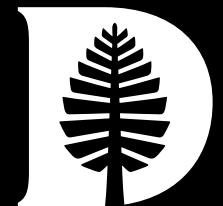


Mapping Risk

A feminist mapping approach

Dr. Meghan Kelly (she/her)

DARTMOUTH



Outline

Introduction

Feminist Mapping

1. Intellectual Contributions

2. Mapping Risk

3. Pedagogical Strategies

Three-Year Plan

Conclusion



Meghan Kelly

Geographer and GIScientist

Minor: Gender Studies

UW-Madison

Funding

NSF CAREER Grant Project Manager

Mellon-Wisconsin Fellowship

Whitbeck Dissertator Fellowship



Meghan Kelly

Dartmouth College

Postdoctoral Scholar, Geography

Critical Geospatial Analysis Lab

Research Areas:

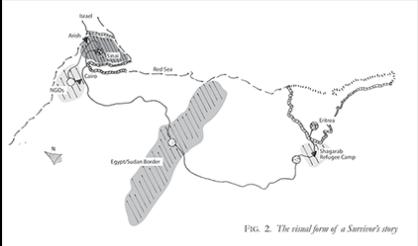
GeoAI and critical remote sensing

Funding

Two submitted grants (NEH and Tow Center)

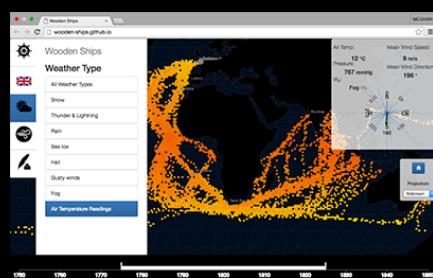
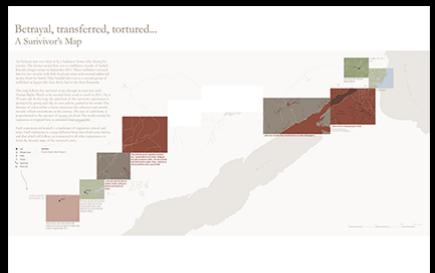
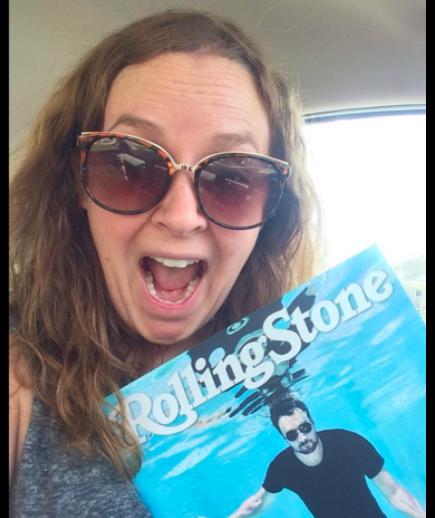
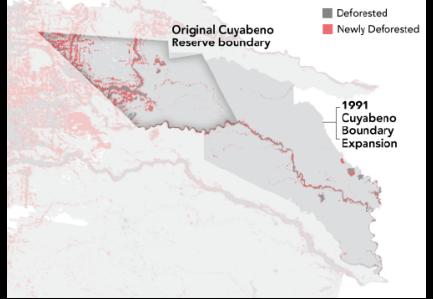
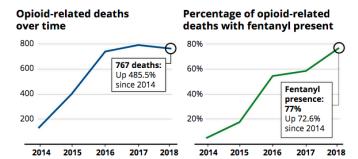
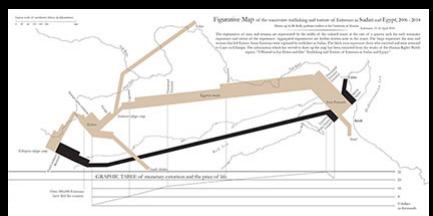
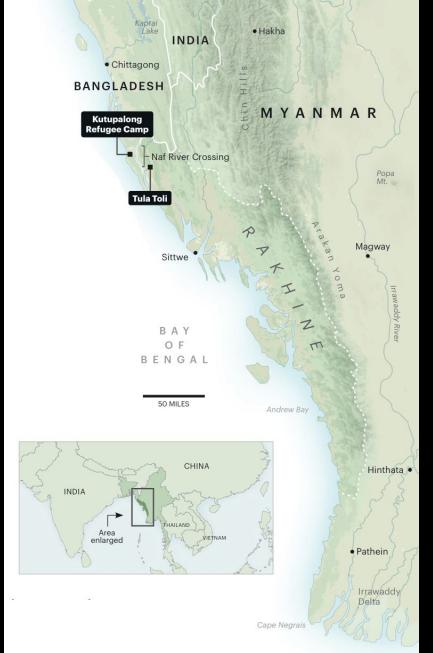
Co-PI Digital Borderlands Grant





Source: Natural Earth/Viewfinder Panorama

MEGHAN KELLY FOR THE WASHINGTON POST

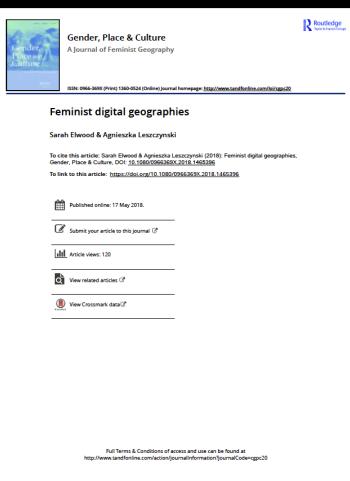
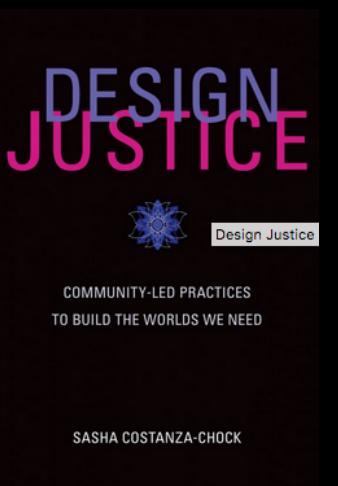
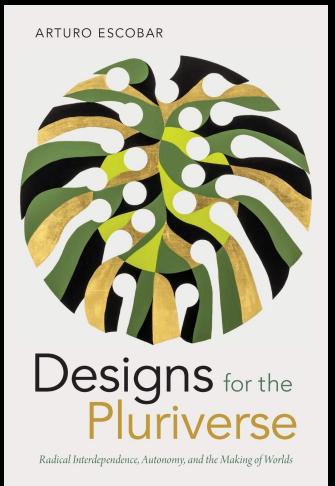
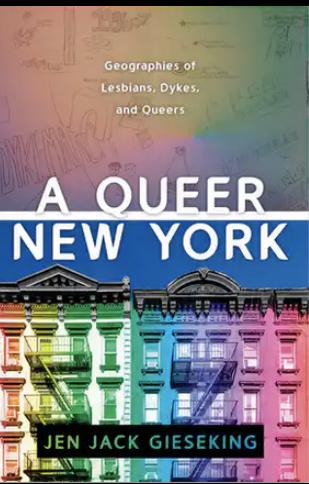
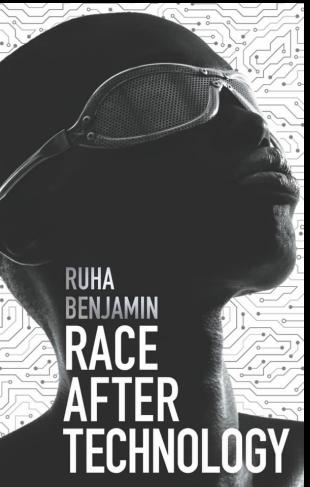
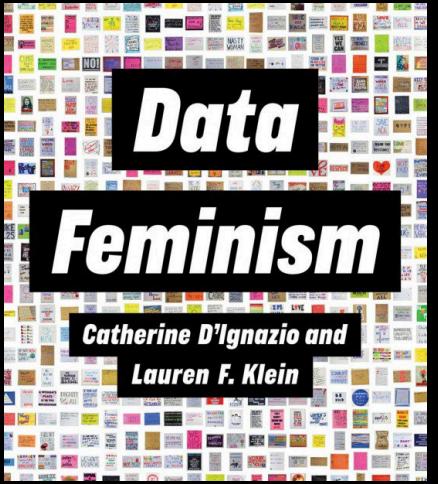


EUROPE'S Problem?

Syrian refugees in the news



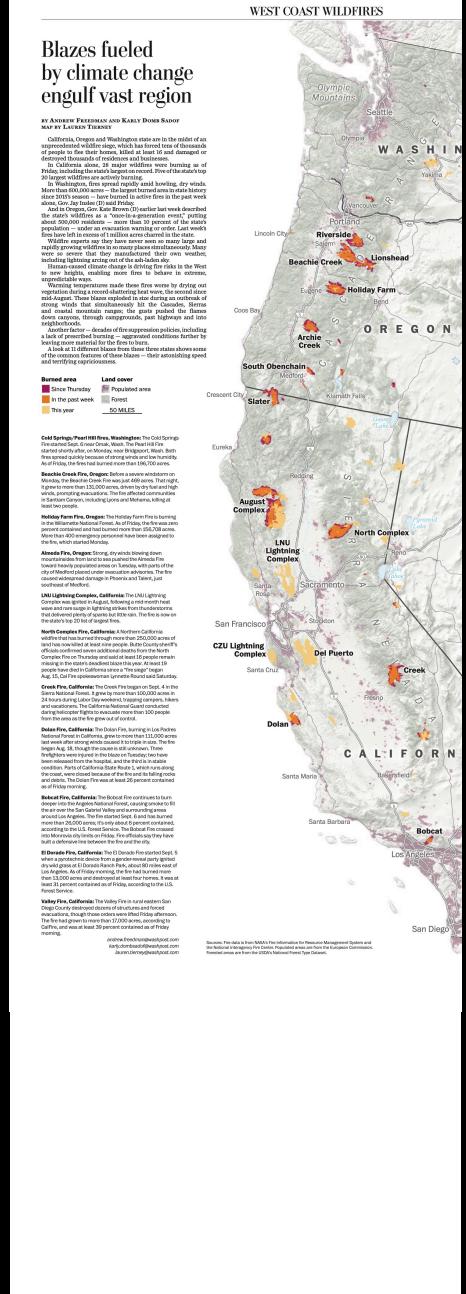
Motivation



**Data Feminism/Feminist Data Science
Feminist Digital Geographies
Design Justice
Feminist Geographies
Feminist GIS
Critical Cartography
Race Critical Code Studies
Queer GIS
Indigenous Cartographies
Community GIS**

Kelly (2021) *GeoHumanities*
Kelly (2021) *Routledge Handbook*





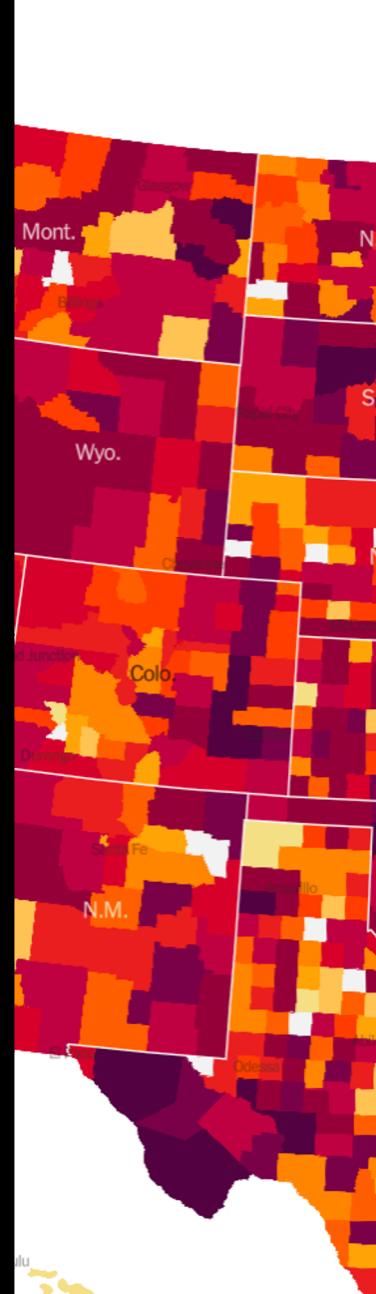
Climate change and fires

Washington Post

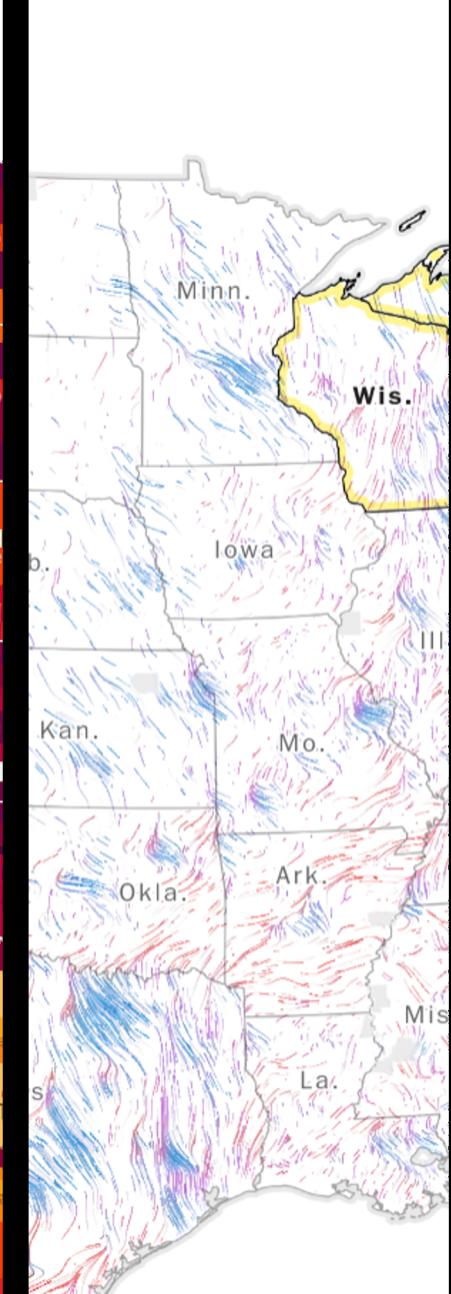


Land-Grab Universities

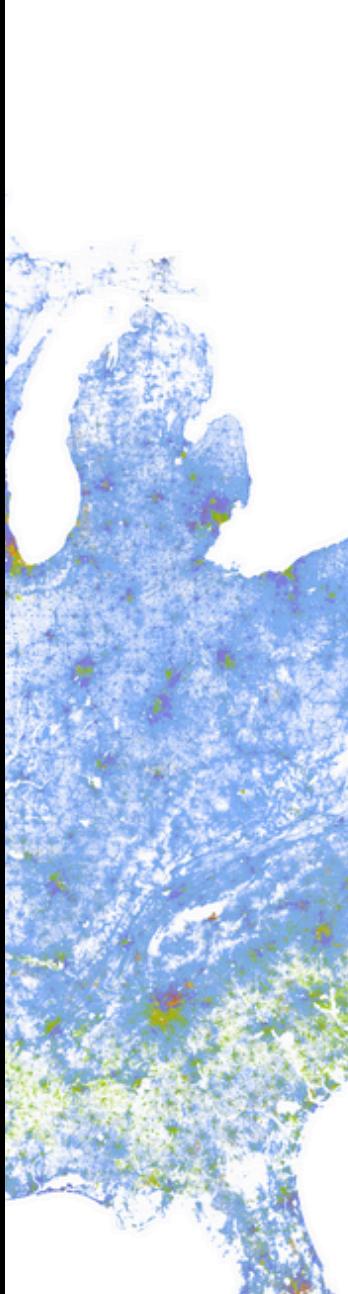
High Country News



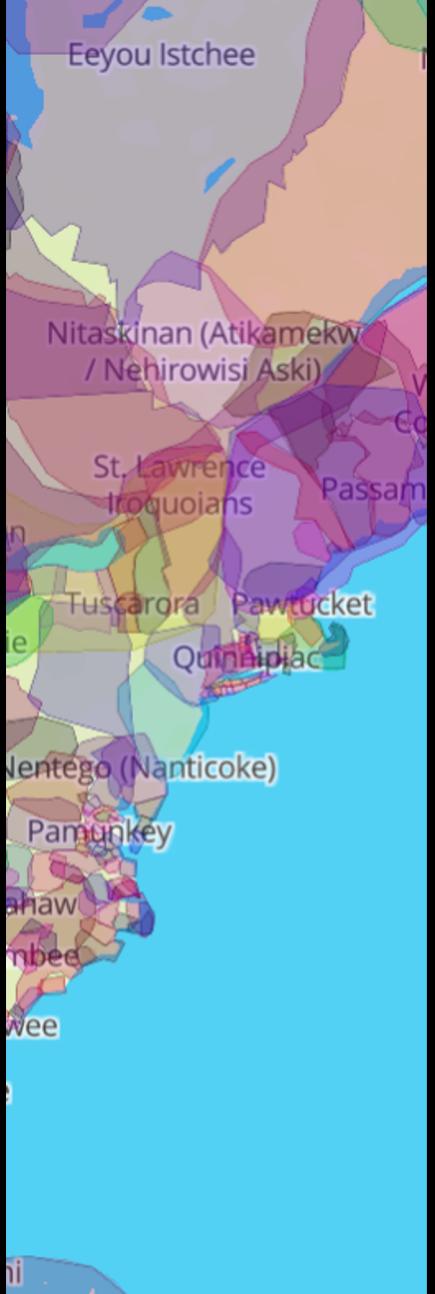
COVID-19 Daily Case
New York Times



2020 Election
Washington Post



White supremacy and racial injustice *U of Virginia*



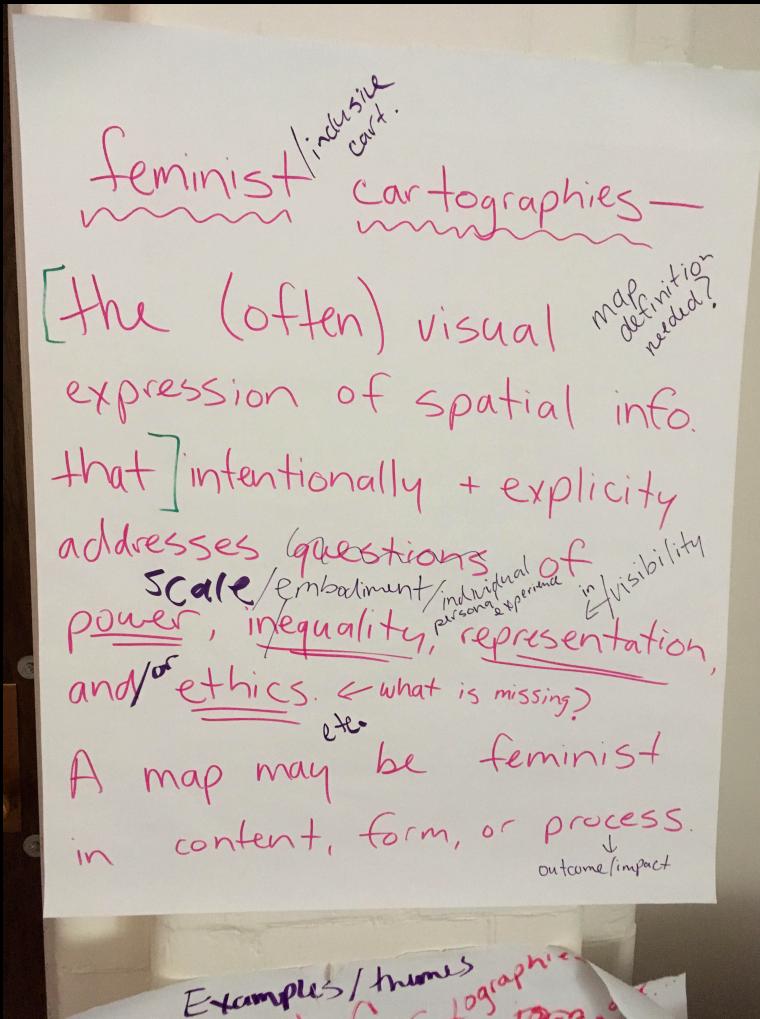
Land occupation
Native Land Digital

Motivation

How can feminist approach to **geospatial data, map design, and mapping processes** address critical challenges of our time?



Feminist Mapping Framework



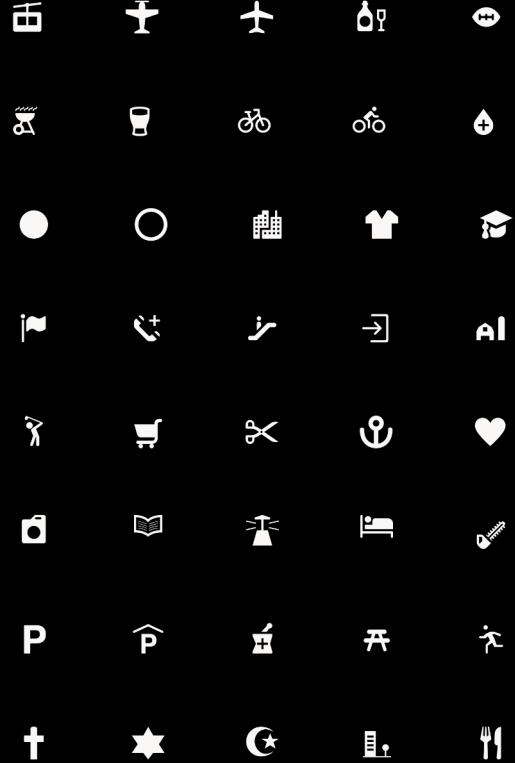
- 1. Power**
- 2. Context and Situated Knowledge**
- 3. Pluralism**
- 4. Uncertainty**
- 5. Emotion and Embodiment**
- 6. Binaries and Hierarchies**
- 7. Labor and Reflexivity**

Kelly (2020) *Dissertation*

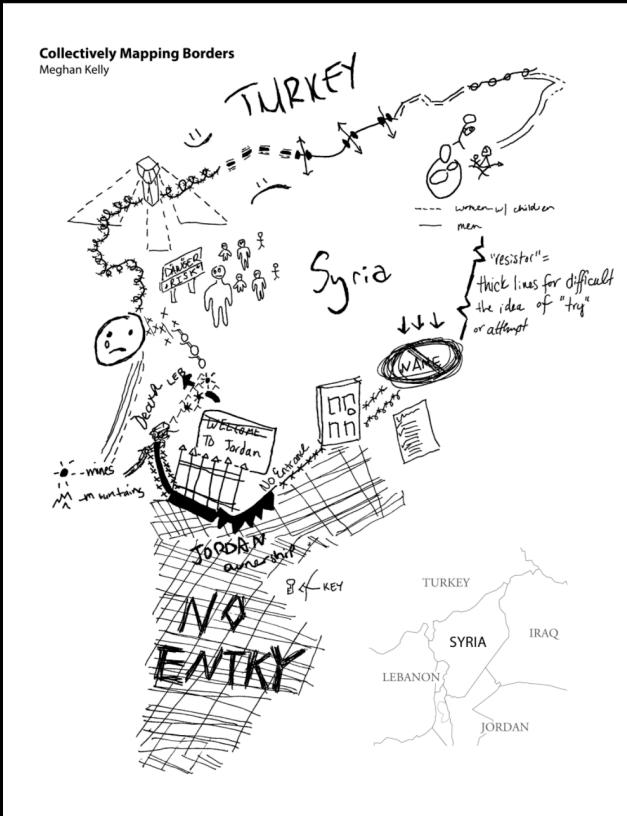
Kelly (2021) *Routledge Handbook*



Feminist Mapping Framework



geospatial data

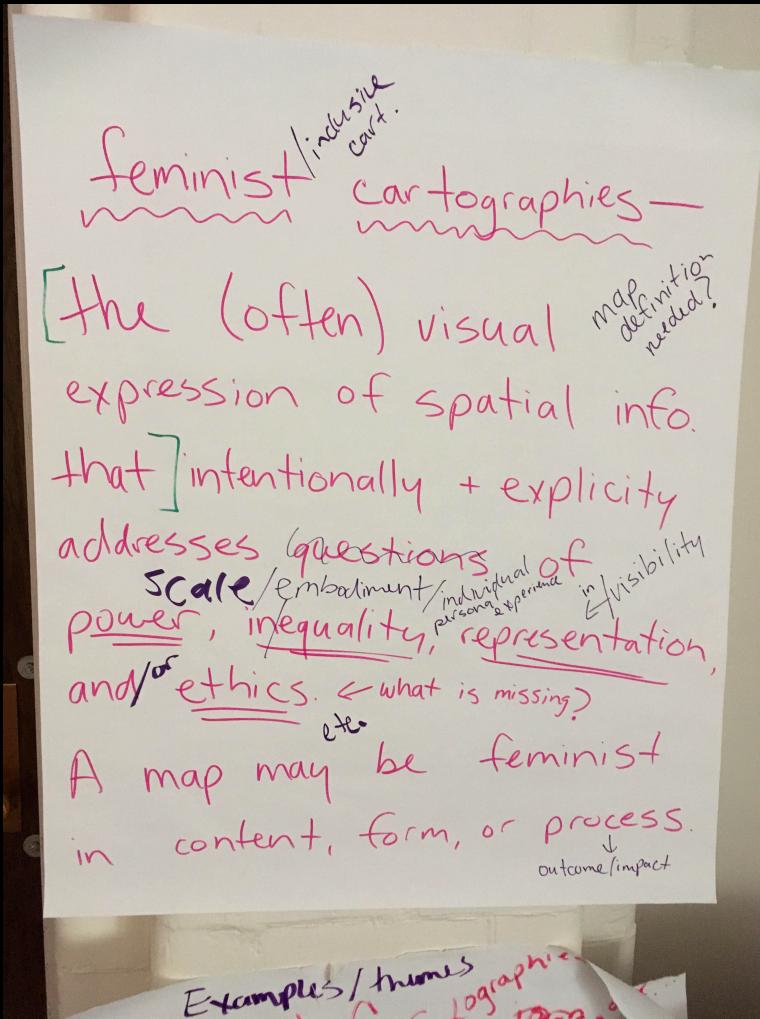


map design



mapping workflows

Feminist Mapping Framework



1. Power

2. Context and Situated Knowledge

3. Pluralism

4. Uncertainty

5. Emotion and Embodiment

6. Binaries and Hierarchies

7. Labor and Reflexivity

Kelly (2020) *Dissertation*

Kelly (2021) *Routledge Handbook*



Feminist Mapping

Publications

Kelly (2021) *GeoHumanities*

“Mapping Bodies, Designing Feminist Icons”

Kelly (2021) *Routledge Handbook*

“Feminist Geography and Geospatial Technology”

Kelly (2019) *Cartographic Perspectives*

“Mapping Syrian Border Crossings”

Kelly and Amber Bosse (under review) *ACME*

“Pressing Pause, ‘Doing’ Feminist Mapping”



Feminist Mapping

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“Mapping Syrian Border Crossings”

Kelly and Amber Bosse (under review) *ACME*

“Pressing Pause, ‘Doing’ Feminist Mapping”

Future work

Journal Publications

Outlets

Cartographica; Gender, Place and Culture;

The Professional Geographer;

GeoHumanities

Book Project

Leverhulme Research Fellowship



1. Intellectual Contributions

Feminist Mapping and Borders

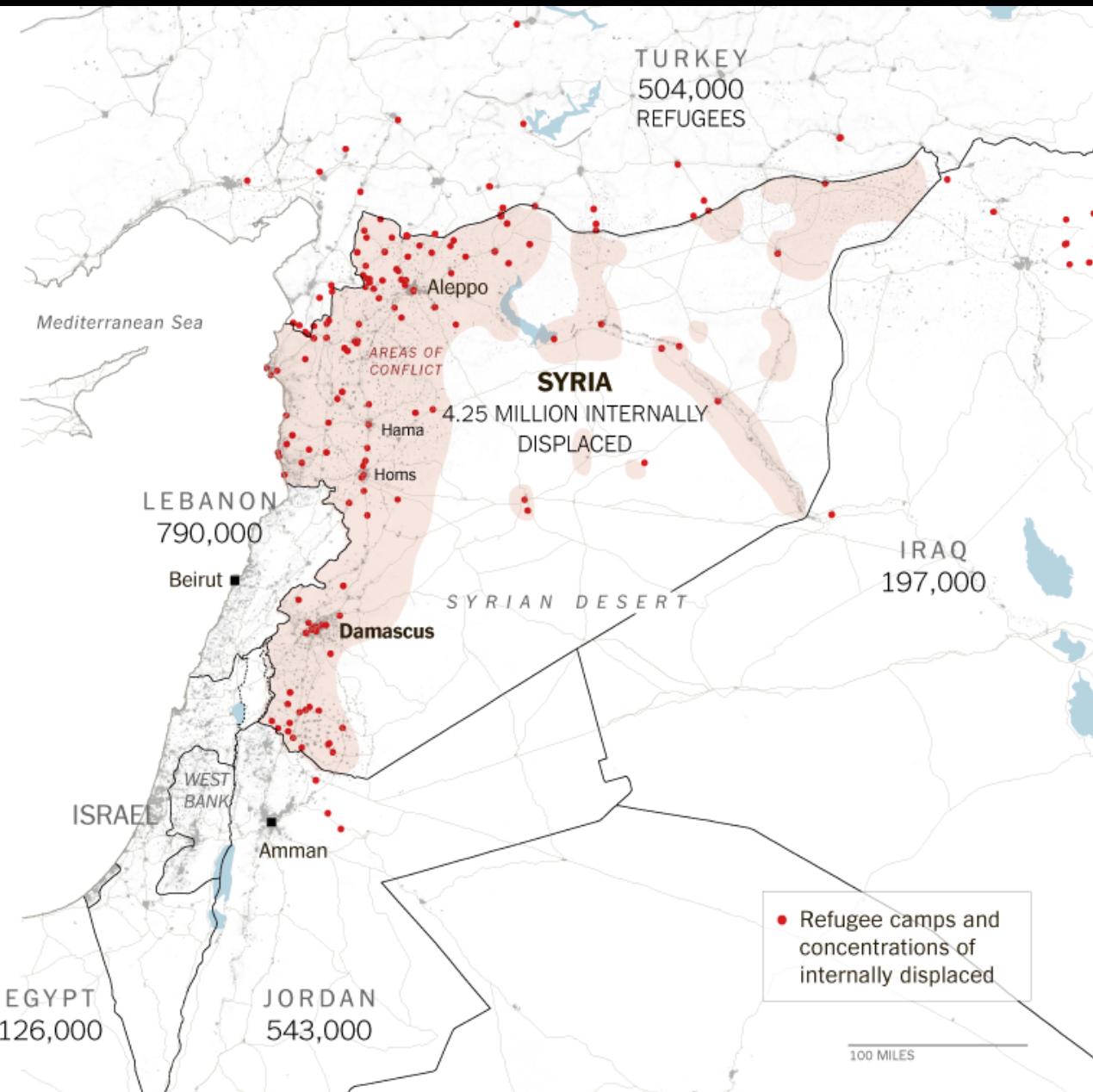
Cluster: Politics-State-Space

IBRU: Centre for Borders Research

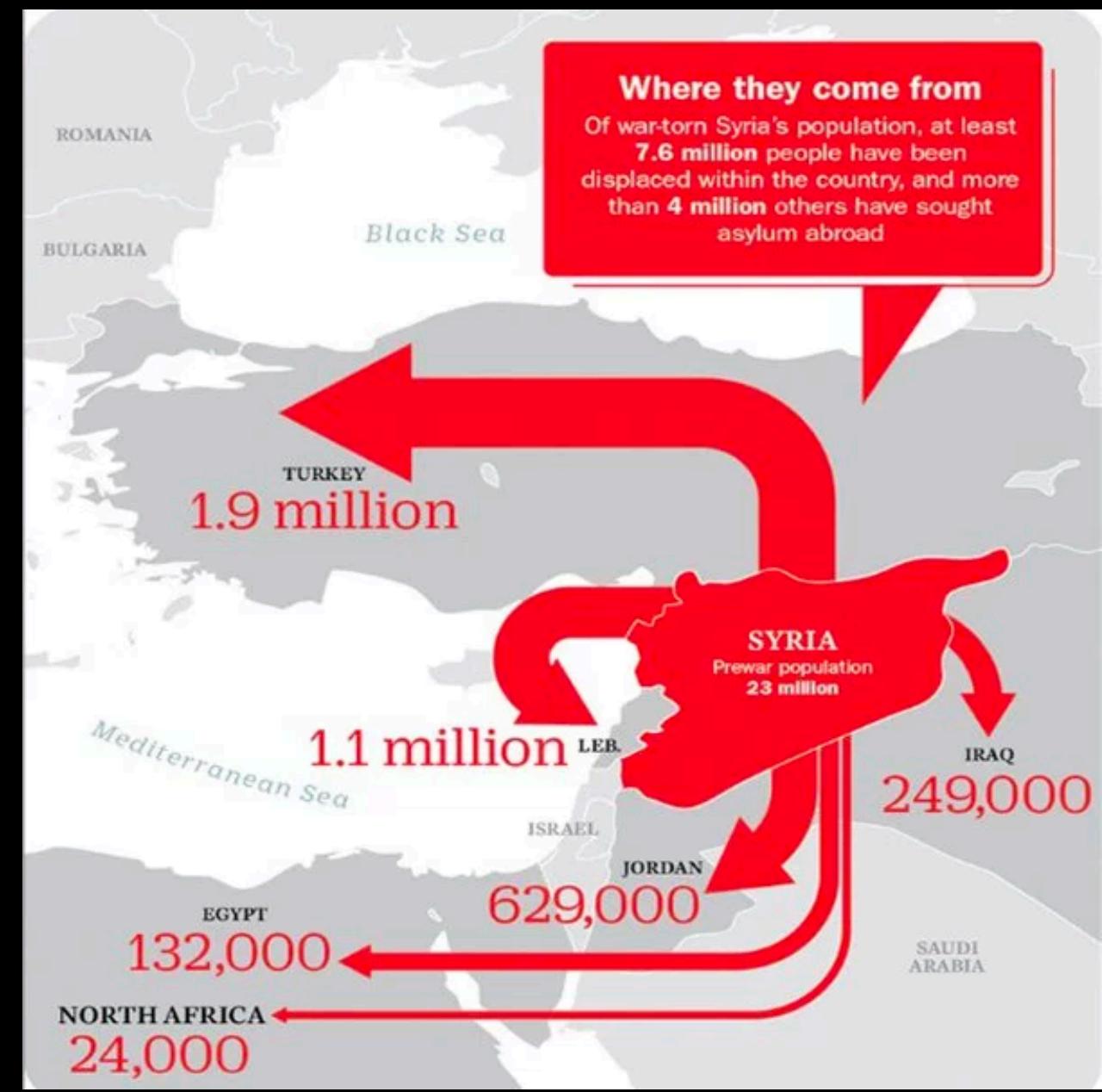
Case Studies

1. Syrian refugee border stories (Kelly 2015, 2016, and 2019)
2. Human trafficking stories (Kelly et al. under review)
3. US/Mexico border in collaboration with Kate Coddington and Jill Williams



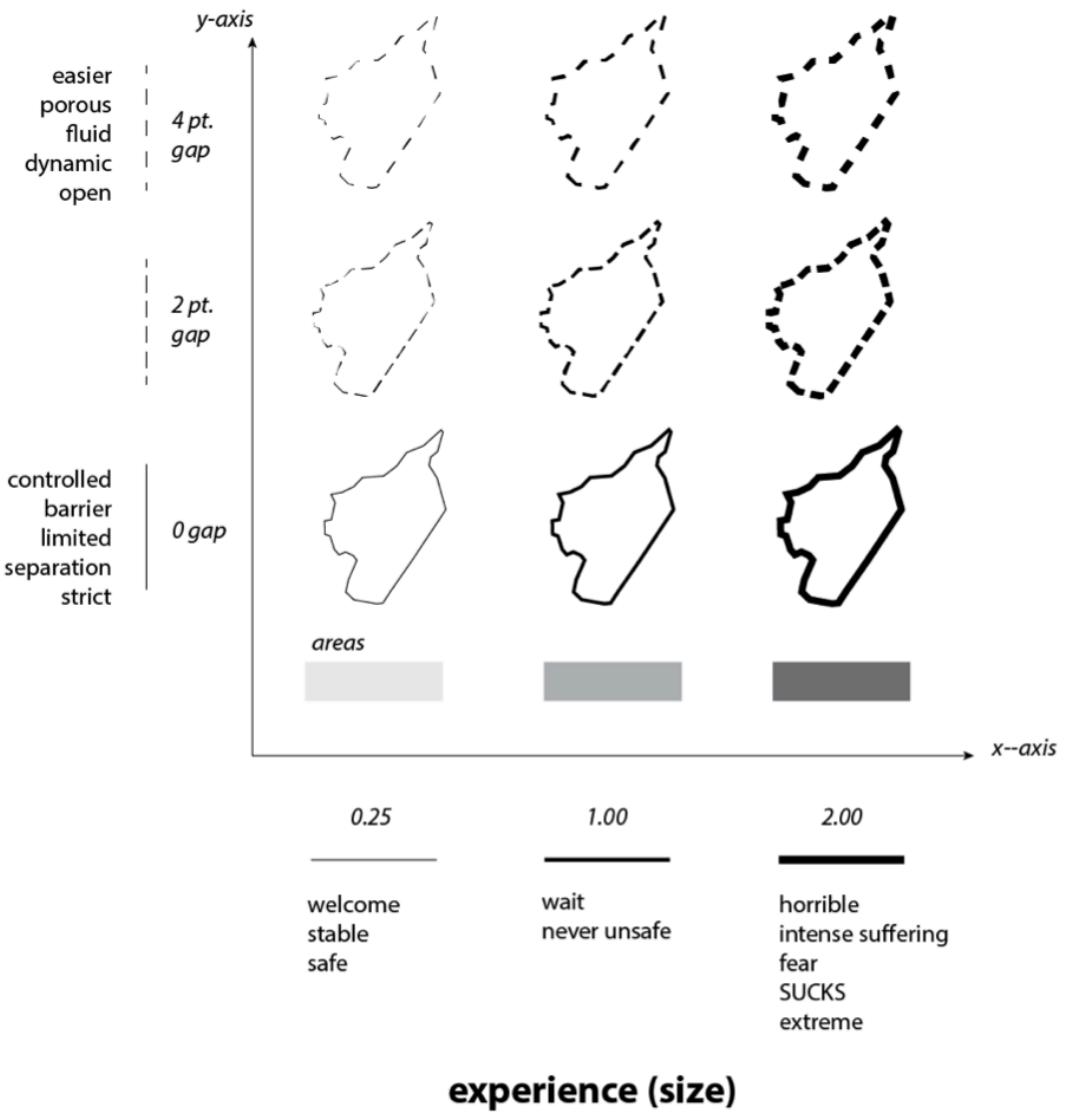


New York Times (2013)



New York Times (2013)

porosity (arrangement)



1. Power

2. Context and Situated Knowledge

3. Pluralism

4. Uncertainty

5. Emotion and Embodiment

6. Binaries and Hierarchies

7. Labor and Reflexivity





Amal

Syria and United Arab Emirates

My wife had quit her laboratory specialty training, and my daughter, who was only two and half years old, could not stop crying every time she heard a shooting or a bomb near our home... For those reasons and others, I had to make **my wife and daughter flee** the country toward UAE in May 2013.



I was physically
hurt in one
incidence

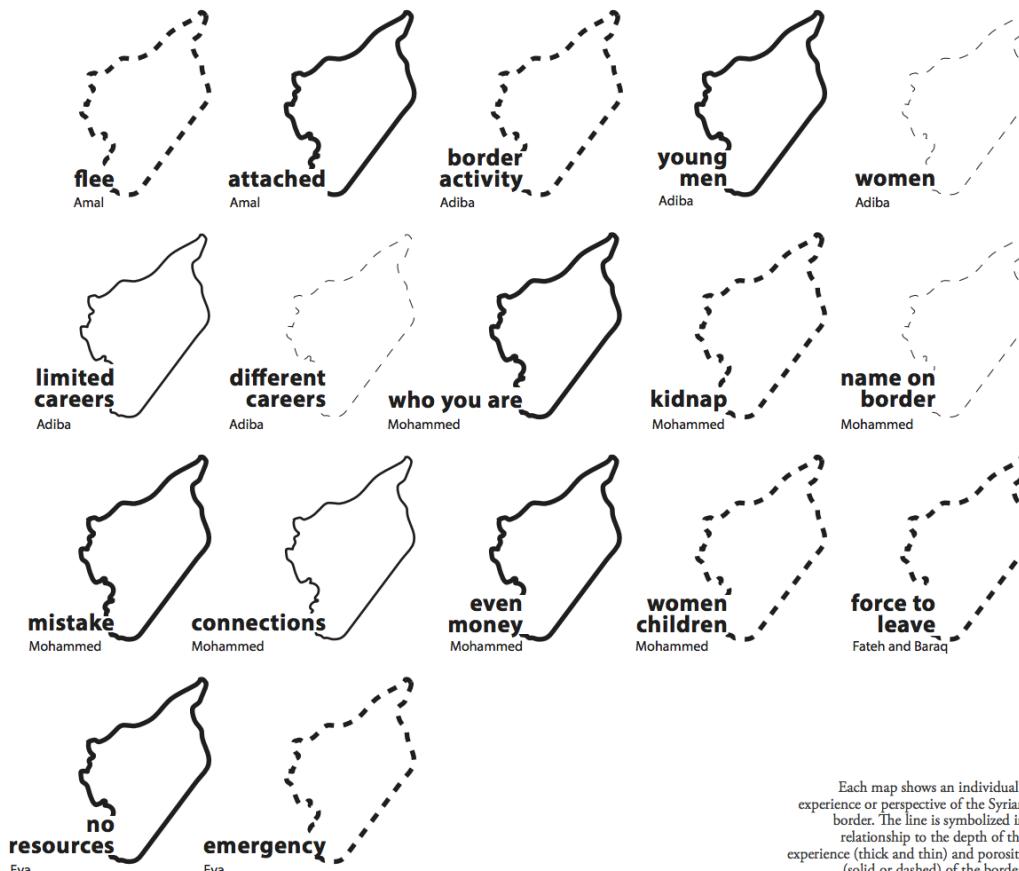


SYRIA

Amal
Amal's body

I received multiple threat letters, not only
concerning myself, but also concerning
my parents and my siblings. In fact, I was
physically hurt in one incident.





Each map shows an individual's experience or perspective of the Syrian border. The line is symbolized in relationship to the depth of the experience (thick and thin) and porosity (solid or dashed) of the border.



Collectively Mapping Borders

Meghan Kelly



1. Power

2. Context and Situated Knowledge

3. Pluralism

4. Uncertainty

5. Emotion and Embodiment

6. Binaries and Hierarchies

7. Labor and Reflexivity



feminist visualization 2021: MOBILITIES, SOVEREIGNTY, BORDERS

[Home](#)[Research Overview](#)[Panel](#)[Workshops](#)[Challenge](#)[REGISTRATION](#)[Contact](#)[more...](#)

FEBRUARY 26 - APRIL 9, 2021

Research, Impact & Collaboration

This challenge aims to bring together students, researchers, and activists to create visualizations that help us see and understand the shifting geographies of sovereignty and border enforcement in new ways. Grounded in feminist approaches to visualization and mapping, this challenge invites participants to critically and creatively bring together data sources to visualize

1. Intellectual Contributions

Publications

Kelly (2019) *Cartographic Perspectives*

“Mapping Syrian Border Crossings”

Kelly (2016) *Cartographic Perspectives*

“Collectively Mapping Borders”



1. Intellectual Contributions

Publications

Kelly (2019) *Cartographic Perspectives*

“Mapping Syrian Border Crossings”

Kelly (2016) *Cartographic Perspectives*

“Collectively Mapping Borders”

Future work

Feminist mapping, migration, and border symbolization

Outlets

Annals; The Geographical Journal

Funding

U of Arizona (submitted)

ESRC and Leverhulme



2. Mapping Risk

Collaborations

Clusters: Urban Worlds and Sea Level, Ice and Climate

Case Studies

1. Climate change and sea-level rise (*Washington Post*)
2. Climate change, drought, and locust infestation (*Washington Post*)
3. Genocide and forced migration (*Rolling Stone*)
4. Housing and houselessness, exasperated by COVID-19 (*Guerrilla Cartography*)
5. Public health and the US opioid epidemic (*Chicago Tribune*)



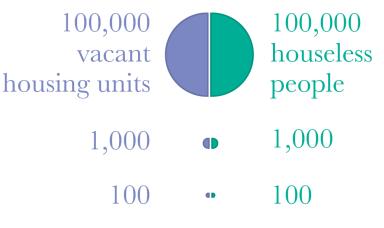
Circles and shading The circles compare the number of vacancies (**left-side**) to the number of houseless people (**right-side**).

All Vacant Housing Units collected by the Census Bureau by City (ACS 2014–2018)

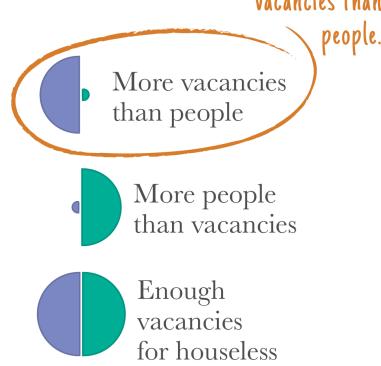


Total Houseless People based on PIT Counts by City (2019)

Size Circle size is proportional to the number of vacant housing units and the number of houseless people.



Scenarios



A closer look at the data

25 cities were chosen for this map based on 2019 Point-in-Time (PIT) homeless population estimates from the U.S. Department of Housing and Urban Development (HUD). Cities with * are collected at the county level, not city level.

Circles and shading The circles compare the number of vacancies (**left-side**) to the number of houseless people (**right-side**).

All Vacant Housing Units collected by the Census Bureau by City (ACS 2014–2018)

Total Houseless People based on PIT Counts by City (2019)

Size Circle size is proportional to the number of vacant housing units and the number of houseless people.

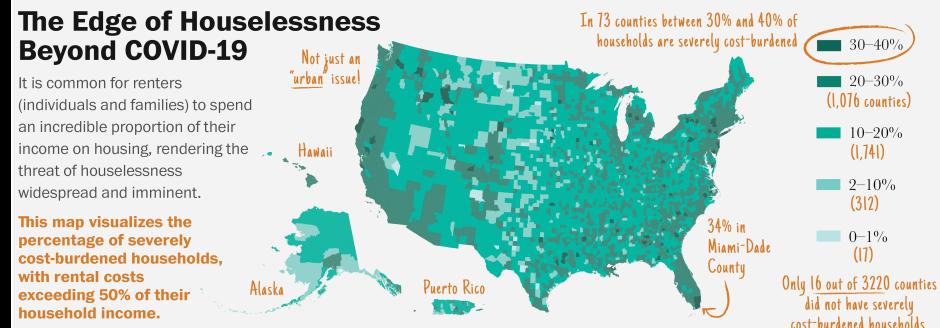


The Edge of Houselessness Beyond COVID-19

It is common for renters (individuals and families) to spend an incredible proportion of their income on housing, rendering the threat of homelessness widespread and imminent.

This map visualizes the percentage of severely cost-burdened households, with rental costs exceeding 50% of their household income.

Data: Based on housing units in American Community Survey (ACS) 2014–2018, 5-year estimates.



The longer answer:

This map compares vacant housing units and houseless people on a one-to-one basis. However, according to the 2019 Census data, the average household had 2.52 people. This means that each vacant housing unit could likely shelter more than one person—increasing potential housing capacity and reiterating that there is more than enough housing for those in need of shelter.

Houseless Activism

Houseless or formerly houseless individuals and families have long been at the forefront of organizing for access to safe, affordable housing. Here we highlight the work of activists in two cities that members of our collective collaborate with.

Denver: Reclaiming Houseless Data



Photo by Luke Leavitt, "City of Denver displacing an encampment."³

Data is political. From criminalization, vacancy, to public health, homeless advocates across the country are producing data to dispel homeless myths and fight for rights and dignity.

Denver Homeless Out Loud (DHOL) members helm research projects to understand the effects of anti-homeless law. By surveying folks living on the streets, DHOL has shown that Denver's notorious camping ban increases vulnerability, sleeplessness, and property loss. Criminalization, in short, is an inappropriate and violent solution to Denver's housing crisis. This became even more apparent during the outset of the COVID-19 pandemic. As the city continued to uproot homeless communities instead of housing them, **Denver's Party for Socialism and Liberation** identified ten luxury buildings with enough vacancies to house over 1,200 people—more than Denver's entire maxed out shelter system, where COVID-19 has been infecting numerous individuals.

To learn more, visit denverhomelessoutloud.org and psiweb.org.

Philadelphia: Occupying Vacant Properties



Photo by Elsa Noterman in Philadelphia. "I am a home [to] live in."

As many cities confront affordable housing "crises," one tactic activists use is to take over publicly and privately owned unoccupied properties. For over 30 years, members of **Philadelphia's Poor People's Economic Human Rights Campaign (PPEHRC)** have been taking over government-owned "vacant" properties as "human rights houses" for those in need of shelter, framing housing as a universal human right. These takeovers highlight that there are more than enough houses to shelter the houseless. As put by PPEHRC co-founder Cheri Honkala, it is a matter of prioritizing "lives over luxury." In Summer 2020, **Philadelphia Housing Action**, a coalition of racial justice and housing activists occupied 15 city-owned homes and organized an encampment to protest the city's lack of affordable housing. As a result, the City of Philadelphia agreed to turn over 50 vacant city-owned homes for affordable housing.

See poorpeoplesarmy.com and philadelphiahousingaction.info.

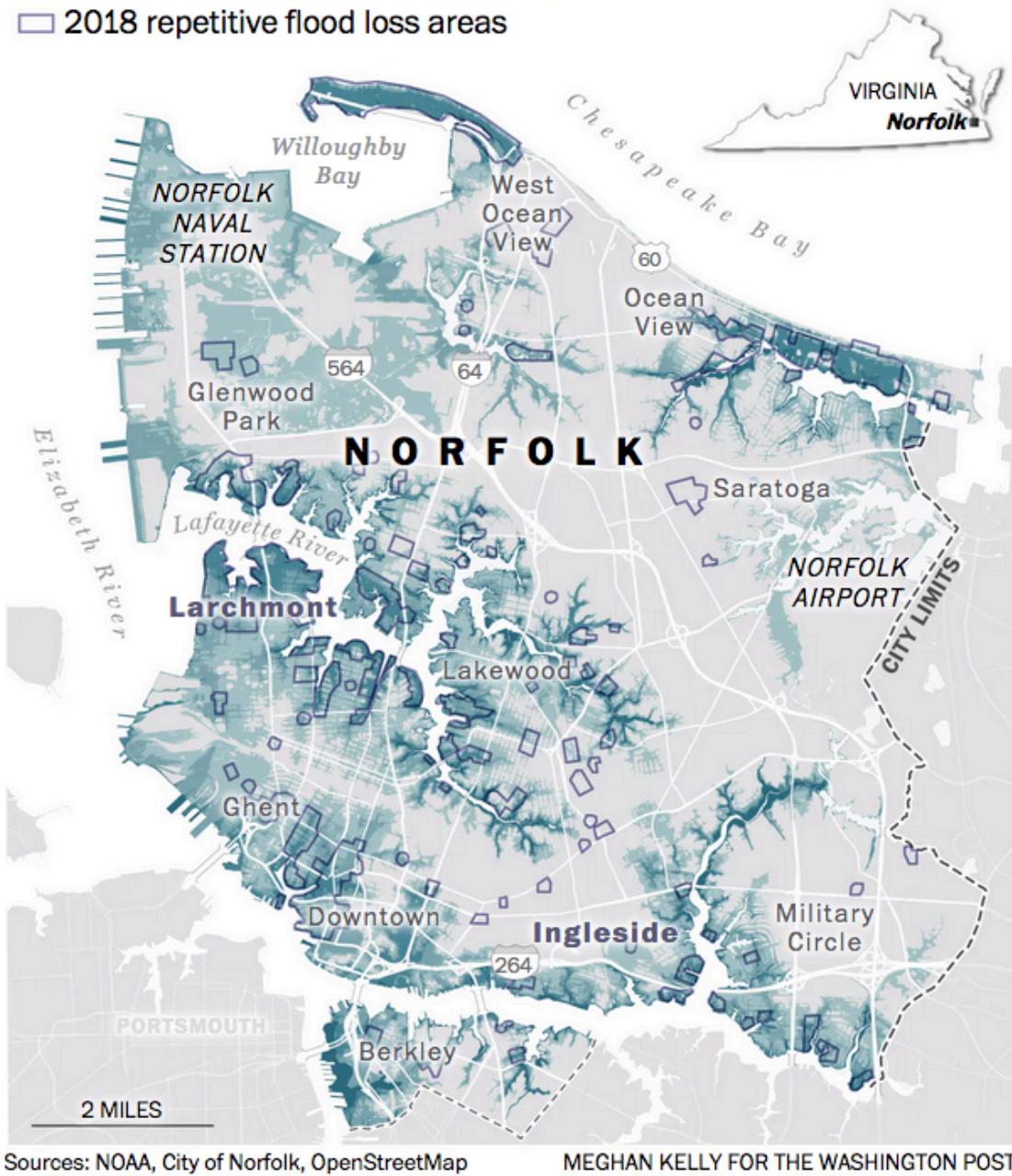
Created by: Feminist Mapping Collective, including: Elsa Noterman, Luke Leavitt, Meghan Kelly, Alicia Iverson, Kela Caldwell, and Kallista Bley

Special thanks to: Cheri Honkala (PPEHRC), Terese Howard (DHOL), Kate Riott (DHOL), Benjamin Dunning (DHOL)



Projected rise in sea level for 2100

■ 2 feet rise ■ 4 feet ■ 7 feet ■ 9 feet
□ 2018 repetitive flood loss areas



1. Power

2. Context and Situated Knowledge

3. Pluralism

4. Uncertainty

5. Emotion and Embodiment

6. Binaries and Hierarchies

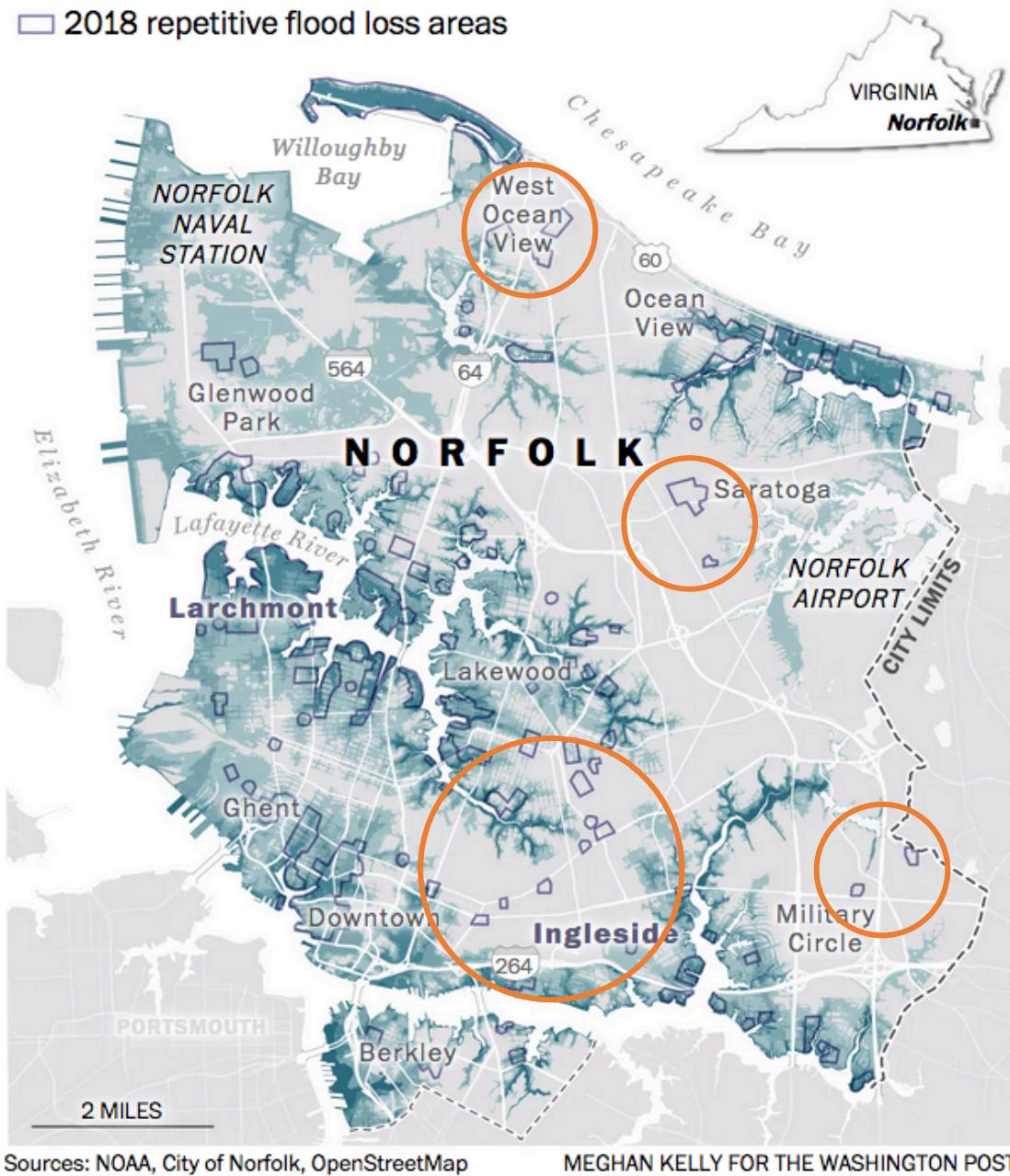
7. Labor and Reflexivity

Kelly (2020) *Washington Post*



Projected rise in sea level for 2100

■ 2 feet rise ■ 4 feet ■ 7 feet ■ 9 feet
□ 2018 repetitive flood loss areas



1. Power

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Kelly (2020) *Washington Post*



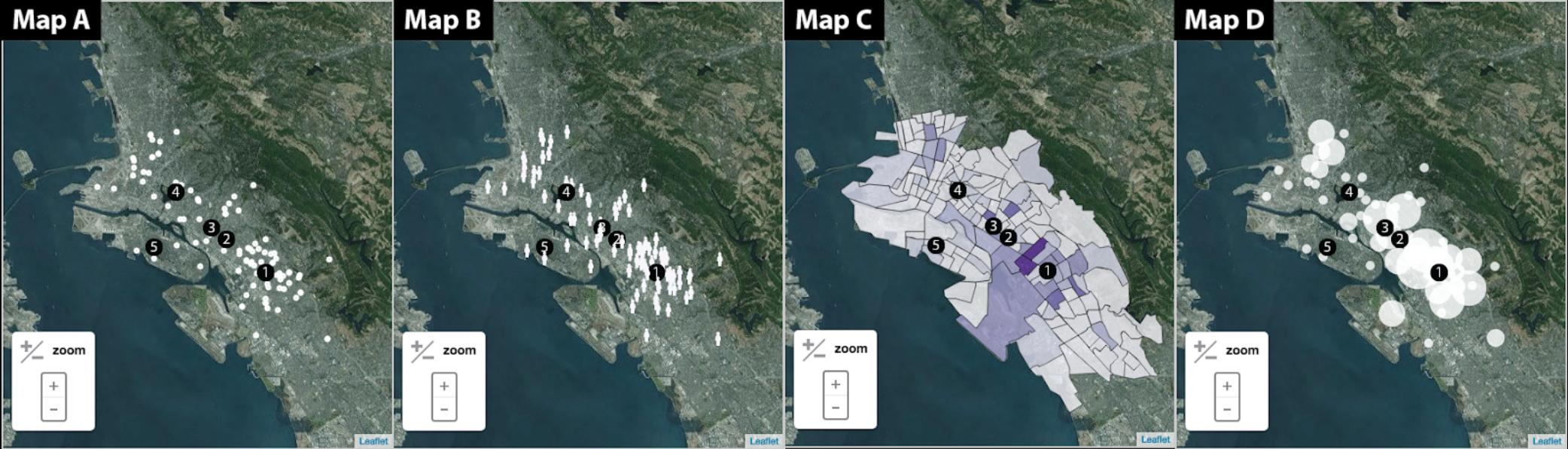
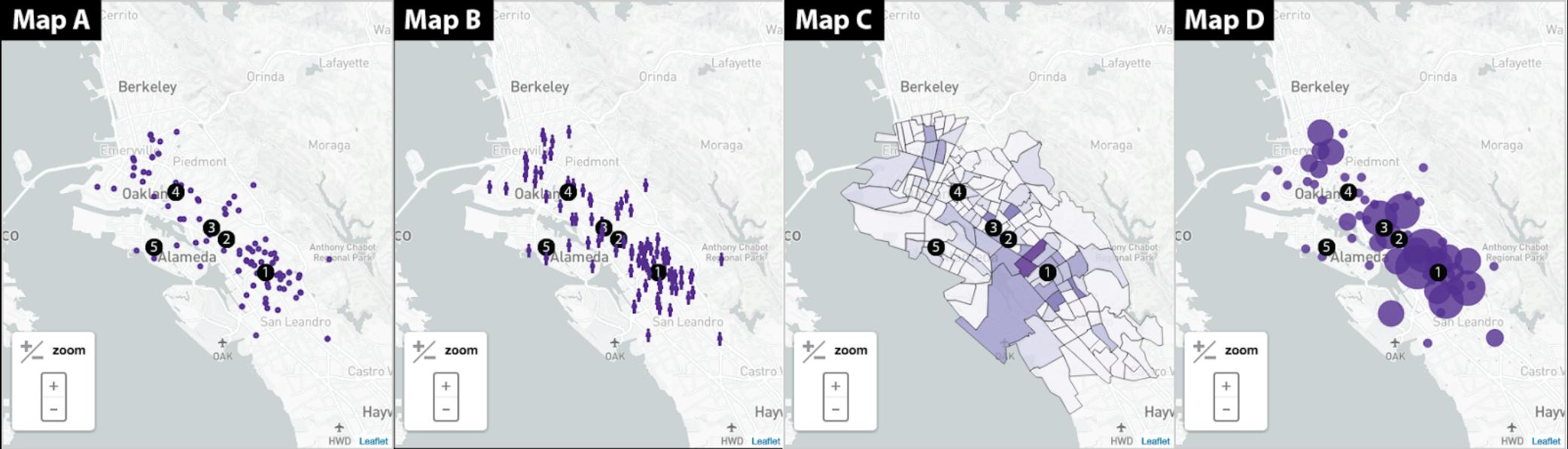
2. Mapping Risk

Assessing Feminist Mapping Methods

Case Studies

1. MapStudy: Humanizing Interactive Maps
2. MapStudy: Interactive & Multiscale Thematic Maps





2. Mapping Risk

Publications

Kelly et al. (forthcoming) *Guerrilla Cartography*

"Can We House the Houseless?"

Kelly (2020) *Washington Post*

"Projected Rise in Sea Level for 2100"

Kelly et al. (in preparation) *CaGIS*

"Humanizing Interactive Maps"

Roth et al. (in preparation) IEEE

"Interactive & Multiscale Thematic Maps"



2. Mapping Risk

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Kelly et al. (in preparation) *CaGIS*

"Humanizing Interactive Maps"

Roth et al. (in preparation) IEEE

"Interactive & Multiscale Thematic Maps"

Future work

Risk and Feminist Mapping

Collaborative Design Challenges

Assessing Feminist Mapping

Outlets

Geomatics; Natural Hazards; Risk;

Geographical Information Science

Funding ESRC



3. Pedagogical Strategies

Workshops

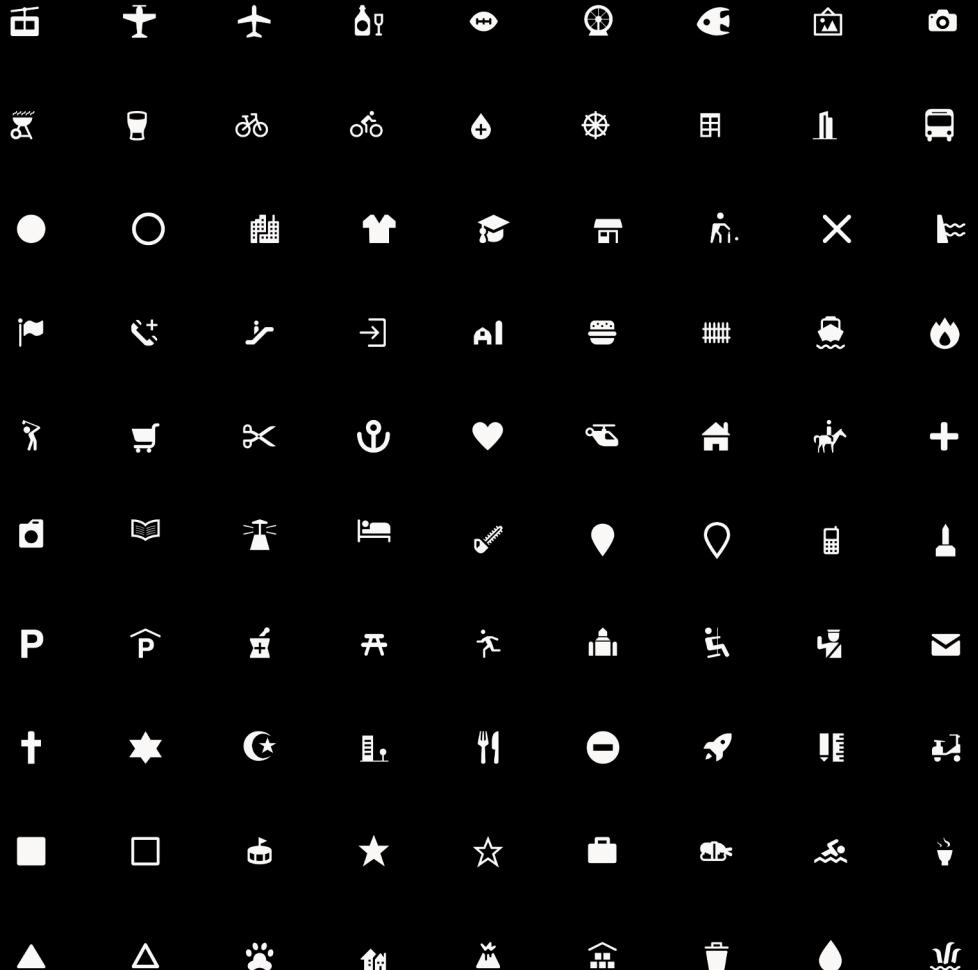
Feminist Icon Design Workshop (n=9, 5–162 people)

Design Challenge Workshop (n=5, 25–32 people)

Maps and Visual Storytelling (n=1, 5 people)



3. Pedagogical Strategies



1. Power

2. Context and Situated Knowledge

3. Pluralism

4. Uncertainty

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Kelly (2021) *GeoHumanities*

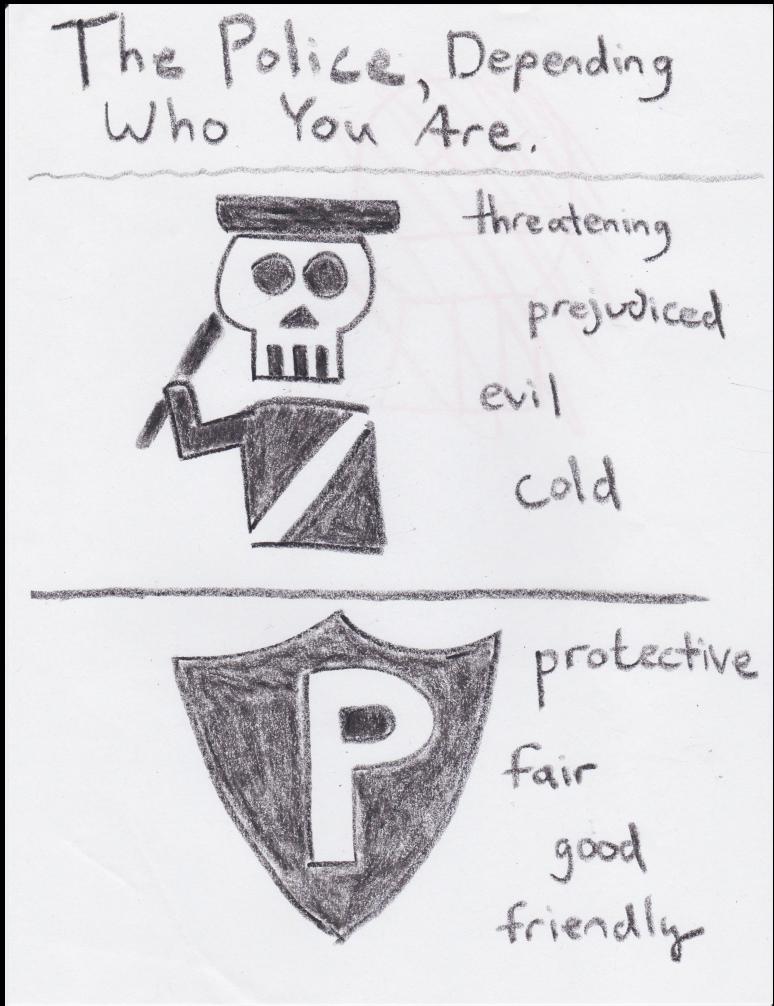
Kelly (2021) *Routledge Handbook*



3. Pedagogical Strategies

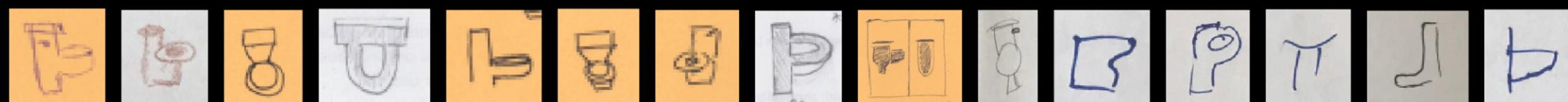


Original
police
icon



- 1. Power**
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- 3. Pluralism**
- 4. Uncertainty**
- 5. Emotion and Embodiment**
- 6. Binaries and Hierarchies**
- 7. Labor and Reflexivity**





3. Pedagogical Strategies

Teaching

Our Digital Globe, 80–250 students

Intro to Cartography, 18–30 students

Advanced Cartography, 19 students

Curriculum Development

Cartography Lab

Mentorship Experience

EDI Experience



3. Pedagogical Strategies

Recognition

Teaching Fellow Award (2018) UW-Madison

An award for classroom Innovation

Publications

Online Teaching and Workshop Materials

Bley et al. (under review) *GeoHumanities*

“A Design Challenge for Transforming Justice”

Kelly (in preparation) *GeoHumanities*

“A Design Challenge Toward Abolition”

DARTMOUTH



3. Pedagogical Strategies

Recognition

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Kelly (in preparation) *GeoHumanities*

“A Design Challenge Toward Abolition”

Future work

Mapping workshops as method

Curriculum development

Decolonizing the curriculum

Training

Fellow of the Higher Education Academy



Three-Year Plan

Feminist Mapping

Book project proposal (Year 3)
Feminist mapping as method
Feminist mapping and borders
Feminist mapping and abolition

Outlets

Annals; The Geographical Journal;
Gender, Place and Culture; The
Professional Geographer;
GeoHumanities; ACME

Funding ESRC and Leverhulme

Mapping Risk

Risk and Feminist Mapping
Assessing Feminist Mapping

Outlets

Geomatics, Natural Hazards, and
Risk; Geographical Information
Science; IEEE

Funding

ESRC

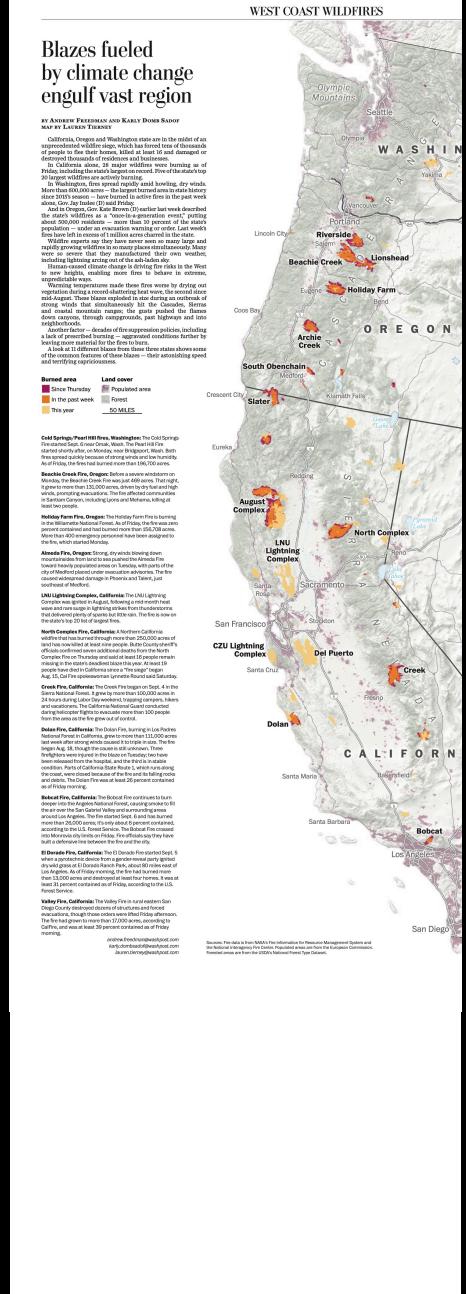
Pedagogy

Mapping Workshops as Method
Curriculum Development
Decolonizing the Curriculum

Training

Fellow of the Higher Education
Academy
UCGIS TRELIS





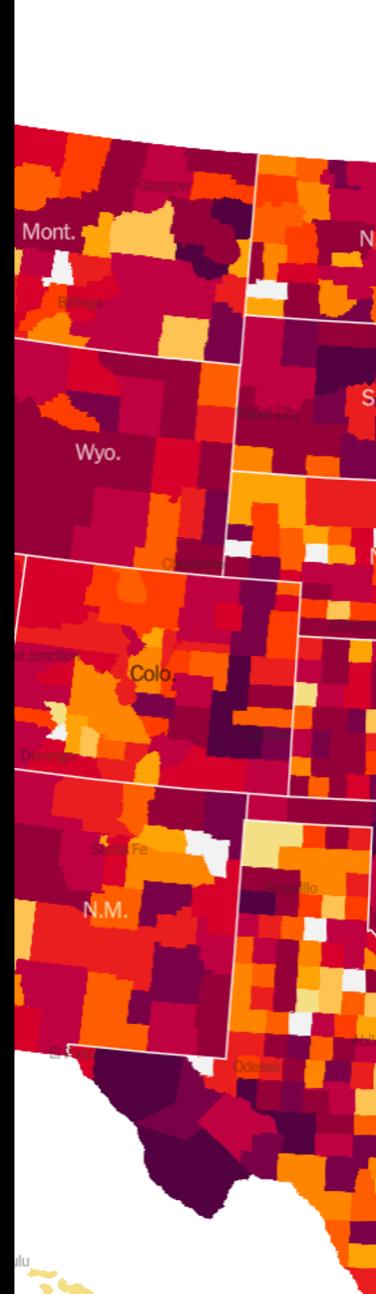
Climate change and fires

Washington Post

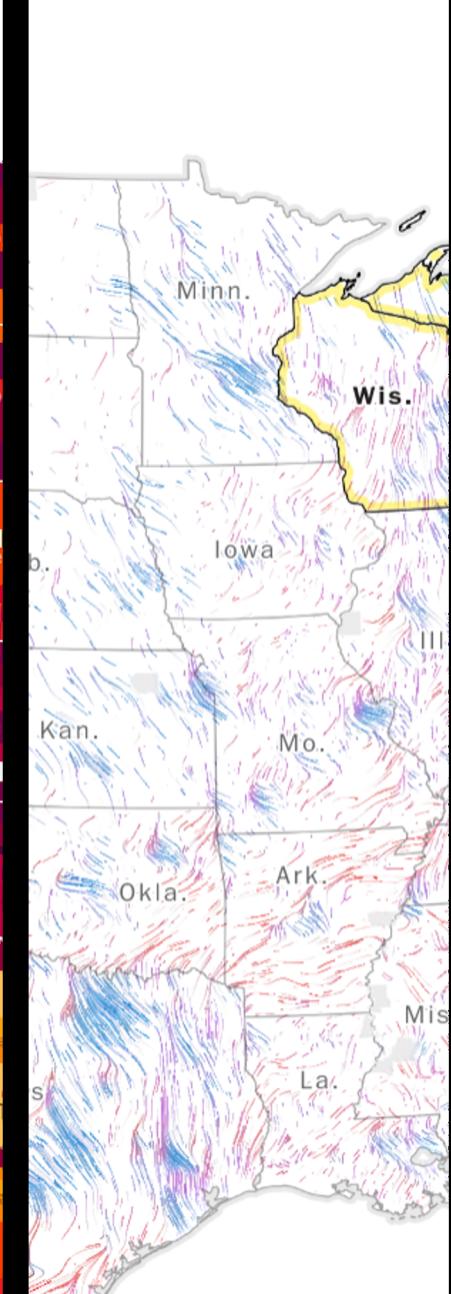


Land-Grab Universities

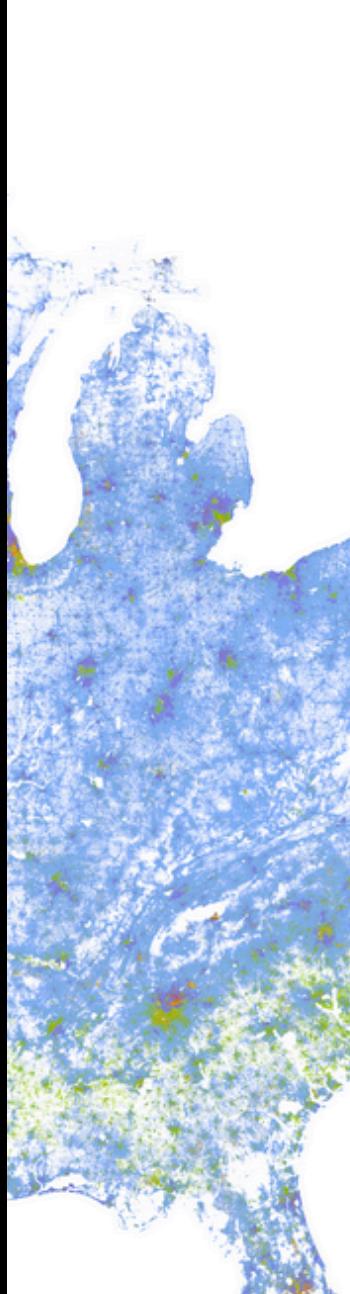
High Country News



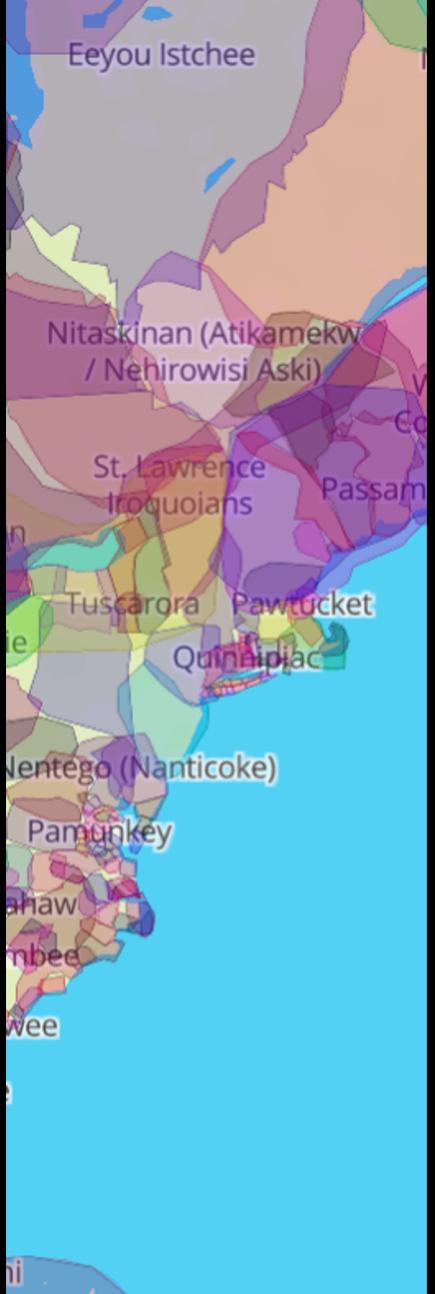
COVID-19 Daily Case
New York Times



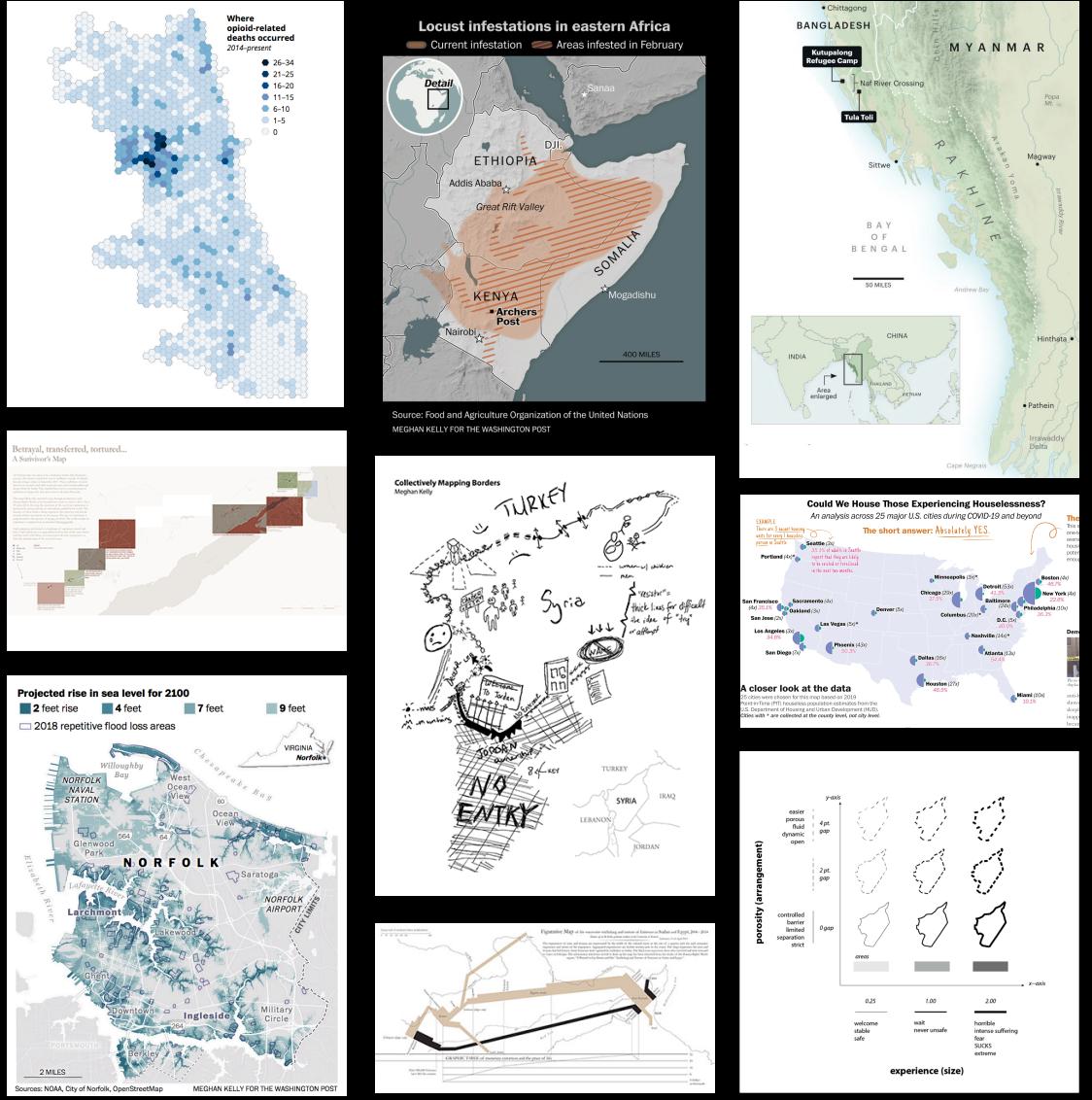
2020 Election
Washington Post



White supremacy and racial injustice *U of Virginia*



Land occupation
Native Land Digital

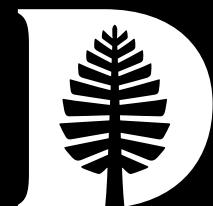


Thank you!

Mapping Risk

Feminist Mapping and Digital Storytelling

Dr. Meghan Kelly (she/her)



DARTMOUTH