

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

Valerie Sloan<sup>1</sup>, , Marissa Vara<sup>1</sup>, Blake Stoner-Osborne<sup>1,2</sup>, Elise Mason<sup>1</sup>, Ahmyia Cacapit<sup>3</sup>

<sup>1</sup>National Center for Atmospheric Science, Boulder, CO, USA; <sup>2</sup>U. Hawaii; <sup>3</sup>UCSD. vsloan@ucar.edu



## 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

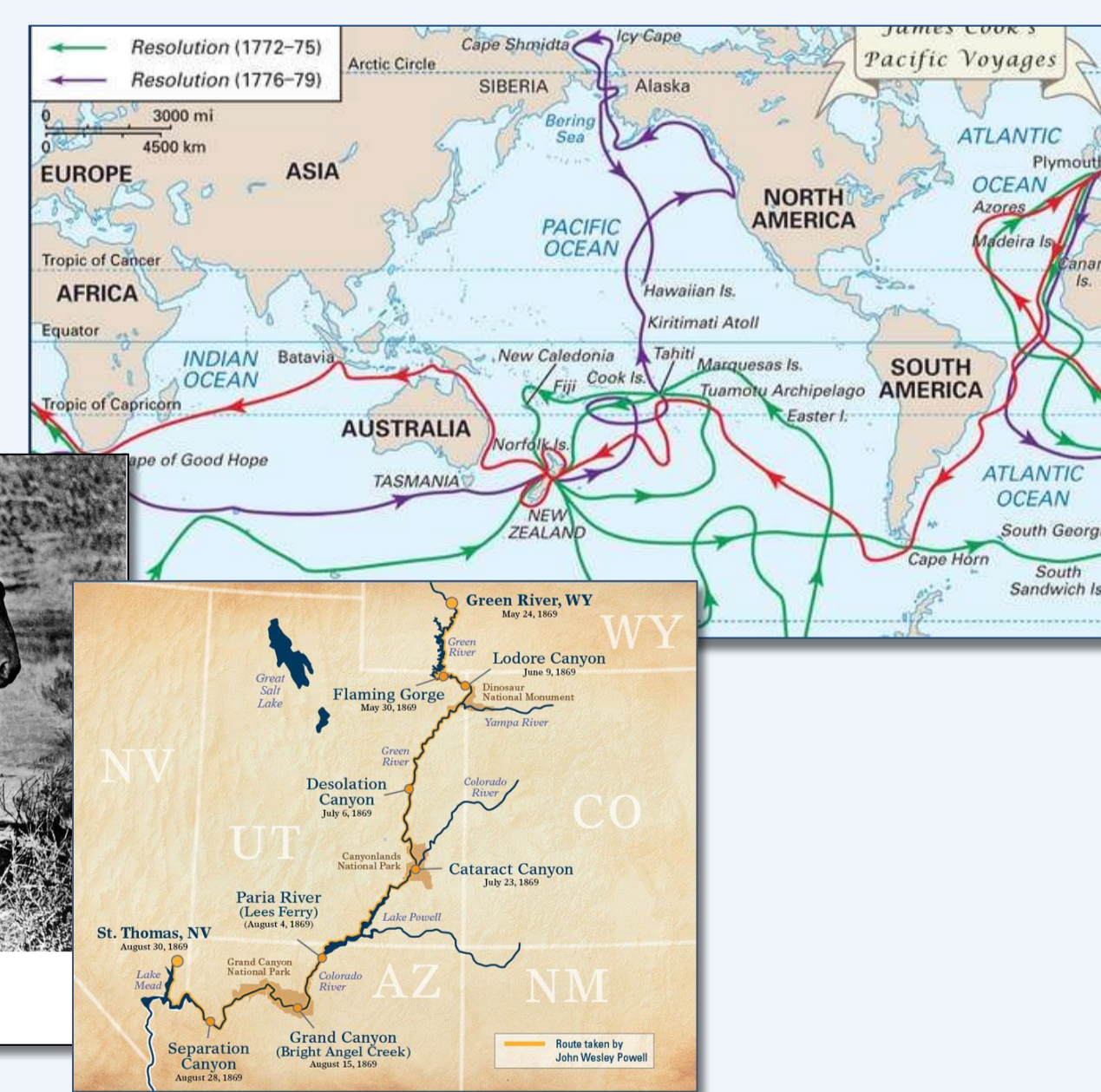
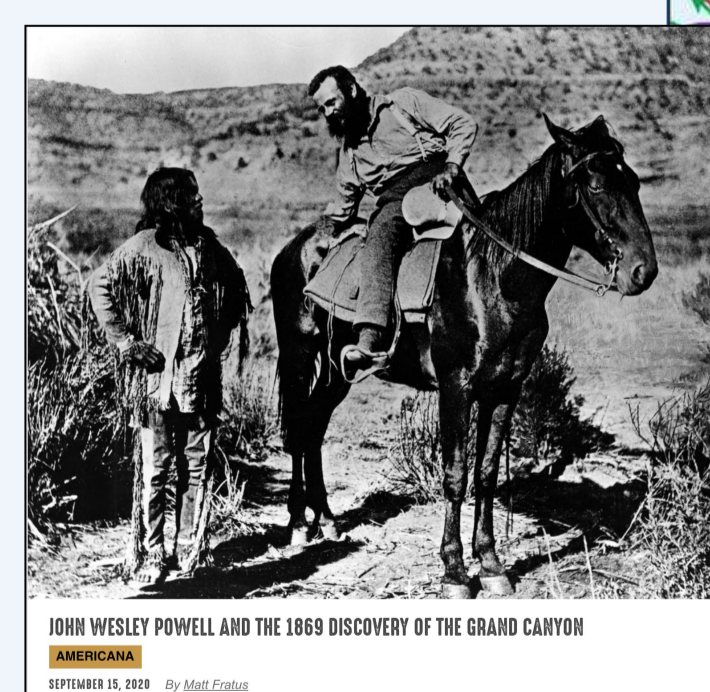
## Western science developed in partnership with colonialism

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"><li>• Discovering new lands as an empty slate</li><li>• Mapping the world</li><li>• "Discovering" species, landscapes, glaciers, mountains, rivers</li><li>• Having a moral obligation to civilize non-White "primitives"</li></ul> <p>Are these beliefs still true in Western scientific thinking?</p>	<ul style="list-style-type: none"><li>• Invasion, plundering, arson, violence</li><li>• Theft of land</li><li>• Imposition of Western beliefs and values</li><li>• Moral superiority by Western scientists</li><li>• Scientific racism and sexism in science justifying superiority/inferiority</li></ul> <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>

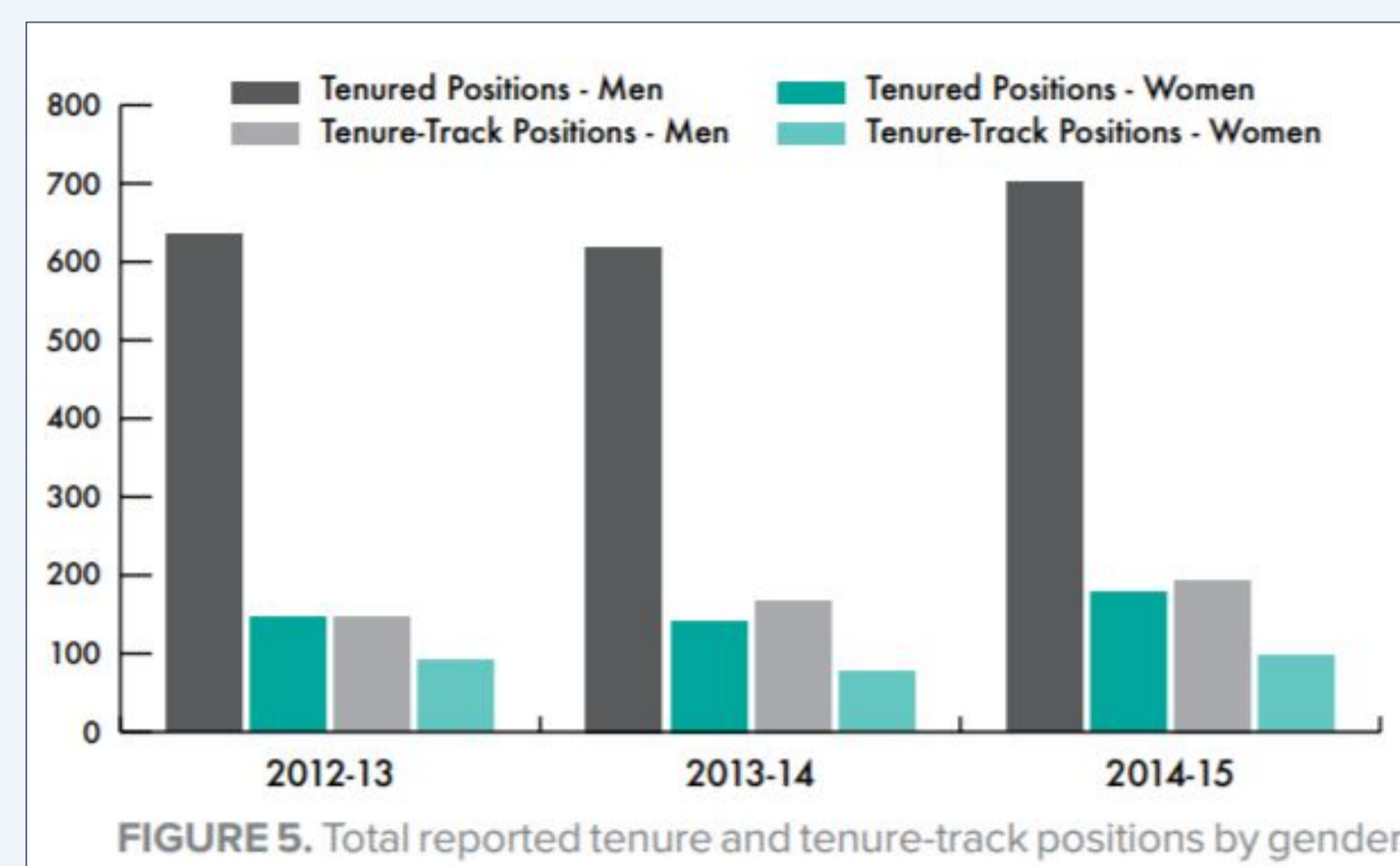


In spite of his history of violent conquering and plundering, James Cook is described as an **"explorer, navigator, cartographer, captain,"** and a **Fellow of the Royal Society** in Wikipedia. Children are taught to think of him as heroic.

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.



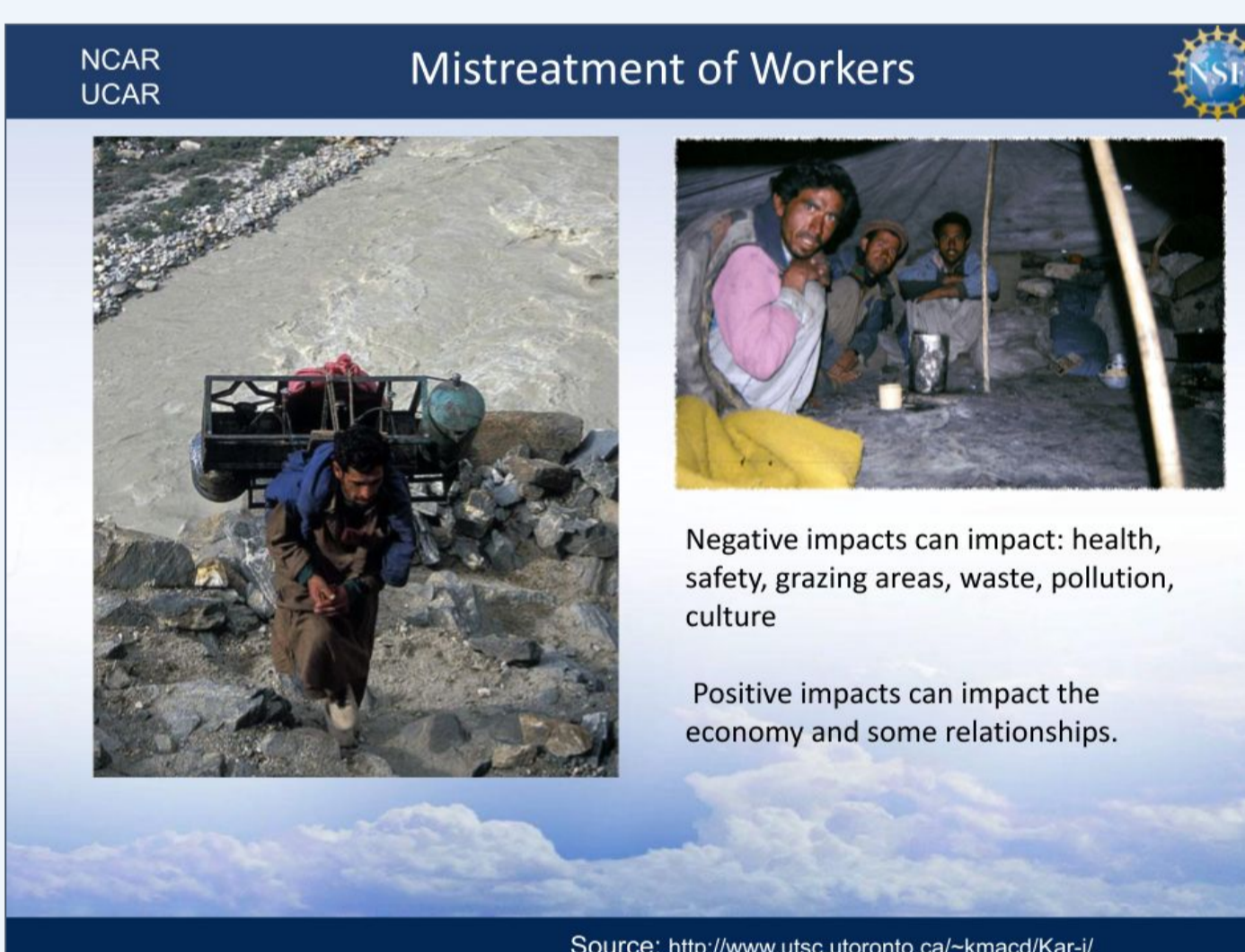
Example of helicopter/parachute science today in a recent Duke U. Alumni Twitter post.

What elements of helicopter science do you see here?

Who is benefitting from this science?

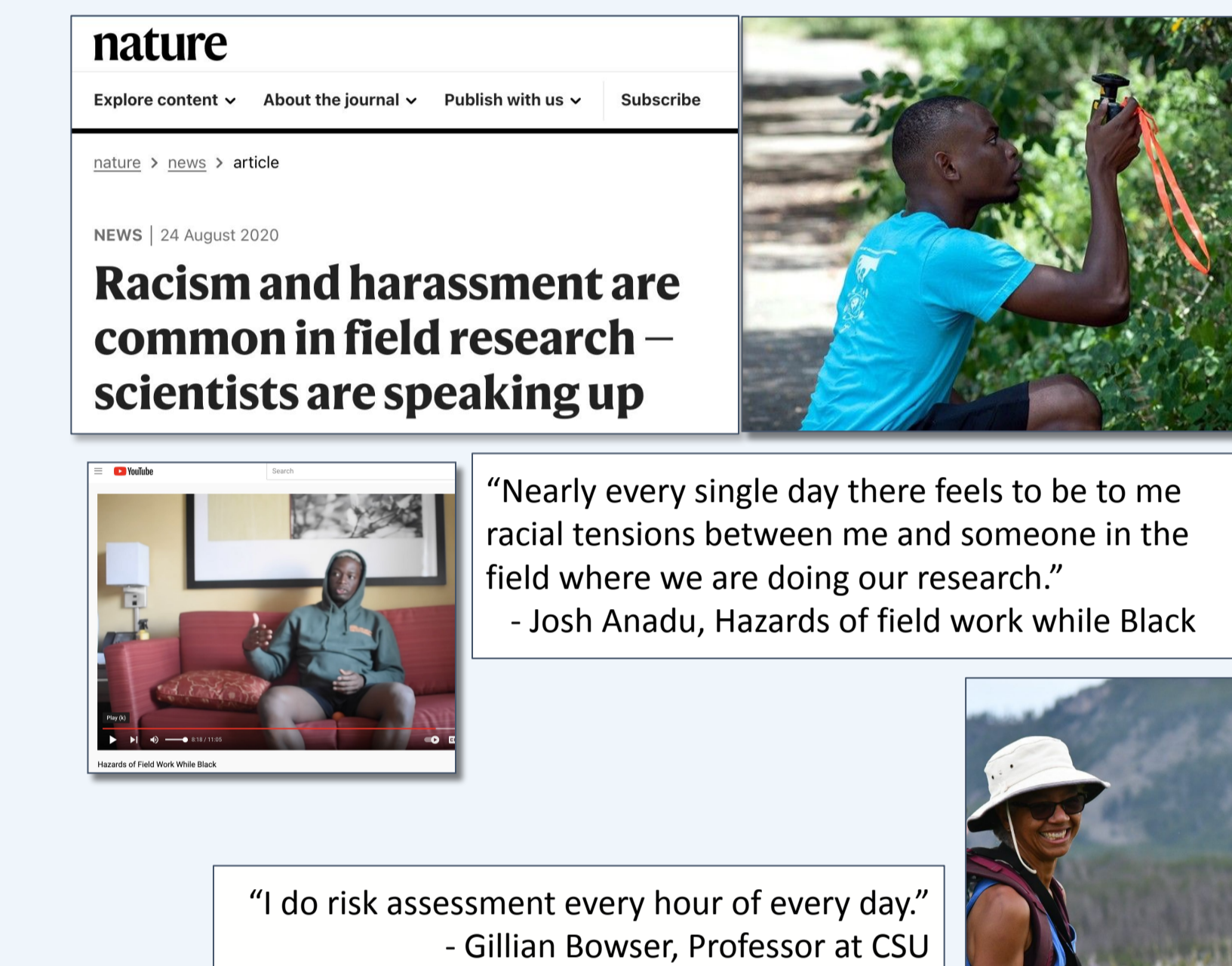


## Ethics in Field-based Science



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



## 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

We thank the National Science Foundation, as this work is funded under grant #OCE-1619600 at the National Center for Atmospheric Research and the University Corporation for Atmospheric Research.