

A New Ethics Workshop: Addressing Racism and Colonialism in the Geosciences

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Overview

In our 2021 Geosciences REU Workshop Series, we developed an 'Ethics in the Geosciences Workshop' that covers the traditional ethics topics, but shines a light on the history of colonialism and racism that underpin Western science.

Traditional ethics workshop topics:

- Authorship & intellectual property
- Data falsification and fabrication
- Plagiarism
- Research Misconduct (broadly defined)



Source: Roy (2018). Science Still Bears the Fingerprints of Colonialism

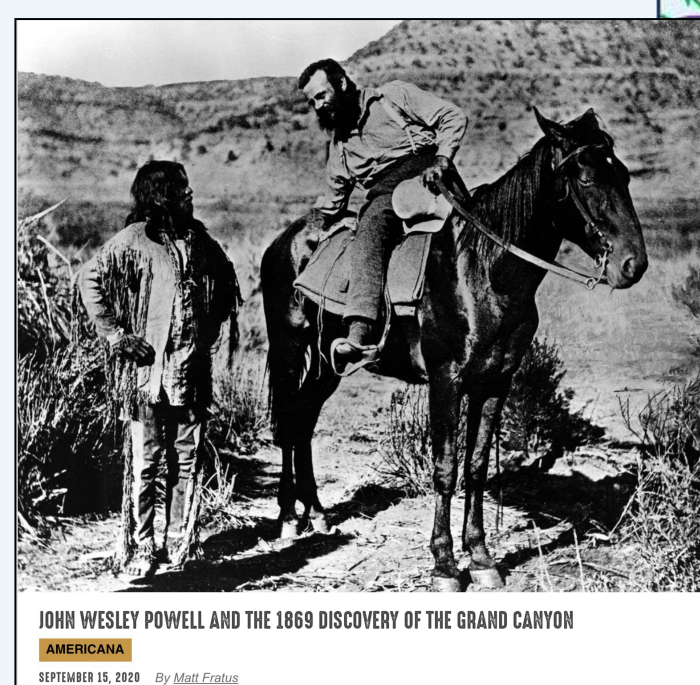
Western science developed in partnership with colonialism

How was colonial, scientific discovery justified & idealized?	What was the reality of physical and cultural colonialism?	How can we reframe and rebuild a framework for science
<ul style="list-style-type: none">• Discovering new lands as an empty slate• Mapping the world• "Discovering" species, landscapes, glaciers, mountains, rivers• Having a moral obligation to civilize non-White "primitives" <p>Are these beliefs still true in Western scientific thinking?</p>	<ul style="list-style-type: none">• Invasion, plundering, arson, violence• Theft of land• Imposition of Western beliefs and values• Moral superiority by Western scientists• Scientific racism and sexism in science justifying superiority/inferiority <p>How can we acknowledge colonial perspectives in our science?</p>	<p>How can we start shifting our colonizing/colonized mindsets away from naming, claiming discovering, and owning landscapes, mountains, samples, data, ideas?</p> <p>How do we reimagine a framework that is collaborative, co-creative, that values all ways of knowing and embraces differences instead of "othering."</p>

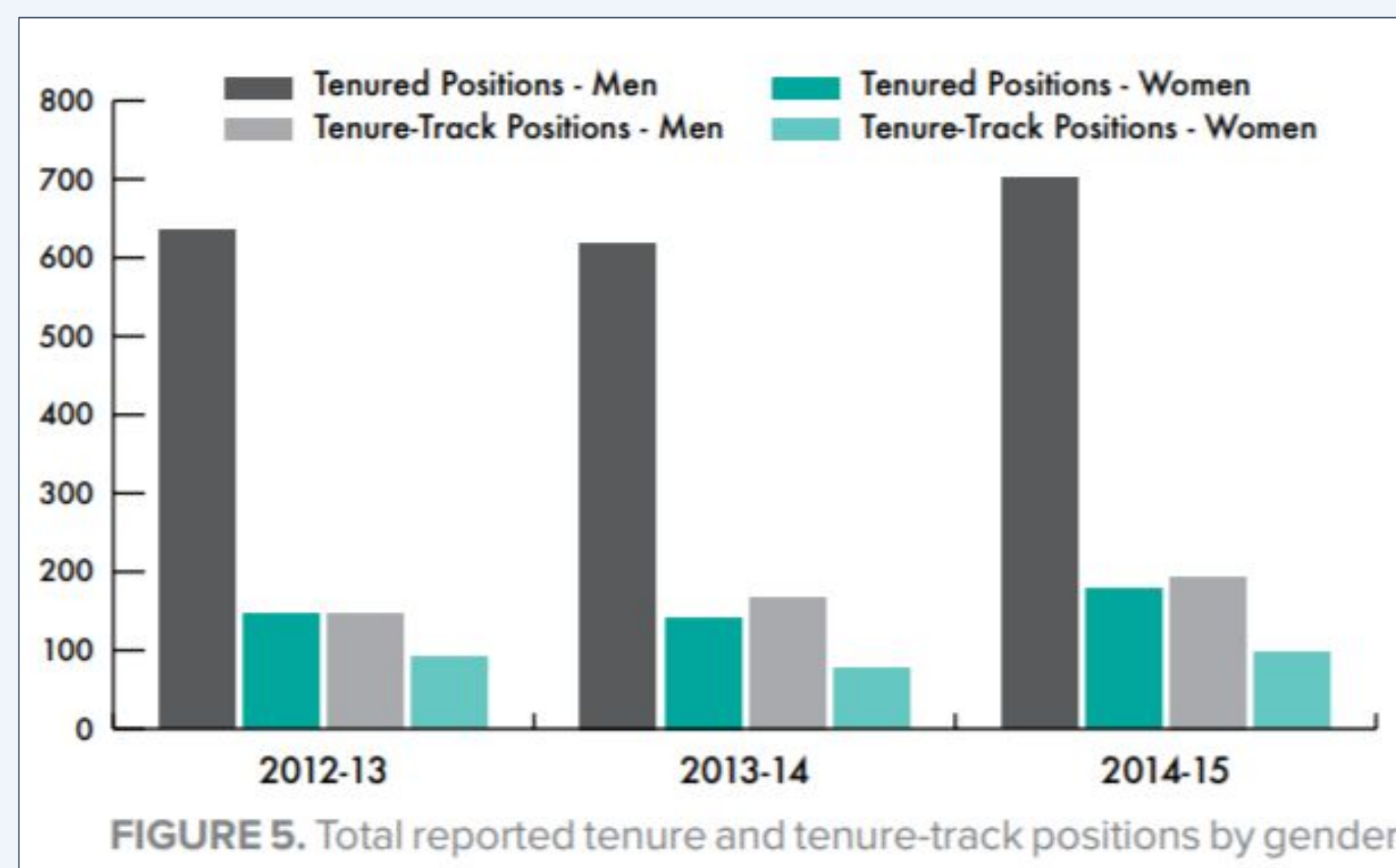


In spite of his history of violent conquering and plundering, James Cook is described as an **"explorer, navigator, cartographer, captain,"** and a **Fellow of the Royal Society** in Wikipedia. Children are taught to think of him as heroic.

In spite of ignoring the presence of and disparaging Native Americans to government, John Wesley Powell is described as an **"explorer, geologist, and ethnologist, best known for his exploration of the upper portion of the Colorado River and the Grand Canyon"** in Britannica.



This has led to the prevalence of White, Eurocentric, Western science



Source: Cook et al. (2016). The ocean science graduate education landscape: A 2015 perspective.



Example of helicopter/parachute science today in a recent Duke U. Alumni Twitter post.

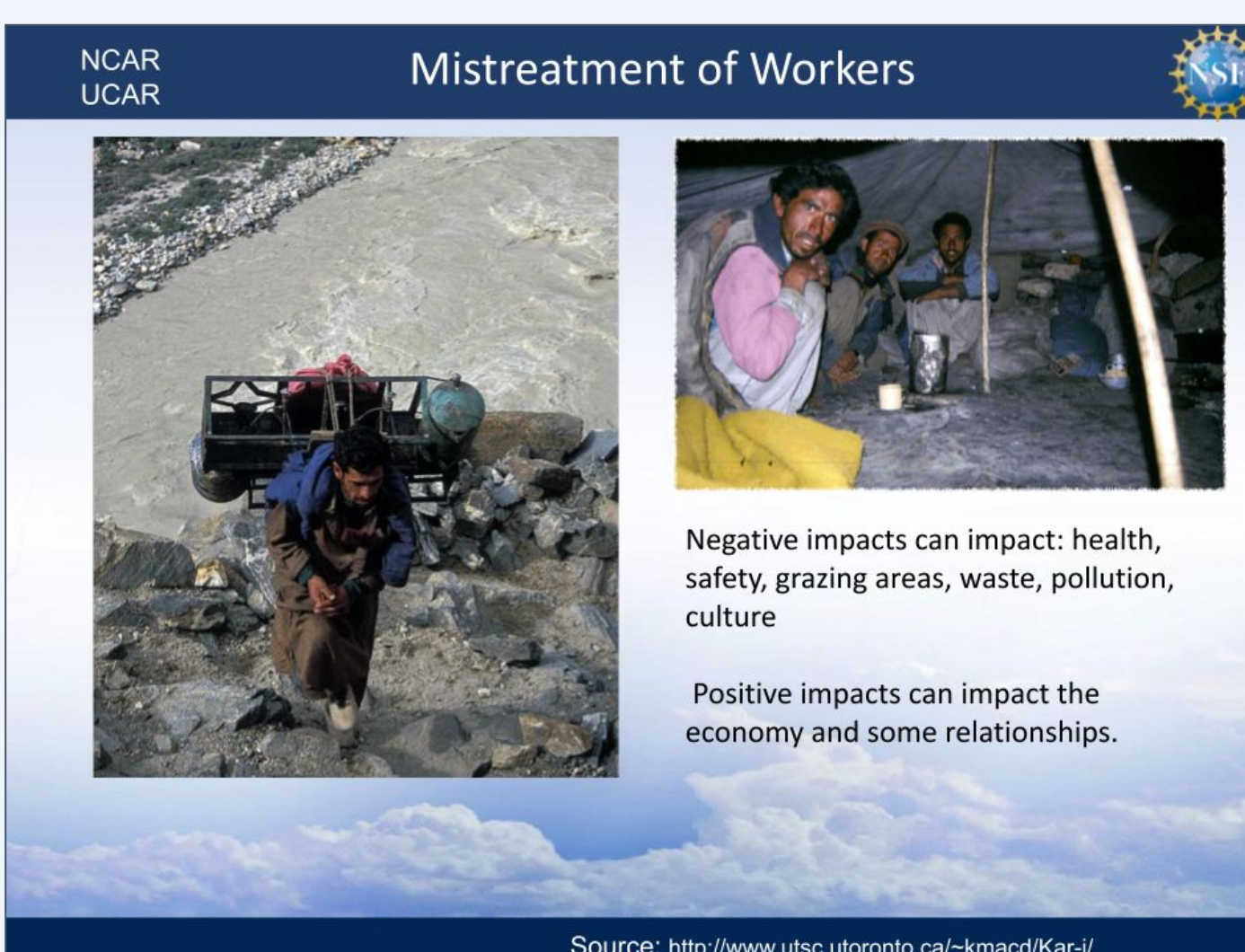
What elements of helicopter science do you see here?
Who is benefitting from this science?



Ethics in Field-based Science



Physical science can seem so 'pure' . . . glaciers, climate history, and mountain-building . . . with little thought for the human or environmental context, and sometimes our safety.



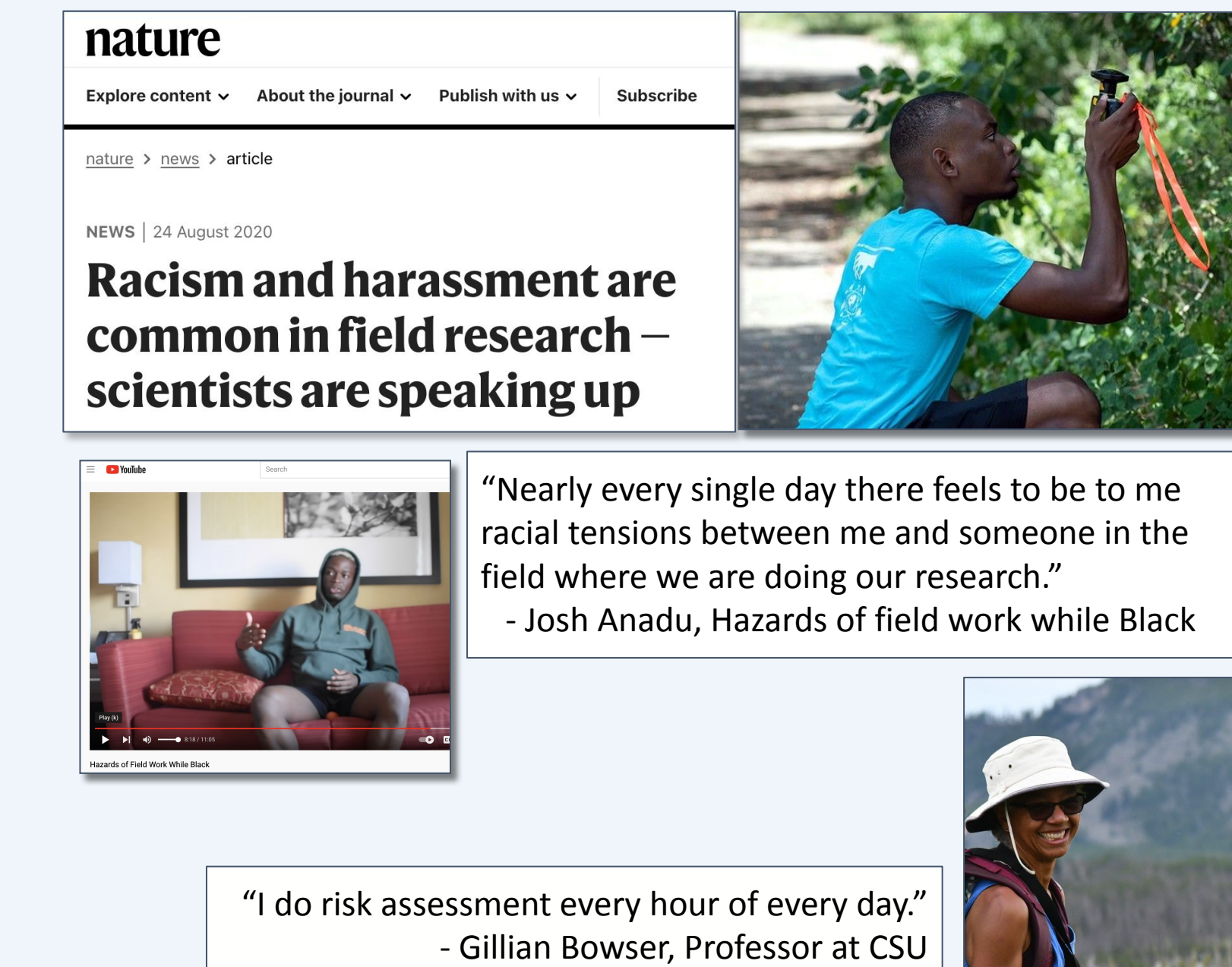
Negative impacts can impact: health, safety, grazing areas, waste, pollution, culture
Positive impacts can impact the economy and some relationships.



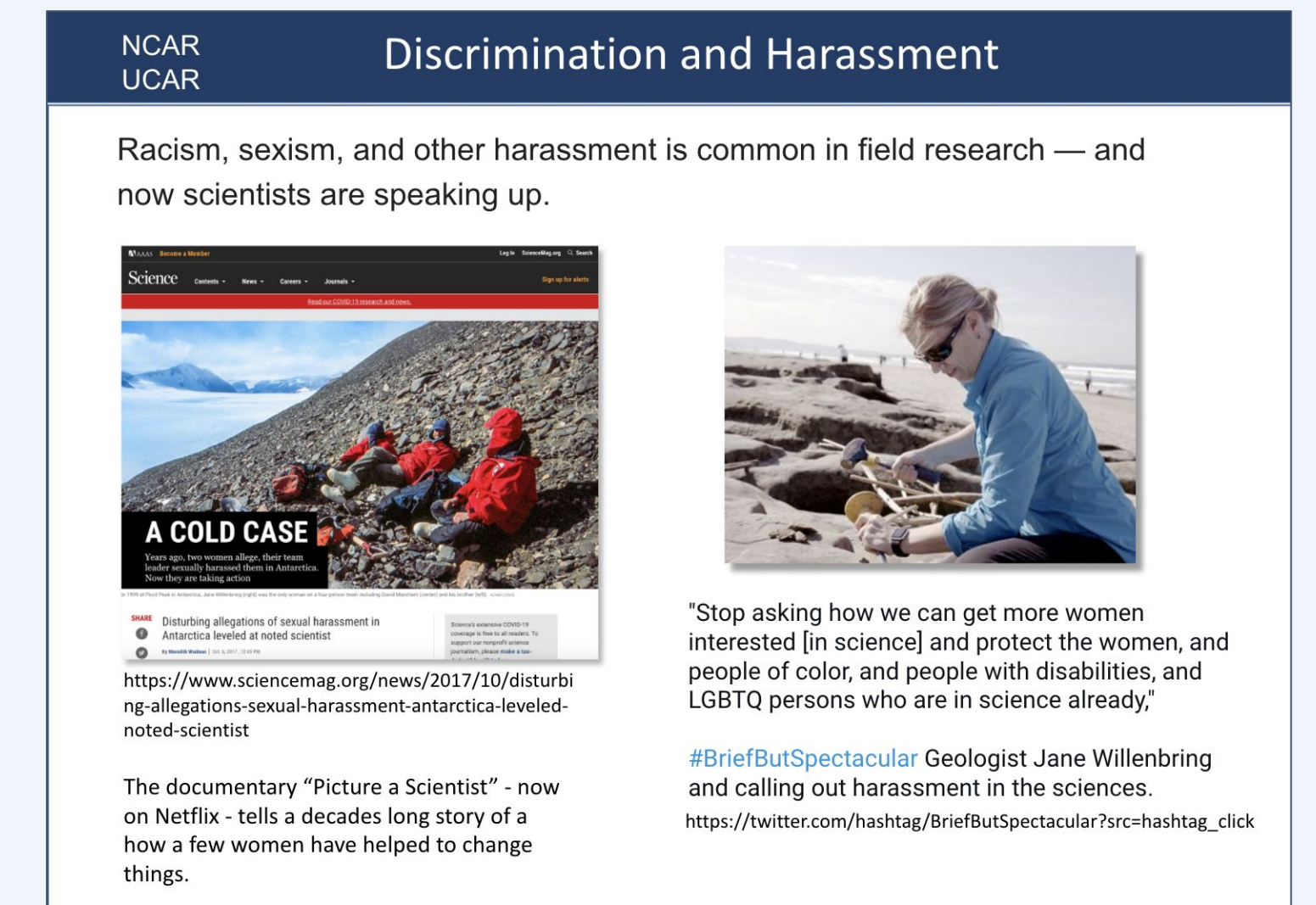
Respecting the land, people, & history
Seek permission and permits
Educate yourself on culture and issues
Collaborate with local scientists/elders
Get involved with the local community (if they are interested)
Acknowledge and give credit

Ethics plays an important role in field-based science. The communities where 'pure' environments are researched are excluded in the science and, if so, can be mistreated by the scientific team. Additionally, field-based science has in the past accepted racism, sexism, and other harassment and discrimination, particularly of those in historically marginalized communities.

Racism, Sexism, and Other Identity-based Discrimination in the Geosciences



"I do risk assessment every hour of every day."
- Gillian Bowser, Professor at CSU



"Stop asking how we can get more women interested [in science] and protect the women, and people of color, and people with disabilities, and LGBTQ persons who are in science already."

Summary

- Research ethics are more than plagiarism, authorship, data falsification, and intellectual property.
- Understanding the past history of science can help us be more inclusive now and in the future for all groups of people
- Examine the colonial assumptions and underpinnings of science in all that we do.
- Conduct work with respect and kindness, ask permission to use land, and note that the communities where science is done may have more knowledge than an outsider.

"The range of sub topics covered regarding ethics in geosciences was great, and I really enjoyed hearing the speakers' relevant stories that gave the workshop a personal and real flavor instead of a bland and boring lecture." - Workshop participant, 2021

Acknowledgements

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