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An Interview with Diane Stanitski

Quinten Seskin

Dr. Diane Stanitski, the keynote speaker for GREAT Day 2022, graduated from SUNY Geneseo in 1989 with a double major in Geography and Communications while also spending four years on the intercollegiate women's soccer team as a Geneseo Knight. Her growing interest in climate led her to graduate school at Arizona State University where she had the opportunity to conduct fieldwork at the top of the Greenland Ice Sheet and across the Juneau Icefield in Alaska. She completed her dissertation research along the Colorado River studying the impacts of Glen Canyon Dam on the downstream riparian climate. Diane now serves as Deputy Director of the NOAA Global Monitoring Laboratory (GML) in Boulder, Colorado, overseeing atmospheric monitoring stations around the world where critical observations are made of greenhouse gasses and other important atmospheric constituents. Her career has taken her to more than 40 countries across six continents. Diane has co-authored five children's science books and enjoys traveling, sailing, cycling, ham radio, and volunteering in her church and community.

What kind of undergraduate research opportunities did you have when you were a student here at SUNY Geneseo?

Stanitski: As an undergraduate at SUNY Geneseo I attended conferences with some of my Geography professors, and one of the things that led me to graduate school at Arizona State University (ASU) was going to the Association of American Geographers annual meeting in Phoenix, Arizona. While there, I met professors from the ASU Geography Department, and it was such an outstanding opportunity to be immersed in the science and meet new people with similar interests alongside my professors. I was also in the Geography Club at SUNY Geneseo, and as an officer in that club I was able to help guide and steer the club's activities. Professors were very open to student suggestions, which is something we all really appreciated. Finally, as a teaching assistant in an undergraduate class, I was given a chance to instruct other students. That was one example of an opportunity as an undergrad that I didn't realize aligned with my interests, and which led me down the road to an early career in academia.

What do you think of the opportunities provided to current students by GREAT Day?

Stanitski: I am incredibly impressed with GREAT Day, especially the fact that Geneseo highlights all of the students' work and provides an outlet for student creativity. That's what I see—there are performances, there are posters, there are presentations. All of these options enable a student to excel in a multitude of ways. I think this is exactly what students need so that in the future, they are comfortable in these kinds of settings, interacting with people, doing research, and coming to some culminating moment when

they present their final product. Much of the work is interdisciplinary, which I believe is one of the key ingredients that we must encourage. For instance, since we all contribute to climate change, we have to start interacting in synergistic ways to ensure that we are doing more together to benefit the environment.

How did your experience with undergraduate or graduate research prepare you for your work with the National Oceanic and Atmospheric Administration (NOAA)?

Stanitski: My research in graduate school was done in the Grand Canyon and in Glen Canyon National Recreation Area. This work definitely helped prepare me for the climate work I would focus on with NOAA. I was doing boundary layer climate research and had the amazing opportunity to raft down the Colorado River every season for four years and put instruments on both sides of the river to monitor and study the microclimate. That experience helped me come up with some ideas for student work I would support as a professor. I later had the chance to take a few students to the Grand Canyon to pursue their own research. This was one of the most rewarding experiences I have had. I believe that the world is our classroom and feel very strongly about getting students into the field so that they can gain real world experience which is the best way to learn. My ASU professor was very interested in getting women into the field and at that time there weren't many women in the world of climate. He taught us all of the ins and outs of field work. It was inspiring to me and my whole career I've wanted to give back to students and share that inspiration.

What does being the Deputy Director of the NOAA Global Monitoring Laboratory entail?

Stanitski: I support the laboratory director in interactions with those external to NOAA, by letting our partners know what we are doing in the laboratory to determine how, through collaboration, we can do even more. I also look for opportunities for our people. Our lab has about 120 people and we focus on atmospheric composition measurements: greenhouse gasses, ozone, water vapor, surface radiation, aerosols, many of these things that influence our climate. Our lab is known for taking the pulse of the planet—that is our mantra, it is just like a doctor who is taking your pulse or temperature to learn how healthy you are. We do the same thing out in the environment. We monitor with very high-quality long-term observations, and I look for opportunities for the lab to develop more interactions with other parts of NOAA, like our satellite community. We have an entire line office that focuses on satellites that look down at the planet to take measurements, but they cannot know exactly what is reality unless their observations are anchored with our surface-based measurements. This is one example of how we work together. I am on a number of interagency working groups with federal agencies across the country where we ensure that our observations are coordinated and that we are all working together to leverage our research.

How does research inform the current work you do at NOAA?

Stanitski: Everything that we do is informed by research, so I am always reading papers, reports, and major assessments that are issued by groups like the Intergovernmental Panel on Climate Change, the IPCC, which helps inform what we do going forward. We support and are basically under the Office of Science and Technology Policy with President Biden and the current administration—they inform us about what we need to do across all the federal agencies. By bringing our research into the discussion, they can see what our current status is and understand the resources we need in order to move forward and keep the ball rolling. There are just so many needs for more research. The more that we can communicate effectively about the research—to show where we are at, what the status is, and where we need to go—the more we will be able to provide full justification for our value.

What do you find is the best way to communicate your research to those who are ambivalent or skeptical towards climate change?

Stanitski: I find that sharing experiences about things you have witnessed is the most compelling way to let others know about the situation we are in with climate change. I'll share one instance that happened recently when I was on an airplane. The person next to me saw the slides I was working on and asked, "oh, what do you study?" It was the best feeling because it was an opportunity to talk about the importance of NOAA's research on our changing climate. Sometimes people say, "well I don't really believe in that stuff," and so instead of saying that they should believe in it, I choose to say, "well, let me share with you what I've seen and the kinds of things I've witnessed, or what our laboratory is finding with our data." In those instances, I find that the data are very powerful. When you describe the high-quality nature of the records and you show that we have been looking at change in the same areas over the course of decades, it is a much more compelling approach. It is just more convincing to people that a change in climate is truly happening, and that we need to pay attention to this issue. We need to share the kinds of actions we're taking so that others can say, "well, I could probably do that too." Whether you are skeptical or not, there are things that we can all do to enhance and improve our environment, so let's do those—it doesn't have to be linked to any specific purpose other than for all of us to be working towards a better world. It is about having those conversations that result in a shift in thinking because you don't change someone's mind immediately when it comes to these issues, but you get them thinking about it. And, through these interactions, that is when actual positive change happens.