

- 1 **Title:** We need accomplices, not allies in the fight for an equitable geoscience
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- 3 **Key points:**
- 4 1. Scientists from minoritized groups are subject to extra stresses due to social dynamics and
- 5 their minority status.
- 6 2. Aligning ourselves as accomplices rather than allies has the potential to produce profound
- 7 change in the geosciences.
- 8 3. There are many great ideas to make geoscience more equitable and inclusive, we need to
- 9 have the courage and initiative to pursue them.

Abstract: The killing of George Floyd on May 25, 2020 sparked a global movement for black lives that extended into the geosciences. Nearly a year later, some momentum has been sustained, but the appetite for transformative change to generate a more equitable geoscience is lacking. In this commentary, I detail my struggles to balance science, activism, and anguish as a black geoscientist in Minneapolis over the last year. I suggest that a riskier and deeper involvement in the work of equity and inclusion is necessary to transform our discipline into a diverse, equitable, and inclusive space where all people can thrive.

Plain-Language Summary: Geoscientists are confronting the reality that our field is the least diverse STEM discipline and are beginning the work to understand why and to change that reality. Part of that work is to hear the experiences of geoscientists from minoritized groups and to chart new paths towards a more equitable future. I provide some of my experiences balancing community work, diversity work, and science in Minneapolis and suggest a specific mindset to confront the challenge of transforming our discipline. If we are truly going to achieve the goals of equity and inclusion, we need to take bold risks, make deep investments, and de-center ourselves.

1. Introduction

Since the killing of George Floyd in May 2020, I have heard repeated calls to center the voices of black, indigenous, and other people of color in discussions around diversity, equity, and inclusion (DEI), and the editors of AGU Advances make it clear that “we must learn from our colleagues who have experienced bias and barriers and listen to their ideas of what kind of change is needed for the Earth and space sciences to function as a diverse and inclusive community.” (Zeitler et al., 2021). I believe that in order to elevate DEI in the geosciences, we need to find and create venues to hear, validate, and uplift the experiences of the people who do geoscience – particularly those from underrepresented and marginalized groups. So as we approach the one-year anniversary of the killing of George Floyd, I feel compelled to write about what I have learned balancing community work, diversity work, and science since May 25, 2020.

2. Personal reflection

I may be the geoscientist who has been most affected by the killing of George Floyd. As a mixed-race black man who has spent 25 of his 28 years in South Minneapolis, the killing of George Floyd was closer to home than any of the police-involved killings that have made headlines in recent years. In the days following May 25th, 2020, I saw a video of a black man being killed on a sidewalk just a few blocks from my home by a police department funded by my tax dollars, then was among friends and neighbors met with tear gas, flash grenades, and less-

44 lethal munitions at protests. I watched businesses that I've supported all my life burn to the
45 ground, heard the constant buzz of helicopters above my neighborhood, and saw a movement
46 sparked at 38th & Chicago spread around the globe. And throughout the summer, I fought hard
47 in defense of my community; I helped board up businesses in preparation for riots, stayed up
48 until 3 AM to protect my neighborhood from the threat of white supremacist violence,
49 volunteered in emergency food relief, and came face-to-face with National Guard soldiers and
50 SWAT teams at protests.

51 And to be frank, I rarely saw my geoscience colleagues in the streets with me. Of course, I
52 wasn't everywhere and I don't know what actions people took in their private lives (e.g.
53 monetary support, political advocacy). But I saw that our city needed boots on the ground in the
54 struggle for security and justice, and very few of the boots I saw came from my fellow
55 geoscientists. And this led to a question that has haunted me since last summer – if it had been
56 me instead of George Floyd pinned under those three police officers, would my colleagues have
57 showed up in the streets to advocate for justice on my behalf? And I honestly believe that, for
58 many of them, the answer is no. And it's hard to sit in meetings about science, inclusion, or
59 anything else when I don't believe that the people in the room value my life more than their work
60 or their comfort.

61 At this point, you may be wondering how my experience during the summer of 2020 is irrelevant
62 to the geosciences. But while I was doing work in the community, I was also working as a
63 research assistant, preparing to teach my first course as a sole instructor, and finding ways to
64 advance my own research amid a global pandemic. That is to say that none of the
65 responsibilities that I carry as a geoscientist disappeared, but they had to take a back seat as
66 the world presented a mortal threat and a moral obligation. And while mine was a special case
67 due to geographic proximity, scientists and students from minority groups are routinely forced to
68 juggle these types of societal and scientific demands. I leveraged what I was learning in the
69 streets in my classroom and my research - by incorporating lessons, discussions, and speakers
70 on environmental racism and justice into my geomorphology class, joining a group of graduate
71 students to write a letter advocating for change in our department, working collaboratively to
72 build a research project at the intersection of environmental justice and stream restoration, and
73 working to create a community-university research summit for my department.

74 While the apparent groundswell of support for racial justice in the geoscience community in the
75 summer of 2020 was a good step, it brought to mind all the times when nothing was done or
76 said. I recall many times that I cried alone in my office following verdicts, dismissals of charges,
77 or decisions not to charge in cases of police brutality and hardly heard a word from white

colleagues. Even this year, when Daunte Wright was killed in Brooklyn Center, MN (while the Derek Chauvin trial was ongoing), communications from our department did not include Daunte Wright's name. Although avoiding these topics may be a function of professional decorum, where conversations that skew into taboo subjects like race and politics are discouraged, racial dynamics and politics have real consequences for all of us, particularly for people of color. And staying silent in the face of prejudice, violence, and injustice makes us complicit in systemic racism, and is part of what has led the geosciences to be the least diverse STEM discipline (Bernard & Cooperdock, 2019; Dutt 2019).

Protestors in the Twin Cities routinely chant that "we ain't going back" to the way things used to be, but there are already signs that the rest of the world is moving on. Some momentum from last summer has been maintained within the geosciences through the work of organizations like URGE, but the fatigue of another academic year amid the COVID pandemic has slowed the work and decreased the urgency. I have spoken to numerous students, faculty, and staff from across the United States who bemoan the lack of tangible progress, the indifference or disinterest of colleagues, and the structural impediments to change. And at the same time, the overall sentiment in the US has moved back towards the status quo: polling from FiveThirtyEight found that the surge of support for Black Lives Matter following the killing of George Floyd had returned to previous levels by the shooting of Jacob Blake in late August 2020 (Baon, Jr., 2020). Polling in March 2021 from USAToday revealed drastic changes in opinion compared to June 2020 regarding police reform, Black Lives Matter, and the George Floyd case, with wide differences by race and political affiliation (Blow, 2021). Even in Minneapolis, I didn't hear a word from my departmental colleagues when Dolal Idd, a 23-year old Somali man, was killed by the Minneapolis Police Department on December 30, 2020. I spent hours that night protesting outside a gas station in 10-degree weather and don't know if others in my department even know that it happened.

3. Accomplices, not allies

So how can we remain vigilant and committed to DEI work and to uplifting the lives of marginalized people? I'll offer a perspective from George Floyd Square, the autonomous protest zone that surrounds the corner where George Floyd was killed. I visit the Square at least once a week to stay up to date on what's happening in the neighborhood and to be renewed in my own fight for racial justice. At a community meeting in the Square in November 2020, one of the community members said, "We don't need allies, we need accomplices" after an incident. I've reflected on that thought for months, and I believe it is applicable for DEI work in the geosciences as well.

As the concept of allyship has grown in recent years, so too have criticisms surrounding the roles and motivations of allies. Some critics note that allyship is plagued by false allies –those who practice tone policing, offer conditional support, center their own feelings, and generally engage in behaviors that are counter-productive to advancing the work of justice (Matthew et al., 2021; Owens, 2017). Others note that allyship is wielded temporarily – so-called allies take part until there is a social, political, or economic risk, and then excuse themselves to a safer position (Matthew et al., 2021). And some criticize the commodification of allyship, where so-called allies leverage their status as an ally for personal gain, often at the expense of qualified people from marginalized communities (Indigenous Action, 2014).

An accomplice, in a legal sense, is one who is complicit in the activity of a crime. Thus, they are liable if the criminal is caught, so they have a stake in ensuring the success of the criminal. It is a much riskier, more intense involvement in the process than allyship. In the context of DEI work, an accomplice would take an active, substantive stake in the promotion of equity and inclusion. They would leverage and risk their own status and prestige in order to overthrow systems of inequality (Gumberg-Muñoz, 2018; Indigenous Action, 2014). This might look like admitting and investing in students with less prestigious academic records, salary cuts for faculty to fund community initiatives, enforceable diversity goals with penalties for failure, or research grants that are written in collaboration with professors from community colleges, HBCUs, and other minority-serving institutions. All of these require a deeper personal investment and greater risk than allyship, and could be profoundly impactful to promote DEI in the geosciences.

4. Suggestions for change

To this point, I've provided my own experience and shared my fears about the current movement failing. I want to provide a few more suggestions for enacting diversity, equity, and inclusion across the geosciences. These ideas are informed by my own lived experience, conversations with other geoscientists, reading outside of geoscience literature, and the insight of social-justice organizers in the Twin Cities:

- **Establish extensive, age-appropriate K-12 outreach programs.** The factors that determine students' interest in STEM are complex, but studies suggest that self-efficacy, support structures, and knowledge of career choices during K-12 education influence students' interest in STEM careers (Nugent et al., 2015). Additionally, 60% of the top 100 geoscience programs identified in Nelson (2017) are located in municipalities with public school systems that predominantly serve students of color. How many of them have sustained public school engagement programs to support and enrich geoscience

education? Imagine how impactful it could be for students to see a geologist once a month from kindergarten through high school and to learn interesting and relevant information about the Earth.

- **Build connections with environmental organizations.** From local citizen groups working on water quality problems to national and international organizations trying to mitigate the disproportionate effects of climate change, there are many opportunities for geoscientists to do impactful research in collaboration with communities. Models like the AGU Thriving Earth Exchange provide examples for how to conduct community-engaged science.
- **Recognize and reward DEI work.** If we expect our departments to promote research excellence, we measure it and reward it through fellowships, tenure and promotion, and awards. If we expect excellence in DEI efforts, similar rewards (and consequences) should be present.
- **Create employment opportunities in DEI.** Hire diversity officers, provide monetary support for university-wide positions, establish graduate fellowships and student employment positions to serve on DEI committees, create programming, develop curriculum, and identify speakers.
- **Incorporate DEI in research and teaching; don't relegate it to service.** Geoscience has a great deal to contribute to conversations on environmental racism and climate justice, but those causes need to be championed by researchers and organizations. Even for scientists who don't work in directly related fields, the training geoscientists receive in data analysis, visualization, and communication can be leveraged for the greater good. Similarly, the disproportionate impacts of environmental harm should be taught in geoscience departments and intertwined across the curriculum.
- **Put the goal of equity ahead of yourself.** Overthrowing systems of inequality is difficult work, and we won't always agree on the best way forward. And it is human nature to be defensive when challenged, but if we truly believe in the work of equity, we can't let our own feelings stand in the way of achieving the goal.
- **Do more than listen when scientists, students, and citizens from marginalized groups speak.** There is no shortage of bold and brilliant ideas among people who have persevered through hostility, harassment, and systematic disinvestment. This is not only true for DEI efforts, but scientific innovation as well (Hofstra et al., 2020). Listen to their voices, reflect on their words, and take action.

Finally, I want to encourage everyone who reads these words to stay in the fight. This work is hard; injustice has existed in our world for a long, long time. Truly achieving the goals of creating a more equitable and inclusive science is a radical transformation that will require radical thinking and radical action. My favorite sign at George Floyd Square has a quote from Angela Davis that reads, “You have to act as if it is possible to radically transform the world. And you have to do it all the time.” I hope that each and every one of us commits to working towards a more equitable science with that level of hope, dedication, and urgency.

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