



SSEER
SOCIAL SCIENCE
EXTREME EVENTS
RESEARCH

2019 SSEER CENSUS

The results of the 2019 Social Science Extreme Events Research (SSEER) Census are based on the responses gathered from social scientists who completed the [SSEER membership survey](#) between its release date on July 8, 2018 and December 31, 2019.

AS OF DECEMBER 31, 2019,
949 RESEARCHERS SIGNED UP FOR THE
SSEER NETWORK.

In many instances in this annual report, we compare the results of the 2019 Census to what we previously published in the [2018 Census](#). Where possible and relevant, we separate data by year for 2018 and 2019 to provide greater context regarding the growth and evolution of the network.

HOW MANY SOCIAL SCIENTISTS HAVE JOINED THE SSEER NETWORK?

As of December 31, 2019, 949 researchers had joined the SSEER network. This represents a 46.45% increase in membership from December 31, 2018. While the majority of members signed up in 2018 (N = 648; 68.28%), a sizable portion of the SSEER network joined in 2019 (N = 301; 31.72%) (see **Figure 1**).

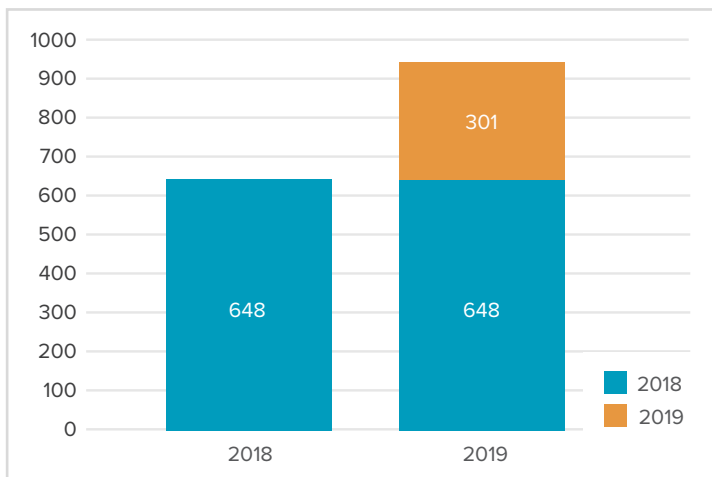


Figure 1. SSEER Membership by Year, 2018-19.

The online [SSEER interactive map](#) is organized by United Nations (UN) regions and subregions. Users can search for researchers by name, location, disciplinary foci, methodological expertise, or the types of hazards or disasters they study (see **Figure 2**).

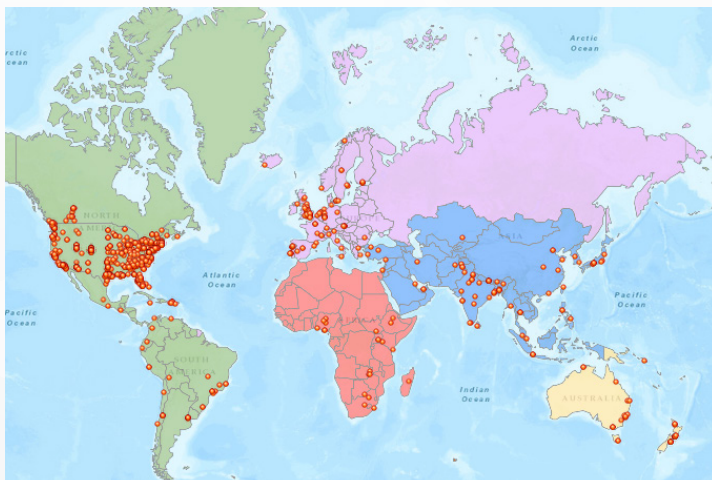


Figure 2. SSEER Interactive Web Map.

Figure 3 shows the region of residence of the SSEER members who joined the network by December 31, 2019. Most SSEER members reside in the Americas (N = 767; 80.82%). Of those who do not live in the Americas, most live in Europe (N = 81; 8.54%), Asia (N = 50; 5.27%), or Oceania (N = 41; 4.32%). Fewer than 1% of members reside in Africa (N = 8; .84%). Only two SSEER members (.21%) did not provide a region of residence at the time they joined the network.

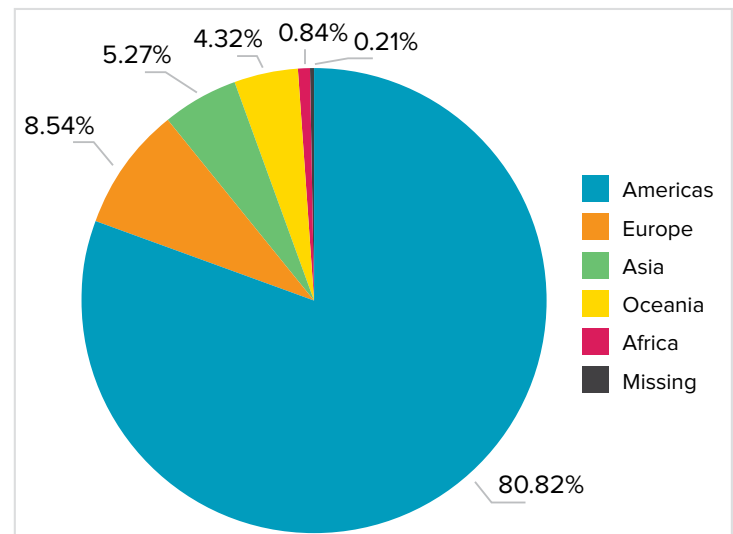


Figure 3. SSEER Researchers by UN Region.

Table 1 shows the number of SSEER members by region, subregion, and country. Regional representation changed little between 2018 and 2019. Most members continue to reside in the Americas—and especially in the United States.

72.6% OF ALL SSEER MEMBERS RESIDE IN THE UNITED STATES.

It is not clear if there are actually more social scientists who study disasters in the Americas—and especially the United States—or if that is where we have been most successful at identifying researchers and encouraging them to join SSEER. Historically, there has been a relatively strong investment in social science research in the United States, but the predominance of members here may be more of a reflection of our reach as a U.S.-led network and the fact that the SSEER survey is currently only available in the English language.

UN Region	# of SSEER Members in the Region	UN Subregion	# of SSEER Members in the Subregion	Country	# of SSEER Members in the Country
Africa	8	Eastern Africa	2	Zambia	2
		Southern Africa	3	South Africa	3
		Western Africa	3	Nigeria	3
Americas	767	Caribbean	3	The Bahamas	2
				Jamaica	1
		Central America	3	Guatemala	1
				Mexico	2
		North America	731	Canada	42
				United States	689
		South America	30	Argentina	7
				Bolivia	1
				Brazil	12
				Chile	6
Colombia	2				
Peru	1				
Venezuela	1				
Asia	50	Eastern Asia	14	Japan	8
				Republic of China	5
				Republic of Korea	1
		South-Eastern Asia	9	Indonesia	2
				Philippines	2
				Singapore	1
				Thailand	3
				Union Republic of Myanmar	1
		Southern Asia	23	Afghanistan	1
				Bangladesh	3
				Bhutan	1
				India	10
				Iran	1
				Nepal	3
Pakistan	3				
Sri Lanka	1				
Western Asia	4	Israel	1		
		Kingdom of Saudi Arabia	1		
		Turkey	1		
		United Arab Emirates	1		
Europe	81	Eastern Europe	1	Romania	1
		Northern Europe	40	Denmark	2
				Finland	4
				Iceland	1
				Norway	2
				Scotland	1
				Sweden	4
				United Kingdom	26
		Southern Europe	16	Italy	4
				Portugal	11
				Spain	1
		Western Europe	24	Austria	5
				France	6
Germany	6				
The Netherlands	7				
Oceania	41	Australia and New Zealand	40	Australia	19
				New Zealand	21
		Melanesia	1	Solomon Islands	1
				Missing	2
				Total	949

Table 1. SSEER Researchers by UN Region, Subregion, and Country.

WHAT IS THE DISCIPLINARY BACKGROUND AND EXPERTISE OF SSEER RESEARCHERS?

As noted in our prior annual report, there is no single, universal **definition for which disciplines are included in the social sciences**. These blurry boundaries are related to what researchers study and the approaches they use in their work. Generally speaking, however, most social scientists who study disasters are concerned with the connections between the natural environment, the built environment, policies, and people. Depending on their disciplinary background and expertise, social scientists may study individuals, groups, institutions, or even entire societies.

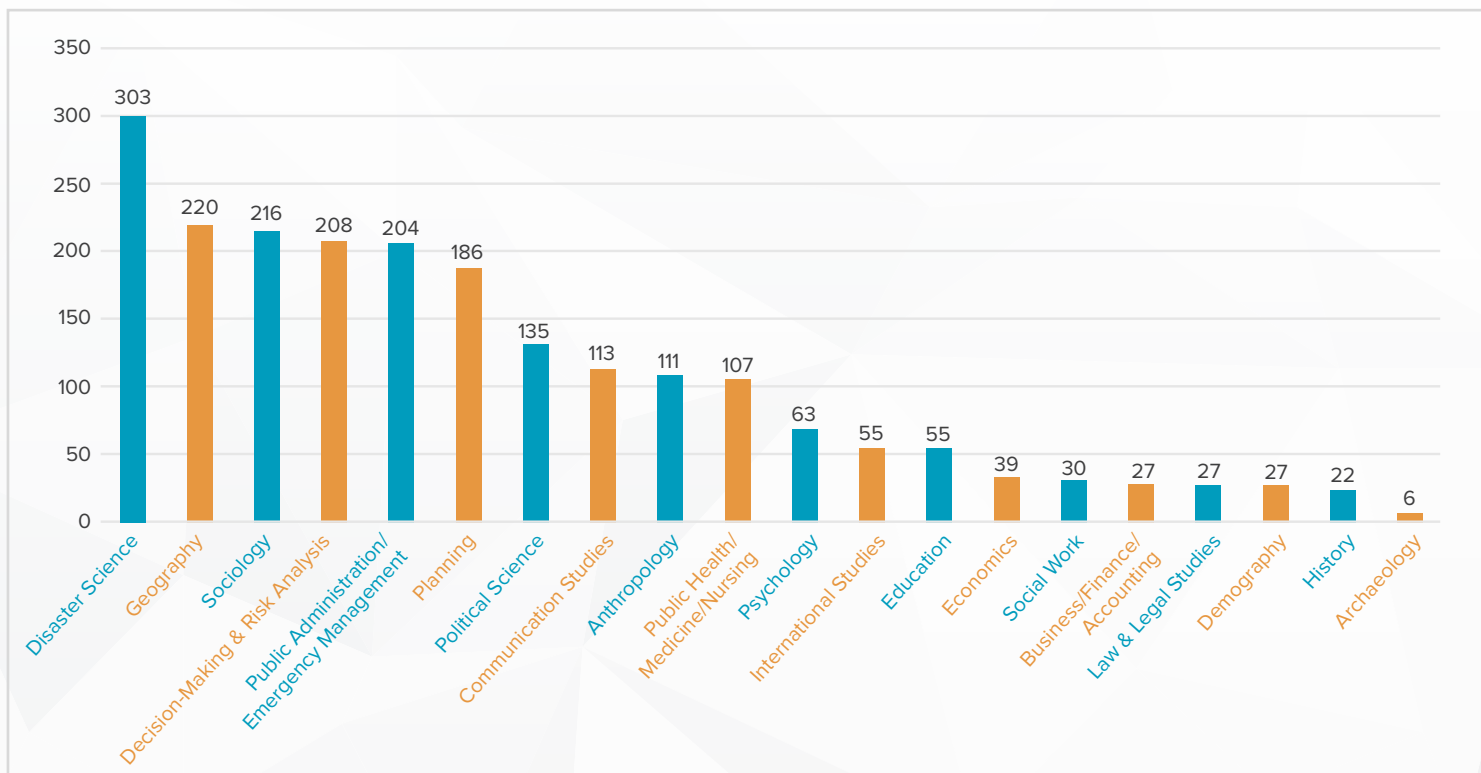
The SSEER membership survey asks researchers to identify their primary discipline—or set of disciplines for those with multidisciplinary training—as shown in **Table 2**. The table, which features both 2018 and 2019 data, does not sum to the total number of SSEER members (N = 949) because researchers could, and often did, select more than one discipline.

Of the 20 disciplines included in the SSEER survey, just under one-third of members identified with Disaster Science (N = 303; 31.93%) (see **Figure 4**).

	2018		2019		Total	
	N	%	N	%	N	%
Disaster Science	191	29.48	112	37.21	303	31.93
Geography	153	23.61	67	22.26	220	23.18
Sociology	159	24.54	57	18.94	216	22.76
Decision-Making & Risk Analysis	138	21.30	70	23.26	208	21.92
Public Administration/ Emergency Management	140	21.60	64	21.26	204	21.50
Planning	122	18.83	64	21.26	186	19.60
Political Science	104	16.05	31	10.30	135	14.23
Communication Studies	65	10.03	48	15.95	113	11.91
Anthropology	82	12.65	29	9.63	111	11.70
Public Health/Medicine/ Nursing	64	9.88	43	14.29	107	11.28
Psychology	45	6.94	18	5.98	63	6.64
International Studies	40	6.17	15	4.98	39	4.11
Education	31	4.78	24	7.97	55	5.80
Economics	24	3.70	15	4.98	39	4.11
Social Work	20	3.09	10	3.32	30	3.16
Business/Finance/Accounting	18	2.78	9	2.99	27	2.85
Law & Legal Studies	18	2.78	9	2.99	27	2.85
Demography	16	2.47	11	3.65	27	2.85
History	14	2.16	8	2.66	22	2.32
Archaeology	3	0.46	3	1.00	6	0.63

Figure 4. SSEER Researchers Self-Identified Disciplinary Background.

Table 2. SSEER Researchers by Primary Social Science Discipline, 2018-19.



NEARLY ONE-THIRD OF SSEER MEMBERS IDENTIFIED **DISASTER SCIENCE** AS A PRIMARY DISCIPLINE.

The next most frequently selected disciplines included Geography (N = 220; 23.18%) and Sociology (N = 216; 22.76%), which have a long history of leadership in the social science hazards and disaster research space. A substantial number of SSEER members also have training in Decision-Making and Risk Analysis (N = 208; 21.92%) and Public Administration/Emergency Management (N = 204; 21.50%). Other disciplines selected by SSEER members are shown in **Figure 4**.

WHAT ARE THE EDUCATIONAL AND PROFESSIONAL BACKGROUNDS OF SSEER RESEARCHERS?

The SSEER membership survey prompts researchers to share information about their highest level of education completed (see **Figure 5**). Most SSEER researchers hold a doctoral degree (N = 598; 63.01%). The second most common degree held by SSEER researchers is a master's degree (N = 247; 26.03%). Fewer members held a bachelor's degree (N = 59; 6.22%), associate's degree (N = 9; .95%), or professional degree (n = 1; .11%). One pattern of note is that in 2019, there was an increase in SSEER membership among those who have not obtained a doctoral degree.

MORE THAN **89%** OF SSEER MEMBERS HAVE ATTAINED A **DOCTORAL OR MASTER'S DEGREE**.

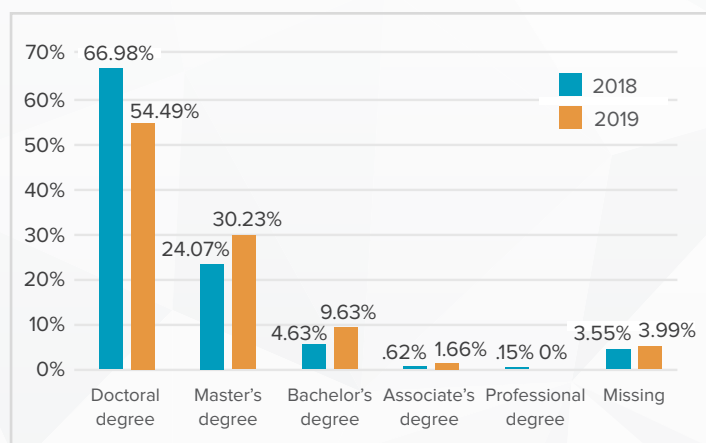


Figure 5. SSEER Researchers by Highest Academic Degree Completed, 2018-19.

In terms of primary professional status, most SSEER researchers self-identified as academic researchers (N = 554; 58.38%), followed by students (N = 163; 17.18%) and government researchers (N = 88; 9.27%). Fewer members identify as non-profit researchers (N = 43; 4.53%), independent researchers (N = 41; 4.32%), or private sector researchers (N = 25; 2.63%). The remaining members identified as another kind of professional or indicated they are retired. **Table 3** shows that the primary professional statuses of SSEER members were fairly consistent across 2018 and 2019.

NEARLY **60%** OF SSEER MEMBERS ARE AFFILIATED WITH **ACADEMIC INSTITUTIONS**.

	2018		2019		Total	
	N	%	N	%	N	%
Academic Researcher	398	61.42	156	51.83	554	58.38
Student	103	15.89	60	19.93	163	17.18
Government Researcher	57	8.80	31	10.30	88	9.27
Non-Profit Researcher	26	4.01	17	5.65	43	4.53
Independent Researcher	27	4.17	14	4.65	41	4.32
Private-Sector Researcher	14	2.16	11	3.65	25	2.63
Other	23	3.55	12	3.99	35	3.69
Total	648	100	301	100	949	100

Table 3. SSEER Researchers by Primary Professional Status, 2018-19.

WHAT IS THE LEVEL OF INVOLVEMENT OF SSEER MEMBERS IN HAZARDS AND DISASTER RESEARCH?

In the 2006 National Research Council consensus study, *Facing Hazards and Disasters: Understanding Human Dimensions*, the authors raised a number of questions regarding the state of the social science research workforce. In response to their calls for a more precise description of levels of engagement among the members of this community, our team published a typology of research involvement (see **Peek, Champeau, Austin, et al. 2020**). We use the typology in the SSEER membership survey and ask researchers to select which of the following best describes their current status as a hazards and disaster researcher:

- **Core Researcher:** Strongly self-identifies as a hazards/disaster researcher, has a deep commitment to the field, and has engaged in hazards and disaster research for a sustained amount of time.



- **Periodic Researcher:** Is not primarily engaged in hazards and disaster research but focuses on related topics from time to time throughout one’s professional career.
- **Situational Researcher:** Not previously trained or involved in the hazards and disaster field but had the opportunity to study new phenomena or processes based on a situational event; for example, a researcher who undertook a study after their community was affected by a major disaster.
- **Emerging Researcher:** Includes students and others who are new to the field and who are still learning about its disciplinary, multidisciplinary, or interdisciplinary histories, theories, methods, and approaches. Emerging researchers may have limited experience or may not have yet conducted their own original empirical research.

As shown in **Figure 6**, most SSEER members self-identify as core researchers (N = 433; 45.63%), followed by emerging researchers (N = 227; 23.92%), periodic researchers (N = 189; 19.92%), and situational researchers (N = 53; 5.58%).

JUST OVER **45%** OF SSEER MEMBERS IDENTIFY AS **CORE RESEARCHERS**, MEANING THEY HAVE A DEEP COMMITMENT TO THE FIELD AND HAVE ENGAGED IN DISASTER RESEARCH FOR A SUSTAINED AMOUNT OF TIME.

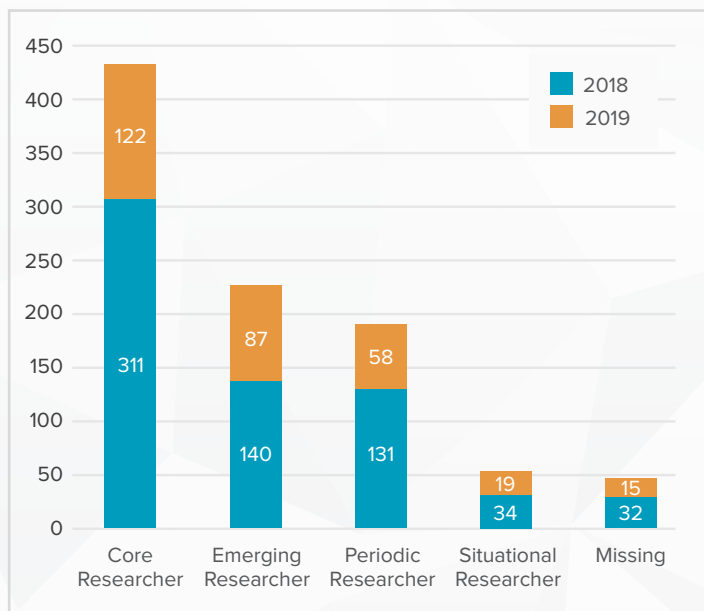


Figure 6. SSEER Researchers by Level of Involvement in the Field, 2018-19.

WHAT METHODS AND APPROACHES DO SSEER RESEARCHERS USE IN THEIR WORK?

Social scientists use a range of methods and approaches to collect and analyze data. To characterize the methodological skills among this community, the SSEER membership survey asks researchers to identify each of their primary approaches to data collection and analysis. As summarized in **Table 4**, the most popular methodological approaches include case studies (N = 574; 60.48%), survey research (N = 565; 59.54%), and in-depth interviews (N = 562; 59.22%). The numbers in the table do not sum to the sample size of 949 because researchers had the option to choose more than one approach, and most did so.

	2018		2019		Total	
	N	%	N	%	N	%
Case Study	398	61.42	176	58.47	574	60.48
Survey Research	405	62.50	160	53.16	565	59.54
In-Depth Interviews	411	63.43	151	50.17	562	59.22
Qualitative Content Analysis	345	53.24	140	46.51	485	51.11
Community-Based Participatory Research	280	43.21	146	48.50	426	44.89
Focus Groups	293	45.22	118	39.20	411	43.31
Statistical Analysis of Primary Data	259	39.97	114	37.87	373	39.30
Observation	246	37.96	109	36.21	355	37.41
Statistical Analysis of Secondary Data	210	32.41	95	31.56	305	32.14
Quantitative Content Analysis	200	30.86	100	33.22	300	31.61
Geospatial Analysis/GIS	182	28.09	95	31.56	277	20.19
Participatory Action Research	163	25.15	85	28.24	248	26.13
Ethnography	156	24.07	59	19.60	215	22.66
Narrative Analysis	151	23.30	55	18.27	206	21.71
Social Network Analysis	103	15.90	45	14.95	148	15.60
Analysis of Social Media Data	93	14.35	46	15.28	139	14.65
Experimental	65	10.03	42	13.95	107	11.28
Quasi-Experimental	53	8.18	37	12.29	90	9.48
Agent-Based Modeling	30	4.63	18	5.98	48	5.06
Photovoice	35	5.40	12	3.99	47	4.95
Polling Research	32	4.94	9	2.99	41	4.32

Table 4. Preferred Methodological Approaches of SSEER Researchers, 2018-19.



WHAT PHASES OF THE DISASTER CYCLE HAVE SSEER RESEARCHERS STUDIED?

Social scientists who research hazards and disasters often study distinct disaster phases including preparedness, emergency response, short-term reconstruction, long-term recovery, and mitigation (see **Figure 7**).



Figure 7. The Disaster Cycle.

Figure 8 shows the different phases across the disaster cycle that SSEER researchers have studied. Most SSEER researchers have focused on disaster preparedness (N = 734; 77.34%), followed by mitigation (N = 598; 63.01%), emergency response (N = 547; 57.64%), long-term recovery (N = 544; 57.32%), and short-term reconstruction (N = 339; 35.72%). The numbers here and in the figure below do not sum to the sample size of 949 because researchers had the option to choose more than one phase.

MORE SSEER MEMBERS REPORTED STUDYING **DISASTER PREPAREDNESS** THAN ANY OTHER PHASE OF THE DISASTER CYCLE.

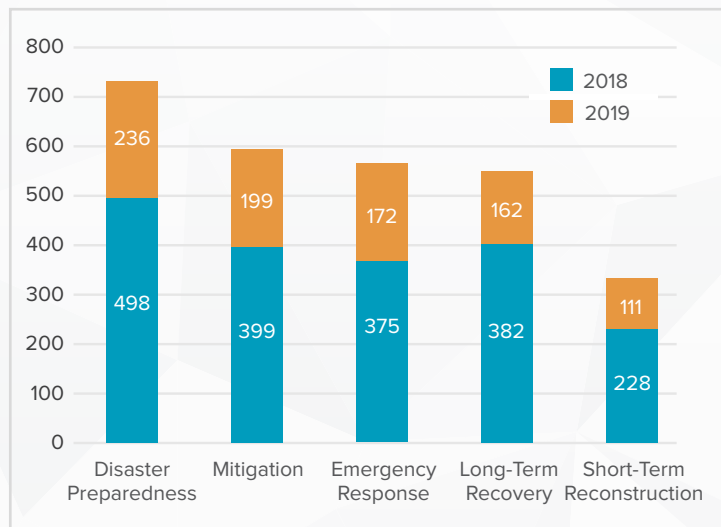


Figure 8. Disaster Phases Studied by SSEER Researchers, 2018-19.

WHAT HAZARD TYPES AND DISASTERS HAVE SSEER RESEARCHERS STUDIED?

Figure 9 includes a summary of all disaster types that SSEER members indicated having studied. As shown, the majority of SSEER members study natural hazards (N = 879; 92.62%), which include geophysical, meteorological, hydrological, climatological, biological, and extraterrestrial events. Just over one-quarter of the respondents indicated that they study technological hazards (N = 268; 28.24%) such as industrial accidents, transport accidents, and toxic exposures. The smallest portion of SSEER respondents indicated that they focus on terrorism or other willful acts of violence (N = 175; 18.44%). The numbers in the figure do not sum to the sample size of 949 because researchers had the option to choose more than one disaster type that they study.

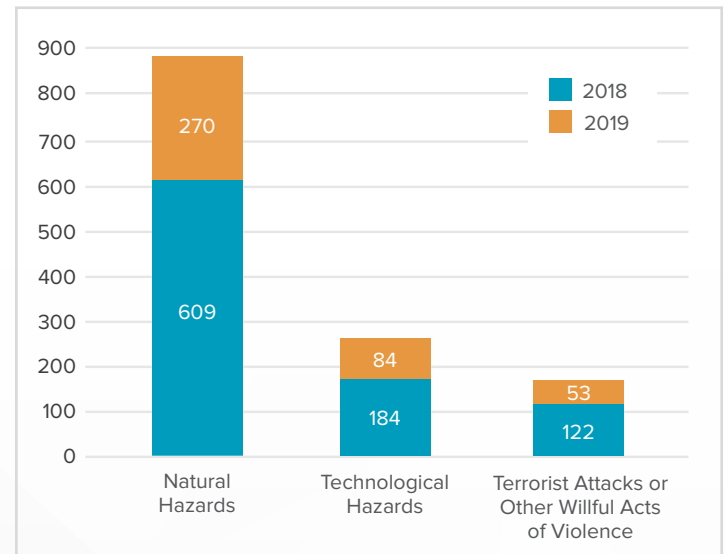


Figure 9. Hazard and Disaster Types Studied by SSEER Researchers, 2018-19.

The SSEER membership survey asks respondents to identify up to 10 specific disaster events that they have studied during their career. In 2018 and 2019, we received more than 1,000 unique responses to this question, which include disasters studied across several centuries and multiple geographies. The disasters that SSEER researchers have studied, along with keywords characterizing research expertise, are viewable through each [researcher's profile in the SSEER map](#).

SSEER RESEARCHERS HAVE STUDIED MORE THAN **1,000 UNIQUE DISASTER EVENTS**.

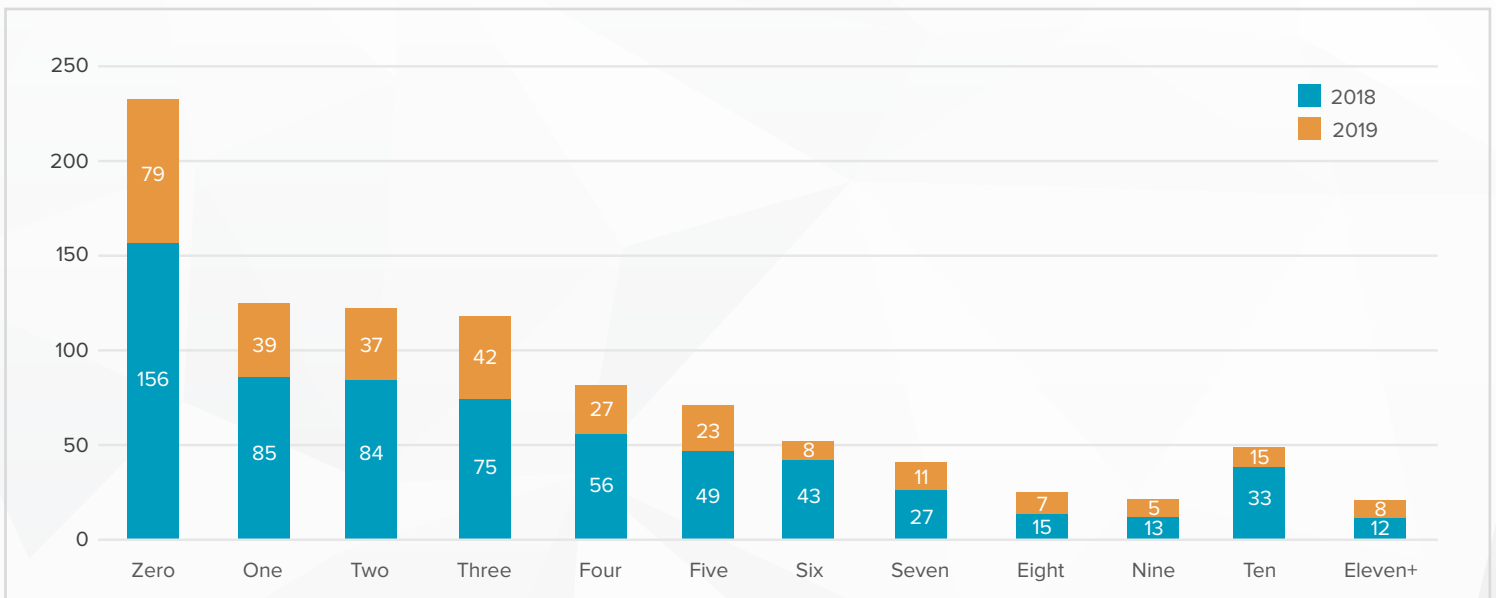


Based on responses detailing disasters studied by name of event and year, 24.76% of SSEER members either refrained from responding to the question or had not studied any disasters (N = 235). From there, a nearly linear pattern emerged in the data such that, for the most part, SSEER members were more likely to respond that they had studied fewer events than more events. Specifically, nearly as many respondents had studied one disaster event (N = 124; 13.07%) as had studied two (N = 121; 12.75%) or three (N = 117; 12.33%) disaster events. A moderate number of SSEER members studied four (N = 83; 8.75%), five (N = 72; 7.59%), or six events (N = 51; 5.37%). Less than 5% of SSEER members had researched seven (N = 38; 4.00%), eight (N = 22; 2.32%), or nine events (N = 18; 1.90%), respectively. Just over 5% of members had researched 10 events (N = 48; 5.06%), and a small number of members responded with 11 or more events (N = 20; 2.11%) (see **Figure 10**).

As noted, SSEER researchers have studied a wide range of events. The top 13 most frequently studied disasters, however, all occurred in the 21st century and most of these events happened in the United States (see **Table 5**). These results should be interpreted with care since this is not yet a complete census of the entire social science disaster research community, and SSEER membership is heavily concentrated in the United States. The results are still suggestive of which events receive the most attention and in which parts of the world.

HURRICANE KATRINA
IS THE MOST STUDIED DISASTER
IN THE SSEER DATABASE.

Figure 10. Number of Disaster Events Studied by SSEER Members, 2018-19.



	N	%
Hurricane Katrina, 2005	193	20.34
Hurricane Harvey, 2017	124	13.07
Hurricane Sandy, 2012	102	10.75
Hurricane María, 2017	87	9.17
Hurricane Irma, 2017	71	7.48
Indian Ocean Earthquake and Tsunami, 2004	56	5.90
9/11 Terrorist Attacks, 2001	56	5.90
Fukushima/Great East Japan Earthquake and Tsunami, 2011	52	5.48
BP Deep Water Horizon Oil Spill, 2010	48	5.06
Haiti Earthquake, 2010	42	4.43
Hurricane Ike, 2008	39	4.11
Christchurch Earthquakes, 2010-11	37	3.90
Nepal Earthquake and Flooding, 2015	36	3.79

Table 5. Most Commonly Researched Disaster Events by SSEER Members.

WHAT IS THE DEMOGRAPHIC COMPOSITION OF THE SSEER RESEARCH WORKFORCE?

The **demographic composition of the hazards and disaster research workforce** has long been of interest to leaders within the field. One area of special concern is whether or not those researching disasters reflect the demographic characteristics of the populations and places being studied.

With this in mind, the SSEER membership survey ends with a series of questions regarding respondent age, years of experience, racial and ethnic identity, and gender identity.



In the 2019 Census, SSEER researchers ranged in age from 21 to 78 years. The average SSEER researcher is 41.48 years old and has 9.66 years of research experience in the hazards and disaster field. Interestingly, 18.12% (N = 172) of SSEER respondents did not provide their age in the membership survey.

THE AVERAGE SSEER RESEARCHER HAS
NEARLY 10 YEARS OF EXPERIENCE
 IN THE HAZARDS AND DISASTER FIELD.

SSEER survey respondents were asked to select which racial and ethnic categories best describe their identity. When prompted, most SSEER respondents said they identified as White (N = 569; 59.96%). Fewer SSEER members identified as Asian/Asian American (N = 126; 13.28%), Hispanic/Latino (N = 53; 5.58%), or Black/African American (N = 44; 4.64%). A small percentage of respondents selected two or more racial or ethnic categories (N = 25; 2.63%) or some other provided identity option (N = 7; .74%) such as Indigenous, Native Hawaiian/Pacific Islander, or Arab/Arab American/Middle Eastern.

The survey also includes “prefer not to answer” and “prefer to self-describe” response options, in recognition that some respondents both inside and outside the United States may be uncomfortable with available fixed identity categories. A sizeable minority (N = 125; 13.17%) of SSEER respondents were coded as “missing” because they did not respond to the race/ethnicity question, chose “prefer not to answer,” or selected “prefer to self-describe” (see **Table 6**).

	2018		2019		Total	
	N	%	N	%	N	%
White	400	61.73	169	56.15	569	59.96
Asian/Asian American	89	13.73	37	12.29	126	13.28
Hispanic/Latino	35	5.40	18	5.98	53	5.58
Black/African American	28	4.32	16	5.32	44	4.64
Two or more racial/ethnic identities	13	2.01	12	3.99	25	2.63
Some other provided racial/ethnic identity	4	0.62	3	1.00	7	0.74
Missing	79	12.19	46	15.28	125	13.17
Total	648	100	301	100	949	100

Table 6. Racial/Ethnic Identity of SSEER Researchers, 2018-19.

More women (N = 492; 51.84%) than men (N = 398; 41.94%) have joined the SSEER network. Additionally, a small portion of members provided some other answer (N = 59;

6.22%), including refraining from responding or identifying as nonconforming/nonbinary. Responses regarding the gender identity of SSEER members for 2018 and 2019 appear in **Table 7**.

	2018		2019		Total	
	N	%	N	%	N	%
Woman	340	52.47	152	50.50	492	51.84
Man	274	42.28	124	41.20	398	41.94
Some other answer	34	5.25	25	8.31	59	6.22
Total	648	100	301	100	949	100

Table 7. Gender Identity of SSEER Researchers, 2018-19.

CONCLUSION

This annual report on the status of the SSEER network has allowed us to characterize the location, demographic composition, disciplinary background, levels of involvement in the field, and other attributes among this dynamic research community. Since our first census release in 2018, the SSEER network has grown by 301 new members and now includes a total of 949 researchers from 54 countries. SSEER members are predominantly located in the United States and have studied a wide range of disaster types and events using various social science and interdisciplinary methods and approaches. The research community is more demographically diverse than had previously been acknowledged, although further analyses are warranted to understand more regarding the roles and activities of specific segments of the SSEER population.

We will continue to release the SSEER Census results annually via the **CONVERGE website** so that we can regularly assess the status of the social science hazards and disaster research field. We also update the interactive **SSEER map** quarterly, so if you are a social scientist who studies extreme events and have not yet joined, you are invited to do so by completing the **SSEER membership survey**.

RECOMMENDED CITATION

Peek, Lori, Heather Champeau, and Jessica Austin. 2022. “2019 Social Science Extreme Events Research (SSEER) Census,” in Social Science Extreme Events Research (SSEER) Network Data, Survey Instrument, and Annual Census. DesignSafe-CI. <https://doi.org/10.17603/ds2-t0k5-3v04>.



FURTHER WORK

For further information regarding the SSEER network, please see:

Peek, Lori, Heather Champeau, Jessica Austin, Mason Mathews, and Haorui Wu. 2020. "What Methods Do Social Scientists Use to Study Disasters? An Analysis of the Social Science Extreme Events Research (SSEER) Network." *American Behavioral Scientist* 64(8): 1066-1094. <https://journals.sagepub.com/doi/10.1177/0002764220938105>.

Peek, Lori, Jennifer Tobin, Rachel M. Adams, Haorui Wu, and Mason Clay Mathews. 2020. "A Framework for Convergence Research in the Hazards and Disaster Field: The Natural Hazards Engineering Research Infrastructure CONVERGE Facility." *Frontiers in Built Environment*, 6. <https://www.frontiersin.org/articles/10.3389/fbuil.2020.00110/full>.

Peek, Lori, Haorui Wu, Mason Mathews, Heather Champeau, and Jessica Austin. 2021. "2018 Social Science Extreme Events Research (SSEER) Census," in Social Science Extreme Events Research (SSEER) Network Data, Survey Instrument, and Annual Census. DesignSafe-CI. <https://doi.org/10.17603/ds2-0f0q-vz13>.

DATA

The data used in this census report are available at:

Peek, Lori, Mason Mathews, Jessica Austin, and Heather Champeau. 2022. "2019 Social Science Extreme Events Research (SSEER) Network," in Social Science Extreme Events Research (SSEER) Network Data, Survey Instrument, and Annual Census. DesignSafe-CI. <https://doi.org/10.17603/ds2-tkix-rf45>.

Peek, Lori, Mason Mathews, Emmanuelle Hines, Haorui Wu, Jessica Austin, and Heather Champeau. 2022. "2018 Social Science Extreme Events Research (SSEER) Network," in Social Science Extreme Events Research (SSEER) Network Data, Survey Instrument, and Annual Census. DesignSafe-CI. <https://doi.org/10.17603/ds2-2qc4-fh48>.

ABOUT SSEER

The **Social Science Extreme Events Research—SSEER—network** identifies and maps social scientists involved in hazards and disaster research in order to highlight their expertise and connect social science researchers to one another, to interdisciplinary teams, and to communities at risk to hazards and affected by disasters. The goals of SSEER are to amplify the contributions of social scientists, to advance the field through expanding the available social science evidence base, and to enhance collective well-being. SSEER is part of a larger ecosystem of **National Science Foundation-funded extreme events research and reconnaissance networks** designed to help coordinate disciplinary communities in engineering and the sciences, while also encouraging cross-disciplinary information sharing and interdisciplinary integration. More information on SSEER and the other networks is available on the **CONVERGE website**.



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SSEER is funded by the National Science Foundation (NSF), Division of Civil, Mechanical, and Manufacturing Innovation, Program on Humans, Disasters, and the Built Environment (NSF Award #1745611 and #1841338). Any opinions, findings, conclusions, or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the NSF.

