Birch Aquarium docent, translating the science of Scripps Institution of Oceanography to the public through kelp tank dive shows and hall of fishes tours. In college, I worked directly with local schools, volunteering with SciTrek and 5th Grade Chemistry Outreach, which brought interactive science lessons to elementary students. As a graduate student, I volunteered as a Caltech Y RISE tutor, linking students failing math or science with free private tutoring. During my five years with the program, I stepped into leadership by running tutor trainings and expanding the program into the summer for standardized test prep. These efforts were recognized with Caltech's Lucy Guernsey Service Award. After my PhD, I continue to engage by developing a K-12 *Women Doing Science* curriculum and presenting about women in STEM at the Santa Barbara Public Library. If selected as a AAAS fellow, I would bring this lens of diversity and

inclusion to my legislative work in areas around climate, water, and STEM education.