

Oct 24th, 4:00 PM - 5:00 PM

Micah Vandegrift Keynote - Open to Change: Possibilities and Probabilities

Micah Vandegrift

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Vandegrift, Micah, "Micah Vandegrift Keynote - Open to Change: Possibilities and Probabilities" (2022).
Open Access Week. 1.

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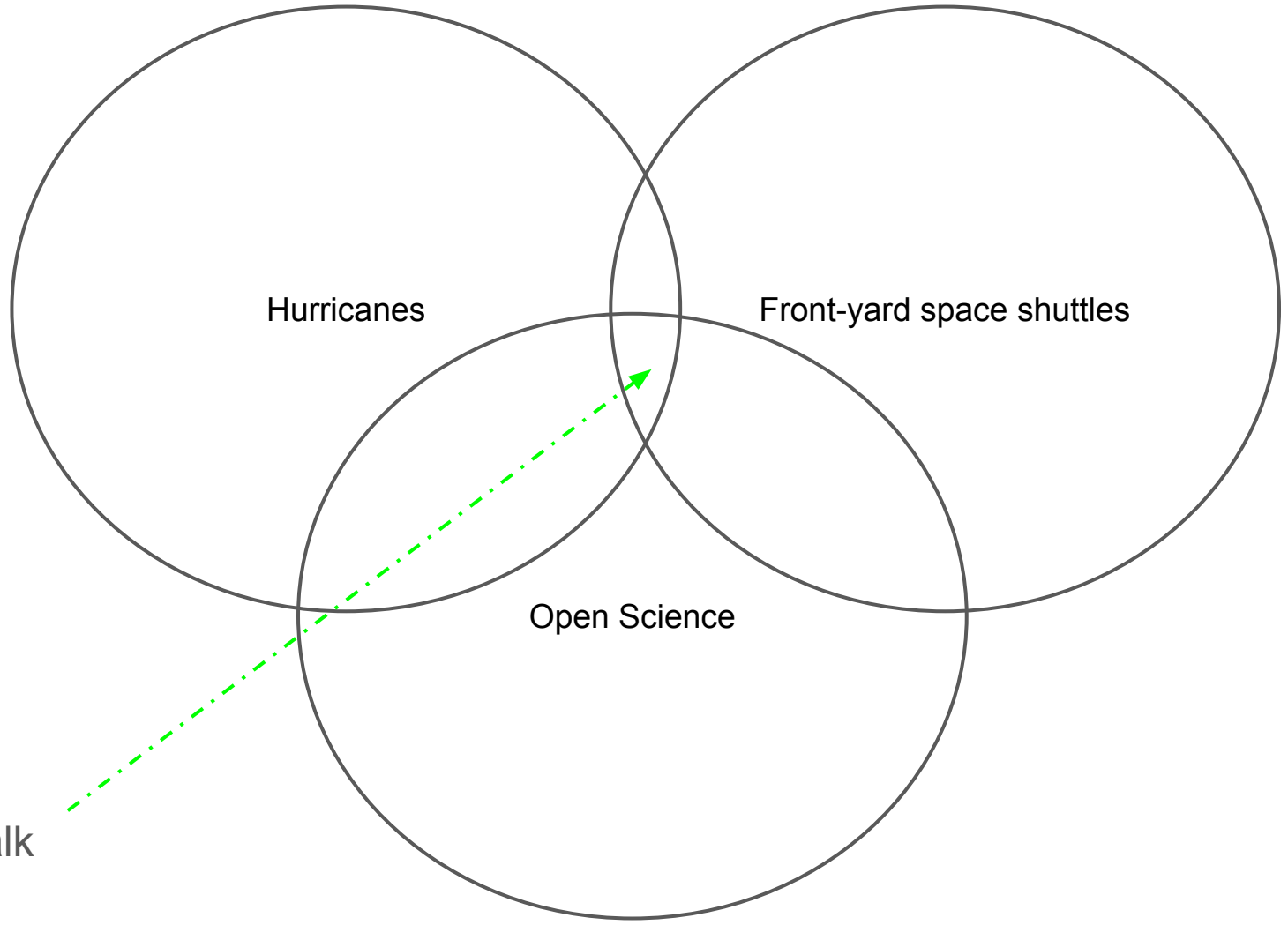
Open to Change: Possibilities and Probabilities

Micah Vandegrift || @micahvandegrift
UMass-Amherst - Open Access Week
Oct. 24, 2022



Family pictures from Hurricane Erin, 1995

Today's talk



Hurricanes

Front-yard space shuttles

Open Science

Open Science: From UNESCO to UMass

arXiv (1990s)

NIH Public Access Policy (2008)

Holdren Memo (2013)

SPARC OER Leadership program (2017)

UNESCO recommendation (2021)

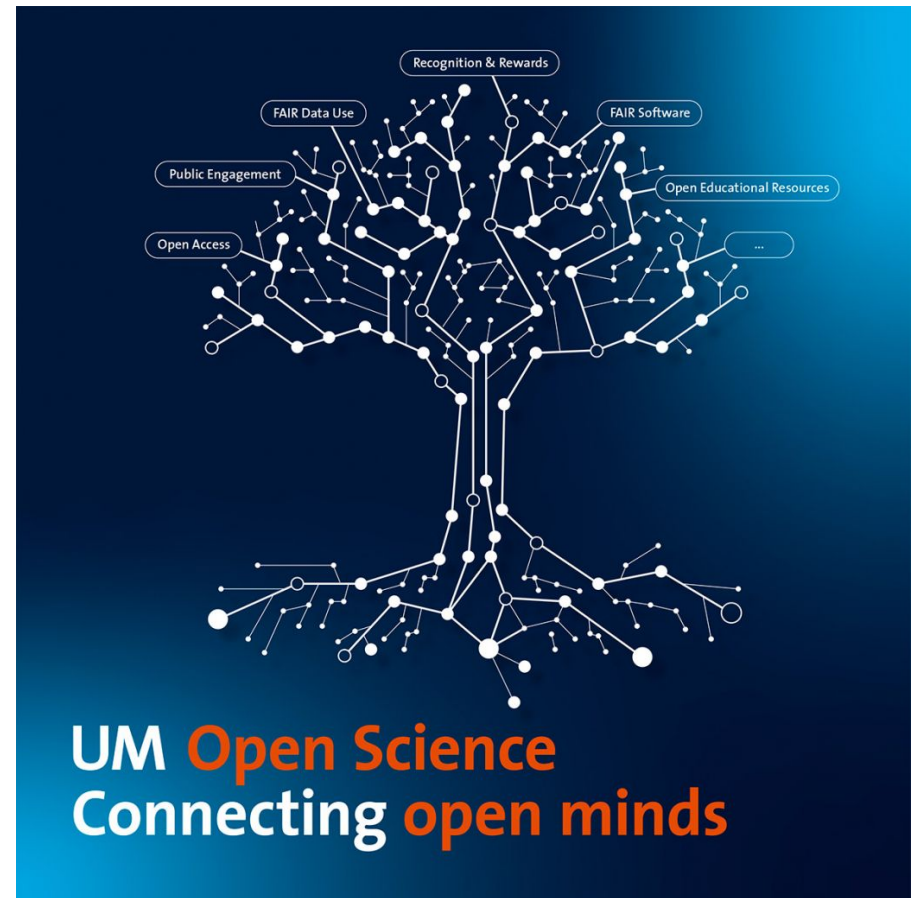
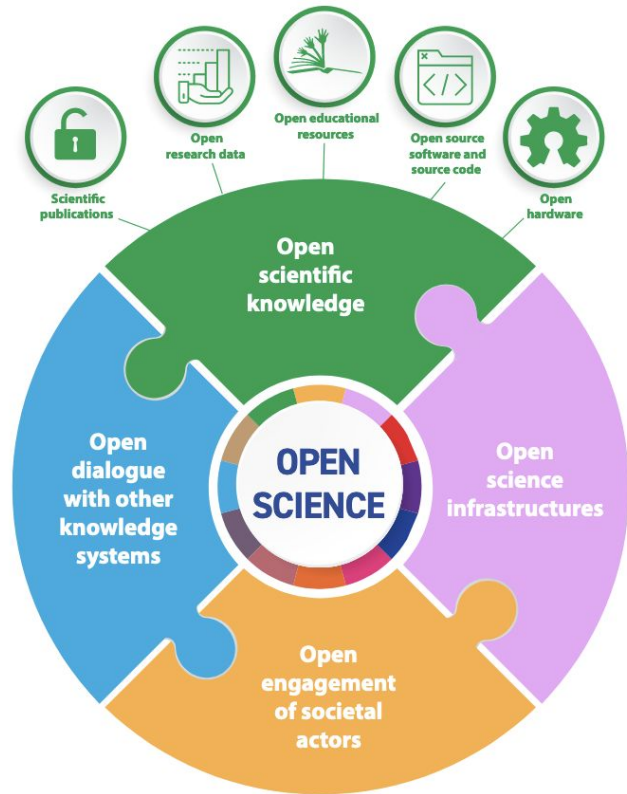

Open access era


Open data era


Open education era


Open science era

A note about lingo



Images from UNESCO Open Science Recommendation and Open Science Community - Maastricht University



Welcome to *Humanities Commons*, the network for people working in the humanities. Discover the latest [open-access scholarship and teaching materials](#), make [interdisciplinary connections](#), build a [WordPress Web site](#), and increase the impact of your work by [sharing it in the repository](#).

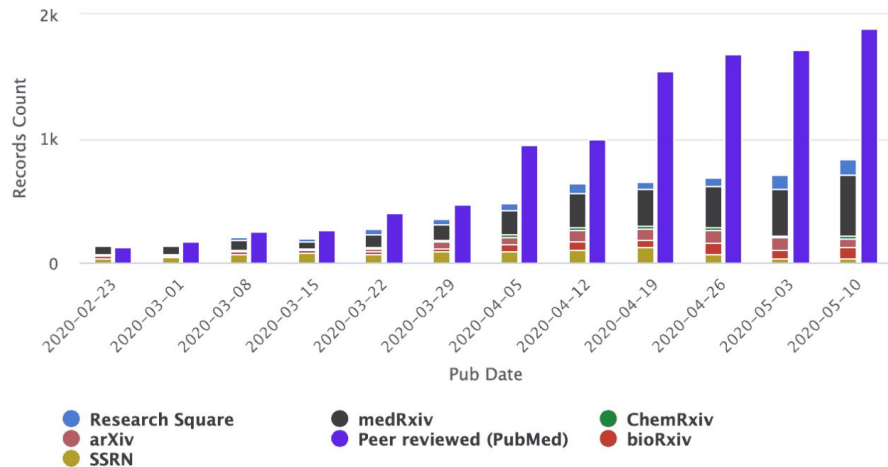
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- Join a group
- Create a site
- Share & preserve your work
- Discover OA scholarship
- See what's new
- Get help

<https://hcommons.org/>

Count by Source

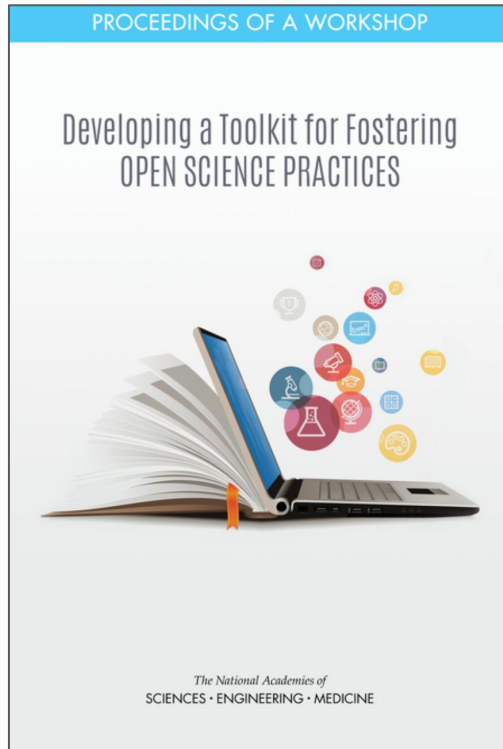
Click and drag to zoom



<https://asabio.org/preprints-and-covid-19>

Evidence of evolution

National Academies Roundtable on Aligning Incentives for Open Science

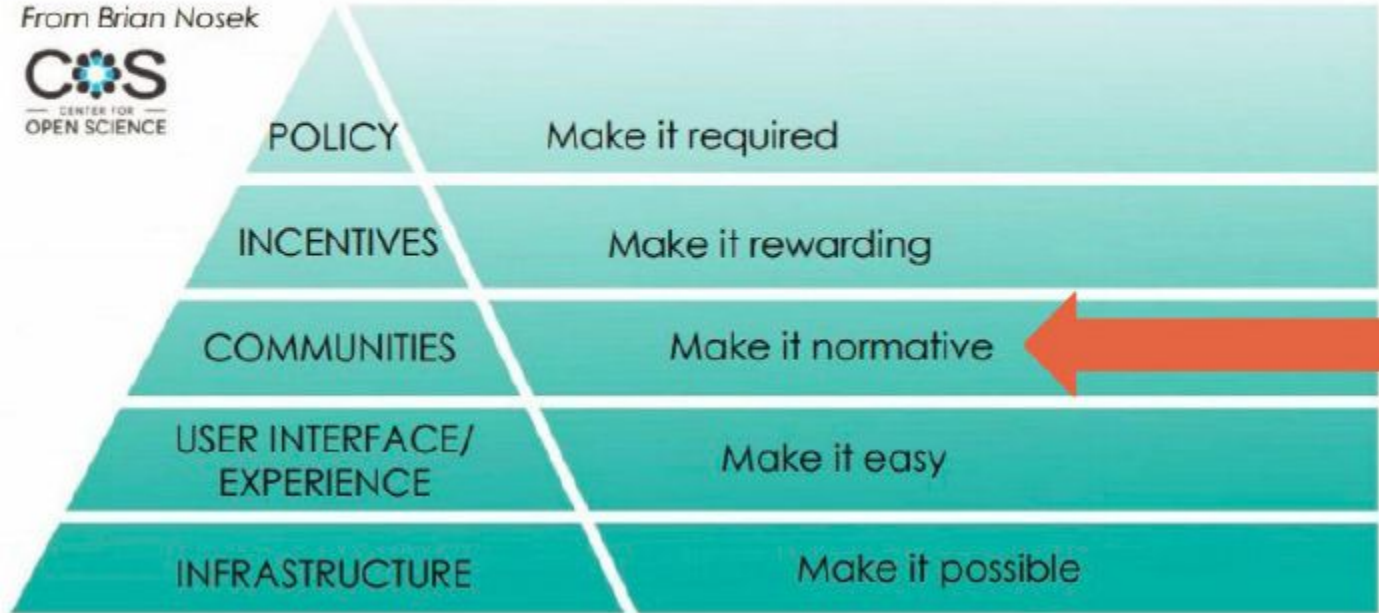


UNESCO global open science consultation and recommendation



Changing a Research Culture

From Brian Nosek



Julia Stewart Lowndes, presentation, National Academies of Sciences, Engineering, and Medicine, November 5, 2020, based on Brian Nosek, Center for Open Science.
National Academies of Sciences, Engineering, and Medicine. 2021. Developing a Toolkit for Fostering Open Science Practices: Proceedings of a Workshop. Washington, DC: The National Academies Press. <https://doi.org/10.17226/26308>.

Open Science + Climate + Local Action



Preserving cultural and historic treasures in a changing climate may mean transforming them

Published: November 13, 2020 8.40am EST

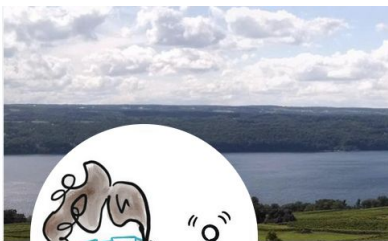
Dr. Erin Seekamp, Goodnight Distinguished Professor of Coastal Resilience and Sustainability

The Doge's Palace and St. Mark's Square flooded during acqua alta – high tide – in Venice, Italy. Matteo Colombo/Getty Images



Natalie Nelson

@NatalieGNelson Follows you



Sheila Saia

@sheilasaia Follows you

!!!

📄 **SM Saia**, NG Nelson, SN Young, S Parham, M Vandegrift. **Ten Simple Rules for Researchers Who Want to Develop Web Apps.** *PLOS Computational Biology* (in revision and preprint via EarthArxiv), 2021.

Preprint Project

📄 **SM Saia**, HJ Carrick, AR Buda, JM Regan, MT Walter. **Critical Review of Polyphosphate and Polyphosphate Accumulating Organisms for Agricultural Water Quality Management.** *ES&T* (and preprint via EarthArxiv), 2021.

Preprint PDF Dataset Project

📄 **SM Saia**, NG Nelson, AS Huseh, K Grieger, BJ Reich. **Transitioning machine learning from theory to practice in natural resources management.** *Ecological Modelling* (and preprint via EarthArxiv), 2020.

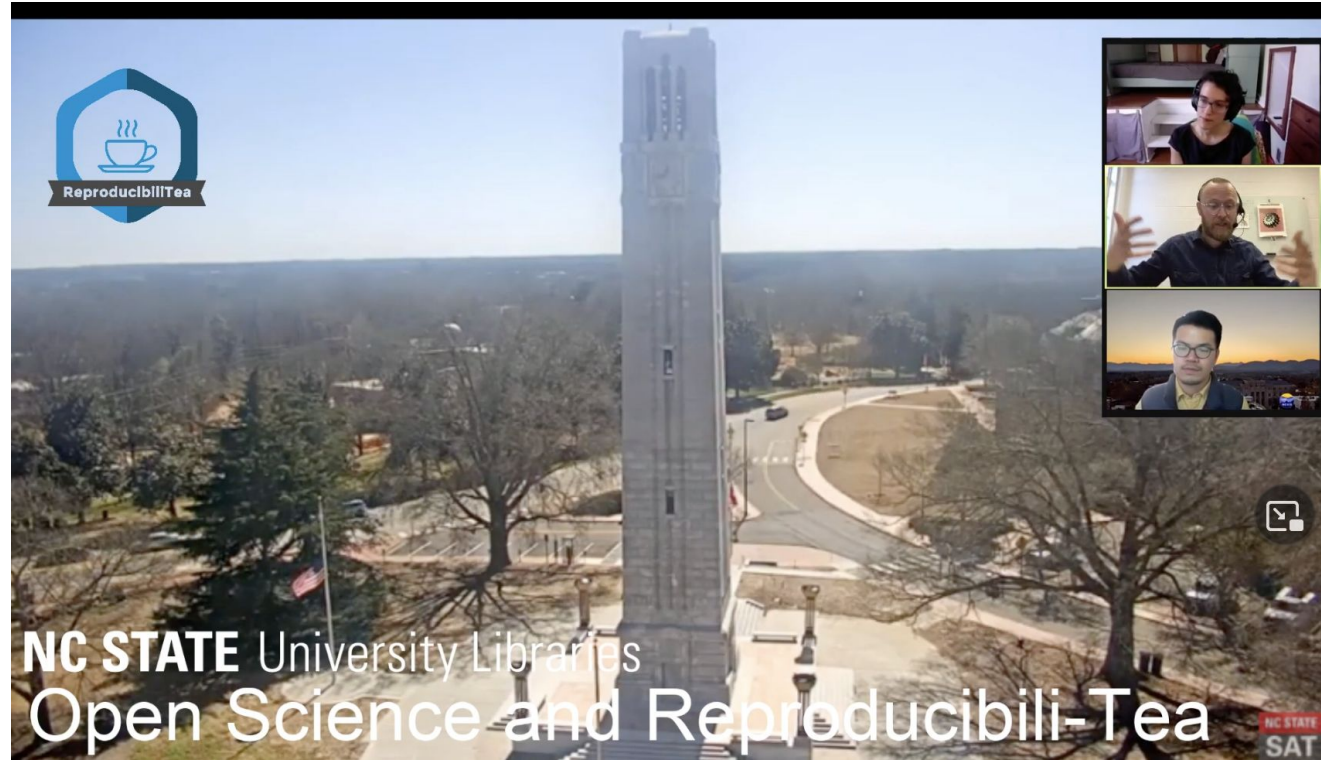
Preprint PDF Project

📄 JS Rice, **SM Saia**, RE Emanuel. **Improved Accuracy of Watershed-Scale General Circulation Model Runoff Using Deep Neural Networks.** *JAMES* (in prep and preprint via EarthArxiv), 2019.

Preprint Project

!!!





Earl Grey Literature

**Open Kombucha
Knowledge**

**Credit, Contributors, and
Chai**

**Diversity, Documentation,
and Darjeeling**

and more!!

Notes and resources
available at:

[https://github.com/sheilasaia/
reproducibili-tea](https://github.com/sheilasaia/reproducibili-tea)

Office of Research and Innovation

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2021 University Research Symposium

The [Office of Research and Innovation](#) hosted the 2021 University Research Symposium, presented by the [Research Leadership Academy](#) (RLA) and the [NC State University Libraries](#), via a series of Zoom meetings and webinars throughout the week of March 22nd. Featuring keynote addresses, discussion panels, lightning-round presentations, networking sessions and more, the 2021 University Research Symposium focused on Climate Change and Resilience.

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April 7, 2021 (v1) **Presentation** **Open Access**

View

Applying Molecular Principles toward Reducing Adverse Climate Impacts

Phil Westmoreland

Westmoreland, a Professor in the Department of Chemical and Biomolecular Engineering, was a presenter during the second lightning round session, and discussed using molecular principles to reduce the impacts of climate change. Westmoreland suggested solutions such as using chemical looping (oxygen)

Uploaded on October 18, 2021

April 7, 2021 (v1) **Presentation** **Open Access**

View

Webinar Series Climate Change in North Carolina

Rebecca Ward

Ward, the Assistant State Climatologist with the North Carolina State Climate Office, discussed a 6-part webinar series focused on climate change in North Carolina and the evaluation of the series, as well as next steps. Ward emphasized key themes from the evaluation, including the continuation

Uploaded on October 18, 2021

April 7, 2021

Presentation **Open Access**

Predicting Marine Environmental Conditions Off the Carolinas

Ruoying (Roy) He

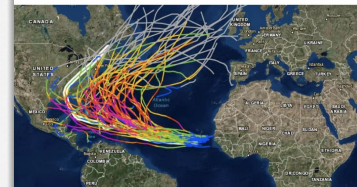
He is a Goodnight Innovation Distinguished Professor in the Department of Marine, Earth, and Atmospheric Sciences and was a panelist on the Designing Architecture and Modeling for Disasters Panel. He is the director of the research lab known as the Ocean Observing and Modeling Group and summarized the work this lab does, which involves observing and predicting historical, current, and future coastal environmental conditions. Using the context of recent major hurricanes off the Carolinas, He described how analyzing the interactions between the ocean and the atmosphere is crucial to predicting the intensity and track of storms.

Preview



Page: 2 of 9 Automatic Zoom

Category 4 and 5 hurricane tracks northern Atlantic Ocean, 1867-2020



April 7, 2021

Presentation **Open Access**

Losing One's Home in a Natural Disaster: Implications for Subsequent Coping and Health

Shevaun Neupert

Contributors: Emily Smith, Alexandra Early, Griffin Burke, Kathryn Butler, Jindi Gao, Morgan Cobler, & Sammy Sheaffer

Neupert, a Professor in the Department of Psychology, was a presenter during the first lightning round session, and discussed results from a study conducted by her lab investigating peoples' response to stressful events, their strategies for coping, and number of chronic health conditions they experienced. The aim was to identify coping and health consequences of home loss from a natural disaster. The participants who reported losing a home also reported greater proactive coping (doing significantly more to avoid future stress) compared to those who did not lose a home. The data also showed that high proactive coping is associated with fewer chronic health conditions. Neupert concluded that this research may have implications for physical health and addressing stress.

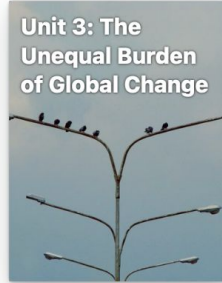
**Unit 1: Global
Change: Why We
Need to Act Now**



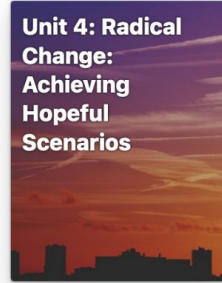
**Unit 2: The
Science of Global
Change**



**Unit 3: The
Unequal Burden
of Global Change**



**Unit 4: Radical
Change:
Achieving
Hopeful
Scenarios**



**Unit 5: Adapting
to Global Change:
What Can You
Do?**



Unit 1: Global Change: Why We Need to Act Now



Preview: Global Change: Why We Need to Act Now

by Melissa Ramirez and Jason Flores

Melissa Ramirez, Ph.D. and Jason Flores, Ph.D. provide an introduction to the topic of Global Change and to the course Wicked Problems, Wolfpack Solutions: Global Change.

<https://ncsu-wolfpack-solutions.pubpub.org/global-change>

Open Climate Data Science Symposium

March 21



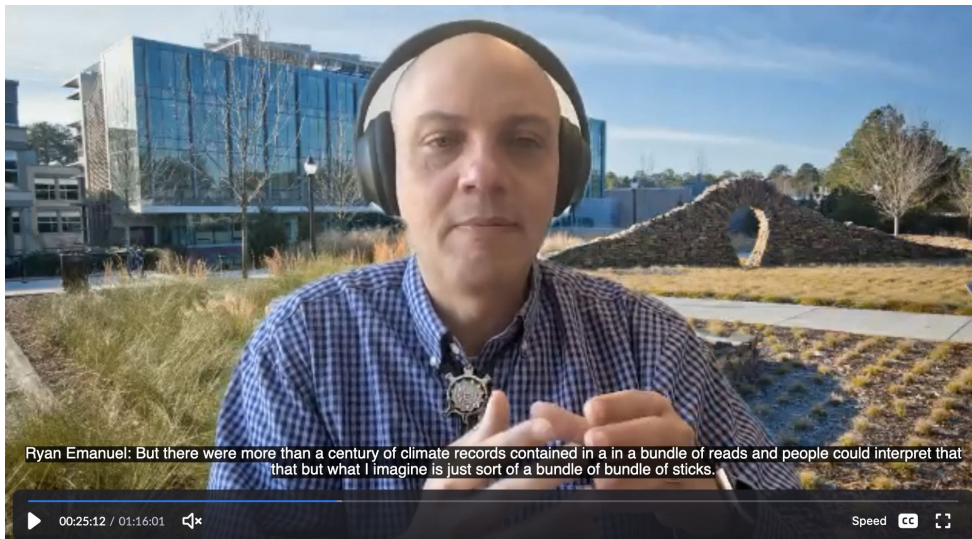
Motivation

Climate change touches many aspects of life and is a top challenge facing future generations in North Carolina. Many publicly available datasets exist to support adaptation and resilience in the face of climate change. However, these data can often be difficult for communities to access, analyze, interpret, and put into action given their local knowledge and lived experiences.

Goals

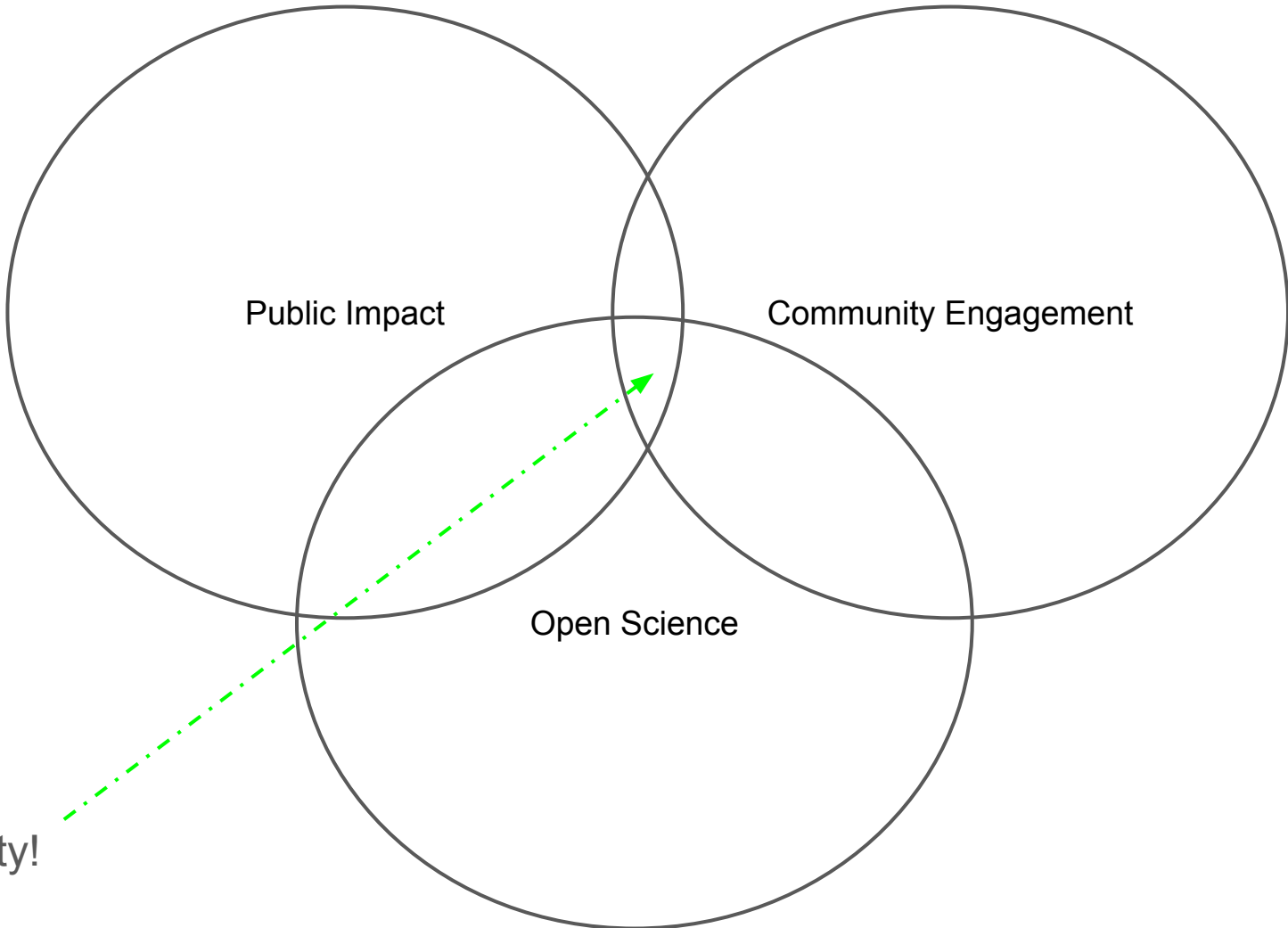
To initiate steps to overcome these hurdles, this virtual workshop will:

1. **facilitate collaborations** between communities, organizations, climate scientists, and data scientists with shared goals and interests
2. **build capacity** to use publicly available (i.e., “open data”) weather and climate data along with reproducible science practices (i.e., “open science”) and local knowledge



<https://open-climate-data-science.github.io/>

Public Impact Research



Public Impact

Community Engagement

Open Science

Opportunity!

“...committing to the recognition of the plurality of knowledge means democratizing knowledge and giving birth to a new form of justice on the international knowledge scene [...] we are convinced that open digital technologies can become a very effective means of preserving traditional knowledge on one hand, and bringing them into the global conversation around climate mitigation on another hand.”



Mboa, T., & Koumi, R. (2022)
African Traditional Knowledge and Open Science for Climate Mitigation. *Branch*, Iss. 4
<https://branch.climateaction.tech/issues/issue-4/african-traditional-knowledge-and-open-science-for-climate-mitigation/>

African Traditional Knowledge and Open Science for Climate Mitigation

Thomas Mboa and Ahou Rachel Koumi



Beti mask made with *Obom* by Eya'a Enama Ambroise (with the courtesy of Brigitte Nga Ondigui)

Closing

THE CHRONICLE OF HIGHER EDUCATION

‘A Historic Moment’: New Guidance Requires Federally Funded Research to Be Open Access

nature

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NEWS | 26 August 2022 | Correction [30 August 2022](#)

US government reveals big changes to open-access policy

Biden administration instructs all US agencies to require immediate access to federally funded research after it is published, starting in 2026.

The New York Times

White House Pushes Journals to Drop Paywalls on Publicly Funded Research

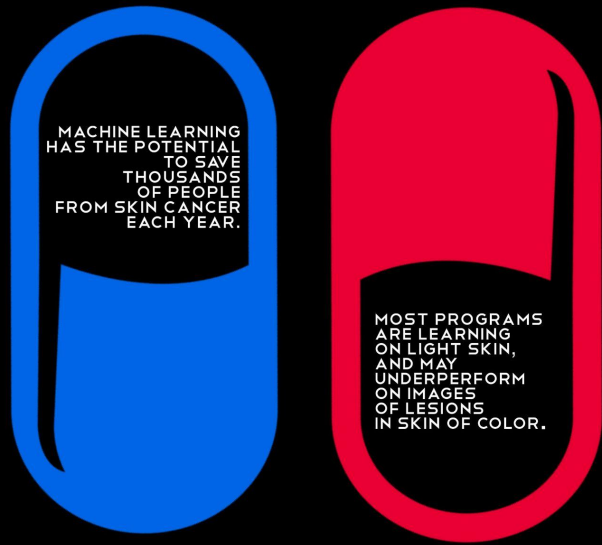
The policy, hailed by researchers as “transformational,” will be fully in place by 2026 and make publicly financed research available immediately at no cost.



Open Science
Community Starter Kit



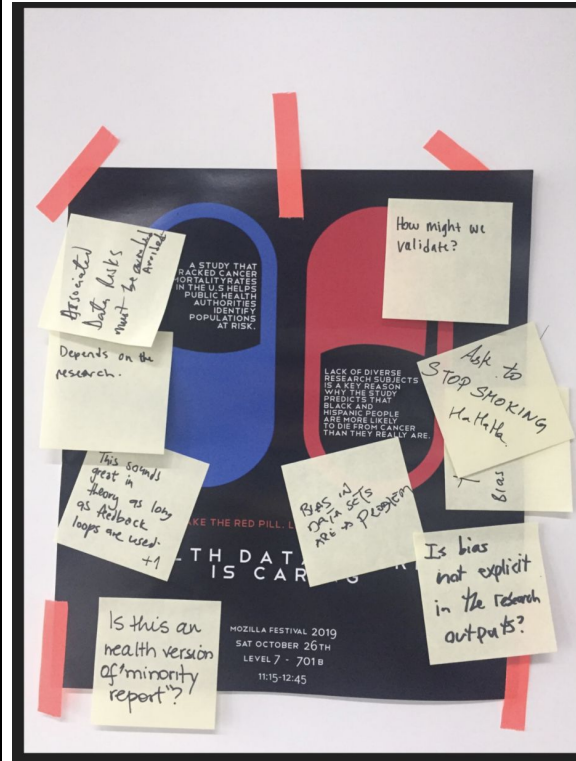
MozFest 2k19, London



TAKE THE RED PILL. LET'S FIX REALITY.

HEALTH DATA SHARING IS CARING

MOZILLA FESTIVAL 2019
SAT OCTOBER 26TH
LEVEL 7 - 701B
11:15-12:45



<https://github.com/natalianorori/HealthDataSharingIsCaring>



Open data makes it possible for me to explore **systemic problems** in the communities I am from.



*Open science can contribute to equity, **if** it enables people who are historically marginalized to learn about and research topics important to them and their communities, and have their research recognized and rewarded, and have that **translate in impact for their communities...***

— Natalia Norori at the UN Open Science Conference

GET INVOLVED

Researcher

National
Government

Funder

Environmental
Organization

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- [Deposit your data openly](#) with the CC0 public domain dedication to a data repository.
- [Upload your scientific code / scripts/ models openly](#) in a code repository.
- [Join the Open Climate Campaign newsletter](#).
- Tell other researchers about the campaign

RESEARCHER ACTION KIT

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<https://openclimatecampaign.org/>

Thank you!

Open to Change: Possibilities and Probabilities

Micah Vandegrift || @micahvandegrift
UMass-Amherst - Open Access Week
Oct. 24, 2022