

SOUTHERN CLIMATE IMPACTS PLANNING PROGRAM

**ANNUAL REPORT
2022–2023**



SCIPP
A NOAA CAP TEAM

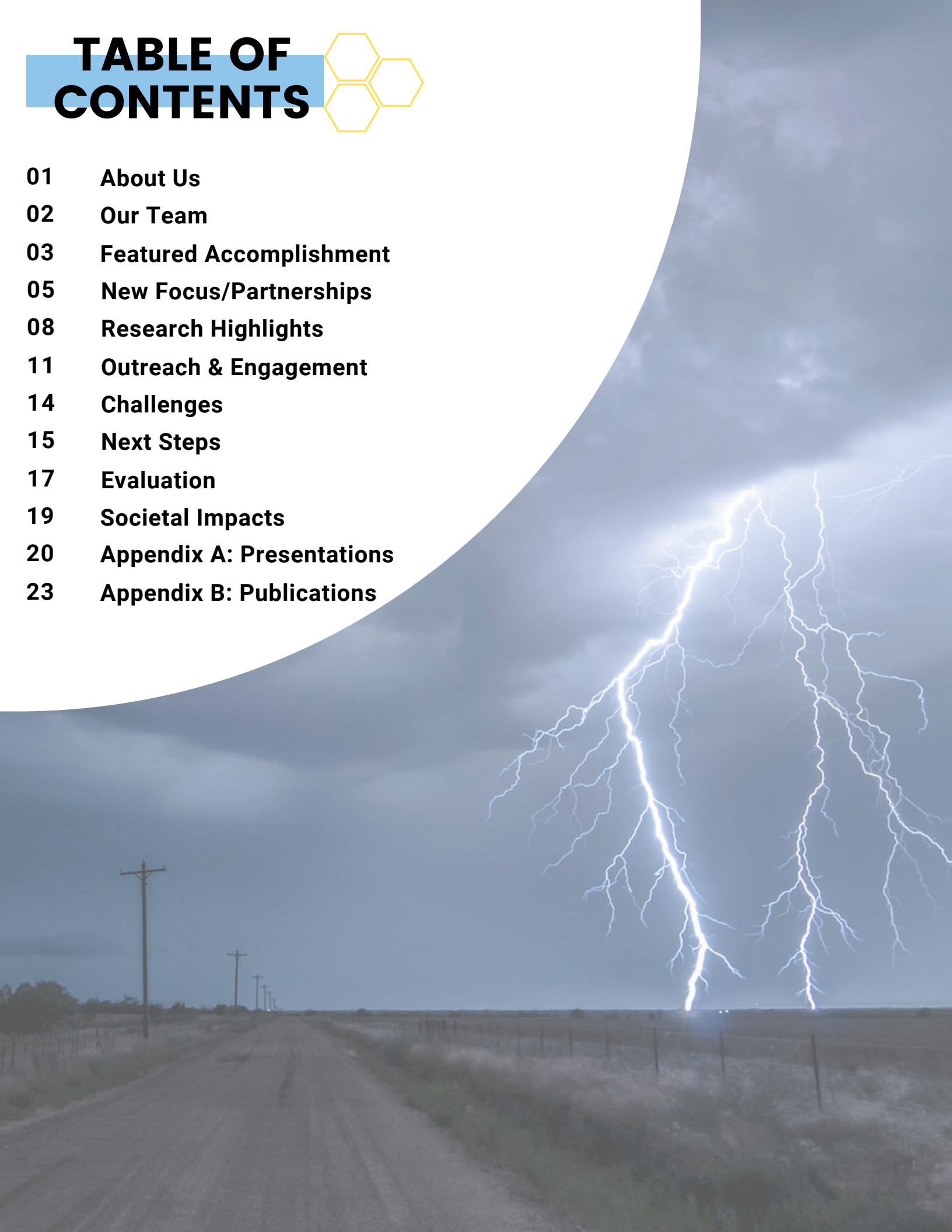


**Climate Adaptation
Partnerships**
Formerly RISA

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ABOUT US



The Southern Climate Impacts Planning Program (SCIPP) is a climate hazards research and engagement program that serves the 4-state region of Oklahoma, Texas, Arkansas, and Louisiana. SCIPP is a partnership between the [University of Oklahoma](#) (OU), [Louisiana State University](#) (LSU), [Texas Sea Grant](#) at [Texas A&M University](#), and [Adaptation International](#) (AI). Established in 2008, it is one of several [NOAA Climate Adaptation Partnerships](#) (CAP) teams, formerly Regional Integrated Sciences and Assessments (RISA).

This reporting cycle, SCIPP began its research efforts under Phase IV. Much of SCIPP's previous research focused on assessing climate information needs at a high level from a broad set of stakeholders. The team also sought to advance the understanding of the physical climate and extremes across the region. While quantifying and assessing changes in extreme events and the physical climate is still a valuable component of our work, in Phase IV, we are shifting more attention to social, economic, and institutional factors that inhibit climate adaptation planning across the region and developing solutions to address those barriers. *SCIPP Phase IV: Planning for Long Term Change in a Short Term World* focuses on long-term resilience to climate impacts, and rests on the interconnectedness of its four research themes:

THEME 1

Climate-Informed Planning is focused on learning how to incorporate climate information effectively into long-term municipal, county, and state plans.

THEME 4

Climate Justice is focused on learning how the voices of all community members can be represented in policies and activities taken to lessen the impacts of climate events.

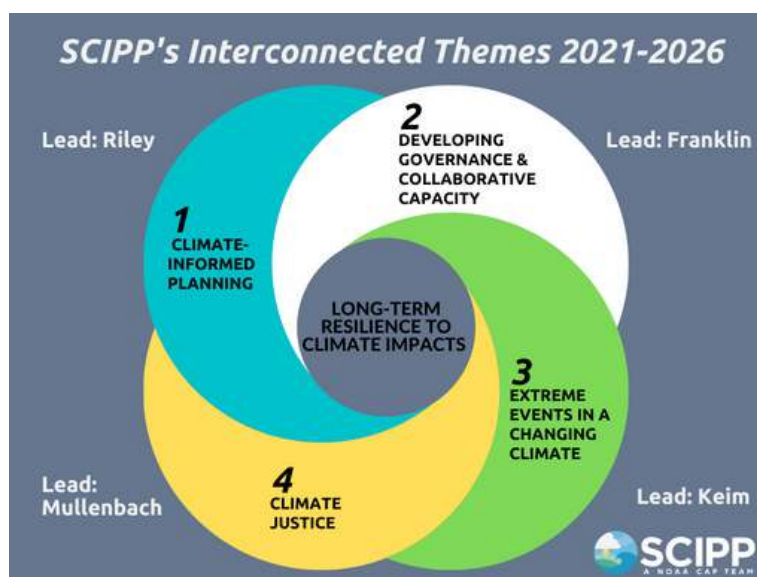


Figure 1. SCIPP Phase IV research themes. Four distinct research themes are presented; however, some of the projects intersect more than one theme. Further, at least one project from each theme will focus on a common geographical location (e.g., Tulsa, Oklahoma), allowing for a unique, deep dive into a single city.

MISSION

Our mission is to assist organizations with making decisions that build resilience by collaboratively producing research, tools, and knowledge that reduce weather and climate risks and impacts across the South-Central United States.

THEME 2

Developing Governance and Collaborative Capacity is focused on investigating the financial and policy levers that municipalities and counties can use to build resilience to climate impacts.

THEME 3

Extreme Events in a Changing Climate is focused on understanding trends in the frequency and intensity of extreme events, with a significant focus on precipitation.

OUR TEAM



SCIPP's work is transdisciplinary and includes expertise in human and physical geography, political science, public administration, climatology, environmental sustainability, meteorology, and communications. We leverage this expertise to bolster long-term resilience efforts in the SCIPP region.

Core Office and Investigators

- Rachel Riley, PI - OU (Director)
- Mark Shafer, PI - OU (Deputy Director)
- Barry Keim, PI - LSU
- Darrian Bertrand, Co-PI - OU
(Climate Assessment Specialist)
- Vincent Brown, Co-PI - LSU
(Climate Research Director)
- Evan Chladny (student) - OU
(Climate Communications Assistant)
- Caylah Cruickshank, Co-PI - OU
(Program Manager)
- Charles Simson - LSU
(Data Analyst)
- Derek Thompson - LSU
(Research Associate)

Graduate Students

- Jordan Fazio* - LSU
- Anna Sitzman* - LSU
- Olivia Van Buskirk* - OU
- Elizabeth Weaver* - OU
- Amy Wold* - LSU

Senior Personnel

- Ioana Cionea - OU
- Renee Edwards - LSU
- Renee McPherson - OU
- Randy Peppler - OU

Co-Principal Investigators

- Simone Domingue*,
Co-PI - OU (Postdoc)
- Aimee Franklin, Co-PI - OU
- Lauren Mullenbach*,
Co-PI - OU
- Sascha Petersen*, Co-PI -
AI
- Debalina Sengupta*, Co-PI -
Texas Sea Grant

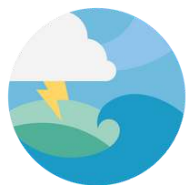
*Denotes recent addition to the
SCIPP team

Undergraduate Student

- PaShioun Young* - OU

Advisory Committee

- Nelun Fernando (Texas
Water Development
Board)
- Jordan Fischbach (Water
Institute of the Gulf)
- Michael Hayes (University
of Nebraska-Lincoln)
- Kim Jenson (Oklahoma
Department of Emergency
Management and
Homeland Security)
- Julie Lively (Louisiana Sea
Grant)
- Tim Lovell (Disaster
Resilience Network)
- Michelle Meyer (Hazard
Reduction and Recovery
Center - Texas A&M
University)
- Leif Olson (City of
Fayetteville, AR)

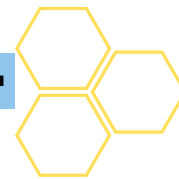


SCIPP
A NOAA CAP TEAM



The work highlighted in this report covers the performance period of June 1, 2022 - May 31, 2023, and is supported by the National Oceanic and Atmospheric Administration's Climate Program Office through grant #NA21OAR4310306.

FEATURED ACCOMPLISHMENT



SCIPP's Climate Justice Webinar Series

In 2022, SCIPP partnered with the Disaster Justice Network (DJN) to organize a series of webinars engaging in topics around disaster recovery, environmental justice, and climate adaptation in the Gulf South. The goal of the webinars was to create a forum for deep and open conversations about specific topics, while raising awareness and disseminating relevant and timely information that could be helpful for stakeholders pursuing equity and justice related work. With equity being a prominent aspect of SCIPP's Phase IV research efforts, the success of this webinar series paved the way for insightful conversations and valuable new networks. In total, three webinars were held. An in-depth report on the Climate Justice Series (including panelist details, webinar resources, and webinar evaluation details) can be found [here](#).

WEBINAR 1

Climate and Infrastructure Funding: A Conversation on Justice Opportunities and Challenges, the first webinar, was co-hosted with Louisiana's Disaster Justice Network on July 28th, 2022. It brought individuals together from various sectors to identify environmental justice funding and capacity-building resources for disaster resilience when implementing community-led projects. The webinar had an informational component and provided an overview of federal funding opportunities (i.e. the Bipartisan Infrastructure Law), ways to access news and updates regarding those funds, organizational tools for communities seeking to deepen their understanding of the [Justice40 Initiative](#), and a list of resources available for technical assistance or planning. Lastly, the webinar featured a panel discussion from leaders in environmental justice, disaster resilience, and community development.

WEBINAR 2

The Next Big One: The Ongoing Work of Disaster Recovery and Preparedness for Communities on the Frontlines, the second webinar, was co-hosted with Louisiana's Disaster Justice Network on September 16th, 2022. It focused on discourse from community leaders and organizers in the Gulf South who are preparing their communities for future severe weather events and disruptions, even in the midst of ongoing recovery from previous disasters. The session was an opportunity to learn about grassroots resilience efforts and how they center justice for people most at risk.

Webinar STATS



WEBINAR 3

Hurricane Harvey Aid and Recovery Equity for People of Color Communities, the third webinar on February 3rd, 2023 brought individuals together from different sectors to answer a few of the following questions and more: What are the climate justice and disaster recovery struggles for People of Color Communities around the Houston area following Hurricane Harvey? How are organizations responding to civil rights violations following relief allocation and other recovery inequities? The session included a panel discussion of community organizers, fair housing advocates, and social science researchers from West Street Recovery, Texas Housers, and the University of Colorado at Boulder.



SCIPP team members developed a webinar evaluation survey that was shared at the end of each webinar. Although limited feedback was received, the comments were positive overall. **Participants reported being able to apply the information in the webinars to their work in the areas of: research, program implementation, and coalition and network building.** Participants also indicated that the content was best when the panelists and hosts were clear and enthusiastic and when resources and actionable strategies were presented. Overall, the reach of the series conveys a need for climate adaptation and community capacity building content that centers equity and justice.



The feedback presented and the quality of the conversations in the events indicate that the webinar series created a space for cross-cutting conversations with the potential to bridge divides across stakeholder groups (e.g., local and federal government, nonprofit and research sectors). The webinar series has also fostered new connections with non-profit and community leaders, which SCIPP hopes to grow throughout the grant cycle and beyond.

NEW FOCUS/PARTNERSHIPS



Cypress Swamp
Credit: JLFcapture

Louisiana Sugar Cane Industry and the National Wetland & Aquatic Center

As part of our “tropicalization” work in Phase IV, we have partnered with the Louisiana Sugar Cane Industry and the National Wetland and Aquatic Center to better understand how changing temperatures impact sugarcane and other species. With this new partnership, we seek to determine if the growing season of sugarcane has changed or if there are specific temperature thresholds that either increase or decrease sugarcane yields. This will help better inform best practices in the sugarcane industry.

Additionally, the National Wetland and Aquatic Center is conducting species work (e.g., mangroves, pythons, etc.), and we will analyze trends in temperature thresholds critical to those species (as identified by the Wetlands Center) to better inform their work. For example, the annual frequency of warm nights has increased in the region, and we will quantify the trend and provide it to the Wetland Center so that they can determine the impact on the species of interest via modeling.

DHHS Region 6 Climate Change and Health Equity Workgroup

SCIPP joined a regional collaboration led by the Office of the Assistant Secretary for Health for the U.S. Department of Health and Human Services (OASH). OASH hosts quarterly calls for the Region 6, which includes the entire SCIPP region, Climate Change and Health Equity Workgroup. These calls share expertise, current activities, and current priorities that may impact health issues in Region 6, which includes the entire SCIPP region.

SCIPP Co-PIs Lauren Mullenbach and Simone Domingue presented on their [Theme 4 Climate Justice](#) work on the Fall 2022 quarterly call. SCIPP has also been able to connect the group’s leadership with other climate services partners in the region. Participation enables awareness of Federal efforts to implement [Justice 40](#) in the region, along with sharing results from SCIPP’s work.



Rio Grande River
Credit: dszc

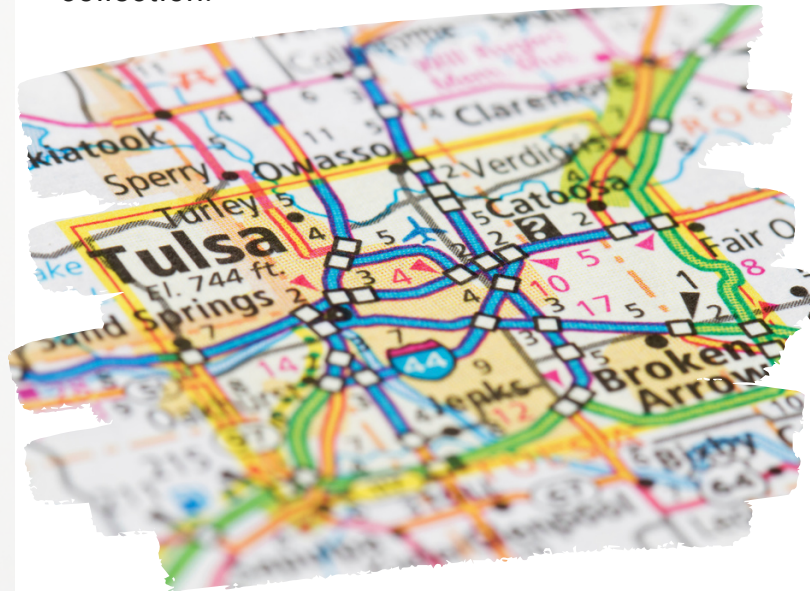
New Orleans City Government

In the past year, SCIPP began a new partnership with the Department of Parks and Parkways and Office of Resilience and Sustainability. This partnership was established through our precipitation research (Phase IV) and our leveraged NOAA Adaptation Sciences grant. In our AdSci grant, we partnered with the Sewerage and Water Board of New Orleans (SWBNO) and the Water Institute of the Gulf to address changes in rainfall and street flooding. The Department of Parks and Parkways contacted SCIPP to help them with citywide neutral ground parking decisions.

In New Orleans, residents park their cars on the neutral ground (median) when heavy rainfall overwhelms the drains and the streets flood. While the inches of additional height protect cars from flooding, it causes damage to the neutral ground, which is becoming costly for the city to fix. The city enlisted SCIPP to help create a more informed approach to neutral ground parking, potentially at the neighborhood level. We hope to submit a proposal to help fund this work because neither of our grants currently supports the project. In this new partnership, we are working with the New Orleans Deputy Chief Resilience Office, the Director of Parks and Parkways, the Environmental Affairs Administrator, and the Director of Hazard Mitigation.

Several Connections in Tulsa, Oklahoma

As part of our data collection efforts in Tulsa under [Theme 4](#), we have made connections with the **Disaster Resilience Network Cross Cultural Council**, who are helping us recruit interview participants and distribute our survey about extreme heat and flooding in Tulsa. We have also met with planners at the **Indian Nations Council of Governments (INCOG)** which handles city planning for Tulsa and the surrounding municipalities and plan to interview them about climate adaptation efforts in the city. Furthermore, we have connected with the **City of Tulsa Neighborhood Liaisons** who are helping us connect with leaders of different neighborhood associations in Tulsa, OK. These new connections and partnerships have helped us to understand the existing state of climate planning in Tulsa, as well as needs that residents might have. We plan to leverage these connections as we move forward with data collection.



Roadmap of Tulsa, OK
Credit: CT757fan



City of Dallas Office of Environmental Quality and Sustainability

SCIPP's Darrian Bertrand is an author on the Southern Great Plains Chapter of the 5th National Climate Assessment. Through this opportunity, she made connections with several potential collaborators and stakeholders within the author team, including an official from the City of Dallas Office of Environmental Quality and Sustainability (DEQS). DEQS has assisted SCIPP with widely disseminating tools, such as the Simple Planning Tool for Texas Climate Hazards, and introduced SCIPP to potential future stakeholders in north Texas.

In addition, SCIPP is one of several partners in the south-central U.S. that is planning the first ever South Central Climate Resilience Forum in Spring 2024. Through our new relationship, the City of Dallas has become an integral part of the Forum by hosting the event in Dallas, TX, contributing funds to the event, assisting with contracts, offering expertise, and joining the planning team. While SCIPP does not typically work with cities as large as Dallas, this new connection has been beneficial to reach networks within north-central Texas and learn how this area of our region is responding to climate change and taking action.

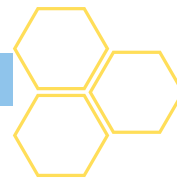
Disaster Justice Network



This past year, SCIPP partnered with the Disaster Justice Network (DJN) to organize a series of webinars engaging in topics around disaster recovery, environmental justice, and climate adaptation in the Gulf South. The Disaster Justice Network is a network of community leaders, faith leaders, advocates, activists, practitioners, researchers, and students that exists to share critical disaster recovery information and develop strategies to address environmental and social justice in south Louisiana and beyond. SCIPP's collaboration with DJN has paved the way for future work surrounding community-led climate justice initiatives, especially as it relates to [Theme 4 \(Climate Justice\) research endeavors](#). This exchange of knowledge and networks between both groups bolsters resilience efforts within the SCIPP region by bridging the gap between academic institutions and non-profit organizations.



RESEARCH HIGHLIGHTS



Project1A: Building Capacity for Hazard Mitigation Planning in Low-Capacity Communities



SCIPP Investigators: Rachel Riley and Darrian Bertrand, University of Oklahoma



Collaborators: Ed Hecker, Annie Vest, and Yelena Martinez, National Hazard Mitigation Association

This research project falls under [Theme 1](#), Climate-Informed Planning, and is working to determine how to make the hazard mitigation planning process more meaningful and effective for low-capacity communities. A potential outcome may be developing a hazard mitigation planning template that is useful for low-capacity communities and broadly advances climate resilience and disaster risk reduction.

Significant progress was made during the reporting period. Data collection instruments for the first half of the project were developed, approval from the University of Oklahoma Institutional Review Board was obtained, participants were recruited, and the first of four rounds of focus groups were conducted. Currently, 23 participants who work at local scales are enrolled in the study and represent 87 low-capacity jurisdictions across the SCIPP region. The first round of focus groups introduced participants to the study motivation and background. Then, data was collected to address the research questions, 1) Why are most low-capacity communities unable to address their hazard-related challenges? and 2) What additional capacities and capabilities are needed so that low-capacity communities can address their hazard challenges that are being or will be exacerbated by climate change?

Data analysis is ongoing. Preliminary analysis indicates several reasons why participants are unable to address their hazard-related challenges, many of which align with prior literature. Some reasons include lack of buy-in from country commissioners and other jurisdictional leaders, lack of knowledgeable staff within jurisdictions and private firms, staff turnover, frequent changes to and excessive planning requirements, and lack of return on time investments. Moreover, knowledge about how to address climate change at local scales is likely lacking and the topic is overwhelming for some participants. More data pertaining to this research question will be collected, and other research questions will be addressed in subsequent rounds of the focus groups.



Rural Cattle Farm in Oklahoma
Credit: Ryan Overman

RESEARCH HIGHLIGHTS CONT'D



Project 1B: Simple Planning Tool Expansion



SCIPP Investigators: Rachel Riley and Darrian Bertrand, University of Oklahoma

In 2022, SCIPP expanded the Simple Planning Tool for Climate Hazards to [Texas](#) and [Louisiana](#). The tool is now available for all states in the SCIPP region: [Oklahoma](#), [Arkansas](#), [Texas](#), and [Louisiana](#). The Simple Planning Tool (SPT) assists planners, emergency managers, and decision makers in each state in the SCIPP region who are assessing their long-term climate risks, both historically and in the future. The tool was primarily designed for decision makers who serve small- to medium-sized communities but may also be of interest to those who serve larger areas.

The SPT is a compilation of relatively easy-to-use online interactive tools, maps, and graphs relevant to 17 hazards in Texas and Louisiana: 14 climate hazards and 3 non-climate hazards. Users can access and obtain locally relevant data from the provided links and instructions. It also provides information on data limitations and a state-of-the-science summary on projected future trends for each hazard.

Based on feedback from a presentation to key decision makers in Louisiana, the tool may be used for resilience planning and design, benefit cost analysis for hazard mitigation grants, watershed strategic plans, comprehensive master plans, and other local planning purposes.



Figure 2. Cover pages for Texas and Louisiana SPT.



Project 3A: Temperature Trends Dashboard Expansion



SCIPP Investigator: Charles Simson, Louisiana State University

In the past year, the Texas Temperature Trends Dashboard was expanded to include all four states in the SCIPP region. Now renamed the "[SCIPP Temperature Trends Dashboard](#)", the tool displays seasonal, extreme, and annual temperature data and trends at locations across the SCIPP region for the period 1970-2022. The original 75 Texas stations have been expanded to include 27 stations in Arkansas, 28 stations from Louisiana, and 11 stations from Oklahoma. The database was also updated to include 2020-2022 temperatures, extending the trend period to 52 years (1970-2022).

By incorporating trends in indicators such as extreme heat and warm nights, the dashboard delivers insight into changes in heat that can have public health and economic ramifications on communities. Other indicators, such as heating and cooling degree days, are relevant to analyses of energy use and emissions.

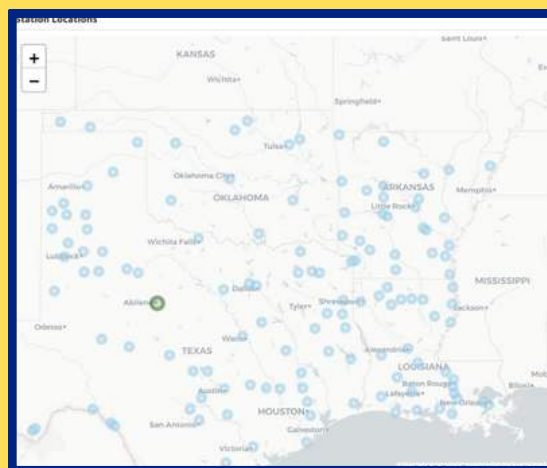


Figure 3. Map of new station locations in Oklahoma, Arkansas, and Louisiana.



Project 2B: Facilitate Collaborative Stakeholder Engagement to Prioritize Preferences & Potential



SCIPP Investigators: Aimee Franklin and PaShioun Young (student), University of Oklahoma

A primary question under [Theme 2 \(Administrative Governance & Collaborative Capacity\)](#), aims to facilitate stakeholder engagement to identify preferences among communities by asking: Where do opportunities exist for stakeholder collaboration to address interconnected natural and physical, fiscal, and social vulnerabilities with strategies grounded in fiscal realities? To answer this question, the Theme 2 group has performed tasks such as:

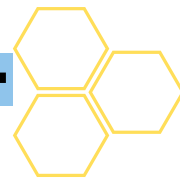
1. Examination of existing documents that reveal community preferences and planned mitigation activities that signal a willingness to pay or share have been documented for Tulsa, Fayetteville, and Waco.
2. Analysis of public discourse about flooding events and lessons learned to determine:
 - a. stakeholders active in the community's ongoing adaptation dialogue,
 - b. the concerns stakeholders raise, the actions the community prefers, and
 - c. stakeholders who have a direct interest but are not invited to participate in policy planning and mitigation activity implementation.

Feedback has been received on presentations at the Association for Budgeting and Financial Management conference, the SCIPP Advisory Committee Meeting, and the World Social Science Association conference. The refined results will be communicated to government, organization, and community leaders using documents explicitly written for accessibility by audiences across the stakeholder spectrum.



Figure 4. Take-Aways from Theme 2 Public Discourse Analysis.

OUTREACH & ENGAGEMENT



Early Career Researchers Workshop


 Audience: Early-Career Researchers in the South-Central U.S.

In the Summer of 2022, SCIPP's Caylah Cruickshank was invited to be a panelist for the South-Central Climate Adaptation Science Center (CASC) Early Career Researchers Workshop. The session, entitled "Diversity in Climate Change-Related Fields", was attended by twenty early-career researchers (i.e. Graduate students, post docs, and early-career researchers in climate) from across the South-Central U.S. region. The panelists discussed the barriers that exist for many racial or ethnic minorities and females working in climate change careers, as well as the range of actions that can be taken to remove or reduce them. Each panelist elaborated with personal experiences in their respective fields and gave advice to the young professionals on how to create a more inclusive research environment.



Caylah Cruickshank speaks to early-career workshop participants.

2022 Louisiana Resilience Summit

 Audience: Planners, floodplain managers, planning commissioners, mayors, architects, and other local, state, and federal government officials

The 2022 Louisiana Resilience Summit was held in Lafayette, LA, on November 16 to showcase resilience, mitigation, and adaptation strategies and initiatives across the state, as well as helpful resources and tools. Presenters and attendees included planners, floodplain managers, planning commissioners, mayors, architects, and other local, state, and federal government officials. SCIPP's Barry Keim presented on climate change and its impacts on Louisiana, while SCIPP's Rachel Riley and Darrian Bertrand presented a draft of the Simple Planning Tool for Louisiana Climate Hazards, introducing the tool to attendees and showing examples of how the tool can be used to integrate weather and climate information into plans. The Louisiana Resilience Summit demonstrated the extensive amount of work that Louisiana is carrying out to increase their resilience to weather and climate events and adapt to future conditions. After an initial draft was presented in November, The Simple Planning Tool for Louisiana Climate Hazards is now available to the public, and accessible [here](#).

Request from Coushatta Tribe of Louisiana

 Audience: Coushatta Tribe of Louisiana

The Coushatta Tribe of Louisiana, located in Oberlin, LA and Elton, LA were interested in updating their vulnerability assessment with the most updated observational weather/climate trends and climate projections. SCIPP's Barry Keim and Vincent Brown presented and discussed SCIPP tools, as well as other resources available for accessing weather/climate data.

Home Elevation for Flood Mitigation Workshop



Audience: Engineers, elevation contractors, government agencies, and the general public

SCIPP partner, Texas Sea Grant, in collaboration with UT Arlington and Texas A&M University, hosted a workshop in February 2023 entitled **Home Elevation for Flood Mitigation: Foundation Slab Safety Checking Tool Workshop**. Research was conducted to determine the optimum and safe procedures to elevate homes for flood mitigation. The project is funded by NOAA through the Texas Sea Grant program. A user-friendly and free web-based tool was developed to evaluate the safety of the elevated foundation slab, and minimize future slab failure that could lead to property damage and casualties.



Figure 5. Flyer for the Home Elevation for Flood Mitigation workshop.

The workshop introduced the tool, interactively allowed attendees to use it, and gathered feedback on the benefits of the tool and how to improve it. After gathering feedback from the workshop, the research team intends to make updates to the tool, and will widely disseminate it to coastal communities. Engineers, elevation contractors, government agencies, as well as the general public were invited to attend and contribute to the workshop.

Oklahoma Municipal League Conference



Audience: Oklahoma Municipal League delegates (city officials, emergency managers, etc.) and exhibitors

In September 2022, Darrian Bertrand and Caylah Cruickshank hosted a SCIPP booth at the Oklahoma Municipal League Conference. Over 200 participants attended the conference, which took place in Tulsa, OK. The conference provided an opportunity to share SCIPP's mission with the participating delegates, and showcase the team's many tools and resources.



Figure 6. Flyer for the Oklahoma Municipal League Conference.

University of Oklahoma Architecture Design II



Audience: Architecture students at The University of Oklahoma

In 2023, SCIPP's Mark Shafer and Randy Pepler were invited to present an overview of Oklahoma's weather hazards to eighty freshmen students in the Architecture Design II class at the University of Oklahoma. Dr. Tamar Zinguer, a faculty member in the Gibbs College of Architecture at the University of Oklahoma, sought to encourage first-year students to consider elements of nature in their designs. To do so, she reached out to SCIPP for help introducing the students to various types of weather hazards. The architecture class, which develops fundamental design skills through an introduction to the material, formal, and spatial properties of architecture, was tasked with designing a pavilion that was inspired by a type of weather hazard.

Students began by creating a visual representation of the hazard they chose, and then a design inspired by the features of that hazard. Students represented all sorts of hazards, including tornadoes, hail, lightning, hurricanes, - even haboobs. The experience helped them not only with their design skills but also revealed many artistic talents with their rendering of various weather phenomena.

OUTREACH & ENGAGEMENT CONT'D



Brown Bag Talk for Texas Water Development Board



Audience: Texas Water Development Board

In April 2023, SCIPP's Vincent Brown and Charles Simson presented "A Database for the Largest Precipitation Events Across the United States" to the Texas Water Development Board. The presentation highlighted the extreme precipitation work under SCIPP's Phase IV Theme 3: Extreme Events in a Changing Climate. The project seeks to create a database of the largest precipitation events across the country and determine common characteristics of the events to better understand their forcing mechanisms. A tool is also being created where users can access depth-area-duration information (e.g., how much it rained over certain durations and area sizes) for individual storms, different storm types, and regions.

World Social Science Association Conference

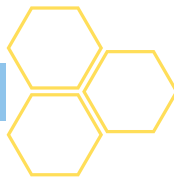


Audience: Public Finance Researchers

In April 2023, SCIPP's Aimee Franklin presented to public finance researchers in Tempe, Arizona at the World Social Science Association Annual Conference. Franklin presented research results on stakeholder engagement practices in three cities in the SCIPP CAP/RISA region and described practical actions that can be taken to encourage public engagement in hazard mitigation planning (see page 10).



CHALLENGES



Hiring Delays

One challenge in this reporting cycle has been a delay in hiring a graduate research assistant (GRA) for one of SCIPP's research projects. A student has been identified who will begin in Fall 2023 but finding a student with the desired blend of skills, knowledge, and expertise was a challenge. The lack of GRA applicants aligns with a recent decline in graduate school applicants overall, which has been anecdotally observed by several SCIPP team faculty members. Other factors that may have limited the applicant pool include the interdisciplinary nature of the project and the fact that the topic being addressed is uncommon in the region. The process has demonstrated that patience may be required when research expertise and cross-disciplinary knowledge are necessary.

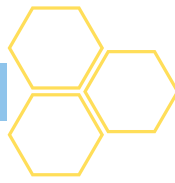
Research Study Participation

Another challenge has been difficulty recruiting decision makers to participate from a particular state for a Theme 1 research study. Possible reasons for the lack of responsiveness may be due to background variables beyond the project scope and researcher's control, as well as the fact that decision makers who work in low-capacity communities inherently have less capacity to participate in a research study such as this one.



Ozark Mountains, AR
Credit: BlazenImages

NEXT STEPS



South Central Climate Resilience Forum

SCIPP and multiple partners in the region are planning an inaugural 3-day South Central Climate Resilience Forum (SCCRF) to be held in Dallas, TX, in the spring of 2024. SCCRf will focus on fostering meaningful dialogue and action on equitable climate resilience and adaptation across the region. It will bring together representatives from non-profit organizations, all levels of government, community groups, private industry, and academia from across the states of Arkansas, Kansas, Louisiana, Oklahoma, and Texas. Practitioners in our region lack a space to gather, share information, enhance social connections, share promising practices, build multidisciplinary collaborations, and support each other as they work through the shared challenges of adapting to a changing climate. Therefore, SCCRf will create a space to foster these networks and build relationships. Through presentations, sessions, and interactive workshops, participants will learn concepts of climate science, climate equity, communication, engagement, historical and future trends, and impacts of climate change on various sectors across the region and their communities. Not only will participants increase their knowledge, but the conference will provide a space for sharing lessons learned, tools, and resources to incorporate climate information into decision-making and planning processes.



Theme 4 Data Collection

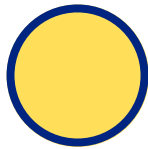
In the summer of 2023, SCIPP will begin data collection efforts under its [Theme 4 research](#), in Tulsa, Oklahoma. We will be conducting interviews with city planners and community leaders to understand how the city is planning for climate adaptation and what the impacts of these efforts may be. We are also conducting a survey of Tulsa residents to understand their experiences of extreme heat and flooding within the city and what adaptation efforts they would like to see the city implement. Once data collection is complete, we will move forward with our analysis and assess the extent that Tulsa climate adaptation initiatives are advancing equity or exacerbating existing injustices.



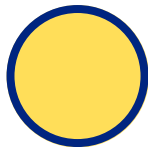
American Society of Adaptation Professionals Climate Service Provider Academy

During the next reporting period, SCIPP will contribute to the American Society of Adaptation Professionals (ASAP) Climate Service Provider Academy. This initiative aims to provide private-sector climate service providers with critical information, resources, and skills to conduct quality climate adaptation work. We anticipate that this effort will strengthen our relationship with private-sector climate service providers and increase the reach and use of our [SCIPP tools](#). SCIPP will:

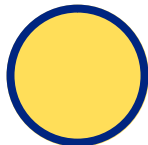
TO-DO



Provide insight/suggestions for Academy goals and learning objectives



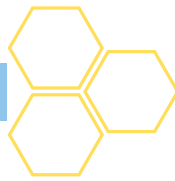
Plan two in-depth presentations, including an overview our CAP/RISA team and an in-depth look at key SCIPP products/services



Co-design interactive activities with ASAP

Water Well and Windmill on the Texas Plains
Credit: Hundley_Photography

EVALUATION



The overall program-level impact of our CAP/RISA team is being measured in several ways during this grant cycle. Based on our previous evaluation efforts we have devised a new system of mini-evaluations throughout the implementation of the various program activities and also designed a mid-cycle and a final cycle broader evaluation.

Evaluation of the Simple Planning Tool for Louisiana Climate Hazards

A brief evaluation of the Louisiana Simple Planning was conducted during the 2022 Louisiana Resilience Summit. Time constraints during the Summit limited the depth of data that could be collected, but some valuable information was gleaned. Following a 30-minute introduction to the tool, Summit participants were invited to partake in an online survey about their preliminary perceptions and potential uses of the tool.

Twenty seven people responded. Most commonly, the respondents were floodplain managers (n = 7), planners (n = 7), architects (n = 6), grants administrators (n = 4), and emergency managers (n = 4). Respondents were allowed to select more than one position. Respondents represented all sizes of jurisdictions, but about half worked within a jurisdiction with a population of 100,000-499,999. Using a 1 (strongly disagree) to 5 (strongly agree) scale, the respondents rated all usefulness statements 4.15 or greater on average (see figure 7).

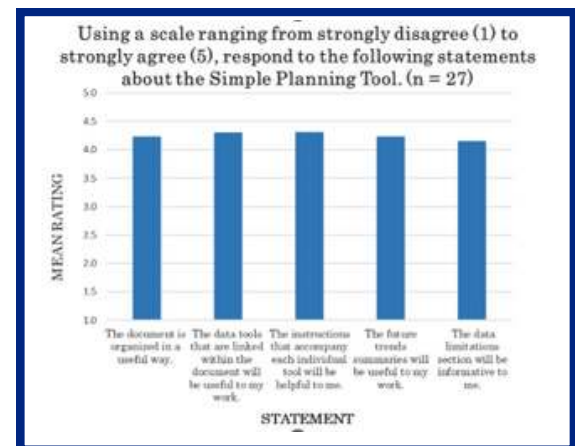


Figure 7. Participant responses to online survey about the usefulness of the Louisiana Simple Planning tool.

Climate Justice Webinars

Some of the primary societal impacts documented this past year include the Climate Justice webinars, from which we have several representative comments. The webinars provided a platform to transmit knowledge and connect leaders across different organizations (including individuals from federal agencies, the nonprofit sector, local health departments and water boards, regional stakeholder networks, community advocacy groups, etc.), which speaks to SCIPP's ability to nurture and support peer collaborative efforts, build expertise and a sense of agency among stakeholders and partners. For example, through a brief survey, several webinar participants noted that the best aspects of the webinars were **"the opportunity for making critical connections between people working on justice at different scales / sectors / geographies," "Links & expanded information provided for understanding Justice 40,"** or **"Hearing directly from experts in the field working with communities on climate justice."**



Figure 8. Official flyers for the Climate Justice Webinar Series.

Thus, the webinars had direct impacts on the attendees, but may also have further impacts on their networks and collaborators. One attendee mentioned when asked how they saw themselves using the information provided in the webinar, “I plan to follow up with some of the groups introduced for future networking opportunities.” Thus, information provided by SCIPP may trickle down into attendees network, providing further societal impacts (albeit not directly measurable at this point). Importantly, the webinars appear to have functioned as a hub of information sharing and networking opportunities, a model that can be further replicated and whose impacts can be further examined in the future. Read a more detailed report on the webinars [here](#).

Challenges

One of the main challenges we face during evaluation efforts pertains to response rates, which tend to be limited. In addition, answers to open-ended questions tend to be brief, if completed at all. The qualitative data from such questions, though, is invaluable for providing further context to the quantitative data, so we will continue trying to obtain this information. As additional strategies to motivate responses, we are considering incorporating some of the evaluation questions in the events themselves (e.g., conduct a poll during a workshop) as opposed to leaving everything for the end of a session/event, when individuals are leaving/signing off. In addition, we plan to adapt the mini-evaluation model implemented for the aforementioned webinars for future events, such as presentations delivered by SCIPP staff. Overall, the mini-evaluations are a useful tool that allows us to acquire feedback immediately, which can then inform program implementation during the grant as opposed to gathering data only at the end of a grant cycle.

Additional methods of evaluation of the program’s activities include delving into metadata from Google Analytics and MailChimp. Specifically, we are looking into the reach of our informational efforts, such as the newsletter, among our stakeholders. The new SCIPP website should also provide some information about user activity. Furthermore, we have discussed adding some brief feedback tools on the website that could further aid assessing the impact of the information we provide to stakeholders.

SOCIETAL IMPACTS



http://



Website Redesign

Although SCIPP's research efforts have demonstrated some evidence of societal impact, much of said work is in its infancy, due to it being the start of a new grant. However, one concrete example of societal impact is based on our recent website redesign. The primary goal of this endeavor was to improve site functionality and expand the reach of our information. Much of the redesign process required reflection on our stakeholder connections and needs, and to reconsider how our finished product could positively impact regional adaptive capacity. Read more details about the website redesign [here](#).

With the rollout of our new site, we have primarily nurtured the **ability of our partners to self-organize**, as well as **elevated a sense of agency**, by structuring our end product in a more coherent manner, thus **building our stakeholders' expertise, confidence, and capability to act** on climate issues. Though a tedious process, evidence of the website redesign's overall impact is supported with basic analytics. Of particular interest is the increase in user visits to our "Tools" page. This could indicate that users are making better use of SCIPP's tools to make informed decisions.

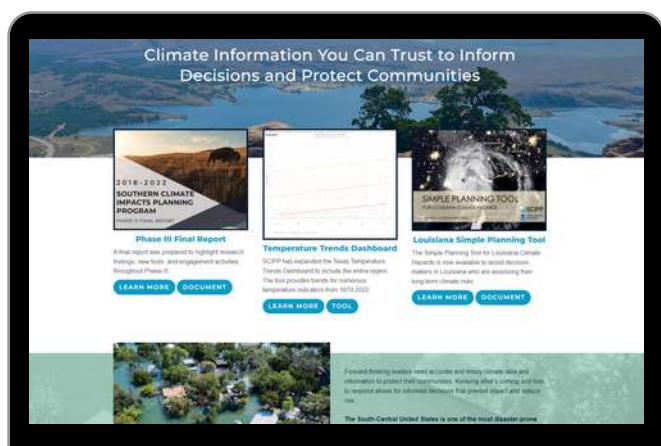


Figure 9. New homepage after SCIPP's complete website redesign.

In an effort to uphold diversity, equity and inclusion initiatives (beyond research), SCIPP was also intentional when selecting a professional vendor to lead the redesign project. While the selection was based on merit, [EDUCO](#) is a diverse, Black-owned, woman-owned business, and empowers their Chicago community by giving back to local non-profits through their work.



Overall Improved Reach (annual):

Before redesign (2019): 4,382 visits
AFTER redesign (2022): 8,404 visits

Increase in Referrals (2019 vs 2023):

(users accessing the SCIPP website
via a different site)

6.3%

Search Traffic Increase (2021-2023):

23%

APPENDIX A: PRESENTATIONS



"2023 Hurricane Season and Hurricane Gustav Revisited", Sunday Journal TV Show -WBRZ Baton Rouge, May 21, 2022, Baton Rouge, LA (Keim).

"2023 Hurricane Season in LA", Louisiana Illuminator, June 12, 2023, Baton Rouge, LA (Keim).

"A Database for the Largest Precipitation Events Across the United States", Texas Water Development Board, April 14, 2023, Virtual (Brown & Simson).

"A&M Showcase", Louisiana State University, September 7, 2022, Baton Rouge, LA (Brown).

"Accessing Weather and Climate Data: Tools and Tips", Coushatta Tribe of Louisiana, February 2, 2023, Virtual (Keim & Brown).

"Adapting to Climate Change: A SCIPP Perspective", South Central Climate Adaptation Science Center Fall Meeting, November 10, 2022, Baton Rouge, LA (Brown).

"AdSci: Thunderstorms over New Orleans", Sewage and Water Board of New Orleans & Water Institute of the Gulf, April 24, 2023, Virtual (Brown).

"An Assessment of the Extremes and Impacts of the February 2021 South-Central US Arctic Outbreak, and How Climate Services Can Help", Monthly Regional Integrated Sciences and Assessments Meeting, July 7, 2022, Virtual (Keim).

"Careers Related to Meteorology", Jackson Elementary Career Fair, May 10, 2023, Norman, OK (Riley).

"Climate Change and Health", University of Central Oklahoma, March 2, 2023, Edmond, OK (Bertrand).

"Climate Change and Impacts", University of Oklahoma, April 18, 2023, Norman, OK (Bertrand).

"Climate Change and Sea Level Rise in New Orleans", Washington Post, June 8, 2023, Baton Rouge, LA (Keim & Brown).

"Climate Change Impacts in OK", Tulsa Young Professionals - Sustainability Crew Monthly Meeting, August 11, 2022, Tulsa, OK (Bertrand).

"Climate Change: Impacts on Precipitation, Tropical Cyclones, and Temperatures", Inland Marine Underwriters Association 92nd Annual Meeting, May 2, 2023, Tucson, AZ (Brown).

"Climate-Informed Planning", University of Oklahoma, April 13, 2023, Norman, OK (Riley).

"Climatology, Climate Change, and Other Cool Stuff", Holy Chow: Church Elder Monthly Meeting, February 15, 2023, Baton Rouge, LA (Brown).

"Coastal Hazards", SCIPP Climate Adaptation Summer Academy, June 6, 2022, Norman, OK (Keim).

"Community Hazard Mitigation Community Readiness Assessment", Building Academic-Practice Partnerships in Public Finance Workshop, March 31, 2023, Wichita, KS (Franklin).

"Connecting Climate Adaptation and Hazard Mitigation Planning in Climate Discourse-Sensitive Regions", Monthly Regional Integrated Sciences and Assessments Meeting, July 7, 2022, Virtual (Bertrand).

APPENDIX A: PRESENTATIONS CONT'D

"Coproducing a Decision Support Tool for Climate-Informed Planning in Louisiana", 103rd American Meteorological Society Annual Meeting, January 10, 2023, Denver, CO (Bertrand & Riley).

"Diversity in Climate Change-Related Fields", University of Oklahoma, July 27, 2022, Norman, OK (Cruickshank)

"Driving Equitable Mitigation and Adaptation", 2022 Natural Hazards Workshop Practitioner's Workshop, July 15, 2022, Virtual (Domingue).

"Fifth National Climate Assessment All Authors Meeting", Fifth National Climate Assessment, April 3, 2023, Washington, D.C. (Bertrand, Petersen, Shafer).

"Frameworks for Collaboration: Communities and Public Universities", 2022 Natural Hazards Workshop Practitioner's Workshop, July 14, 2022, Virtual (Riley).

"From Assessment to Action: Climate Assessments as a Tool for Resilience", Regional Integrated Sciences and Assessments Network & U.S. Global Change Research Program, June 14, 2022, Virtual (Bertrand).

"Heat-Related Data Sources", Louisiana Department of Health Climate Workgroup Meeting, September 6, 2022, Baton Rouge, LA (Thompson & Keim).

"High-Resolution Gridded Products for Meteorological and Climatological Analysis: A Review", Louisiana Department of Health Climate and Health Workgroup Monthly Meeting, November 29, 2022, Virtual (Brown).

"Hurricane Season 2022", Lion's Club of Baton Rouge, July 11, 2022, Baton Rouge, LA (Keim).

"Hurricanes, Storm Surge, Heavy Rainfall, and Freezes in a Changing Climate", Capital Regional Planning Commission Annual Meeting, June 8, 2022, Baton Rouge, LA (Keim).

"Is the Mississippi River Drying up from Drought?", Newsweek, October 18, 2022, Virtual (Keim).

"Louisiana Climate Extremes", Petrochemicals Feedstocks Association of the Americas Annual Meeting, October 27, 2022, Lake Charles, LA (Keim).

"Louisiana Office of State Climatology", Southern Regional Climate Center User Group Meeting, March 8, 2023, College Station, TX (Keim).

"Louisiana Radio Network Interviews", Louisiana Radio Network, July 1, 2022, Baton Rouge, LA (Keim).

"Natural Hazards: Causes and Impacts", University of Oklahoma, January 20, 2023, Norman, OK (Shafer & Pepler).

"NOAA: Climate Change and Its Projected Impact in Louisiana", Louisiana Resilience Summit, November 16, 2022, Lafayette, LA (Keim).

"Oklahoma Weather and Climate: Trends and Tools", Oklahoma American Planning Association Conference, March 6, 2023, Enid, OK (Bertrand).

"Role of State Climatologist in Community Resilience", Natural Hazards Resilience Speaker Series, February 28, 2023, Chapel Hill, NC (Keim).

APPENDIX A: PRESENTATIONS CONT'D

"SCIPP Tools for Climate Adaptation", 205th Marine Extension Program Quarterly Meeting, April 26, 2023, Baton Rouge, LA (Brown).

"Simple Planning Tool for Louisiana Climate Hazards", Louisiana Resilience Summit, November 16, 2022, Lafayette, LA (Bertrand & Riley).

"Simple Planning Tool for Texas Climate Hazards", Texas Sea Grant Workshop: Building a Culture of Preparedness in Texas, June 23, 2022, Aransas Pass, TX (Bertrand).

"Stakeholder Engagement Caused by Flooding in three SCIPP Cities", World Social Science Association Annual Conference, April 17, 2023, Tempe, AZ (Franklin).

"The Role of Motivations in Stakeholder Engagement Processes", 103rd American Meteorological Society Annual Meeting, January 10, 2023, Denver, CO (Weaver & Franklin).

"Tropicalization Map Showcase", Louisiana Department of Health Climate Workgroup Meeting, February 21, 2023, Baton Rouge, LA (Thompson & Keim).

"Understanding and Leveraging Stakeholder Motivations in Community Engagement Processes", Building Academic-Practice Partnerships in Public Finance Workshop, March 31, 2023, Wichita, KS (Franklin).

"University of Nebraska School of Natural Resources Academic Program Review", University of Nebraska, November 1, 2022, Lincoln, NE (Shafer).

"Using National and Regional Tools to Update Community Mitigation Plans with Limited Assistance", Oklahoma Floodplain Managers Association Spring Technical Workshop, April 11, 2023, Catoosa, OK (Bertrand).

"WWL Radio & Advocate Newspaper Interviews", WWL Radio & Advocate Newspaper, July 1, 2022, Baton Rouge, LA (Keim).

APPENDIX B: PUBLICATIONS



Domingue, S., 2022. "Ground Zero" for Climate Crisis: Narratives About Climate Adaptation and Implications for Justice in Coastal Louisiana. *Sociological Inquiry*. Web. DOI: 10.1111/soin.12526.

Domingue, S., 2023: Climate Justice Series. Southern Climate Impacts Planning Program, 4 pp, <https://www.southernclimate.org/wp-content/uploads/Climate-Justice-Webinars-2.pdf>.

Edwards, R., Miller, A., Black, A., Keim, B., Karpinski, M., & Boukouvidis, T. (2022). *Communication challenges and the use of climate tools: A survey of emergency managers and broadcast meteorologists in coastal Louisiana*, 8pp., https://www.lsu.edu/hss/cmst/resources/files_cctcs/whitepaper_asurveyofcoastalmanagers1.pdf.

Riley, R., D. Bertrand, and S. Arens, 2022: Connecting Climate Adaptation and Hazard Mitigation Planning in Climate Discourse-Sensitive Regions: A Cross-RISA Collaborative Project. Southern Climate Impacts Planning Program and Western Water Assessment, 22 pp, www.southernclimate.org/documents/CAHMPCrossRISA.pdf.

SCIPP, 2022: Simple Planning Tool for Texas Climate Hazards v 1.1, A. Wanless, D. Bertrand, R. E. Riley, and M. Shafer, eds., Southern Climate Impacts Planning Program, 53 pp., <https://www.southernclimate.org/wp-content/uploads/SPTTX.pdf>.

SCIPP, 2022: Simple Planning Tool for Louisiana Climate Hazards v 1.0, D. Bertrand, R. E. Riley, and M. Shafer, eds., Southern Climate Impacts Planning Program, 54 pp., <https://www.southernclimate.org/wp-content/uploads/SPTLA.pdf>.

Wanless, A. C., and R. E. Riley, accepted. Examining extreme rainfall forecast and communication processes in the South Central United States. *Weather, Climate, & Society*.



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AT TEXAS A&M UNIVERSITY