

STRATEGIC PLAN

2022-2029

Building to 40 years of
research excellence



TEXAS A&M UNIVERSITY

Hazard Reduction
& Recovery Center

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Letter from the Director

It is with excitement that we share the 2029 Strategic Plan for the Hazard Reduction & Recovery Center. We are grateful to the over 40 students, faculty, administrators, and supporters who provided input into this living document. Their dedication to working with communities on resiliency is what drives the success of this plan and our Center.

The renewed mission, vision, and values collectively built through this planning process could not be more timely. The need for what our name embodies - hazard reduction and disaster recovery - is increasing with climate change and economic and social change. The strategic plan you will read about in these pages sets a direction for the Center through the efforts of our fellows, affiliates, and students. Here are a few highlights you will find inside:

- A commitment to our legacy in the disaster research community as strong scholars and champions of convergent research;
- Renewed focus on using our science to lead the nation and the Gulf of Mexico region, specifically, towards a less vulnerable future;
- Excitement for new ways to communicate science and new learners to reach;
- Increased access to the Center itself, our research and educational opportunities, and disaster management fields;
- The high value we place on each others' unique contributions, educational and career goals, and well-being, and
- A forward-looking financial sustainability plan to meet all these goals.

Upon our 30th anniversary in 2019, we asked current and past Hazard Reduction & Recovery Center members to describe in one word what the Center meant to them. **Family** was the most common reframe. By the time this strategic plan culminates during our 40th year, we hope you will have found a home with us by joining us in research, learning, or service.

With gratitude,

Michelle Annette Meyer, PhD

Letter from the Department Head

The role of higher education institutions in increasing the resilience of our communities has gained increased recognition in light of more frequent disaster events globally, which have also continued to amplify in magnitude. Established in 1988, the Hazard Reduction and Recovery Center (HRRC) was the first research center in the U.S. dedicated to disaster and hazard event vulnerability reduction and long-term recovery. It has grown into an internationally renowned research unit that creates significant positive impacts in local communities and has also become one of the leading research enterprises related to the preparation for, mitigation of, and recovery from disaster-related events and hazardous occurrences.

I am, at once, both energized and excited by the stellar record and profound potential of what has been and what will be accomplished together in the Department of Landscape Architecture and Urban Planning (LAUP) and the School of Architecture with the HRRC at Texas A&M University. While LAUP is a national leader in evidence-based design, planning, and development, the HRRC complements this focus by being an integral leader that creates a necessary bridge across multiple disciplines related to the built environment across the entire campus as well as within local communities, resulting in increased dialogue, enhanced partnerships, improved research outputs and opportunities, and innovative and meaningful community engagement.

Texas is a state that is continually affected by multiple types of hazard events, namely flooding, and there is much that we can celebrate over the course of the more than 35 years that Texas A&M University and the HRRC have shared together. To quote the mission of the university, "Texas A&M University is dedicated to the discovery, development, communication, and application of knowledge in a wide range of academic and professional fields." The HRRC has quickly become a key contributor to this mission, bringing together multiple disciplines for a singular focus. As a result, when our students graduate, they carry the lessons of Texas A&M, LAUP, and the HRRC with them to continue effecting positive change in the region, nation, and world. As Department Head of LAUP, I am humbled by the excellence and impact that the HRRC inspires throughout Texas A&M University and the state of Texas as a whole. They are, by far, the leading Research Center within LAUP and the School of Architecture. We are extremely grateful for all of the members and Fellows of the HRRC's continued tireless efforts to continue to advance their important work.

The role of higher education institutions in adapting the built environment to unique climactic circumstances in life is unique and significant. The HRRC both leads and shares in the incredible responsibility to educate the citizenry to participate and produce scientific evidence for positive, real-world change. This challenge is daunting, yet more necessary than ever. To meet this challenge, we must fervently educate new generations of knowledgeable, inspired, engaged, and data-driven citizens, students, and faculty. The HRRC is essential to achieving this objective. Through this bold strategic plan, the HRRC is moving disaster and hazard-related studies further into the center of the Texas A&M University experience and research core. Over the past 35 years, the HRRC has developed an impressive array of certificates, facilities, and services that instill an ethos of civic responsibility into a number of aspects of life at Texas A&M and across the state of TX. The Center is an important leader, convener, and intermediary for all of us as we seek to coordinate our research efforts across the university in an aspiration to create more resilient environments.

Sincerely,



Galen D. Newman, PhD
Professor and Head
Department of Landscape Architecture and Urban Planning
Texas A&M University



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Executive Summary

The Hazard Reduction & Recovery Center (HRRC) is at a watershed moment. Climate change is increasing the frequency and intensity of many natural hazards worldwide, intersecting with communities, families, and institutions to create disasters and catastrophes. With more disasters, more scholars are interested in being trained in the field, more students want hazard and disaster content in their classes, more practitioners in emergency management and planning are being tasked with hazard mitigation and disaster recovery planning, and the public needs more research and better communication of that research to implement resilient actions to reduce overall harm and disproportionate burdens on our most vulnerable populations.

As an academic powerhouse in the disaster research field, the HRRC has laid the strong foundation of research, education, and public outreach for the past 35 years. We build on this success through a collaborative mission to **bring together scholars, students, practitioners, and community members for research and educational opportunities that foster disaster-resilient built, social, and natural environments.**

To achieve this mission, we will:

Maintain and further highly creative and productive scholarship on hazards, disasters, and climate change: Grow our excellence in research through new convergent and high-risk, high-reward projects by an expanding faculty network.

Strengthen our role as national leaders in hazard mitigation, disaster recovery, and climate adaptation research that fosters equitable community resilience: Situate ourselves as the national leader for understanding the planning processes around hazard mitigation and disaster recovery.

Be the preeminent social science disaster research institution for the Gulf Coast region: Connect with scholars and communities across the Gulf of Mexico to develop and implement resilience research that is responsive to the hazard and population needs of this unique area.

Meet the science communication needs of a changing society in ways that support the translation of research to practice: Innovate in science communication, expanding the amount of research, audiences we reach, and methods we use to communicate disaster knowledge.

Further, a 'community of care' within HRRC that is inclusive, transparent, and supportive of our students, staff, faculty, alumni, and research participants/partners: Focus on the relationships we make within the HRRC and with our partners, respecting, supporting, and honoring their experiences.

Educate, train, and support researchers and leaders at all stages of their careers to meet the needs of society undergoing climate change: Produce the next generation of scholars and practitioners through diverse educational offers that meet them where they are whether in high school or already in their careers.

Ensure that the HRRC has sustainable financial resources for our present and future work: Place the HRRC on stable and growing financial grounds to ensure continued excellence in research, education, and outreach.



We are guided and energized in this effort by a newly formulated vision of ***a world where communities reduce hazard vulnerability and disaster impacts, promote equity and well-being for all community members, and enhance environmental sustainability through innovative and locally grounded research and education.***

The Hazard Reduction & Recovery Center



The Hazard Reduction and Recovery Center (HRRC) was established at **Texas A&M University** in 1989. Our founder, Dr. Phil Berke, a leading hazard planning scholar and expert on plan quality, and colleagues envisioned in an interdisciplinary Center that serves "as a liaison among the University, interested individuals and groups, communities, and various professional organizations involved in hazard reduction." HRRC today includes the expertise of planners, landscape architects, sociologists, architects, policy analysts, geographers, and engineers as well as professional and community partners in nonprofits and local, state, and federal agencies.

Leadership in the Hazard Field

The Center has been led by acclaimed scholars throughout its existence. Dr. Dennis Wenger was the first Director and went on to take the helm of what is now the Humans, Disasters, and Built Environment Program within the Directorate of Engineering at the National Science Foundation (NSF). He spent over 20 years shaping the entire disaster research field.

Dr. Michael Lindell was the second HRRC director. As **the leading social scientist focused on disaster evacuation**, Lindell solidified our ongoing contribution to State of Texas evacuation studies. We have supported nearly every Texas coastal county with practical evacuation planning at some point in our history. His legacy continues with the Texas Planning Atlas and two recent evacuation studies we completed for the Texas Coastal Bend and Rio Grande Valley.

Dr. George Rogers stepped in to champion the HRRC during times of transition. Committed to sustainability research and risk analysis, Rogers continues to guide students interested in understanding community processes that affect disaster experiences. His students have gone on to leading positions in transportation and hazard research, floodplain management, and community development.

Dr. Walter Gillis Peacock led the Center for 15 years, growing the HRRC in terms of faculty fellows, students, and external funding. Peacock expanded our engagement with planning practice with small and underserved communities through the reinvigoration of the Texas Target Communities service learning organization and applied planning projects related to mitigation or recovery. As a leading scholar on disaster recovery and social vulnerability, Peacock also led the Humans, Disasters, and Built Environment Program at NSF for two years, returning to the HRRC to pick up leadership on several large multi-institution and multi-discipline grants as well as work with the U.S. Census on resilience metrics.

Dr. Michelle Meyer began as the fifth director in July 2019 and is the first woman to lead the HRRC. From her background in sociology at Colorado State University, she brings expertise in social capital and nonprofit engagement in disasters. She continues the legacy of growing and broadening the reach of Center fellows and students, adding undergraduate student research programming to meet the needs of the next generation of hazard professionals and increasing collaborations with philanthropic partner organizations like the National Voluntary Organizations Active in Disaster.

Bridging the Field of Planning and Hazard and Disaster Research

Research Centers are the tool of innovation in the hazard research field, with more than 400 research centers around the world. The HRRC is the ***oldest hazard research center affiliated with the planning field*** and one of the world's three oldest and most renowned hazard research centers. We are the most prolific center regarding PhD student graduations, PhD students funded, faculty affiliated, and grants in the field.

Planning is central to hazard and disaster issues because hazards affect all aspects of a community and can be mitigated through the appropriate use of planning tools, techniques, and community engagement. Our founding researchers wrote many of the seminal works describing how planning affects hazard risk. Yet, it is only recently that practicing planners are beginning to take hazards seriously. The rise of “resilience” plans and “climate action” plans speak to the increasing need and desire for planners to incorporate hazard and disaster knowledge into their work. ***As a leader in both basic and applied science, education, and training, the HRRC is perfectly poised to support the planning field to meet these hazard and disaster challenges.***

This strategic plan was developed with this legacy in mind and to assess both external and internal changes that affect our operation and impact. This plan guides us in supporting communities, students, scholars, as well as our institution homes in the Department of Landscape Architecture and Urban Planning, the School of Architecture, and Texas A&M University going forward.

Our Role at Texas A&M University

Building Convergence in the Hazard Field

The Hazard Reduction & Recovery Center (HRRC) was founded at Texas A&M University to increase the understanding of hazard impacts and training of future researchers and practitioners to address those challenges. In essence, the Center does **CONVERGENT HAZARDS SCIENCE**. Specifically, the Center has consistently worked towards its founding mission:

1. Increase the understanding of hazard impact on our built and social environments through **basic and applied research**;
2. Enlarge the disaster research community through **student training and faculty collaboration**;
3. **Disseminate research findings** to the public about best practices in hazard management; and
4. **Provide assistance and consultation** to agencies and communities to promote mitigation and improved recovery.

1. EXCELLENCE IN BASIC AND APPLIED RESEARCH

The HRRC is a leader in the hazard and disaster field for both basic science and applied research. Basic science involves research aimed at improving societal knowledge and is funded by scientific agencies such as the National Science Foundation, the National Institute of Standards and Technology, the Environmental Protection Agency, the National Academies of Science, Engineering, and Medicine, and the National Institute of Health. Contributing to scientific knowledge, our faculty and students conduct research projects and then publish the results in academic journals and books. Our amazing success is viewed in Table 1 and Figure 1.

Applied research aims to solve a particular problem for a particular client, and the HRRC engaged research projects often do just that. See examples of our applied research the following pages, including our contribution to evacuation planning in Texas.

Our Scope

The Hazard Reduction & Recovery Center collaborates with faculty and educates and trains students at both the graduate and undergraduate level to foster interdisciplinary and engaged research on hazard risk and recovery needs for communities in Texas and across the world. We partner with local organizations, nonprofits, and government agencies at all levels to bring the best scientific minds to address real world concerns.



Past 5 years (2018–2022) at a Glance

Research Expenditures and Awards

20%

Table 1. Research Expenditures from 2018-22

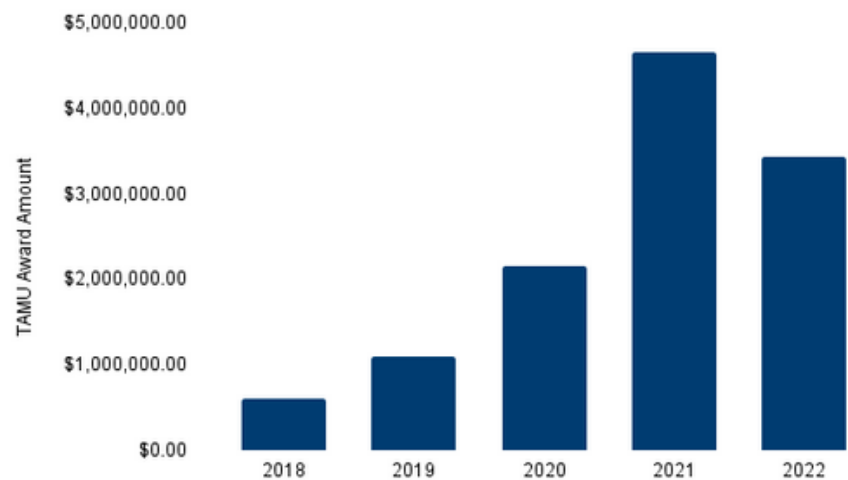
	2018	2019	2020	2021	2022	Totals
HRRC	\$564,637	\$713,998	\$864,541	\$778,929	\$926,172	\$3,848,277
SoA Total	\$3,498,050	\$3,753,889	\$3,695,894	\$4,080,964	\$4,251,961	\$19,280,759

Average HRRC % of all Research Expenditures in the School of Architecture (SoA)

~\$12

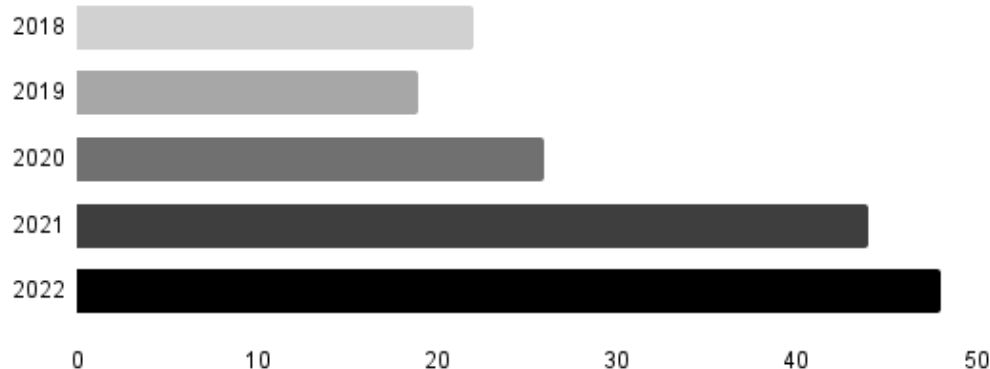
Million Dollars
Total in grants awarded to TAMU due to HRRC Research

Figure 1. Total Grant Awards from 2018-22



Journal Articles and Book Chapters

Table 2. Journal Articles and Book Chapters from 18-22



159

Published Journal Articles & Book Chapters by HRRC Scholars

The disaster and hazard research field is ripe for convergent and engaged scholarship according to field leader Dr. Lori Peek. The HRRC leads several convergent initiatives. But what is convergent science?

The National Science Foundation outlined two central features of convergent science:

Convergent Scholarship Defined

1) Research questions are driven by a specific and compelling problem (such as increasing disaster losses); and

2) Research teams use deep integration across fields and deep engagement between academics and non-academics.

The research findings on what makes for successful convergent teams, called the science of team science, shows how Centers like the HRRC are doing the right activities to build more successful research projects. Convergent research requires more than putting different scholars in a room together, but instead leadership should practice more inclusion, focus on building trusting interpersonal relationships, improve communication patterns, develop shared languages, and foster teams that have both functional diversity and identity diversity.

Examples of External Partner Organizations

Federal

- National Institute of Standards and Technology (NIST)
- Federal Emergency Management Agency (FEMA)
- Department of Homeland Security (DHS)
- National Oceanic and Atmospheric Association (NOAA)
- U.S. Census Bureau

State

- Texas Sea Grant
- Texas Division of Emergency Management (TDEM)
- Texas General Land Office (GLO)

Nonprofit

- American Planning Association (APA)
- Southern Climate Impacts Planning Program (SCIPP)
- National Voluntary Organizations Active in Disaster (NVOAD)
- OneStar Foundation
- Lioness Justice Impacted Women's Alliance
- Charity Productions
- Furr High School
- Brazos Valley Council of Governments (BVCOG)



Dr. Purdum and Dr. Dixon with Lioness and Texas Center for Justice and Equity at the Natural Hazards Workshop 2023



High school students from Port Arthur, TX visit with HRRC researchers on campus through a partnership with Charity Productions

"An approach to knowledge production and action that involves diverse teams working together in novel ways—transcending disciplinary and organizational boundaries—to address vexing social, economic, environmental, and technical challenges in an effort to reduce disaster losses and promote collective well-being." Read more in Peek and Colleagues (2020).

Examples of Our Convergent Scholarship

- Working with the American Planning Association and Department of Homeland Security (DHS), our team has rolled out training programs for the Plan Integration for Resilience Scorecard - a guiding tool that assesses the current integration of hazard mitigation and resilience across the set of a community's plans (learn more at planintegration.com).
- With high school students in Houston and the Texas Environmental Justice Advocacy Services (T.E.J.A.S.) our researchers and Texas Target Communities (TxTC) engaged the public in preparing landscape designs for vacant parcels that will reduce toxic run-off during flooding as well as assess drainage flows in wastewater systems to advocate for municipal investment.
- Connecting structural engineering, coastal engineering, planning, archeology, and anthropology, our Focused Hub for the National Science Foundation's Coastlines and Peoples program coordinates resilience estimates and mitigation suggestions with tribal partners along the Gulf Coast (\$5 million over 5 years).
- The HRRC leads the social science research components of the NIST-funded Center of Excellence in Risk-Informed Community Resilience Planning that connects 13+ universities and the fields of engineering, planning, economics, and sociology. This team will output IN-CORE a computing capacity that will support local communities in developing resilience goals (\$20 million over 10 years).
- Through an Early Career Research Grant from the National Science Foundation, we work with the Texas Division of Emergency Management recovery subcommittee to understanding how long-term recovery groups can perform their best and create repositories for promising practices (\$535,000 over 5 years).
- Working with the American Planning Association and the Extension Disaster Education Network (EDEN), the HRRC and TxTC are developing guidance documents to support low-resource communities with resilience planning.

In 2022, members of the NIST-funded Center of Excellence team assess recovery after Hurricanes Matthew and Florence in North Carolina.



2A. The HRRC Network

The HRRC expands the hazard research community at Texas A&M University through its Fellow network. Faculty and postdoctoral fellows across campus can join the HRRC for 3-year terms. Faculty fellows receive one-on-one discussions about the state of the hazard field, targeted networking and team-building activities to identify interdisciplinary collaboration opportunities, curated notices about funding opportunities, HRRC letters of support on funding proposals, staff support for grant management, and outreach and engagement connections. The network thrives through building social capital among researchers at Texas A&M University - who meet regularly to build long-lasting collaborations and stronger research proposals, a proven research improvement strategy (see Love and colleagues 2021 and 2022)

At its founding, the HRRC included 13 faculty and seven graduate students. Today, the HRRC Fellow Network consists of 40+ researchers and 25+ students across TAMU College Station including:

- School of Architecture
- College of Arts and Sciences
- College of Engineering
- College of Agriculture and Life Sciences
- School of Education and Human Development
- Bush School of Government and Public Service
- School of Public Health

Appendix A provides a list of faculty and students in 2022.

2B. Fostering the Next Generation

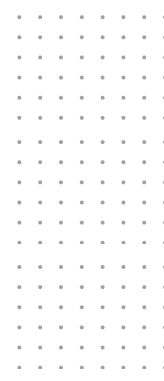
The greatest legacy of any educational institution is its graduates. The HRRC leadership has consistently supported the expansion of educational and training opportunities within TAMU and across the hazard field. Dr. Wenger while at NSF funded "Enabling the Next Generation of Hazard and Disaster Scholars" Programs, building the careers of new faculty across the US and the world and Meyer will continue this legacy next year as Co-PI on the 6th Generation. The HRRC continues our educational legacy through **graduate research assistantships, Bill Anderson Fund Satellite Program, and research experiences for undergraduates (REU).**

Ph.D. Students: Students come from all over the world for our emphasis area in hazards and disasters, which the HRRC anchors. This large student body places Texas A&M, particularly the School of Architecture, as a top producer of social science PhDs interested in hazards in the world. ***Nearly half of the PhD student body in Urban and Regional Sciences at Texas A&M are HRRC students, most of whom have their education fully funded by research grants.***

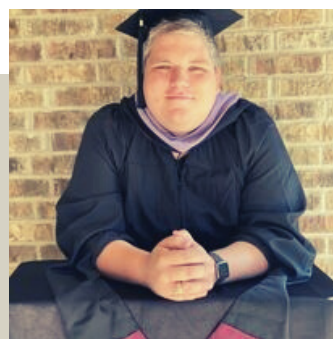


Alumni Spotlight
Marccus D. Hendricks earned his PhD in 2016 in the HRRC under the direction of Dr. Shannon Van Zandt. His focus on environmental justice and how stormwater infrastructure varies across communities led to his current position in the White House Council on Environmental Quality as a Senior Advisor for Climate and Community Resilience on the inaugural Environmental Justice team. On leave from his Associate Professor position at the University of Maryland, he supports the development of federal policies, initiatives and efforts that advance place-based strategies and solutions related to water, hazard mitigation, disaster recovery and infrastructure.

Dr. Hendricks at White House during signing of Executive Order renewing attention to environmental justice 2023



Dr. Sharifan HRRC Spring Party, 2023



Ryke Moore



Drs. Walter Gillis Peacock, Nathanael Rosenheim, Sara Hamideh, Shannon VanZandt

Recent HRRC PhD graduates are faculty or postdocs at:

- University of Florida
- University of Minnesota
- University of Maryland
- University of Texas at Austin
- National Institute of Standards and Technology
- University of North Texas
- University of Texas at San Antonio
- Texas A&M University
- Tulane University
- John Jay University of Criminal Justice
- Florida Atlantic University
- University of Arizona



Drs. Walter Gillis Peacock, Fayola Jacobs, Shannon VanZandt and Mark Fossett



Dr. Roy, HRRC Spring Party, 2023

“

Working with HRRC, it's provided me with a lot of skills and knowledge that I don't think I could get in the classroom setting. I've been lucky to work with some great professors and graduate students during the different projects I've helped with.”



Haley, HRRC REU, then
Masters student in
Landscape Architecture



Bill Anderson Fund Workshop 2019



Fieldwork after Hurricane Ike

By the Numbers

15+

PhD students funded in Urban and Regional Sciences *each year*, which equates to over **\$180k** in tuition and **\$300k+** in salary annually

20+

Graduate students completing the Environmental Hazard Management Certificate since 2013

14

Alumni and current Bill Anderson Fund Fellows, *the most of ANY university*

51+

Undergraduates engaged in research since 2014

"Thank you for opening my eyes to the world of research, especially through my time at HRRC.... Thank you for believing in me and vouching for me the whole way."

Jackson Pierce, HRRC REU,
then Deans Fellow at Rutgers
and now a transportation
planner



”



NSF REUs 2016

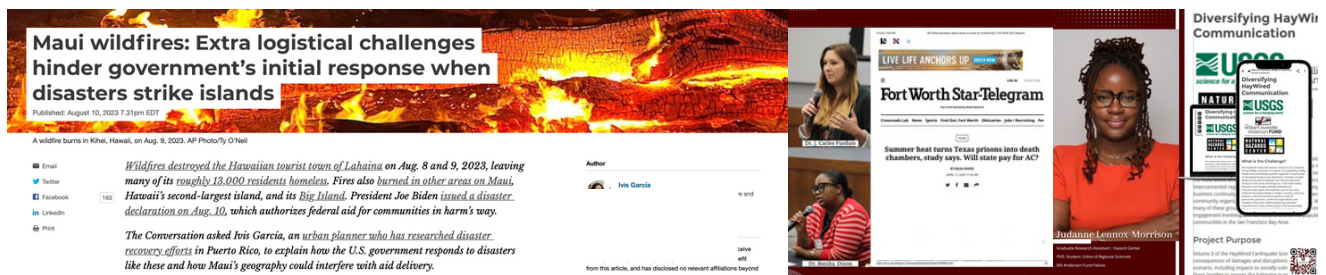
The HRRC and Texas A&M have been academic partners with the Bill Anderson Fund since its inception to provide mentoring and training opportunities to graduate students across the country who are interested in disaster research. This partnership has attracted top graduate student talent to Texas A&M. We boast the largest number of current and former students associated with this program.

Masters Students: The HRRC manages an interdisciplinary graduate certificate in **Environmental Hazards Management**. This Certificate provides graduate students with an official Texas A&M certification of their knowledge about disaster management on their diploma and transcript. The Certificate is useful for Masters students entering careers with environmental, disaster, and planning agencies. Recent graduates with this Certificate have gone on to careers in the resilience offices in Harris County, Texas, and with the Texas Water Development Board.

Undergraduate Students: The HRRC provides multi-year, paid research opportunities for undergraduates, including regular mentoring and professional development sessions with HRRC graduate students and faculty. Longer-term research positions improve students' skill development compared to short-term experiences. Furthermore, paid positions ensure all students can access research opportunities, especially important for low-income and first-generation students, and provide valuable work experience for their resumes. A majority of funding for this program comes from the National Science Foundation through their Research Experiences for Undergraduates (REU) Sites and Supplement grants. The HRRC uses our Indirect Return funds to continue these positions after grant funding ends.

- More than 50% of HRRC undergrads continue to graduate school.
- 81% of HRRC undergraduate researchers are from groups underrepresented in science.

3. Disseminate Research Findings



HRRC faculty, staff, students, and alumni disseminate research findings to the public with the goal of reducing hazard risk, informing individual and community preparedness, and fostering recovery planning.

Prior to the social media age, the HRRC's primary form of public dissemination was through our **Preliminary Papers Series** and our **Research Reports**. Both series provided academic findings from research in formats written for the public because academic journal articles are usually behind a paywall to access or written in jargon not targeted at general audiences. Our papers and reports date back to before we were founded in the early 1980s and can be found on our [website](#).

Ways to disseminate research have expanded, and the HRRC continues to evolve its communication methods. We regularly present at local, state, and national practitioner events and conferences, from the Natural Hazards Workshop to the Brazos Valley Council of Governments to the Coastal Bend Hurricane Conference. And we regularly welcome practitioners to individual and working group sessions with our scholars.

We also work with media outlets to conduct interviews with reporters and write pieces that can be used for op-eds, such as through The Conversation. We continue to explore social media as a method of science dissemination via our Facebook, Twitter, Instagram, and LinkedIn accounts, even podcasts.

"We're working with communities to help update evacuation zones. We're identifying recognizable geographic boundaries. And often those are roads, right? Major roads in an area, because people are gonna know those. They travel those every day, so they can recognize that when evacuating."

David Bierling, Director of Transportation for the HRRC and Research Scientist at Texas A&M Transportation Institute



Train. Equip. Assist.

4. *Provide Assistance and Consultation*

In collaboration with our partners at Texas Target Communities, Texas A&M Transportation Institute, Texas Division of Emergency Management, and Texas Forest Service, the HRRC works with local communities to implement research findings into practice to make communities more resilient.

With Texas Target Communities, we offer short **training** sessions in person and virtually. We also provide workshops on hazard vulnerability assessments and the trademarked Plan Integration for Resilience Scorecard (PIRS™) to **equip** local communities to meet growing hazard challenges. Through classes and independent student projects, we **assist** with architectural and landscape designs, mapping, and data collection needs.

Two ongoing efforts to highlight are the PIRS training offered with the American Planning Association and our Texas Planning Atlas used for evacuation modeling.



PIRS™ Training

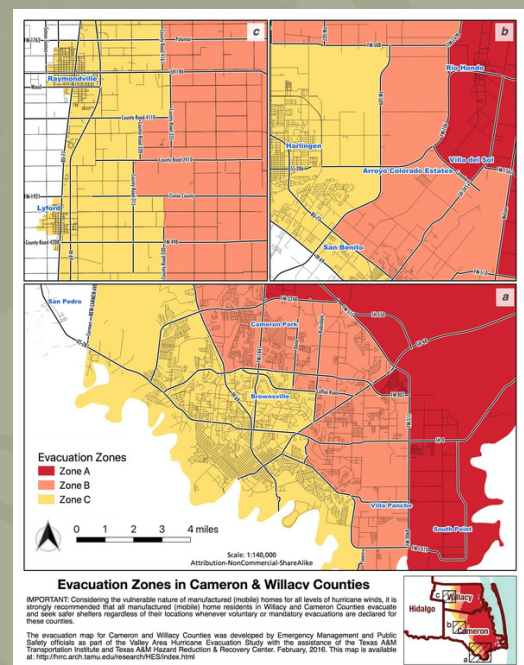
Developed in 2014 at the Texas A&M, the PIRS™ helps local community leaders spatially evaluate their networks of plans to reduce hazard vulnerability and protect the economic, social and environmental well-being of your community. The system has been used in communities across the U.S., Japan, China, and the Netherlands. The PIRS™ is leading the effort to incorporate hazards into all city functions and agencies. Read more at planintegration.com.

"[After using the PIRS], we made a series of amendments to the Comprehensive Plan to fully incorporate the Hazard Mitigation Plan and the Resilience Plan into it. Fortunately, now, we know [these plans] are part of our community and we are making them part of the comprehensive planning effort up front going forward."

Paula Shea, AICP
Assistant Director of Planning
City of Norfolk, VA

Texas Planning Atlas Online Mapping Tools

Since the 1980s, the HRRC has contributed to evacuation planning in Texas. From these efforts, we developed and maintained an online mapping database for all of Texas, including hazards, built environment, and population data. Data can be added based on communities' needs. These data allow local emergency managers to review where to place evacuation routes and shelters, where socially vulnerable populations are located, and evaluate locations of mitigation projects to meet federal funders' guidelines around equity.



The Strategic Planning Process

With the transition of leadership in 2019 aligning with the growing desire for our Center's research and engagement from faculty partners and practitioners, the time was ripe to review our successes and challenges and set our future trajectory. The time period of the plan aligns with 10 years from the most recent Director transition and builds to the 40th anniversary of the Center.

This plan was developed over 18 months in consultation with HRRC faculty, postdocs, and students. Due to the COVID-19 pandemic, strategic planning moved online, and the timeline was lengthened. The entire Center - all faculty fellows, postdocs, and students - were invited to virtual monthly center meetings where strategic planning activities occurred. In total, 46 people participated in the process.

The primary outcomes of the process include a revised mission statement, the creation of a vision statement, the development and commitment to 7 values in addition to the Aggie Values, and the creation of 7 strategic goals with accompanying subgoals.

February 2020

The planning kicked off with a half-day retreat of core faculty and postdocs in February 2020 (13 people attended). The group reviewed previous strategic plans from the HRRC; sister centers' missions, goals, and staffing; previous expenditures and income projections. Dr. Kenny Taylor of the Bush School Center for Nonprofit and Philanthropy led group discussion on strengths, weaknesses, and goals. A summary report contains the outcomes from this retreat, and was shared with School of Architecture leadership for feedback in 2020.

AY 2020-2021

Six meetings were held with activities that led to the development of values, vision statement, revised mission statement, and discussion of the Center's future goals and activities, as well as current best practices and weaknesses. Notes were taken for each meeting and activity documents upon request.

June 2021

Core faculty, postdocs, and the new student committee met for another retreat to review the values, vision statement, mission statement and sketch goals for the final strategic plan. Two working groups were formed to finalize language around: 1) mission, vision, and values; and 2) goals.

AY 2022-2023

The draft document was provided to the HRRC Core Faculty, Student Committee, and Staff for feedback.



Assumptions and Premises

- This strategic plan provides a perspective for the Center as a whole and more detailed planning related to its pillars of educational, research, and engagement.
- This new strategic plan builds on previous plans, existing programming, and the history of programming within the Center.
- This strategic plan incorporates Texas A&M, School of Architecture (formerly the College of Architecture), and Department of Landscape Architecture and Urban Planning mission, vision, and strategic goals.
- This strategic plan embodies the process of successful strategic planning in higher education including incorporation of the voices of key stakeholders, addressing internal and external issues, clearly identifying responsibilities and resources, providing measures for assessment and ways to make improvements, and a plan for updating the plan.

Mission:

What we do

The Hazard Reduction & Recovery Center brings together scholars, students, practitioners, and community members for research and educational opportunities that foster disaster-resilient built, social, and natural environments.

Vision:

What we strive for

We envision a world where communities reduce hazard vulnerability and disaster impacts, promote equity and well-being for all community members, and enhance environmental sustainability through innovative and locally-grounded research and education.

Values:

What we believe in

In addition to the Texas A&M University values the HRRC commits to:

Science

We strive for excellence and educate others on the best practices of current scientific standards in all projects that we undertake.

Impact

We direct our energy to activities that contribute to our vision. Through engagement with the research field, communities, and students, we seek lasting impact of our work. Our work is needed to meet the climate crisis, and we focus our energy on this challenge.

Teamwork

We work collaboratively and direct our individual accomplishments toward the broader mission and vision of the HRRC, TAMU, and the research community.

Accessibility

We maintain the standards of ethics, honesty, transparency, and openness across Center processes and activities in ways that increase access to research and education.

Legacy

We honor the legacy of hazard scholarship and practice that we inherited by fostering the next generation's capacity to reach their goals.

Co-Creation

We serve communities, stakeholders, and partners through relationships that value co-learning and co-researching to reach mutual goals.

Justice

We uphold an environment that respects all persons today and in future activities while addressing historic marginalization.

Defining Characteristics

What makes us unique

- We are strong scholars excelling at convergent research with an emphasis on the application of research into practice through engaged methods.
- We allow communities to invite us in and foster their internal resilience capacity.
- We lead in understanding the role of planning and the allied professions, the built environment, and social vulnerability, across the disaster management life cycle, but especially hazard mitigation (hazard reduction) and disaster recovery. In this way, we put the AICP - American Institute of Certified Planners - ethics statement to preserve natural and built environments into practice.
- We are a “home” to the people who learn and work here. We support each other, push each other, and work to ensure all succeed. We keep internal competition low and success high.
- We have a long history and legacy in the disaster research community. We can trace our legacy to the first generation of disaster scholars through National Science Foundation leadership and into the present.
- We support the next generation of scholars - from postdocs, to graduate students, to undergraduates - with mentoring, grants, publications, and professional opportunities.
- We support scholars to be creative in research questions, collaborations, and methods, while upholding excellence in scientific rigor.
- We champion diverse teams, which are known to produce better convergent science.



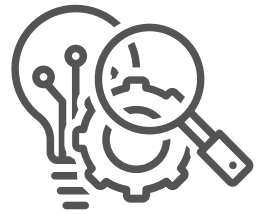
"The faculty members are the most important... they are the most supportive of our education "

Dr. Tristan Wu,
Associate Professor
of Emergency
Management and
Disaster Science,
Univ. of North Texas

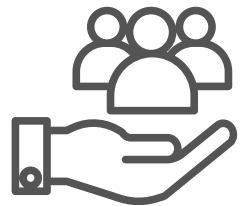
Strategic Goals 2022-2029

The HRRC team coalesced around **7 strategic goals** that embody the three pillars of land grant universities.

Research



Service



Education



1

STRONG SCHOLARSHIP

Maintain and further highly creative and productive scholarship on hazards, disasters, and climate change

2

NATIONAL IMPACT

Strengthen our role as national leaders in hazard mitigation, disaster recovery, and climate adaptation research that fosters equitable community resilience

3

GULF LEADERSHIP

Be the preeminent social science disaster research institution for the Gulf Coast region

4

SCIENCE COMMUNICATION

Meet the science communication needs of a changing society in ways that support the translation of research to practice

5

CARING COMMUNITY

Further a 'community of care' within HRRC that is inclusive, transparent and supportive of our students, staff, faculty, alumni, and research participants/partners

6

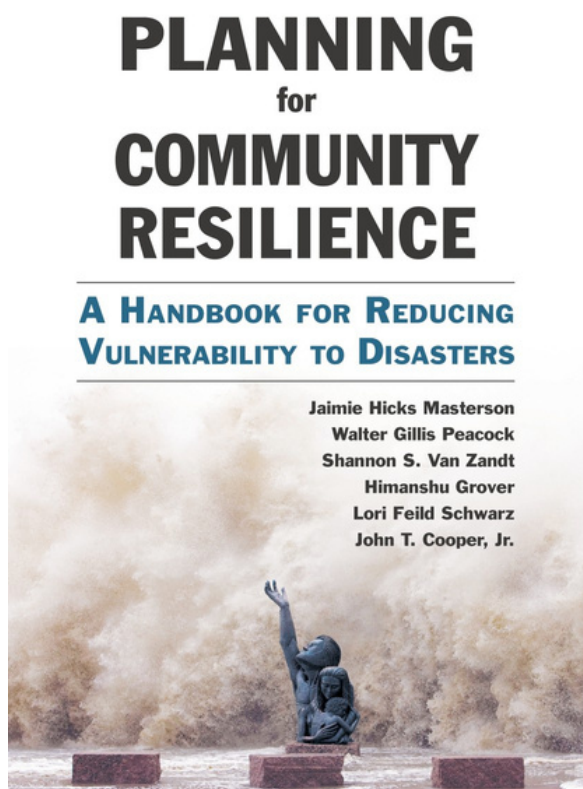
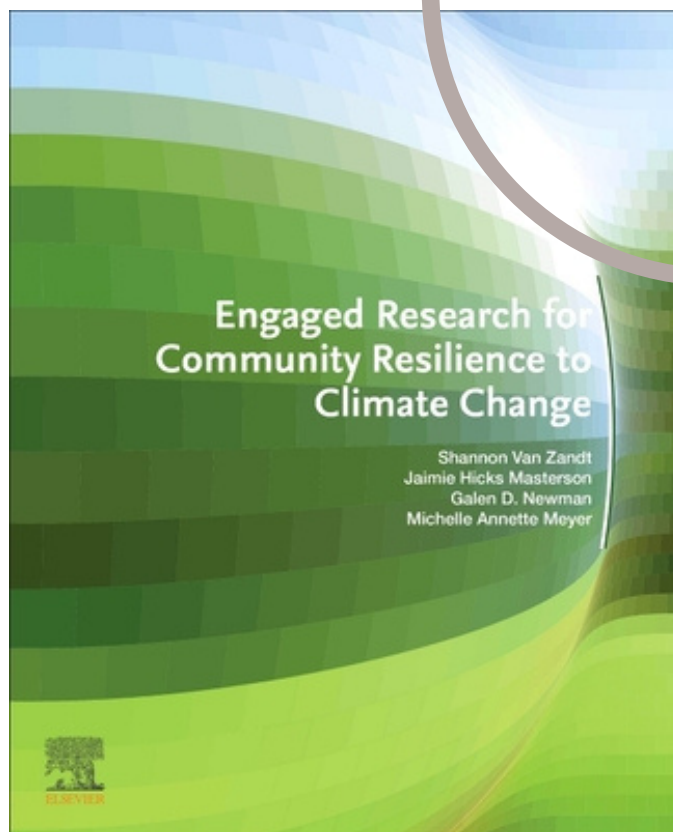
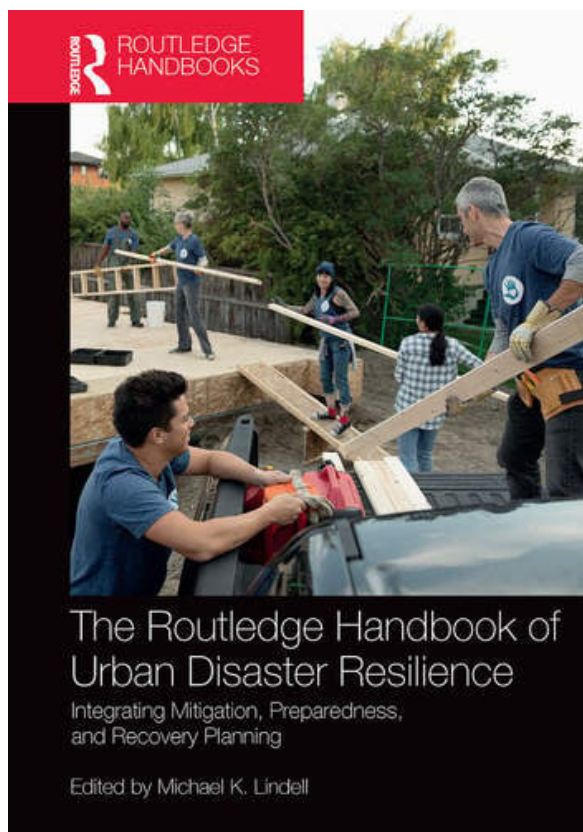
WORKFORCE DEVELOPMENT

Educate, train and support researchers and leaders at all stages of their careers to meet the needs of society undergoing climate change

7

FINANCIAL SUSTAINABILITY

Ensure that the HRRC has sustainable financial resources for our present and future work



STRONG SCHOLARSHIP
Maintain and further highly creative and
productive scholarship on hazards,
disasters and climate change

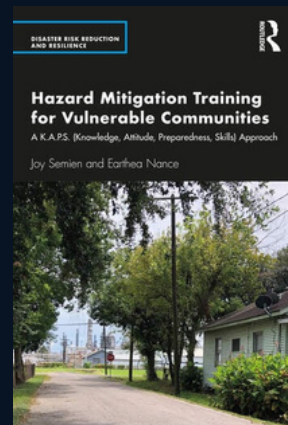
STRONG SCHOLARSHIP

SUB-GOALS

- 1.A Encourage and support interdisciplinary collaborations within Texas A&M System
- 1.B Encourage and support collaborations with sister centers and other universities
- 1.C Encourage and support "high risk, high reward" research
- 1.D Foster international research collaborations
- 1.E Integrate performance evaluation into HRRC operations



Books by HRRC researchers



The HRRC conducts strong science with the appropriate methods to fit the research question. With this strategic goal, the HRRC will further disaster science through increased collaborations within the Texas A&M University System, our sister research centers, and other universities worldwide. Engaging more of the best science and scientists will help solve the wicked problems that disaster management faces.

The National Science Foundation calls for "high risk, high reward research" across all fields. The HRRC will encourage and support scholars to take on challenging topics and methods that lead to scientific breakthroughs.

Champions for this goal will set research performance metrics for the Center to showcase and assess our impact. Outputs will include increased cross-disciplinary collaborations, HRRC faculty fellows and affiliates, and successful convergent grant proposals and publications.

The HRRC has already moved on several of these subgoals, setting 2022 benchmarks and starting a new Research Initiative Program to support pilot collaborative projects on cutting-edge convergent research topics.

2



NATIONAL IMPACT

Strengthen our role as national leaders in hazard mitigation, disaster recovery, and climate adaptation research that fosters equitable community resilience





“I am not a hazards person.... but my experience at HRRC helped me expand my horizon in topics such as environment, disaster, and sustainability”

Dr. Yunmi Park,
Associate Professor,
Seoul National University.

NATIONAL IMPACT

SUB-GOALS

2.A. <u>Lead</u> large-scale research coordination activities & grants.
2.B. <u>Contribute</u> to national and international state of the field efforts such as reports and committees with the National Academies, International Panel on Climate Change (IPCC), etc.
2.C. <u>Increase</u> connections with state, federal, international, and nongovernmental partners.
2.D. <u>Promote</u> HRRC expertise
2.E. <u>Coordinate</u> through established networks to increase the impact of the disaster research field in policy and practice, such as the Global Alliance of Disaster Research Institutes, North American Alliance of Disaster Research Institutes.

Our first 35 years showed how well our name fits our focal areas: hazard mitigation and disaster recovery. As climate change increases the frequency and intensity of natural hazards, we aim to leverage the knowledge from mitigation and recovery research to support community adaptation to a changing climate.

We laid out several ways the HRRC can support the integration of our expertise into high-priority national discussions on these topics. We already are collaborators in several large-scale research coordination grants, such as our just received Department of Energy Urban Integrated Field Lab collaboration (\$17 million across 5 years and 5 institutions) and our ongoing partnership within the Center for Risk Based Community Resilience Planning, a NIST-funded Center of Excellence (\$40 million across 10 years). We plan to step into lead PI positions in future similar efforts and currently have proposals under review that do just that.

We aim to put HRRC expertise directly into policy and practice that leads to national-level changes. This includes more participation in high-profile service roles on reports and committees like those by the National Academies of Sciences, Engineering, and Medicine and the IPCC and increased engagement with agencies making policy and programming changes. For example, Dr. Peacock is currently working with the U.S. Census Bureau on national-level resilience metrics. We will promote the expertise of all HRRC members in areas where change can happen, including through media and legislative action. Through the networks of disaster researchers, we will further the impact of the whole disaster field on policies around disaster, hazards, climate, and investments into their science base.



GULF LEADERSHIP

Be the preeminent social science disaster research institution for the Gulf Coast region

Sub-goal 3.A	Increase research and engagement throughout the whole Gulf Coast Region
Sub-goal 3.B	Build relationships with Centers across the Gulf for joint work
Sub-goal 3.C	Increase connections with non-university partners in region

The Texas coast has been a regular field study site for the HRRC. From our applied evacuation studies dating back to 1982 that result in evidence-based evacuation plans produced with local emergency management to longitudinal recovery research following Hurricane Ike to Hurricane Harvey, Imelda, Laura research projects... the list of disasters to study in the region continues to grow.

This region, from the Texas Valley through the Florida Everglades, needs convergent science to produce climate adaptation initiatives for the rest of the country and the world.

The HRRC aims to be the preeminent hazard and disaster research center in this region so that we focus our national impact in our backyard. To do this, the subgoals call for us to engage more across the Gulf Coast and increase our collaborations with non-academic partners, including state agencies and nonprofit organizations serving populations throughout the region. Growing the disaster science capacity throughout the region, we will strengthen collaborations with partner Centers in Texas, Louisiana, Mississippi, Alabama, and Florida to conduct high-impact, multi-state-engaged research.

Efforts such as our engagement with the National Oceanic and Atmospheric Association's Southern Climate Impact Planning Program (SCIPP), new collaborations with Lamar University, and continuing relationships with our alums in Florida, Alabama, and Louisiana provide solid ground for achieving this goal.

The Gulf of Mexico faces some of the **most acute challenges of climate change in the world**, including sea level rise, subsidence, and coastal storms. These climate challenges exponentially increase a region's vulnerability where **large populations of marginalized communities** live among **technological hazards**, including pollution, toxic exposures, and flooding induces chemical releases. These coupled challenges make the Gulf of Mexico, where a large majority of Texas' population resides, **a priority area for HRRC research and engagement.**

4

SCIENCE COMMUNICATION

Meet the science
communication needs of a
changing society in ways
that support the
translation of research to
practice





INSPIRE workshop, TDEM Region 1



Example communication changes



BVCOG presentations

Communication needs and the tools and mediums to meet those needs are changing rapidly. For our research to be applicable, the HRRC recognizes that we must meet people where they are --- physically, virtually, and in culturally relevant ways.

Drawing on our new mission and vision statements, the HRRC is committed to producing meaningful science that is implemented where needed. To do so, we aim to improve and expand the ways we communicate with the general public and with practitioners who work in disaster management. This goal is also expected to contribute to our leadership nationally and in the Gulf Coast, as well as expand our support base (Goal 7).

We focus on five communication subgoals. These subgoals begin with 5. A: Developing a strategy to account for our various audiences and the channels through which they learn. This first subgoal may alter or add to the next four subgoals:

- 5.B: Increase traditional media coverage of the HRRC, its scholars, and research results;
- 5.C: Increase social media engagement and reach;
- 5.D: Increase access to HRRC researchers and research outputs; and
- 5.E: Maintain an up-to-date website.

Since drafting this goal, the HRRC has dedicated funds for researchers to travel to practitioner conferences and workshops, including Texas Sea Grant coastal workshops, the Brazos Valley Council of Governments Resiliency Workshop, and several state and regional emergency management conferences. We added a media section to our website, LinkedIn and Instagram social media accounts, and hired an intern to develop social media content. We plan to continue looking for ways the Center can ease the science communication burden for faculty while providing engaging content to targeted and general public audiences.

A few of the media outlets showcasing our scholars:
 PBS - NPR - ABC - Houston Public Media -
 The Eagle - KBTX - CNN - The Intercept -
 Texas Standard - Texas Tribune -
 Houston Chronicle - BBC



HRRC Family, 2017



HRRC Family, 2018

5

CARING COMMUNITY

Further a 'community of care' within HRRC that is inclusive, transparent, and supportive of our students, staff, faculty, alumni, and research participants/partners



HRRC Family at the Natural Hazards Workshop over the years

“Family
Heart
Home
Contribution



2022, HRRC student social

Community



2014, Rosenheim, Wei, Lindell, Peacock

Fun

The HRRC has been a place that students, faculty, and staff from numerous countries, US states, cultural backgrounds, and economic circumstances find comfort and support in Aggieland. In 2019, alumni of the used the words above to describe what the HRRC means to them. Increasing divisions in society are not naively ignored, instead HRRC members are encouraged to bring as much of their whole selves as they feel comfortable sharing to the Center where they will be met with respect, dignity, and, when needed, compassion and empathy.

The HRRC leadership will uphold a "community of care" for all researchers, students, and research participants and partners. Within this goal, we outlined six subgoals.

5.A. Increase transparency and participatory decision-making within the HRRC

We have begun these efforts through a student pay standardization scale that is accessible to all faculty and students so that they can understand where they stand and advocate for adequate compensation.

5.B. Promote work-life balance

HRRC leaders committed to being examples of work-life balance with limited evening and weekend emails. Students are made aware of vacation policies.

5.C. Address accessibility and historically marginalized population needs

The HRRC's research is often with marginalized communities who have been made the most vulnerable to disaster impacts. Our focus on accessibility and historic marginalization meets the goals of convergent research and fulfills the goals of a public institution to serve all society. We remain committed to the Bill Anderson Fund, are reviewing internal policies for bias, and improving accessibility of our content.

5.D. Build active student leadership

The 30-40 students active in the Center each year will be our legacy. We started a HRRC Student Committee that provides input to faculty on budget decisions and builds community among the students.

5.E. Increase informal engagement in the HRRC

Relationships are the conduit of strong research collaborations. We added breakfasts and happy hour events as informal meet-ups.

5.F. Celebrate all HRRC members

As the Center grows, we maintain connection through celebration of each others accomplishments - personal and professional. The communication plan will highlight each person in the Center.



6

WORKFORCE DEVELOPMENT

Educate, train and support researchers and leaders
at all stages of their careers to meet the needs of society undergoing climate change



Education that will bring our vision to life requires engaging learners at various stages. With this strategic goal, we will address the education needs of tomorrow's "resilience" workforce and empower today's professionals to integrate hazards into their institutions.

Throughout our history, the HRRC has been the place for graduate students interested in hazards and disasters. We also have offered various continuing education content through workshops and talks and engaged undergraduates and high school students in research activities.

This strategic goal aims to formalize these efforts to ensure the HRRC educates the workforce that is needed to address the climate crisis, wherever the person is on their career journey. We have received more requests than we can currently meet for continuing education, online programming, and professional development courses. We have faculty and staff who want to bring disaster management research and career opportunities to high schools students. We want to expand more into these areas while maintaining the rigorous undergraduate and graduate research education expected from a world-class university.

The strategic planning team identified 7 sub-goals related to education of learners at various education and career stages.

WORKFORCE DEVELOPMENT	
SUB-GOALS	
6.A	Be a leading resource for training and educating working built-environment professionals
6.B	Promote best practices in engaged research
6.C	Better prepare students for coming climate change
6.D	Promote and expand the disaster research field to people from a variety of backgrounds
6.E	Maintain and strengthen our PhD students' skills and success
6.F	Support student and postdoc networking
6.G	Enliven Alumni network

Sub-goal A focuses our attention on education for professionals within our disciplinary fields related to the built environment, including but not limited to planners, landscape architects, architects, and construction and engineering professionals. Built environment professionals can be change agents for hazard mitigation and disaster recovery in ways that reduce future vulnerabilities.

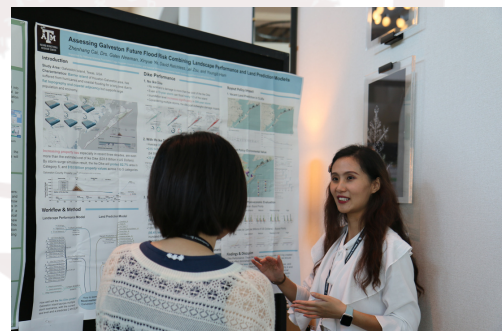
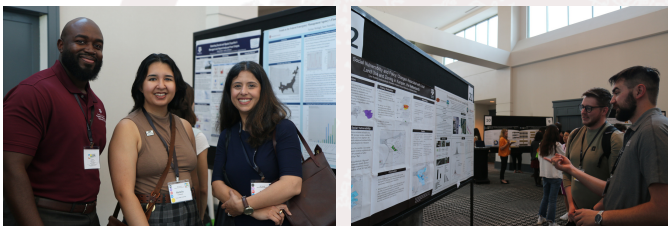
Next, we honor our tradition of **community-engaged research**. Engagement is now required or preferred in many research proposals, and we will share our knowledge of best practices in this area while promoting the amazing work of **Texas Target Communities** as our engagement partner.

Adding **climate change to our curricula** is underway for graduate students, and we aim to incorporate climate across all our educational programming.

In accordance with convergent science principles we aim to further the diversity of the disaster field by **supporting learners from different socioeconomic backgrounds, cultures, and experiences**. We have hosted high school students from schools in low-income communities to learn about disaster professionals as well as interact with top graduate students from across the country as a Bill Anderson Fund Satellite.

The amazing research enterprise of the HRRC is not possible without talented and excited PhD students and postdocs. We will continue **developing their strong research skills and foster their success through personalized mentoring and professional development**.

Increased student and postdoc networking at conferences, via meetings, and with an enlivened alumni network will support the next generations success. Over 20 HRRC students and Alumni networked with scholars, practitioners, and funding agencies at the Natural Hazard Workshop in 2023.



Top left: PhD students Wilkins and Coleman with Alumna Hamideh 2023

Top right: Undergraduate Eutsler with collaborator Breen 2023

Bottom left: BAF workshop 2019 with TEJAS in Houston, TX; Bottom right: PhD student Cai presenting her work 2023



FINANCIAL SUSTAINABILITY

Ensure that the HRRRC has sustainable financial resources for our present and future work

7

Top L-R: Wenger 2018 at BAF Workshop; Peacock and Van Zandt fieldwork 2008; HRRRC visiting TDEM 2018
 Middle L-R: REU program HRRRC and Sociology 2015; TxTC presentation to community; HRRRC at LAUP 2023 awards banquet
 Bottom L-R: Lindell and Prater; Newman, Noh, Van Zandt, Watson 2018

Continuing the HRRC legacy of strong scholarship, outstanding education, and impactful engagement in today's higher education environment calls us to think about funding in creative and flexible ways.

EXPENSES COVERED BY IDC RETURN TO CENTER	ENGAGEMENT: Conference travel, public workshop guest speaking, science communication support Average 44% of annual expenses
	EDUCATION: Undergrad researcher salary, grad student summer salary, scholarships, awards, training courses for students, student computer resources, hosting Bill Anderson Fund workshops 32%
	OVERHEAD: copy paper, shirts, parking, fees, office supplies, maintenance of office equipment 13%
	RESEARCH: Meeting costs, fieldwork, guest visits, events 12%

Average Annual IDC return = \$11,000
from 2015-2020

Budgeting Context. Budgeting for a university-based center is unique. We exist within a large nonprofit with various way to provide in kind or direct financial support for Center activities. During the strategic planning workshops, Center staff and core faculty reviewed our expenses, income, and staffing. Traditionally, the HRRC relied upon indirect cost returns to the Center from the University or College for programming that falls outside of specific grant expenses. When the Center was founded it received 15% of total grant costs on any grant they were involved in. That total has been reduced. In 2021, the Center received only about 6-7.5% of the indirect costs on research expenditures by College of Architecture faculty fellows only. There was no indirect return for the Center on research expenditures outside of the College of Architecture. Average annual indirect returns for the HRRC were only \$11,000, which we call our general operating budget.

Prior to 2022, the Center also received in kind support from the College of Architecture for a program coordinator position (\$39,000 salary plus fringe and insurance) and a \$5,000 annual allotment for printing, supplies, and other office costs. All other HRRC staff and faculty are either faculty who donate their time and energy, graduate students funded by external grants, or postdocs and research professors who receive a minimum of half of their salary from external grants and the other half from teaching. For specialty events like hosted conferences or workshops, we requested sponsorships on an individual event basis.

Our review of costs showed that the HRRC is an incredibly lean organization. The HRRC operates with a third of the staff that our sister disaster centers have. Because of this, we spend the large majority of our funds on mission activities like student salaries and public engagement.

Reporting Changes. Starting July 1, 2022, the reporting and fiscal responsibility for the Center moved to the Department of Landscape Architecture and Urban Planning. Indirect cost return allocations are remaining the same at this time, but the School of Architecture will no longer provide financial support for staff and supplies. These changes highlight the importance of the HRRC expanding our revenue sources for general operational costs outside of specific grant budgets.

Rationale for Fiscal Management Strategic Goal.

Convergent research is absolutely essential to the disaster research field, so this strategic goal addresses the need to both:

- Increase funding in general to support success of other strategic goals, and
- Develop new sustainable income to continue interdisciplinary research and all our programming in the context of changing higher education funding models.

FINANCIAL SUB-GOALS

7.A Follow best budgeting practices

7.B Increase HRRC engagement with philanthropic funding

7.C Reimagine an advisory committee

7.D Explore various services and products to provide funding

7.E Advocate in areas of influence for university support

5 Sub-Goals. Five sub-goals make up our plan to improve financial sustainability. These start with incorporating best practices in nonprofit financial management including increased transparency and standardized decision-making protocols across expense categories.

For 7.A, we include expenses in annual and five-year reports and started regular budget meetings among core faculty, staff, and the Student Committee. The HRRC Student Committee began this process by gathering feedback from HRRC students on a prioritization scale of expenses related to students. This scale allows the HRRC to prioritize the expenses most desired and beneficial to students while also sharing ownership over the financial health of the Center.

The four additional sub-goals relate to expanding the funding base for the Center by seeking philanthropic engagement; cultivating an advisory committee that can also advocate and bring funding opportunities to the Center; exploring fee-for-service opportunities; and advocating for University support.

The HRRC has already accomplished or has begun planning for:

- Received approval for a HRRC donation account hosted by the Texas A&M University Foundation where our alumni and supporters can donate to general operating costs.
- Developing our community engagement strategy with Foundation professionals to foster individual and corporate donors that support our mission.
- Recruiting advisory committee members who will provide advice and connections for novel funding opportunities.
- Undertaking applied research contracts with agencies and nonprofits.
- Developing online continuing education programming and certifications for professionals.
- Evaluating aspects of the Texas Planning Atlas for fee-based data and services.
- Participating in University and System level discussions about the importance of Centers and Institutes.



DEVELOPING DISASTER RESILIENT COMMUNITIES



Hazard Reduction
& Recovery Center

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www.txamfoundation.com/give.aspx



Additional Reading

- Hazard Reduction & Recovery Center 5-year reports available through request, please email: hrrc@arch.tamu.edu.
- Strategic plan for the School of Architecture 2023
- Strategic plan for the Department of Landscape Architecture and Urban Planning 2019
- Peek, L., Tobin, J., Adams, R.M., Wu, H. and Mathews, M.C. (2020). A Framework for Convergence Research in the Hazards and Disaster Field: The Natural Hazards Engineering Research Infrastructure CONVERGE Facility. *Frontiers in the Built Environment*. 6:110. doi: 10.3389/fbuil.2020.00110
- Love, H. B., Cross, J. E., Fosdick, B., Crooks, K. R., VandeWoude, S., & Fisher, E. R. (2021). Interpersonal relationships drive successful team science: an exemplary case-based study. *Humanities and Social Sciences Communications*, 8(1), 1-10.
- Love, H. B., Stephens, A., Fosdick, B. K., Tofany, E., & Fisher, E. R. (2022). The impact of gender diversity on scientific research teams: a need to broaden and accelerate future research. *Humanities and Social Sciences Communications*, 9(1), 1-12.
- [INSPIRE Report \(PDF\)](#).(2020). Integrating Science & Practice to Improve REsilience Report. Hazard Reduction & Recovery Ceneter, Texas Division of Emergency Management https://tamucoa.b-cdn.net/app/uploads/2021/10/INSPIRE-REPORT-_Final.pdf

Special Thanks

Senior Fellow and leader in planning education Dr. Shannon Van Zandt says that the planning process is more important than the plan. That is true for this effort. We thank the HRRC, LAUP, and SOA folks that contributed their time, energy, and ideas to this process that went beyond their job commitments. Huge thanks to the following faculty, staff, and students who participated during the 2-year plan creation process.

Alexander Abuabara
Mason Alexander-Hawk
Amir Behzadan
David Bierling
Jennifer Blanks
Shankar Chellum
John Thomas Cooper, Jr.
Wayne Day
Benika Dixon
Jiaxin Du
Rebekka Dudensing
Tyler Eutsler
Mark Fossett
Nasir Gharaibeh
Troy Hardin
Dawn Jourdan

Erika Koeniger
Kin-long Lei
Judanne Lennox-Morrison
Leslie Lutz
Jaimie Masterson
Melina Matos
Michelle Meyer
Galen Newman
Walter Gillis Peacock
Carlee Purdum
George Rogers
Nathanael Rosenheim
Malini Roy
Andy Rumbach
Joy Semien
Kijin Seong

Michelle Stanley
Laura Stough
Kenneth Taylor
Jeewami Thapa
Shannon Van Zandt
Jorge Venegas
Heather Wade
Maria Watson
Chandler Wilkins
Doug Wunneburger
Xinyue Ye
Siyu Yu
Zhe Zhang
Yihua Zhu
Lei Zou

Appendix A. HRRC People and Current Organizational Structure, as of 2022

Director: Dr. Michelle Meyer

Director of Research: Dr. Nathanael Rosenheim

Director of Access and Justice: Dr. Deidra Davis

Director of Engagement: Ms. Jaimie Masterson

Director of Outreach: Dr. John Cooper

Director of Transportation: Dr. David Bierling

Director of Education: Dr. Andy Rumbach

Mapping Lead: Dr. Doug Wunneburger

Senior Fellows: Drs. Walter Gillis Peacock, Shannon Van Zandt, and George Rogers

Center Liaisons: Dr. Galen Newman (LAUP)

Postdoctoral Scholars: Drs. Alexander Abuabara and J. Carlee Purdum

HRRC Core Faculty Fellows: Drs. Amir Behzadan, Heng Cai, Benika Dixon, Mark Fossett, Ivis Garcia, Nasir Gharaibeh, Dongying Li, Matthew Malecha, Jeewasmi Thapa, Sierra Woodruff, Siyu Yu, Xinyue Ye, Lei Zou.

HRRC Faculty Fellows: Ann Bowman, Shankar Chellam, So-Min Cheong, Rebekka Dudensing, Dan Goldberg, Cecilia Giusti, Youngjib Ham, Maria Koliou, Zenon Medina-Cetina, Jason Moats, Ali Mostafavi, Forster Ndubisi, Xiaofeng Nie, Garrett Sansom, Douglass Shaw, Kenneth Taylor, Qingsheng Wang, Christine Wen, Zhe Zhang.

HRRC Faculty Affiliates: Faculty span institutions across the nation including, Texas A&M University Galveston, University of North Carolina at Chapel Hill, Prairie View A&M University, University of Washington, Stony Brook University, University of Maryland, University of Delaware, Jacksonville State University, University of Minnesota, Louisiana State University, Ball State University, University of Colorado Boulder, Arizona State University, The Ohio State University, Florida Atlantic University, University of Texas-Austin, University of North Texas, John Jay School of Criminal Justice, University of Kansas, University of Central Florida, and Portland State University. Please see the HRRC website for a list of those faculty.

HRRC Student Committee:

Founding members: Joy Semien, Chandler Wilkins, Malini Roy, Erika Koeniger. Year 2: Michelle Stanley, Tyler Eutsler, Wilinia Hamilton, Heather Wade, Haider Anwar. Year 3: Erika Koeniger, Leslie Lutz, Breiana DeGrate, Farzana Ahmed.

Appendix B. Tables and Figures Methods

Table 1. Research Expenditures from 2018-22:

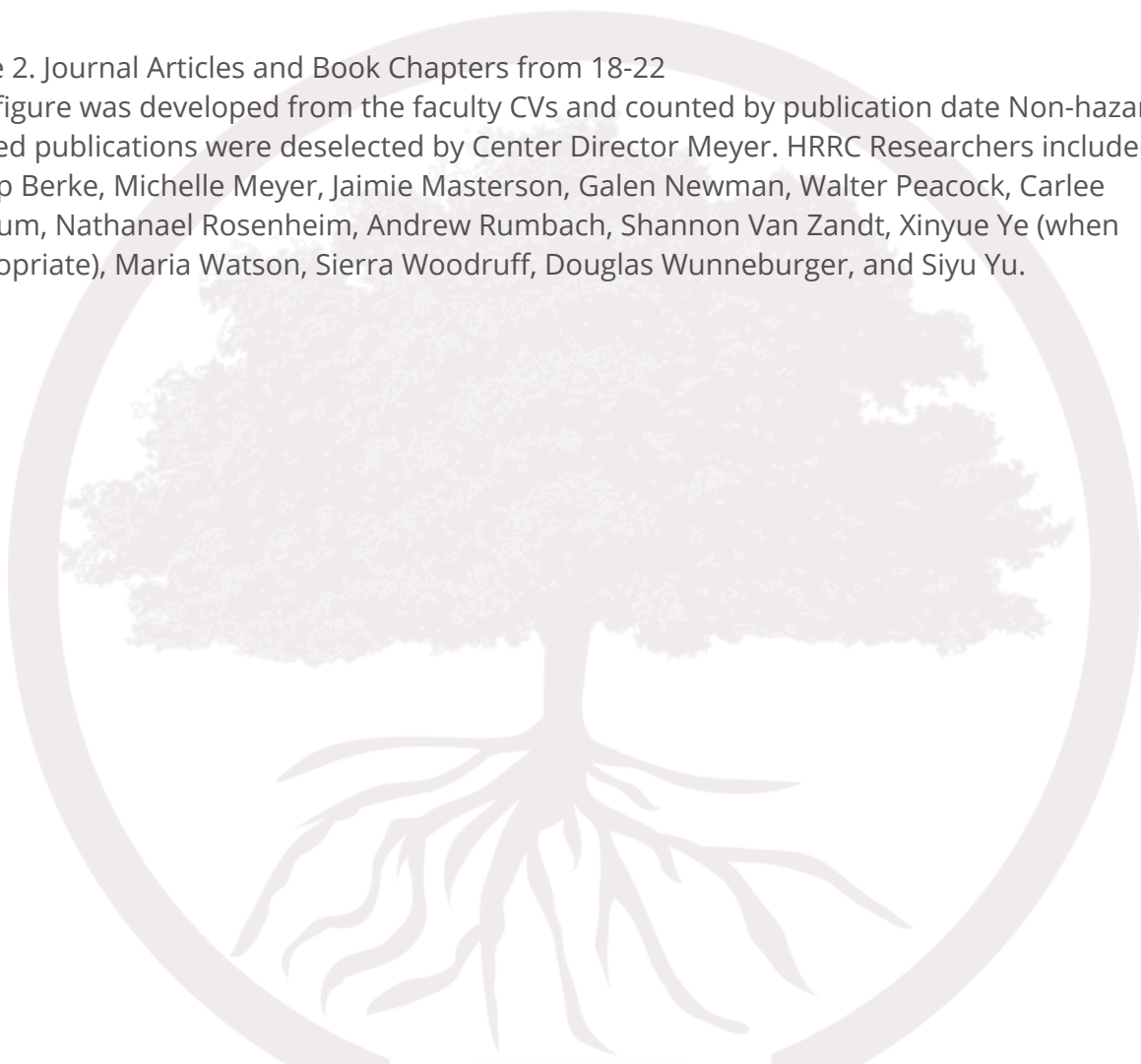
This table illustrates the grant research expenditures within the School of Architecture (SoA) during fiscal year (FY) 2018 through 2022. The original data was obtained by the Assistant Dean for Finance and Administration for the SoA. This data was organized and summed by department, account, and researcher prior to additional analysis. To calculate the HRRC amounts, the HRRC researcher's expenditures were added together each FY. HRRC Researchers included Phillip Berke, Michelle Meyer, Jaimie Masterson, Walter Peacock, Carlee Purdum, Nathanael Rosenheim, Andrew Rumbach, Shannon Van Zandt, Xinyue Ye (when appropriate), Maria Watson, Sierra Woodruff, Douglas Wunneburger, and Siyu Yu.

Figure 1. Total Grant Awards from 2018-22

This figure illustrates the grants awarded and registered through Maestro Support, the research administration support platform at TAMU. Data was collected based on the PI or Co-PI involvement of HRRC researchers and summed based on the calendar year. HRRC Researchers included Phillip Berke, Dongying Li, Michelle Meyer, Jaimie Masterson, Galen Newman (when appropriate), Walter Peacock, Carlee Purdum, Nathanael Rosenheim, Andrew Rumbach, Shannon Van Zandt, Xinyue Ye (when appropriate), Maria Watson, Sierra Woodruff, Douglas Wunneburger, and Siyu Yu. Total grant amounts reflect all the grants allocated to Texas A&M University and include departments outside the HRRC.

Table 2. Journal Articles and Book Chapters from 18-22

This figure was developed from the faculty CVs and counted by publication date. Non-hazard-related publications were deselected by Center Director Meyer. HRRC Researchers included Phillip Berke, Michelle Meyer, Jaimie Masterson, Galen Newman, Walter Peacock, Carlee Purdum, Nathanael Rosenheim, Andrew Rumbach, Shannon Van Zandt, Xinyue Ye (when appropriate), Maria Watson, Sierra Woodruff, Douglas Wunneburger, and Siyu Yu.



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