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## Post-publication careers: lockdown to limelight

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Media attention to our article on Greenland’s dynamic ice loss brought a way out of pandemic isolation, an opportunity to gain a broader perspective of my work, and a heavy responsibility to communicate accurately. The experience has been time-consuming, but rewarding.



The take-away message from the study<sup>1</sup> that my colleagues and I published last fall in the inaugural issue of *Communications Earth & Environment* was simple: around the year 2000, glacier dynamics in Greenland shifted into overdrive and nudged the ice sheet into a “new normal” state of annual mass loss. These conclusions may have come as a surprise, but our synthesis of recent, large-scale changes observed at Greenland outlet glaciers reflected a cumulation of several years of coordinated data assimilation, processing, and analyses. In the new state, glaciers drain greater volumes of ice into the surrounding ocean, and total ice sheet mass losses are likely to exceed mass gain from snow accumulation during even relatively cold and snowy years. Most importantly, we showed that glacier retreat is the primary driver of this gear shift, that is, glacier fronts recede inland as ice calves from the front more rapidly than it is replaced from ice upstream.

With direct implications for ice sheet stability and global sea level rise, the article gained traction with several popular news outlets, quickly circulated on a variety of media platforms, and generated a level of interest amongst the public that far exceeded my expectations.

The publication and coverage of our study came at an unusual juncture in my science career. I had defended my dissertation just several weeks prior and was preparing to soon

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begin a new postdoctoral fellowship appointment. The uncertainty and isolation of the pandemic made this transition period particularly challenging. I was fortunate to be in a writing-intensive phase of my research and did not face many of the physical limitations, such as inaccessibility to laboratory space or experimental data, that disrupted the work of so many others. Yet, I still struggled at times to maintain a strong connection to my research and a clear path forward.

In my personal experience, defending my dissertation remotely from my home felt anticlimactic and hollow. The quiet pandemic departure from a supportive community of peers, collaborators, and mentors was an uncomfortably ambiguous close to a chapter of immense and rewarding professional growth. In the final months leading up to my defense, removed from the shared workspace structure and the organic collaboration and enthusiasm it cultivates, my research felt increasingly intangible and abstract.

Following publication of our study, however, I was afforded opportunities to discuss the results with diverse groups of people. As I learned how to best distill the main conclusions of our paper and why it matters across different audiences and platforms, I was reaffirmed of the very real broad scientific and societal implications of polar research. After years of being close to the project and ingrained in the details, my perspective had narrowed. Through these interactions, I appreciated the value of a fresh viewpoint and was reminded just how profoundly polar environments are changing. I also came to learn the high value of openly accessible science, not just on paper, but in practice. Publishing our study through an open-access journal, such as *Communications Earth & Environment*, not only allowed our work to reach a large audience, but also served as a powerful tool against misinformation and encouraged more equitable and fact-based online discussions.

I was immensely privileged to have had the opportunity to use science to connect with people around the world, but this experience was not without its challenges. By reaching a large audience, our study also invited increased scrutiny and, at times, a flavor of intentional misinformation that often follows research related to climate change. I felt a heavy sense of responsibility knowing our conclusions may have been a source of environmental anxiety to audiences already burdened with a dark news cycle. I made it my goal to (1) articulate the main results and significance of our study in a manner that was easily understood while maintaining a high level of accuracy, and (2) spark urgency to action rather than provoke a sense of hopelessness. As a guide, I often referenced examples of writing and commentary from excellent science communicators in my discipline. I also revisited the fundamental attributes of the project that merited its funding in the first place: To predict future ice sheet contributions to sea level rise and develop appropriate adaptation and mitigation strategies, we need to accurately resolve large-scale ice sheet changes and understand the processes that drive them.

Our study was conducted during my time affiliated with the Byrd Polar and Climate Research Center, and I was fortunate to work closely with their highly skilled outreach and science communication team after the paper was published. Even with their invaluable guidance, I was at times overwhelmed with the sheer magnitude of time and energy required to prepare for media interviews, delegate and respond to email inquiries, and

write accompanying commentary pieces. Time devoted to these efforts extended for several weeks, which meant my ongoing research was put entirely on hold. This experience showed me the pivotal role trained science communicators play in promoting science literacy, maintaining the steady flow of research activities, and positively connecting researchers and communities. I also gained a deeper appreciation of the time, resources, and training required to ensure these positive outcomes.

I am proud that our publication in *Communication Earth & Environment* resonated with readers globally and contributed to our understanding of large-scale ice sheet dynamics. Retreating glaciers in Greenland have shifted the total ice sheet mass balance, but the mechanisms responsible for initiating and maintaining glacier retreat remains an active area of research. My current research efforts have also shifted to focus on smaller-scale processes controlling patterns of glacier advance and retreat, such as the presence of *mélange* (a mixture of icebergs and sea ice that can freeze together in the fjord and help resist glacier calving) and ephemeral processes like the seasonal drainage of meltwater that flows beneath glaciers out toward the ocean.

Through the experiences and challenges that followed the publicity of last year's paper, I am a more resilient scientist, a more effective communicator, and emboldened to build on this work now as a postdoctoral scholar.

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## Reference

1. King, M. D. et al. Dynamic ice loss from the Greenland Ice Sheet driven by sustained glacier retreat. *Commun. Earth Environ.* **1**, 1 (2020).

## Competing interests

The author declares no competing interests.

## Additional information

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