



CONVERGE

*ethical, coordinated, and scientifically rigorous
social science, engineering, and interdisciplinary
extreme events research*

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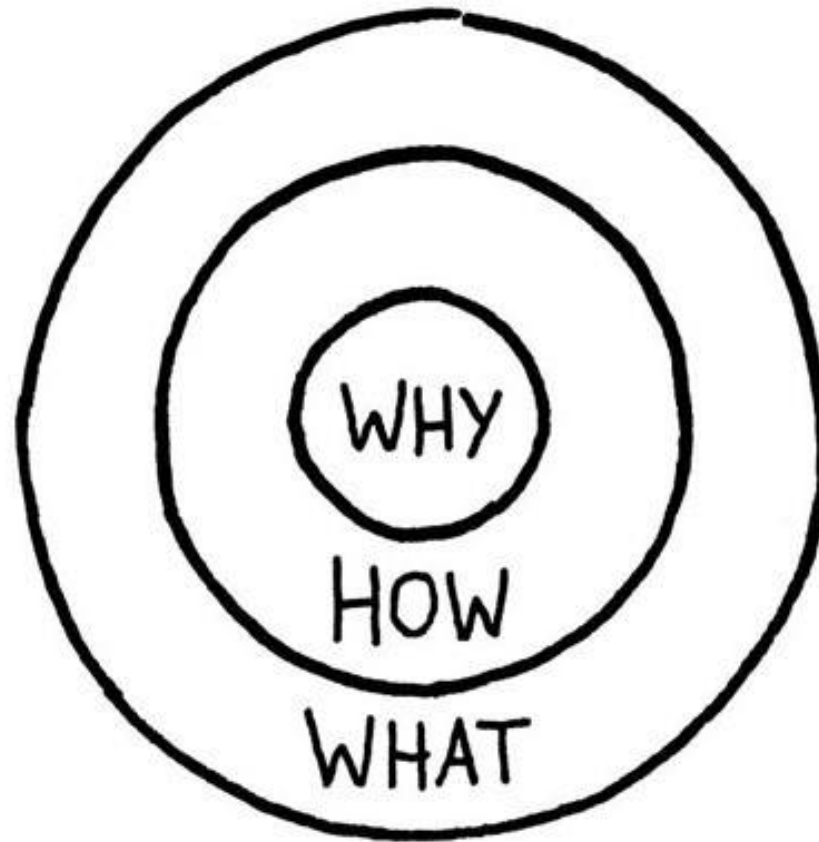


Session 2: Collecting, Managing, and Archiving Social and Behavioral Science Data

Describe opportunities for *identifying and coordinating social science researchers* so that we can best *share information and publish our data as well as data collection protocols* using DOIs, repositories, etc.

Discuss some of the overarching *challenges and concerns* with sharing social science data, such as privacy, data management plans and related IRB policies, duplication vs. replication, etc.

4 Things



1. NSF has funded the CONVERGE initiative



converge.colorado.edu



NHERI 

Why CONVERGE?

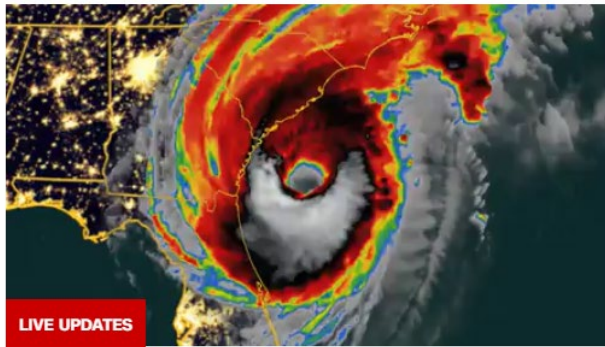


Why CONVERGE?

- *identify* and *coordinate* researchers and research teams;
- *advance* hazards and disaster research;
- *encourage* the publication of data and data collection instruments and protocols (DesignSafe Cyberinfrastructure + CONVERGE).
- *support* and *accelerate* training and mentoring;
- *fund* virtual reconnaissance, field research, and the development of novel research instruments and data collection protocols;
- *accelerate* the development of mobile applications for social science data collection (NHERI RAPID);

Why CONVERGE?

Dorian batters the coast of the Carolinas



About 115,000 people are without power in South Carolina and Georgia as the Category 3 storm moves up the coast

• [Track the storm](#) | [How to help](#) | [CNN's lite site](#)

The wild horses of the Outer Banks won't evacuate. They have a special trick to survive hurricanes

Trump shows apparently altered Dorian trajectory map

Analysis: Where is Trump getting his bogus info about Dorian?

Dorian has strengthened to a Category 3 storm

Bahamas resident: You can smell the death in the air

Hurricane warning issued for South Florida



Conditions in Turks and Caicos deteriorated as deadly Irma continued tracking toward the Sunshine State

Floridians began a mass exodus ahead of Irma

Florida air travel starts to shut down ahead of Irma

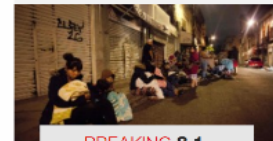
Cameraman almost wiped out by Irma's waves

He filmed Irma destruction as a warning to Florida

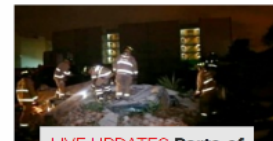
Mother searches, awaits news of her daughters in Barbuda

[Track the storm's path here](#)

Mexico quake



BREAKING 8.1-magnitude quake strikes off southern Mexico coast



LIVE UPDATES Parts of Mexico City without power

News and buzz

Sloane Stephens, Madison Keys reach US Open final **39 m**

NFL star sits for national anthem at kickoff game

College football game canceled due to Irma

After 98-0 loss: "Watch out, we're coming"

Formerly conjoined twins enjoy new life apart

Prince George's first day of school

SpaceX launches mysterious Air Force plane

Source of Jupiter aurora discovered

[Go on to sell \\$175K courthouse seats](#)

Yep, this really happened



Golfers finish round as massive wildfire rages behind them

Mystery of tiger roaming metro Atlanta solved

Student accidentally given \$1M in financial aid

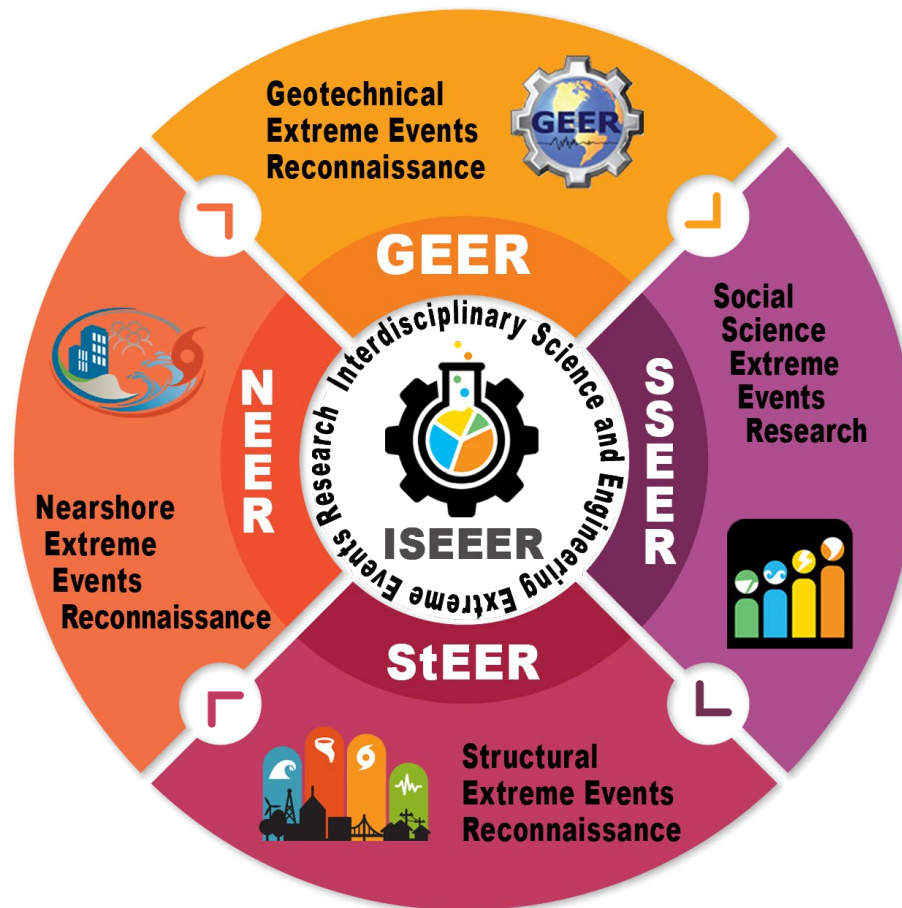
NATURAL
HAZARDS
CENTER



CONVERGE

NHERI

2. NSF Supports Extreme Events Research (EER) Networks



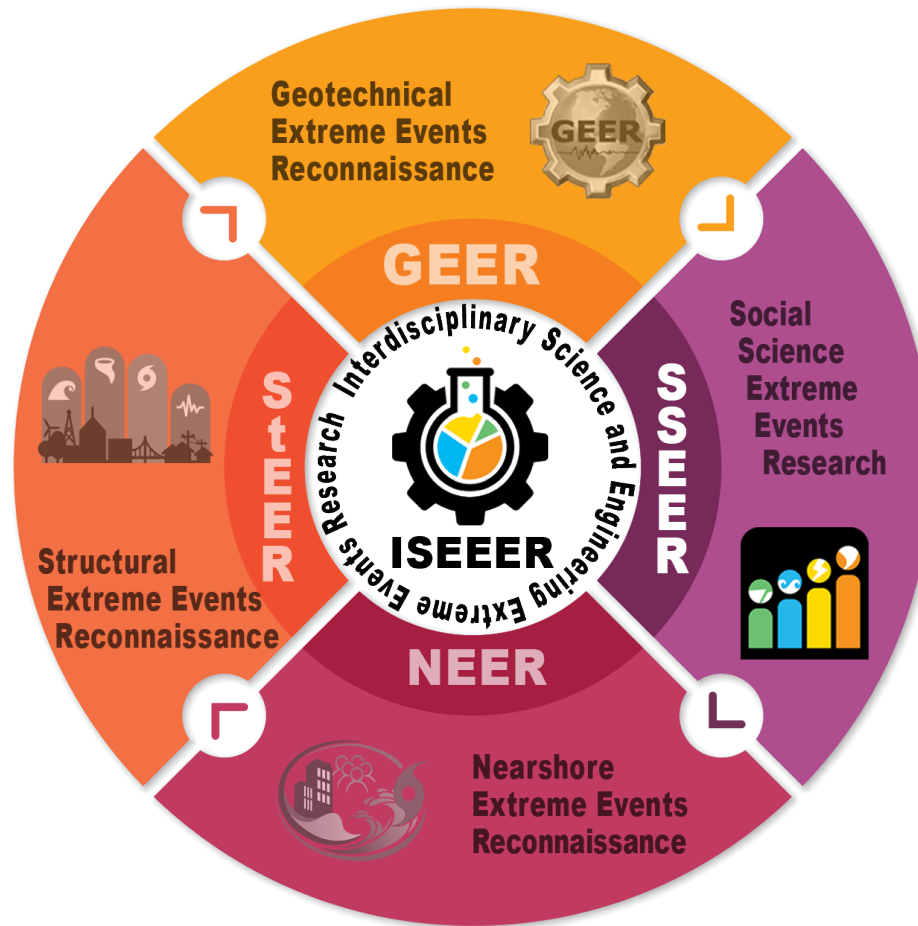
Why the EER's?

Disciplinary *and* Interdisciplinary (*within and between*)

- research coordination
- ethical conduct
- scientific agenda setting
- data sharing and data publication



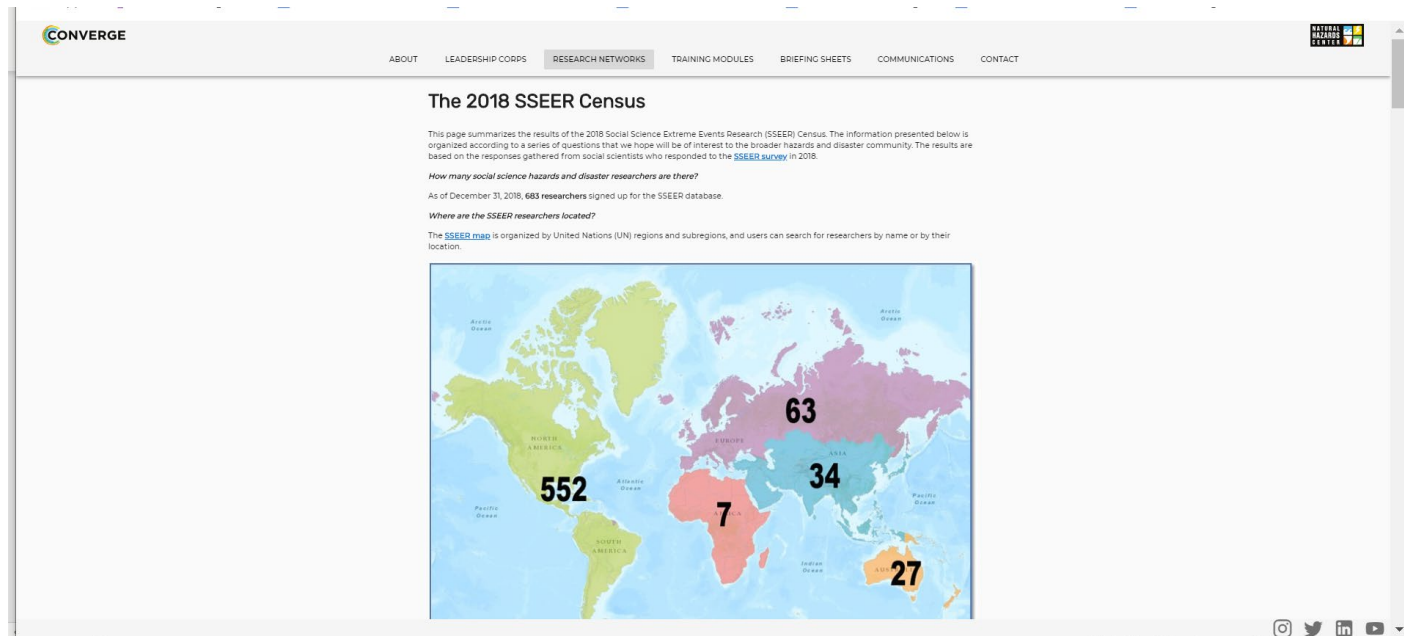
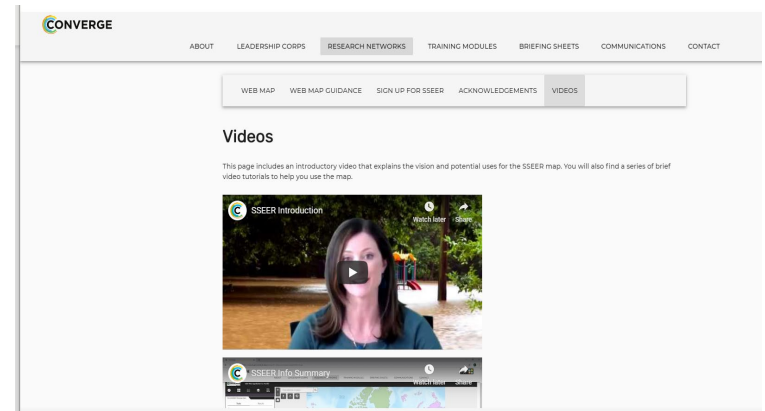
3. SSEER is for Social and Behavioral Scientists (please join!)



Why SSEER?

- A **network** for social and behavioral scientists who study hazards and disasters

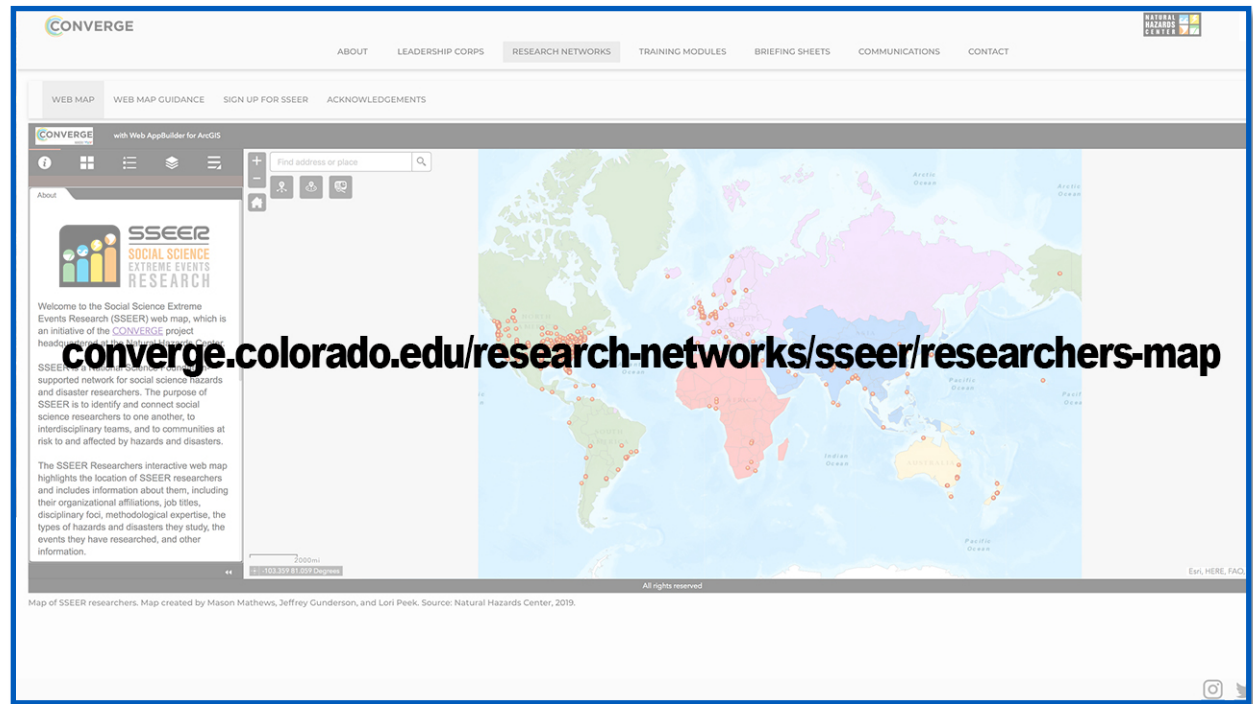
816
researchers



Why SSEER?

- Learn more about diverse social scientists who study hazards and disasters

- discipline
- professional status
- methods
- events
- etc.



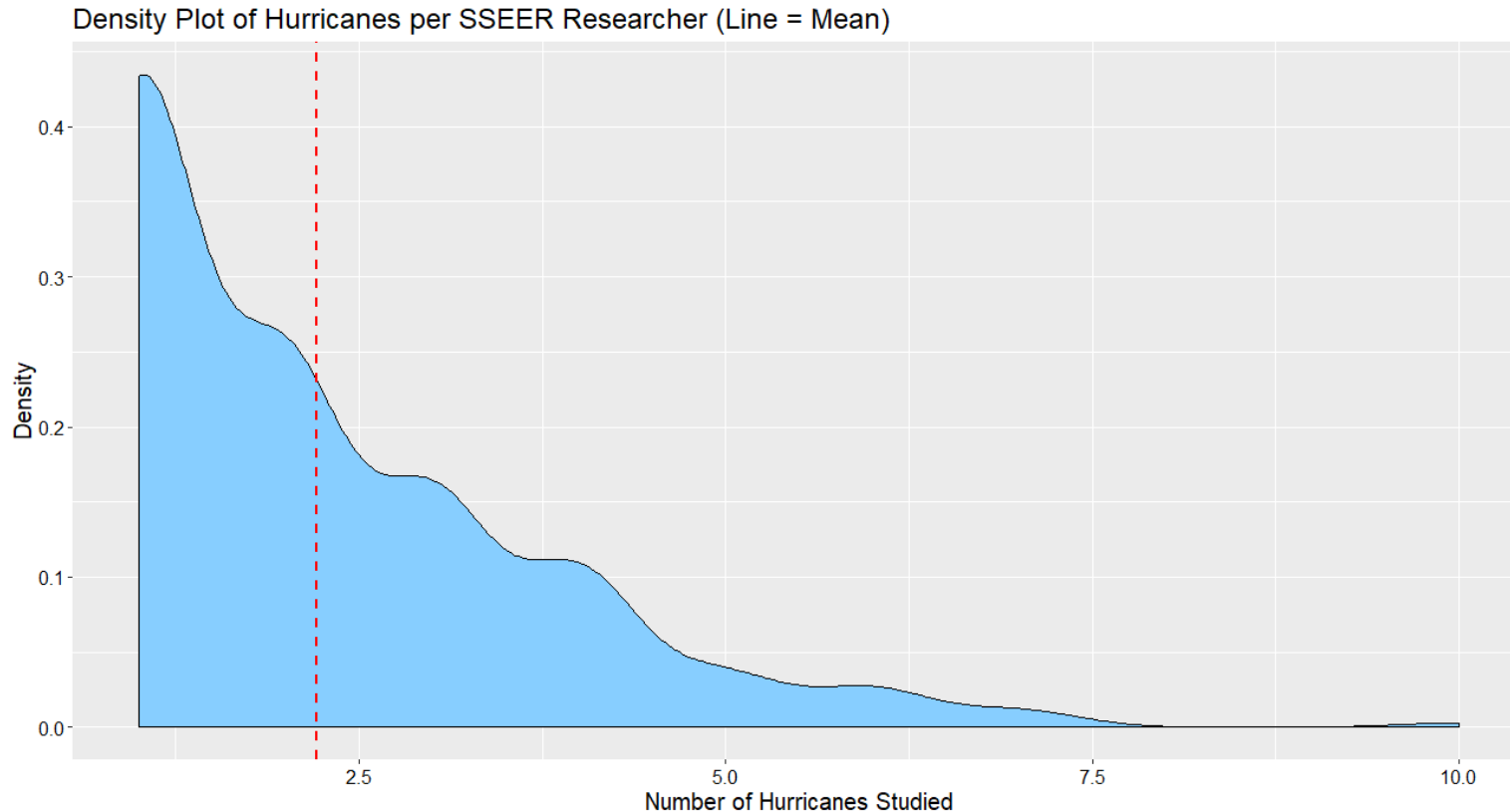


How many SSEER researchers study hurricanes? 349 of 816

What percentage of SSEER researchers study hurricanes? 43%

How many hurricanes did people study on average?

Mean = 2.2, Median = 2, Mode = 1, Stand. Dev. = 1.5, Min = 1, Max = 10

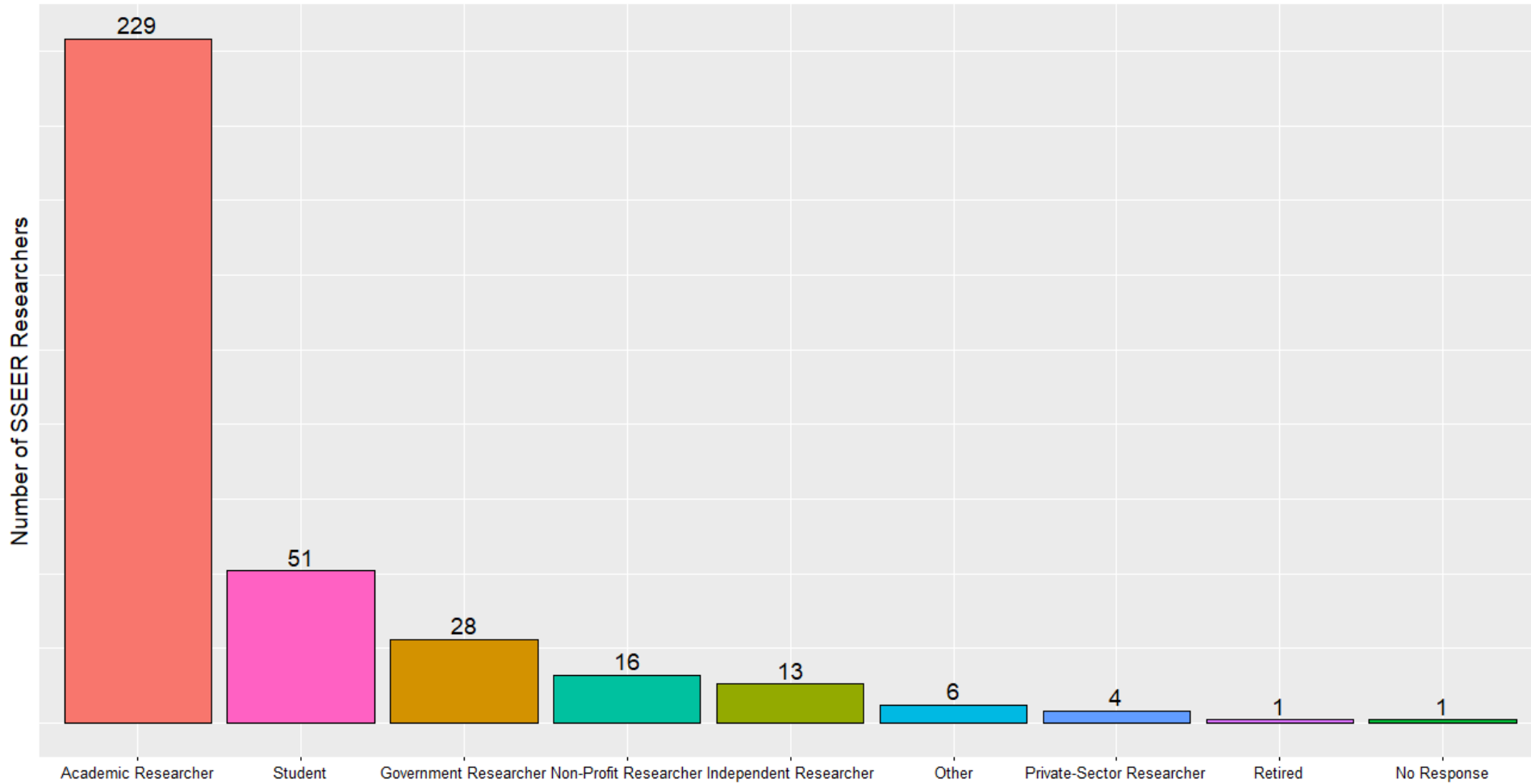


SSEER researchers studied two hurricanes on average.

A few researchers studied up to ten.

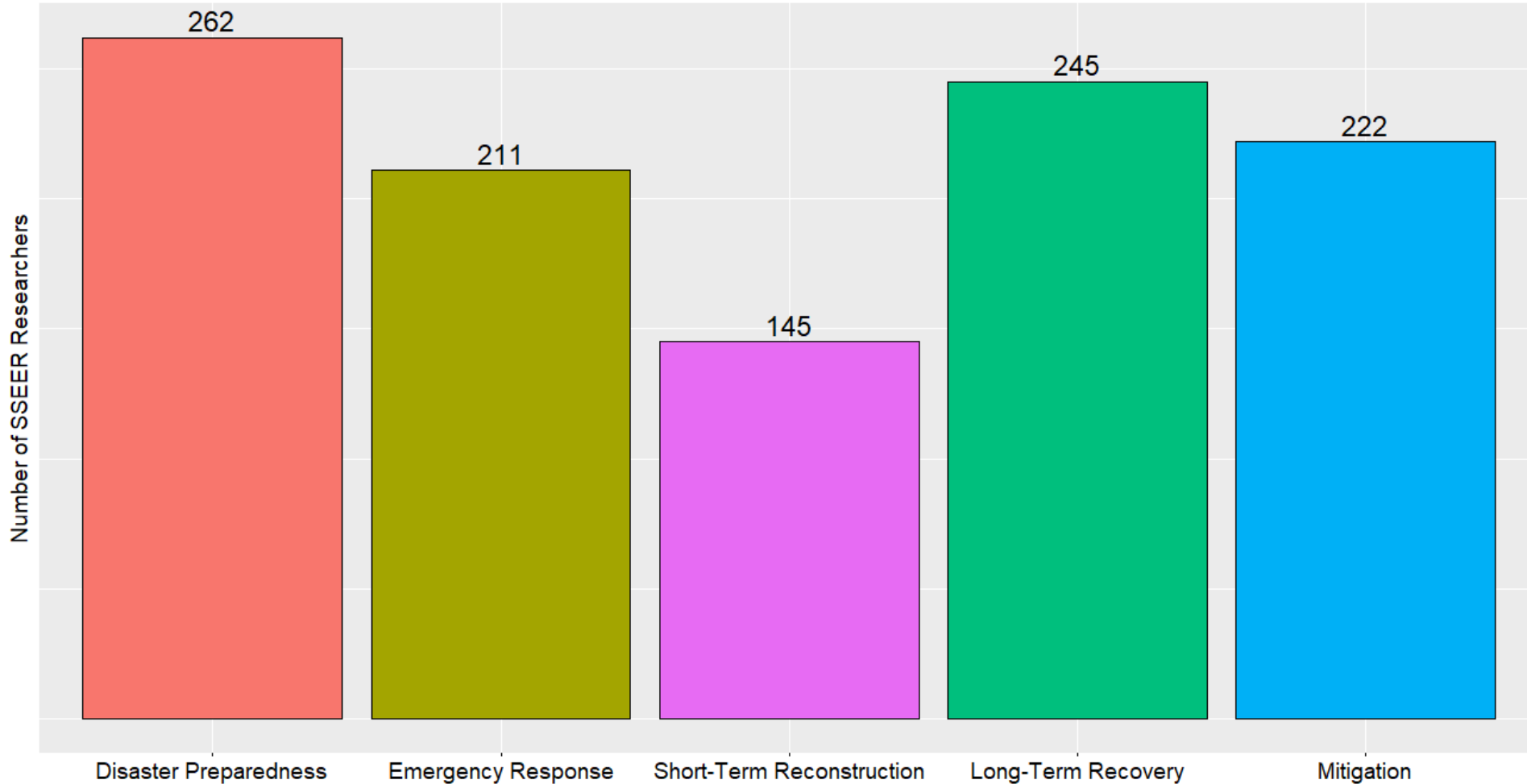
What is the professional status of SSEER researchers who study hurricanes?

Professional Status of SSEER Researchers



Which phases of the disaster cycle do SSEER hurricane researchers study?

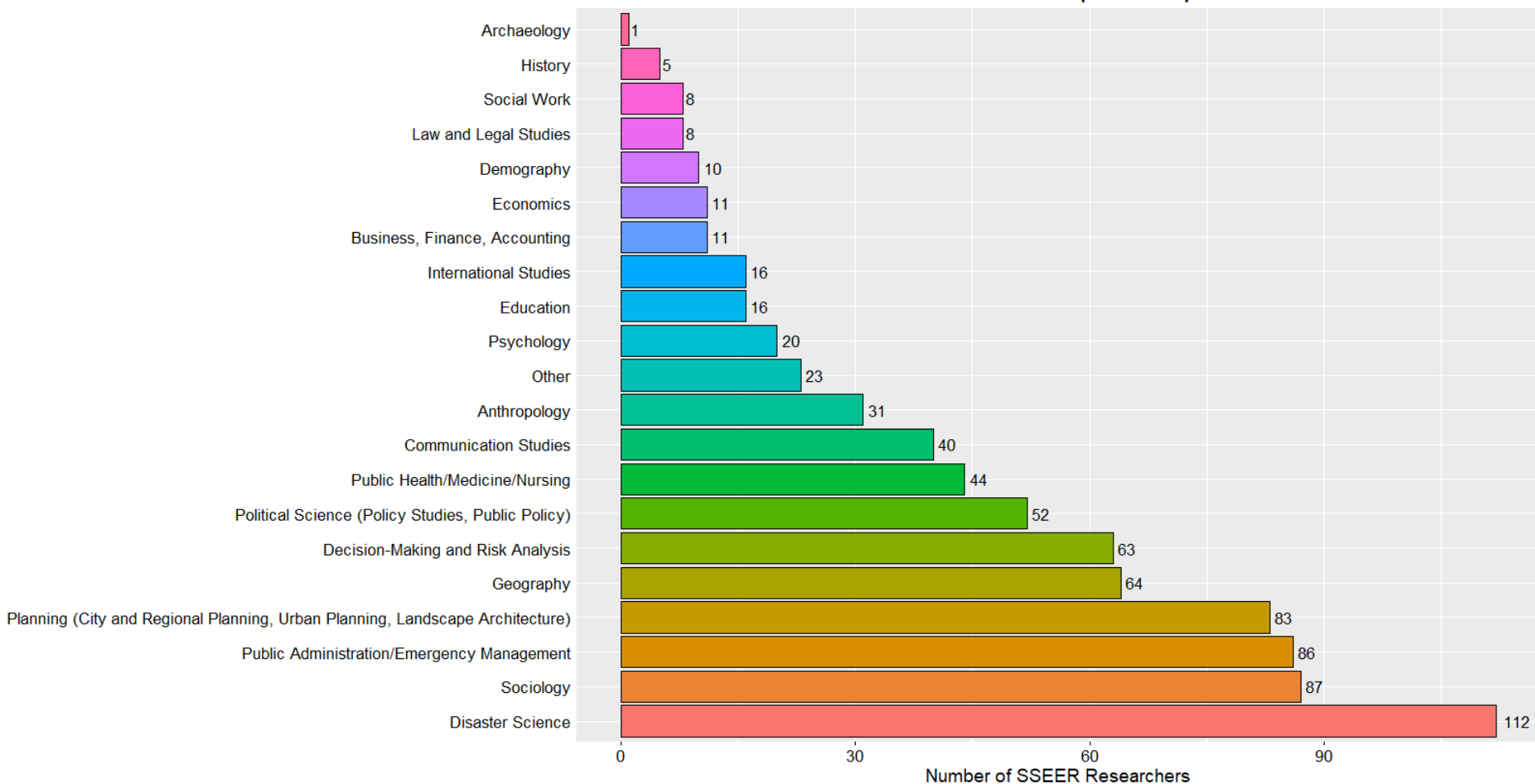
Phases of the Disaster Cycle Studied by SSEER Hurricane Researchers



**most respondents chose multiple phases*

What are the disciplinary backgrounds of the SSEER researchers who study hurricanes?

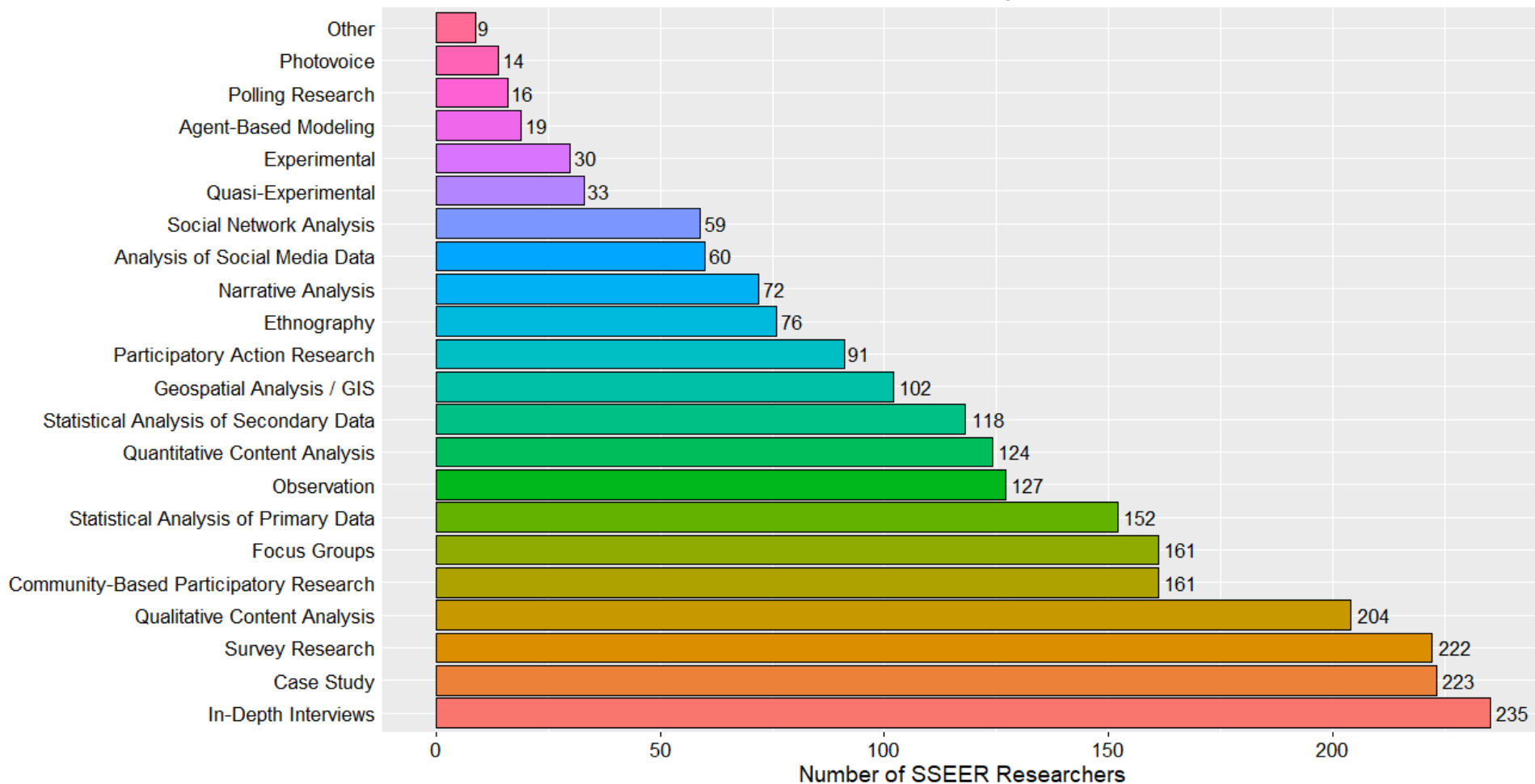
Number of SSEER Hurricane Researchers per Discipline



**respondents often chose more than one discipline*

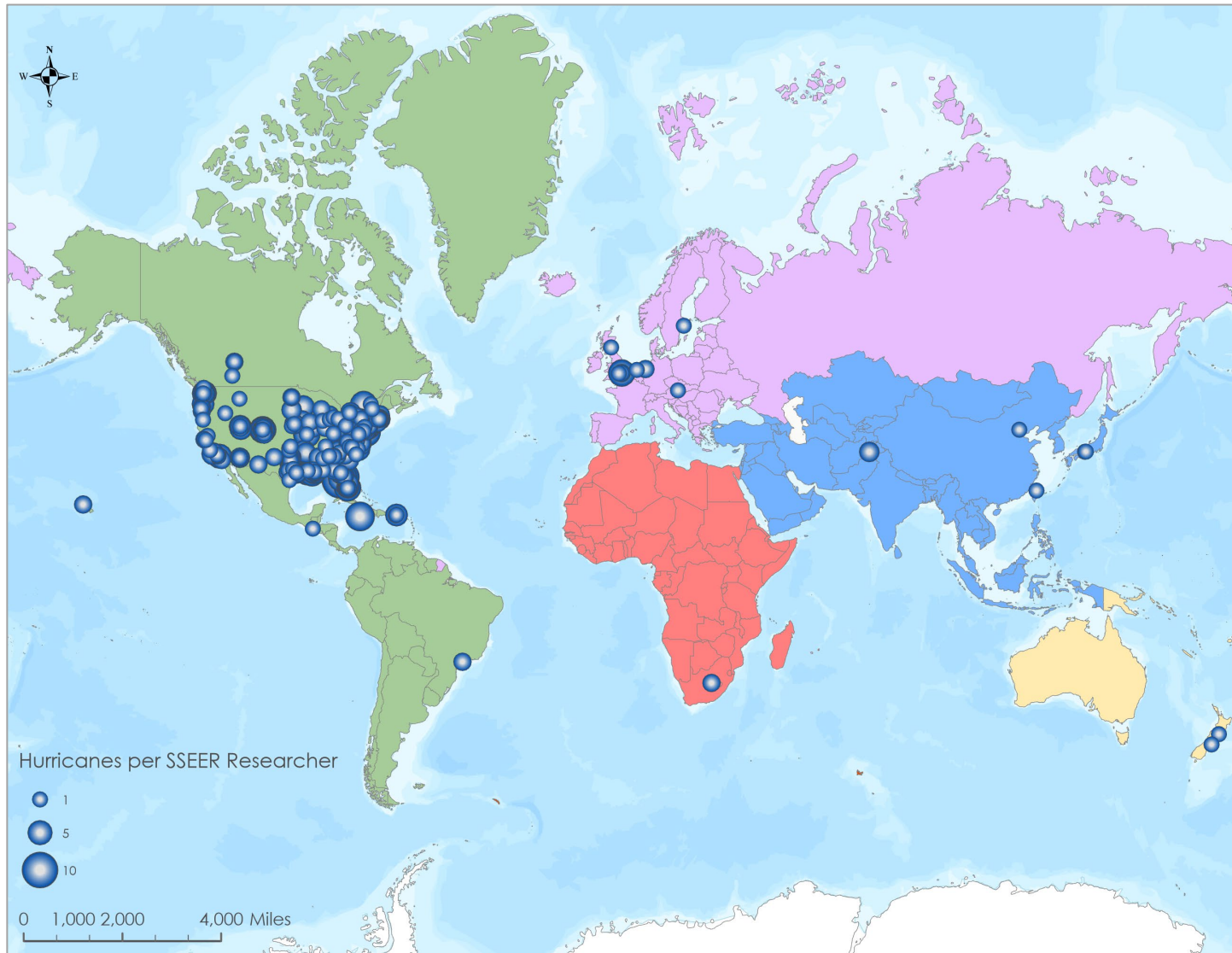
Which methods do the SSEER researchers who study hurricanes use?

Number of SSEER Hurricane Researchers per Method



**researchers chose multiple methods*

Where are the SSEER researchers who study hurricanes?

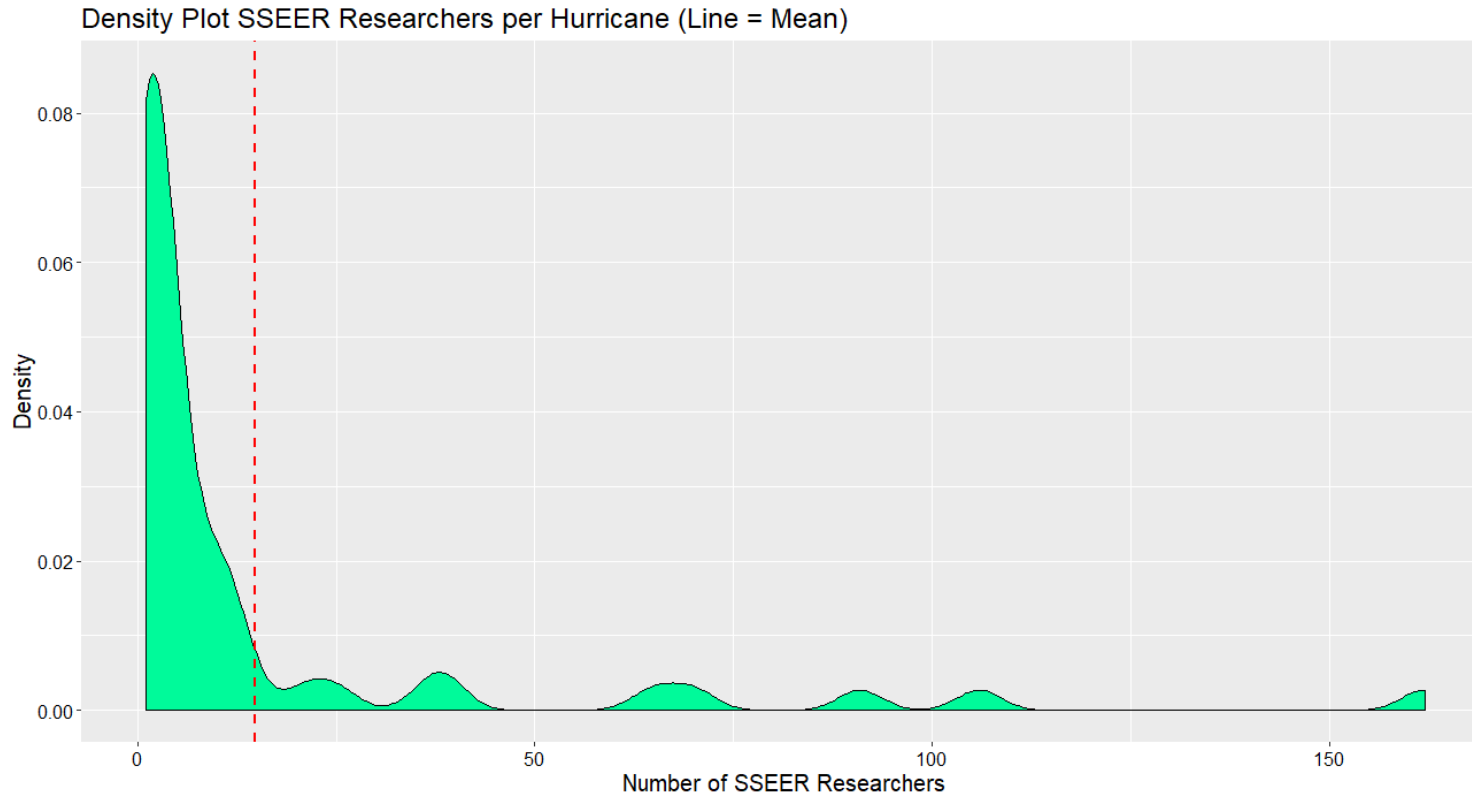


How many hurricanes were studied by SSEER researchers?

52 of the 1,065 (5%) unique disasters studied by SSEER researchers were hurricanes.

How many SSEER researchers per hurricane on average?

Mean = 14.8, Median = 3, Mode = 1, Stand. Dev. = 30.8, Min = 1, Max = 162



Most hurricanes in the data are studied by only a few researchers.

There are a few very popular hurricanes.

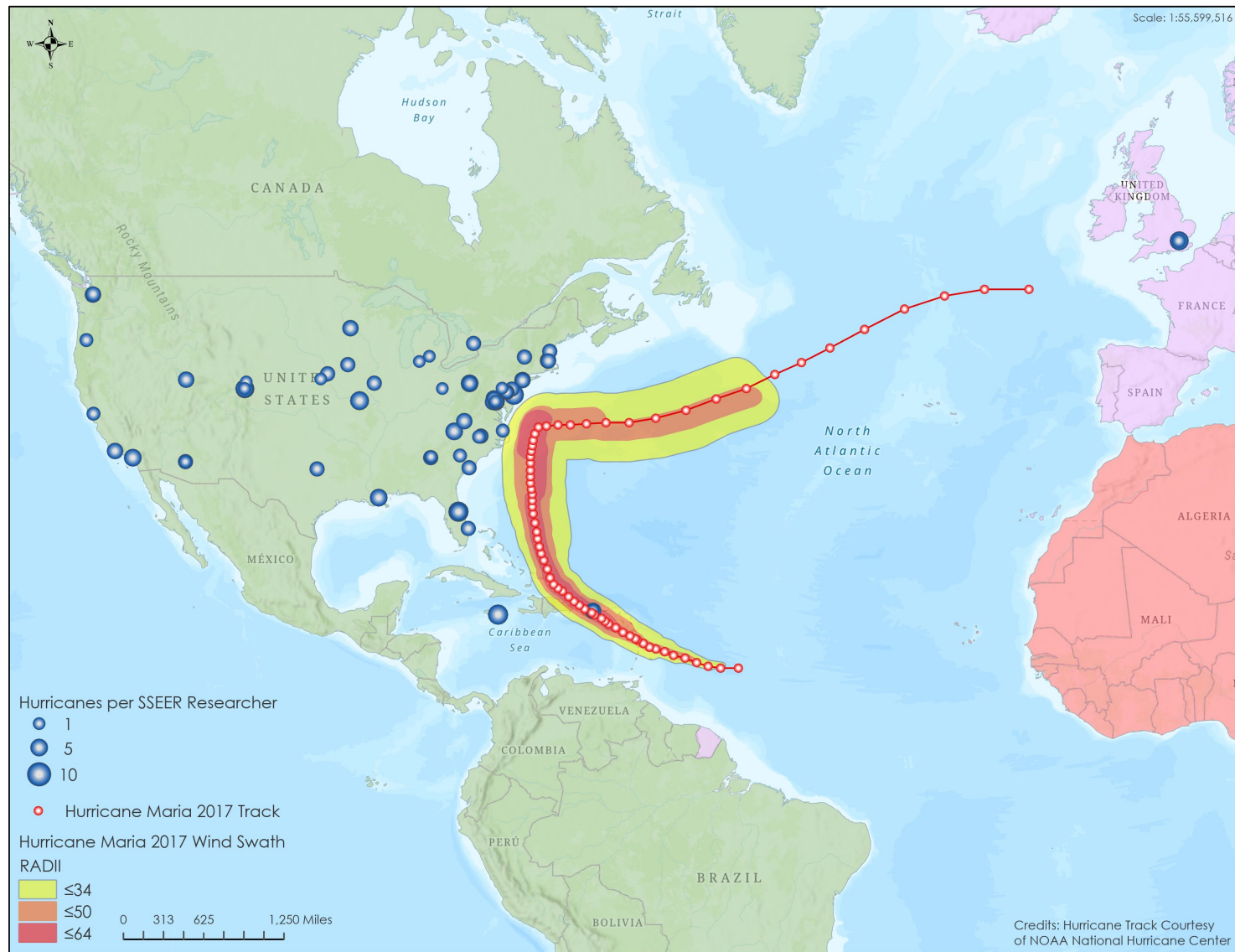
What are the top 20 most studied hurricanes by SSEER researchers?

How many SSEER researchers studied each hurricane?

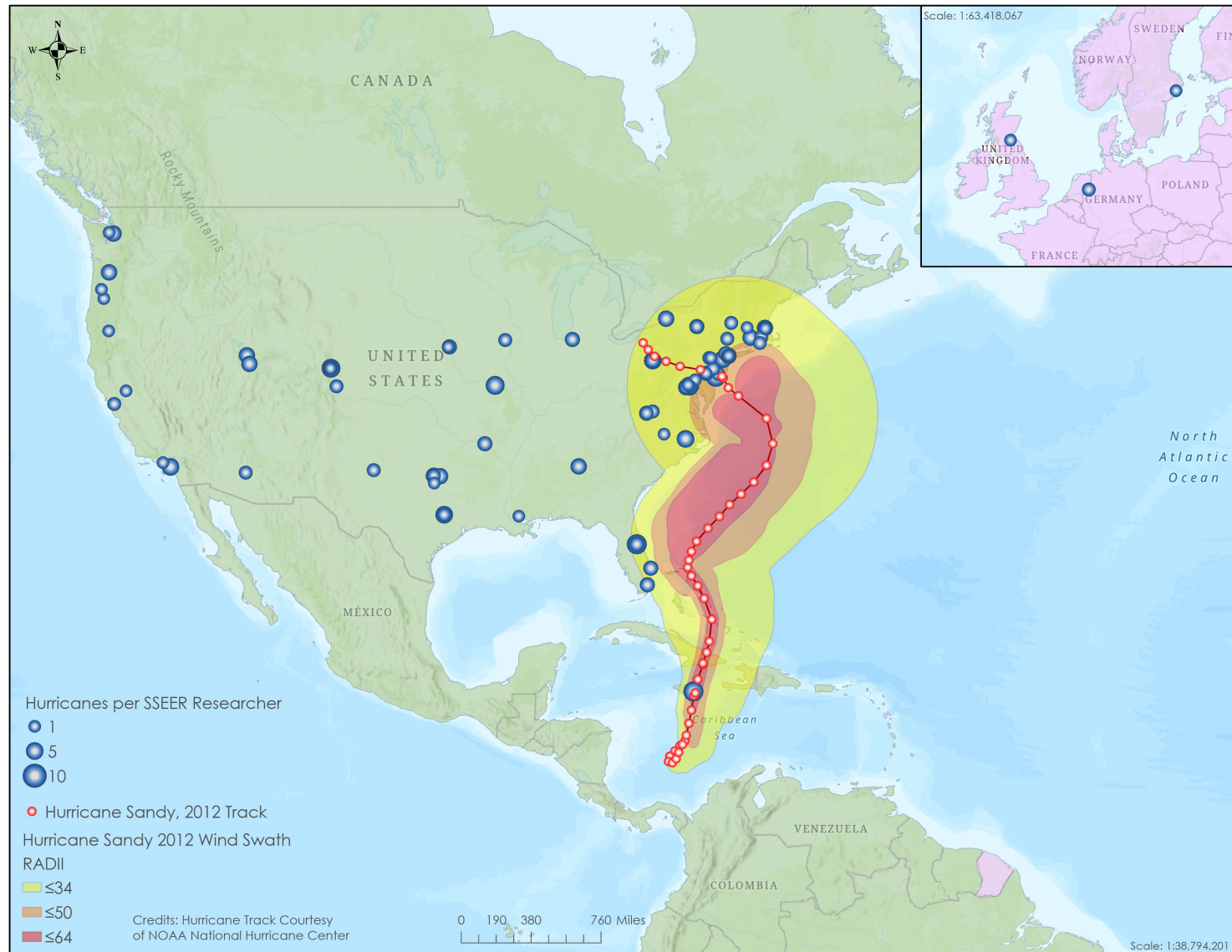
Rank	Hurricane	Number of SSEER Researchers
1	Hurricane Katrina, 2005	162
2	Hurricane Harvey, 2017	106
3	Hurricane Sandy, 2012	91
4	Hurricane Maria, 2017	70
5	Hurricane Irma, 2017	65
6	Hurricane Matthew, 2016	39
7	Hurricane Ike, 2008	37
8	Hurricane Rita, 2005	25
9	Hurricane Florence, 2018	21
10	Hurricane Irene, 2011	13
11	Hurricane Andrew, 1992	12
12	Hurricane Gustav, 2008	11
13	Hurricane Ivan, 2004	11
14	Hurricane Isaac, 2012	10
15	Hurricane Michael, 2018	10
16	Hurricane Mitch, 1998	9
17	Hurricane Hugo, 1989	7
18	Florida Hurricane Season, 2004	5
19	Hurricane Frances, 2004	5
20	Hurricane Georges, 1998	5

Where are the researchers in relation to the hurricanes they study?

Locations of the SSEER researchers who studied Hurricane Maria, 2017



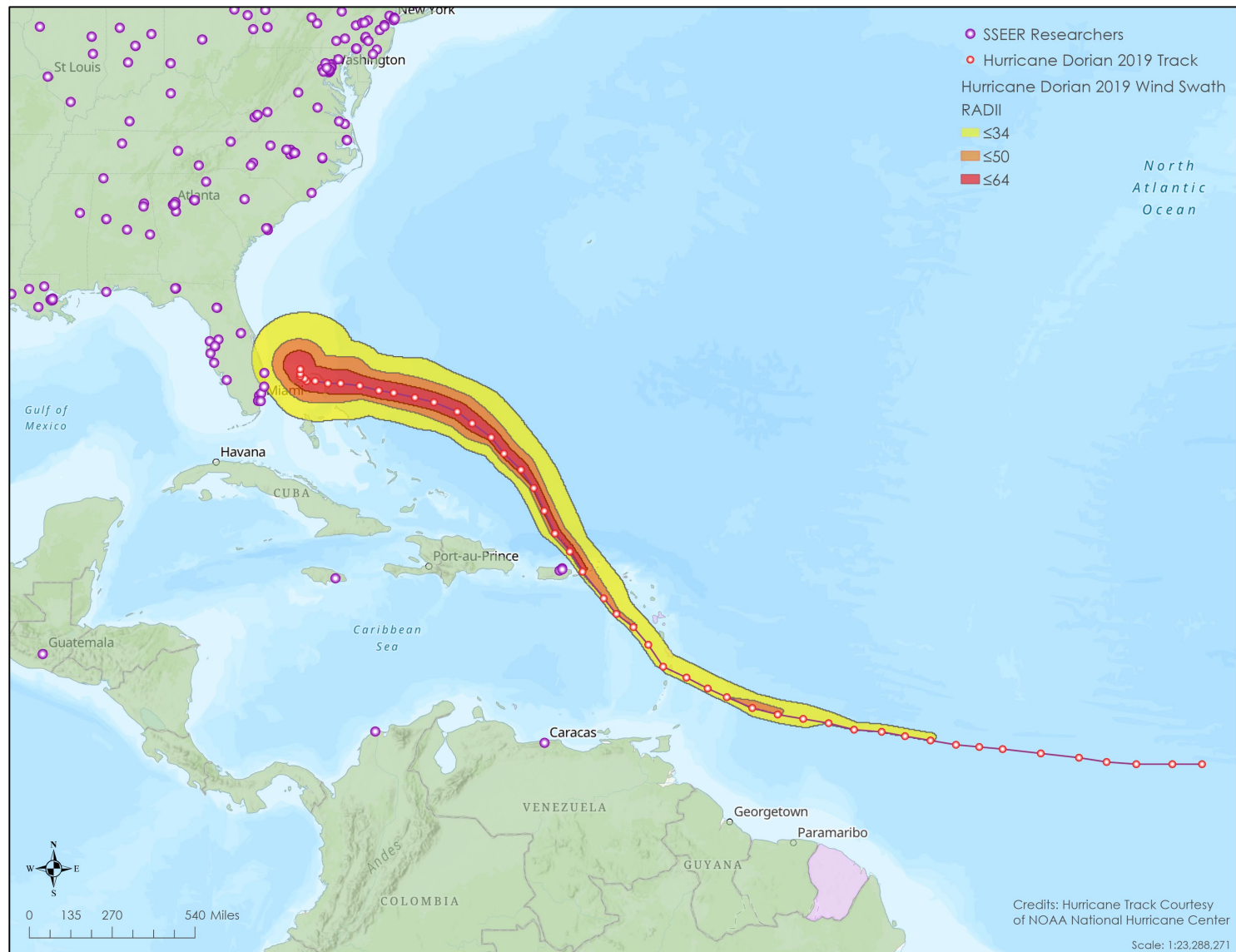
Locations of the SSEER researchers who studied Hurricane Sandy, 2012



SSEER and locally affected hazards and disaster researchers

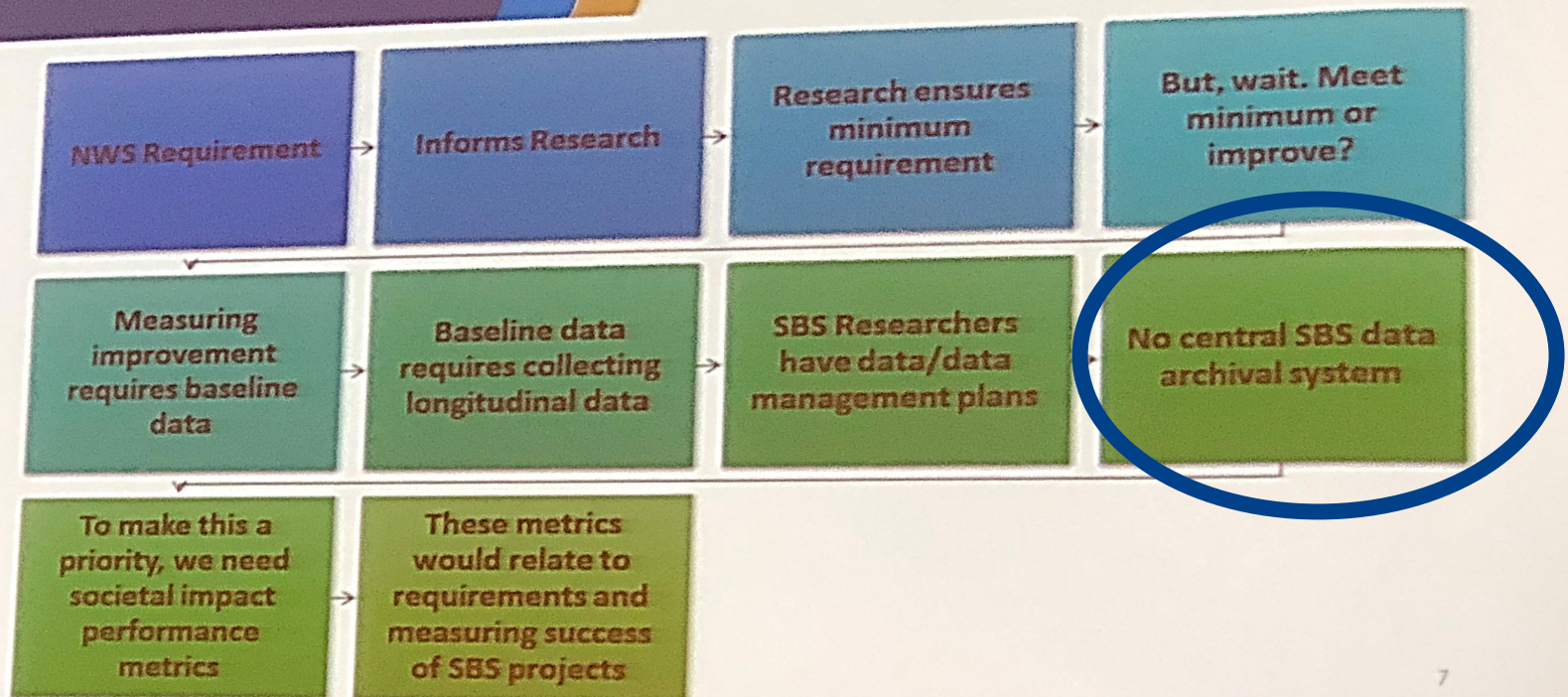
How can the platform be used to identify researchers affected by hazard and disaster events?

SSEER researchers potentially affected by Hurricane Dorian, 2019



4. Data Publication Opportunities

The story went something like this...



4. NSF Supports Cyberinfrastructure for Hazards and Disaster Data Publication!

DESIGNSAFE-CI
NHERI: A NATURAL HAZARDS ENGINEERING RESEARCH INFRASTRUCTURE

Research Workbench | Learning Center | NHERI Facilities | NHERI Community | About | Help | Search DesignSafe

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Your browser is not supported by DesignSafe. Please switch to [Chrome](#) or [Firefox](#) if you experience issues.

DATA DEPOT

Search: peek

PRJ-2289 | GLOBAL ACADEMIC HAZARDS AND DISASTER RESEARCH CENTERS DATA

Author: Peek, Lori; Hines, Emmanuelle; Mathews, Mason; Gunderson, Jeffrey; Wu, Haoru
Data Type: Dataset
Related Work: Global Academic Hazards and Disaster Research Centers Map and List | <https://hazards.colorado.edu/resources/research-centers>
Global Academic Hazards and Disaster Research Centers Map Guidance | <https://hazards.colorado.edu/resources/research-centers-guidance>
Africa: Academic Hazards and Disaster Research Centers List | <https://hazards.colorado.edu/resources/research-centers/africa>
Americas: Academic Hazards and Disaster Research Centers List - Americas | <https://hazards.colorado.edu/resources/research-centers/americas>
Asia: Academic Hazards and Disaster Research Centers List | <https://hazards.colorado.edu/resources/research-centers/asia>
Europe: Academic Hazards and Disaster Research Centers List - Europe | <https://hazards.colorado.edu/resources/research-centers/europe>
Oceania: Academic Hazards and Disaster Research Centers List | <https://hazards.colorado.edu/resources/research-centers/oceania>
Global Academic Hazards and Disaster Research Centers Summary Table | <https://hazards.colorado.edu/resources/research-centers/summary-table>
Natural Hazards, Disasters, Research Centers, GIS Interactive Web-Based Applications, Academic, Web Map, Social Science

Keywords: Science
Date of Publication: 05-28-2019
DOI: [Citation](#)
License(s): Open Data Commons Attribution

The Natural Hazards Center at the University of Colorado Boulder has compiled a novel data set featuring more than 350 academic hazards and disaster research centers around the world. This project was launched in an effort to allow for more systematic and rapid identification of hazards and disaster research centers and to increase connections, communication, collaboration, and access to emerging research both within and across nations. This data can be used to identify centers by geographic location in the event of a disaster, and, eventually, this data set will be updated to include more information regarding disciplinary and topical expertise within each center. At present, the data set includes a comprehensive list of centers including center name, institutional affiliation, website, city, administrative area (state, province, region), country, latitude, longitude, UN primary region, UN sub region, and center logo. To see the global centers map and to view the complete listing of Centers, please visit: <https://hazards.colorado.edu/resources/research-centers>. This data set will be updated annually as new centers and information resources continue to be added to the map and associated listings.

File Name	Size
GlobalResearchCentersData5-10-19.csv	176.7 kB
PRJ-2289_archive.zip	179.6 kB
README.txt	2.6 kB



Social Science and Interdisciplinary Data Model

DESIGNSAFE-CI NHERI: A NATURAL HAZARDS ENGINEERING RESEARCH INFRASTRUCTURE

Welcome, Craig!

Research Workbench Learning Center NHERI Facilities NHERI Community About Help

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PRJ-1234 | HURRICANE MICHAEL STRUCTURAL DAMAGE AND POPULATION RESILIENCE

Authors [Peek, Lori; Wartman, Joseph et al.](#)

Keywords Hurricane, Reconnaissance, Damage Assessment, Interviews, Children, Shelters

Publication Type Field Research | Reconnaissance, Social Science

Event Hurricane Michael | Florida | 10/7/2018 | [Lat 30.455690 Long -97.813780](#)

Event Type Hurricane, Storm Surge, Flood

Date of Publication 11/25/2018

DOI [10.17603/ds2-z4hp-nv28](#)

License ODC Public Domain Dedication and License

Awards NSF CMMI-1841338
NSF CMMI-1611820

Related Work [Quick Response Research after Hurricane Katrina: A Study of Families](#)
[Rapid Reconnaissance Engineering Investigations after Hurricane Harvey, Irma, and Maria](#)

This interdisciplinary social science and engineering data set includes damage assessment data collected five weeks after Hurricane Michael, as well as survey, interview, and observational data collected with parents and their children. This data may be of special interest to those seeking to understand the connections between damage to the built environment and associated social disruptions.

Reports | Virtual Reconnaissance

Mission / Wave | Mexico Beach - RAPID

Mission / Wave # 1

Date(s) of Collection 11/11/2018 - 11/15/2018

Data Collector(s) [Hamideh, Sara; Huang, Shih-Kai; Sutley, Elaine; Fischer, Erica; Eanard, Ann-Margaret; Lyles, Ward; Merdjanoff, Alexis; Meyer, Michelle](#)

Site Location North Lake Estates | [Lat 30.455690 Long -97.813780](#) Elevation 20'

During this initial wave, the research team collected damage assessment data in two neighborhoods, as well as surveyed and interviewed parents and children who were displaced from those neighborhoods. The intent is for the team to return for two to three more waves of data collection over the coming year.

Social Science and Interdisciplinary Data Model

The screenshot displays the DESIGNSAFE-CI website interface. At the top, the logo for DESIGNSAFE-CI is visible, along with the tagline "NHERI: A NATURAL HAZARDS ENGINEERING RESEARCH INFRASTRUCTURE". A navigation bar includes links for Research Workbench, Learning Center, NHERI Facilities, NHERI Community, About, and Help. A search bar is also present. The main content area shows a project titled "PRJ-1234 | HURRICANE MICHAEL STRUCTURAL DAMAGE AND POPULATION RESILIENCE". The project details include Authors (Peek, Lori; Wartman, Joseph et al.), Keywords (Hurricane, Reconnaissance, Damage Assessment, Interviews, Children, Shelters), Publication Type (Field Research | Reconnaissance, Social Science), Event (Hurricane Michael | Florida | 10/7/2018 | Lat 30.455690 Long -97.813780), Event Type (Hurricane, Storm Surge, Flood), Date of Publication (11/25/2018), DOI (10.17603/ds2-z4hp-nv28), License (CC0 ODC Public Domain Dedication and License), Awards (NSF CMMI-1841338, NSF CMMI-1611820), and Related Work (Quick Response Research after Hurricane Katrina: A Study of Families, Rapid Reconnaissance Engineering Investigations after Hurricane Harvey, Irma, and Maria). A description of the project states: "This interdisciplinary social science and engineering data set includes damage assessment data collected five weeks after Hurricane Michael, as well as survey, interview, and observational data collected with parents and their children. This data may be of special interest to those seeking to understand the connections between damage to the built environment and associated social disruptions." Below the project details, there are sections for Reports (Virtual Reconnaissance) and Mission / Wave (Mexico Beach - RAPID). The Mission / Wave section provides details about the collection date (11/11/2018 - 11/15/2018), data collector(s) (Hamidah, Sara; Huang, Shih-Kai; Sufley, Elaine; Fischer, Erica; Esnard, Ann-Margaret; Lyles, Ward; Merdjanoff, Alexis; Meyer, Michelle), and site location (North Lake Estates | Lat 30.455690 Long -97.813780 Elevation 20'). A note at the bottom of the Mission / Wave section states: "During this initial wave, the research team collected damage assessment data in two neighborhoods, as well as surveyed and interviewed parents and children who were displaced from those neighborhoods. The intent is for the team to return for two to three more waves of data collection over the coming year."

- Planning Documents and Research Protocols
- Interview Guides, Questionnaires
- Audio Recordings
- Photos
- Data

Why Publish?



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CONVERGE

NHERI 

Why Publish?

Find Your Data

Share Your
Legacy and
New Data

Coordinate w/
Other
Researchers
(private and
public data
options)

Encourage
Replication (not
Duplication)

Get Credit –
DOI's!

Identify Gaps + Advance Science



**NATURAL
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We envision a just and equitable world where knowledge is applied to ensure that humans live in harmony with nature.

Thank you so very much!

converge.colorado.edu

Lori Peek: lori.peek@colorado.edu



University of Colorado **Boulder**

NSF Award #1841338



NHERI The logo for the National Hydrologic Experimentation (NHERI) program, featuring a stylized 'NHERI' in blue and green.