Cracking the Code on Risk & Resilience Data and Indices

What?
The frequency, severity, and complexity of natural disasters and human-caused threats is on the rise (Adam B. Smith, NOAA, 2020). Meanwhile our communities face mounting risk and vulnerabilities at a time when we are charged with building resilience at the local level. In response to our heightened awareness around the 21st century risk landscape, a growing number of indices have emerged and are in development to help planners, emergency managers, and policymakers understand their community’s level of risk to different threats and hazards. These indices also help planners and leaders identify the location and nature of vulnerabilities in their communities. Some indices also help decision makers assess the relative resilience of their citizens, built infrastructures, and local economies. These indices are often developed through academic, research & development (R&D) laboratories, and government agency collaborations – as a means to conduct scientific analysis and develop algorithms for comprehensive and reliable regional and national-level indices.

The need to identify and understand vulnerable populations is not new. Communities have long sought to understand where people with limited mobility, economic means, or language barriers reside for use by a multitude of government programs and initiatives. In disaster preparedness and management, the requirement to identify the location and concentration of vulnerable populations is paramount. Emergency planners and managers use this information to pre-position special resources and commodities – and determine communication methods needed to aid those who are likely to require more assistance in recovering from a disaster.

Communities are routinely working to understand hazard exposure and assess risks as a part of their Hazard Mitigation Planning process and in support of their Threat and

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Risk Assessment Tools continued from page 1

Hazard Identification and Risk Assessment (THIRA). As a part of these efforts, they identify their highest risk, assess what can be done to mitigate potential impacts, how best to prepare, and determine how much risk they are willing to accept, and determine the most viable investments to reduce certain risks. Threat and hazard data from models and historical events are readily available to assist in risk assessment, planning, and preparedness activities. A few examples of inventories for historic hazard data are the National Climatic Data Center, Iowa State Mesonet, and the US Geological Survey, all of which make the information readily available for public use.

The year 2013 marked the impetus for a nationwide movement and cultural shift in putting preparedness and resilience at the forefront, marked by the launch of the national preparedness campaign on Ready.gov and proliferated in mass by local leaders in communities. Simultaneously we began to gain greater awareness of the increasing direct financial cost of disasters. This movement prompted an even louder call to action for greater preparedness and resilience, and catalyzed increasing interest and demand for quantifying and measuring community resilience.

According to the NOAA National Centers for Environmental Information, there were 14 weather and climate disaster events with losses exceeding $1 billion across the United States in 2019 alone. To put it in context, they indicate the annual average cost of disasters to be at about $6.5 billion when calculating trends between 1980 and 2019. As natural disasters appear to be both larger in scale, complexity, frequency, and cost - a paradigm shift is occurring across the whole community. While Emergency Management and Homeland Security agencies have long advocated for preparedness, investments in response and recovery activities often take precedence.

Emergency response has always been the “flashier” part of the Emergency Management, and always affords the highest visibility by public officials and citizens alike.

So What?
The relative explosion of indices in recent years that measure risk, vulnerability, and resilience has provided valuable insights into our communities but has also prompted some confusion over when to use what index and for what purpose. For vulnerability we have two different social vulnerability indices from different “authoritative” sources. Same goes for risk and resilience indices and data – there are multiple indices and tools available from different reliable sources. It begs the question; how does a planner or emergency manager know which index to use when? Each index available today is comprised of differing variables and supporting data, methodologies for normalizing data, and support varying geographic extents. As a result, there is considerable variation in the end-products associated with each index. This variation is expected since each index is influenced by different perspectives, as each are tailored to address their unique and intended purpose and driving business requirements.

One example of this can be seen in the various indices explicitly used for community resilience. While the definitions for community resilience tend to be consistent for each index, the specific indicators used to measure resilience can vary. The consistent definition for resilience that these indices are built upon is as follows: an ability to adapt, withstand, recover, bounce back, and/or even learn from events to be more prepared for future disasters. To take this a step further, the URISA Community Resilience Task Force defines resilience as “the ability to effectively incorporate geospatial technologies and data to reduce the impacts of natural disasters and proposes a holistic approach that includes, but is not limited to, local knowledge about risks, vulnerabilities and impacts; social networks; transportation and utility infrastructures; public health risks and services; governance procedures for addressing a crisis; economic investments; and preparedness.”

Meanwhile the research and academic community are tackling the complex analysis needed to compare and validate the various indices and are thereby adding valuable insight in our collective efforts in quantifying and measuring resilience. Individuals with scientific backgrounds and adequate time are able to sift through the ever-growing body of academic literature in attempting to better understand the appropriate uses and science behind each index. This would be the current starting point for a planner or emergency manager to begin deciphering the suitability of a given index to their needs, geographic region, and determine appropriate use for their intended purposes. Conducting this degree of research to determine which resilience-related index to use is simply unrealistic for most local planners and emergency managers. If we want intelligence-driven preparedness and resilience to be a common practice nationwide – then we need to make the risk, resilience, and vulnerability indices and data that provide the intelligence more consumable to the average planner and emergency manager.

Now What?
In response to these very challenges – and opportunities – the National Alliance for Public Safety (NAPSG) Foundation launched a study to understand available and emerging risk, resilience, and vulnerability indices – as the basis for developing guidance to the community on which to use for what purpose. The goal is to assist the emergency management community, and their geospatial staff, in quickly understanding what is available, the data and methodologies behind them, and their suitability for use in risk assessment, planning, and other preparedness use cases. Through this study, NAPSG is identifying available indices; parsing out their objectives (measure of risk, vulnerability, or resilience), methodology, scale of data (census block, county, etc.); and expose other key metadata to inform the development of national guidance for planners, emergency managers, and their GIS staff.

In the Spring of 2020, NAPSG will co-host a short series of focus group meeting comprised of URISA Community Resilience Task Force members and select local/state emergency managers & planners. The focus group will review preliminary findings, ensure the key metadata required is collected, and assist in the

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development of guidance to make risk, resilience, and vulnerability indices and data more consumable to the average planner and emergency manager.

Call to Action!
To make this happen, we need your help. Prior to convening the focus group, NAPSG is seeking input from the broader community to document use-cases on the various risk, resilience, and vulnerability indices. We want to know, how have you used them in your community? What have you learned in using one of these indices or data? To participate and share where you have gained insight into your community, scan the QR code or access via the link. Use cases can be from any industry and can range from use in daily analysis or for large projects or plans. Providing feedback is anonymous - unless you would like to be potentially contacted in exploring your experience in more depth. Findings of the study will be co-presented by the URISA Community Resilience Task Force and NAPSG Foundation at the 2020 URISA GISPro Conference in Baltimore.

The National Alliance for Public Safety GIS (NAPSG) Foundation is a 501 (C) (3) not-for-profit organization that was formed in 2005 to overcome the challenges faced by Federal, tribal, state, and local public safety agencies. NAPSG works to equip emergency management and public safety with the knowledge, skills, and resources to apply decision-support technology and data in enhancing preparedness and building a more resilient nation. To learn more visit, napsgfoundation.org. Study in part possible by US Department of Homeland Security Science and Technology Directorate.

Theresa Martin, GISP, Program Manager, NAPSG Foundation
Rebecca Harned, Director, National & Federal, NAPSG Foundation

2020 URISA Exemplary Systems in Government Awards Process Opens

Since 1980, URISA’s Exemplary Systems in Government (ESIG) Awards have recognized extraordinary achievements in the use of geospatial information technology that have improved the delivery and quality of government services. The award competition is open to all public agencies at the national/federal, state/provincial, regional and local levels. Submissions are due on or before Monday, June 1, 2020. Details are available online.

Recognize Outstanding URISA Volunteers

Nominations for URISA Service Awards (Horwood Distinguished Service, Leadership, Service) are due on or before May 11. Check out the details and nominate an outstanding URISA volunteer!

#InThisTogether

We sincerely hope that you and your loved ones are safe and healthy during this global crisis.

We’ve put together a web page full of COVID-19 resources, along with professional development, education, and contribution opportunities. In addition, there is an ever-growing list of virtual events from our partners. Join in! We’re actively developing events to help us stay connected and engaged.
Consider some of the most popular myths: Lightning never strikes the same place twice—it does. There is no gravity in space—there is, just less. Humans only use 10% of their brains—actually, a lot more—yes, even men. Pigeons blow up if fed uncooked rice—they don’t.

Which myths or half-truths have permeated your organization and what effect have they had on your business? Running a business on myths, flawed business principles, and baseless assumptions creates needless confusion and a lack of strategic direction. A study of 10,000 senior executives showed that the most important leadership behavior critical to company success is strategic thinking at 97 percent. As good strategy is at the core of any organization’s success, it’s important to understand the strategy myths that may be holding back your team from reaching greater levels of success.

**Strategy Myth #1: Strategy comes from somebody else.**

“We get our strategy from the brand team/upper management.” This is a common refrain when managers in other functional areas are asked who develops strategy. It’s also wrong. The strategy that you execute should be your own strategy. Why? Because each group’s resources are going to be different. For instance, the sales team has different resources—time, talent, and budget—than the marketing team or the IT team or the HR team. How they allocate those resources determines their real-world strategy. It’s important to understand company, product and other functional group strategies to ensure that your strategies are in alignment. However, their strategies are not a replacement for your strategies.

**Myth Buster:** Identify the corporate strategies, product strategies, functional group strategies and your strategies and seek alignment.

**Strategy Myth #2: Strategy is a once-a-year process.**

In a recent webinar presented to more than 300 CEOs entitled, “Is Your Organization Strategic?,” the question was posed: “How often do you and your team meet to update your strategies?” The percentage of CEOs that meet with their teams to assess and calibrate strategies more frequently than four times a year is only 16.9 percent, with nearly 50 percent saying once-a-year or “we don’t meet at all to discuss strategy.”

A study of more than 200 large companies showed that the number one driver of revenue growth is the reallocation of resources throughout the year from underperforming areas to areas with greater potential. Strategy is the primary vehicle for making these vital resource reallocation decisions, but as the survey showed, most leaders aren’t putting themselves or their teams in a position to succeed. If strategy in your organization is an annual event, you will not achieve sustained success.

**Myth Buster:** Conduct a monthly strategy tune-up where groups at all levels meet for 1-2 hours to review and calibrate their strategies.

**Strategy Myth #3: Execution of strategy is more important than the strategy itself.**

A landmark 25-year study of 750 bankruptcies showed that the number one cause of bankruptcy was flawed strategy, not poor execution. You can have the most skilled driver and highest performance Ferrari in the world (great execution) but if you’re driving that Ferrari on a road headed over a cliff (poor strategic direction)—you’re finished.

A sure sign of a needlessly myopic view is that everything is an “either or,” rather than allowing for “and.” Strategy and execution are both important, but make no mistake that all great businesses begin with an insightful strategy.

**Myth Buster:** Take time to create differentiated strategy built on insights that lead to unique customer value and then shape an execution plan that includes roles, responsibilities, communication vehicles, time frames and metrics.

**Strategy Myth #4: Strategy is about being better than the competition.**

Your products and services are not better than your competitors. Why? Because “better” is subjective. Is blueberry pie better than banana cream pie? It depends who you ask. “Is our product better than the competitor’s product?” is the wrong question. The real question is, “How is our product different than the competitor’s product in ways that customers value?”

Attempting to be better than the competition leads to a race of “best practices,” which results in competitive convergence. Doing the same things in the same ways as competitors, only trying to do them a little faster or better, blurs the line of value between your company and competitors. Remember that competitive advantage is defined as “providing superior value to customers”—it’s not “beating the competition by being better.”
**Myth Buster:** Identify your differentiated value to specific customer groups by writing out your value proposition in one sentence.

**Strategy Myth #5: Strategy is the same as mission, vision, or goals.**

Since strategy is an abstract concept, it is often interchanged with the terms vision, mission and goals. How many times have you seen or heard a strategy that is “to be #1,” “to be the market leader,” or “to become the premier provider of...?” Mission is your current purpose and vision is your future purpose, or aspirational end game. Goals are what you are trying to achieve and strategy is how you will allocate resources to achieve your goals.

Misusing business terms on a regular basis is like a physicist randomly interchanging element’s chemical structures from the Periodic Table. You can say that the chemical structure of hydrogen is the chemical structure for gold, but that doesn’t mean it’s correct. Starting with an inexact statement of strategy will derail all of the other aspects of your planning and turn your business into the equivalent of the grammar school volcano science project with red-dyed vinegar and too much baking soda.

**Myth Buster:** Clearly distinguish your goals, strategies, mission and vision from one another.

If left unchecked, strategy myths can cause you and your business to fail. A 10-year study of 103 companies showed that the number one cause of business failure is bad strategy. Arm your team with the strategy myth busters and your business will soar higher than a pigeon with a belly full of uncooked rice.

**ABOUT THE AUTHOR:**

Rich Horwath is a New York Times bestselling author on strategy, including his most recent book, StrategyMan vs. The Anti-Strategy Squad: Using Strategic Thinking to Defeat Bad Strategy and Save Your Plan. As CEO of the Strategic Thinking Institute, he has helped more than 100,000 managers develop their strategy skills through live workshops and virtual training programs. Rich is a strategy facilitator, keynote speaker, and creator of more than 200 resources on strategic thinking. To sign up for the free monthly newsletter Strategic Thinker, visit: [www.StrategySkills.com](http://www.StrategySkills.com).

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**Are you on social media? URISA is (except for Instagram... does anyone want to volunteer to take that on?)**

- Join our Facebook Group & Like/Follow the URISA Page
- Join our LinkedIn Group & Follow the URISA Page
- Follow URISA on Twitter

**URISA’s GISCorps:**

- Join the Facebook Group & Like/Follow the URISA GISCorps Page
- Follow the GISCorps LinkedIn Page
- Follow GISCorps on Twitter

**URISA’s Vanguard Cabinet:**

- Join the Facebook Group & Like/Follow the URISA Vanguard Cabinet Page
- Follow the VC LinkedIn Page
- Follow the Vanguard Cabinet on Twitter

And there are tons of URISA Chapters on Social Media. We’ll start a laundry list soon, but if you search for “URISA” in any of the platforms, chapter accounts pop up.
The spectacular cave paintings in Chauvet-Pont d’Arc Cave, France demonstrate how humans have used pictures/graphics to convey information for at least 30,000 years. As humans evolved, so did their means of communication. Early humans were exploring their environment and noting the location of physical features, such as lakes and mountains, and important locations, such as caves and grasslands for herds. One of the earliest known maps, dating to ~14,000 years ago, was found in Abauntz Cave in northern Spain. This map was etched into stone and shows the landscape of the region. With time, humans rapidly embraced maps as a form of communication and developed a new field, cartography, to create accurate maps.

Mark Monmonier’s book, Connections and Content: Reflections on Networks and the History of Cartography, does an excellent job of presenting complex cartographic principles and the development and implementation of cartographic instruments from the 18th century to modern day.

Monmonier organizes his book into seven chapters; the first three chapters, Baselines, Geometry, and Symbols, provide a wonderful discussion on cartographic theory and the development and use of various instruments. While, the remaining chapters, Infrastructure, Telecommunications, Topology, and Control, are more detailed case studies. A brief description of each chapter will be presented below.

**Chapter 1:** Baseline, starts a bit slow discussing networks; however, by the fourth page the discussion turns to a very interesting conversation on fundamental cartographic tools, such as plane tables and theodolites/transits, and their use to establish the triangulated baselines. To exemplify the process of increasing accuracy, the US Coastal Survey of 1868 is discussed. To complete this project, ten men, a horse, and various pieces of equipment were used, which is surprising considering that a drone could complete the task in today’s world. The chapter concludes with a discussion on accuracy levels, i.e., hierarchy, in cartography.

**Chapter 2:** Geometry is a very detailed and informative treatise on geodesy and datum. The chapter puts into perspective the amount of accuracy and precision needed to create the spherical picture of the Earth from the ground.

**Chapter 3:** Symbols, is a nice blend of theory and case study. Monmonier examines the development of standardized symbology on USGS topographic maps. The second half of the chapter examines the implementation of symbology on maps of the Erie Canal. A transformation in symbology is shown throughout the chapter.

**Chapters 4 & 5:** Infrastructure and Chapter 5: Telecommunications, examine the development of maps to address constantly evolving infrastructure and telecommunications on the landscape. Again, the mapping of the infrastructure associated with the Erie Canal plays a central role in Chapter 4. Chapter 5 covers the installation of weather stations and how this led to the development of a telegraph network and the US Weather Bureau in the 1800s. The chapter further explores the morphing of the US Weather Service into the US Weather Service and the replacement of telegraph lines with satellite systems.

**Chapter 6:** Topology, looks at this fundamental spatial concept in the early days of computerized remote sensing and cartography and the development of Geographic Information Systems (GIS). There is a nice discussion on the structure of Digital Elevation Models (DEM) and Triangulated Irregular Networks (TINs).

**Chapter 7:** Control, focuses on how the advancement of technologies are driven by underpinnings of increased control. The chapter begins with the humble beginnings of internet connections and how it has transformed into the modern-day internet. This has led to in
an increase of control, which is exemplified through the use of new technologies, like unmanned aerial vehicles (drones), and the technological sophistication of processes like gerrymandering.

In conclusion, Monmonier’s Connections and Content is an informative book on a very complex subject. It is nicely illustrated and well documented. Portions of the book would be well suited for an upper level university cartography/spatial studies class. The book also provides an excellent read to anyone interested in a detailed explanation of extremely complex cartography concepts and their implementation and evolution during the recent centuries. Throughout the book chapters, Monmonier demonstrates the intricate relationship between maps and networks in examples that are relevant and easy to understand.

Reviewed by Molly McGraw, Ph.D. and Kendall Lee, Southeastern Louisiana University

GIS/ValTech2020 Cancelled

Unfortunately we had to cancel GIS/ValTech 2020 (formerly GIS/CAMA) in Louisville that was to take place in late March, due to the coronavirus crisis. It was certainly the right decision but a shame because the educational content was off the charts and both sponsorship and attendee numbers were high.

We’re connecting with speakers to encourage them to do a virtual presentation and/or offer their presentation at GIS-Pro 2020.

Because the Exhibition is always a busy place, our GIS/ValTech sponsors are scheduling virtual demos and technology showcase sessions. Learn about solutions from your temporary home office. Sessions are listed here.

In the meantime, be sure to jot March 15-18, 2021 on your calendars for GIS/ValTech 2021 in New Orleans.
The clouds parted and the sun shined on Long Beach, California as GIS professionals converged on the city for CalGIS 2020. The stage was set, literally, for another jam-packed CalGIS event. Conference chairs Christina Brunsvold and Rachel Rodriguez opened the session with warm welcomes and introductions of our keynote speakers, esteemed guests, and sponsors. Martin O’Malley, former Governor of Maryland and Mayor of Baltimore, captivated the audience with his refreshing views on how location intelligence and leadership can transform city, county and state governments when implemented with the air of transparency and short-term achievable goals. He described problems within all our communities; homelessness, violent crime, environmental justice, etc. He and his staff provided geospatial visualizations to identify real world solutions that the government can implement on a bi-weekly basis, incrementing their progress, tracking their achievements and leveraging their communal abilities for maximum impact towards long term solutions. A recording of O’Malley’s talk will be available to CalGIS 2020 conference attendees, and he has also graciously accepted the keynote spot at URISA GIS-Pro 2020 in Baltimore this Fall.

To quote his recently released book, Smart Government - How to Govern in the Information Age, “Start and don’t stop. Lead with real-time awareness and the powerful silence of your own heart.” O’Malley’s talk and candid attitude echoed through the halls of every workshop and breakout session, his respect for our profession was a sign that we can and should achieve more with a shift in perspective and view on the world.

The Sunday workshops were filled with eager attendees participating in new transformative workshops such as Tim Nolan’s More Effective with Games and Sophia Garcia’s Roadmap to Redistricting, among the seven other workshops. In the More Effective with Games workshop, attendees learned ways to accelerate creative work, collaborate to streamline processes, and understand problems. From tossing balls, participating in a draw-and-tell, and listen-based instructions, participants learned new techniques to communicate with their peers and supervisors. The Roadmap to Redistricting workshop offered new ways to think about redistricting through the lens of social justice impacts, bringing the hard truth to those decisions. To quote their well-publicized storymap, “Informing the community not only on what the problem is, but on how there are solutions and that if we come together and work together, we can be the solution to the problem” - Juana Chavez. This workshop summarized the practical applications anyone can implement for their jurisdictions.

Following the workshops, attendees descended on the city for fresh fish at Pier 76 downtown. The networking opportunity was well attended, with more than 50 people connecting and discussing a variety of topics in-depth with each other.

A lunchtime fireside chat continued the discussions of GIS and data in California featuring Michael Wilkening, Special Advisor on Innovation and Digital Services to Governor Gavin Newsom, Amy Tong, Chief Information Officer (CIO), State of California, Martin O’Malley, and Sheila Steinberg and moderated by Brandman University’s Terri Carbaugh. This chat highlighted several questions about GIS in the state of California, how geospatial governance and data methods can be structured, data driven decisions, and how...
to leverage support in the state and local governments. A pivotal announcement was made during these discussions regarding the California Geographic Information Officer position, highlighting the great influence the geospatial community can make together. This was followed by a set of predefined questions; a few questions were taken from the audience.

Several breakout sessions highlighted work from individuals including the Emerging Technology and Going from GIS User to GIS Leader sessions, student presentations during the Education GIS session, and updates for California’s Next Gen 9-1-1. The Emerging Technology sessions provided a look ahead on what geospatial innovations we might be asked to perform in the future from indoor mapping to AI data integration. Going from GIS User to GIS Leader, hosted by Toby Soto of GISSuccess.com and Tim Nolan of Collin County, Texas, was a lively discussion with a panel of GIS Professionals, and audience Q&A. It was recorded as part of the GIS Peer Success Webinar Series. The student presentations and poster showcase were extensive with many fresh faces and fresh ideas. A panel presentation on the status of California’s Next Generation 9-1-1 Project provided information on how it is leveraging city and county GIS capabilities to manage and maintain local level address information and announced an opportunity for state funding to help organizations better enable GIS data for NG9-1-1. These breakout sessions concentrated the implementable and actionable items GIS Professionals can immediately bring back to their office.

The geo-trivia networking event provided bonding opportunities for the attendees, and was a success. The groups gathered to answer geotrivia questions and obtain clues throughout downtown Long Beach. Questions such as “Which brewery outfitted three bottles of beer with GPS units?”, “Different map projections are used for different GIS projects because:”, or “What are the various models that are used to approximate the shape of the Earth called?” intrigued attendees with thought-provoking discussions along the journey.

On the final day of CalGIS, Los Angeles Controller Ron Galperin discussed government transparency and the importance of modernization during the California Geographic Information Association (CGIA) hosted lunch. His talk highlighted maps of publicly-owned properties and how it can be used to address the housing crisis and improve economic development in Los Angeles. Ron echoed Former Governor O’Malley’s resolve on using location-based information to drive transformative government.

The final session was a California URISA Chapters’ Meeting discussing OneURISA, upcoming plans and events in California, the merging of the California URISA chapters and how to get involved in your community, along with a brief peek at CalGIS 2021. Reach out to your chapter leaders via their websites or social media for more information about getting involved. Interested in helping with CalGIS 2021, contact Christina Brunsvold or Rachel Rodriguez. Preliminary discussions have narrowed down the location to Sonoma County in April - stay tuned for more information about CalGIS 2021, we hope to see you there for another awesome conference!
Strange Days Indeed

To quote the late, great John Lennon, ‘Nobody told me there’d be days like these, Strange days indeed’. We are currently living in a time when, in the not too distant future, history books will reference this time, speak highly of our amazing first responders, those on the front lines throughout the world trying to keep those of us who get sick back to being healthy. Geospatial professionals and the amazing work you are all doing, will also be referenced, with maps, charts and graphs of the statistics that are being collected.

Today is day 20 of Stay at Home orders for myself, and many of you are around that same number. We are seeing on the news that the cases of COVID-19 are increasing, the reports of the number of people expected to lose their life due to this horrible virus is staggering, however, there is also so much light and kindness happening in the world today, it is almost as if Mother Nature decided we all needed a time out and has sent us to our rooms.

In Spain and Italy, the people are singing from balconies. In Canada, last week, there was a country wide sing along to the Tragically Hip’s ‘Courage’ and in the United States, and in particular New York City, at 7 pm each evening (shift change) people go to their balconies to cheer on our front-line workers.

You hear of families reconnecting with each other now that the hustle and bustle of life is no longer there. Puzzles are being done, games are being played and there is so much sourdough bread being baked that the carb loading is probably off the charts, so it is a good thing that everyone is posting links to their home workouts.

We are connected through social media, our jobs that were once deemed not able to be done remotely are now being done from home. All of these changes are going to make the way we work after we come out of self-isolation, very different. We are now seeing that we may not necessarily need to all be in an office space with cubical walls dividing ourselves from our co-workers.

So how does this impact the geospatial community? The short answer is I am not certain, but I do have some thoughts. In the last few years, we have seen a shift in the GIS community, away from being GIS professionals and more to being geospatial professionals. We have moved away from being the people who ‘make the maps’ to being data scientists who not only look at raw data points but also add that much needed spatial component.

We are essential services for our communities. Without good spatial data, developed and delivered in a manner that makes it easy for non-geospatial professionals to understand, misinformation can proliferate throughout. I know many of you, working at local, state and federal agencies are directly contributing to dashboards and maps that are mapping out the pandemic in your communities.

Along with the great work that the geospatial community is doing locally, there are amazing projects happening at a global level. URISA’s GISCorps has the COVID-19 Lost Loved Ones Project. The project is based on a project that Esri started called the “Celebrating Lost Loved Ones” application that pays tribute to those lost to the opioid epidemic. GISCorps has built a similar platform for those lost to COVID-19. Not only does this application crowdsource and pay tribute to lost loved ones but it also is a wonderful tool for gathering information about COVID-19.

Another vital project currently being done is to help fill critical information gaps in relation to COVID-19. This project, in conjunction with Esri’s Disaster Response Program, created a nationwide layer of COVID-19 testing site locations that is openly available to local governments, healthcare providers and the public. This information is one component of the Coronavirus Response Solution that is being made available for the next 6 months from Esri. Over 500 volunteers based in the United States, that have ArcGIS Online experience were recruited to help with this project. For more information about this and other projects that GISCorps is doing, visit www.giscorps.org and consider, if you have some time while staying at home, becoming a volunteer. The majority of GISCorps projects can be done from home.

As we look at the GIS data that is available to us, and we track the progress of this pandemic, there seems to be dark days still ahead of us, however, we are in this together, and we will emerge on the other side, with, not only a stronger appreciation for our fellow human beings and GIS professionals, but also, with great insight and innovation. Adversity tends to be a catalyst that helps with great innovation. The way that we create, consume and serve out GIS data will change in the coming days, weeks, months and years because of this historic event. We are currently living through an event that will be taught in history books to our children and grandchildren. We as geospatial professionals will help shape that message.

For anyone in the geospatial community who is working on the front lines of this pandemic, I offer you my heartfelt thanks. We are behind you completely, appreciate your dedication and sacrifice.

I would like to leave you with a quote from Winston Churchill. “It is wise to look ahead, but difficult to look further than you can see”. At the moment it is difficult to see beyond the next few weeks and months, but fear not, we will prevail and be back to ‘normal’ before you know it.
We Can’t Wait for GIS-Pro 2020 in Baltimore!

With the COVID-19 crisis, and uncertainties surrounding travel restrictions and large gatherings, many events have been cancelled or postponed. Know that we are constantly monitoring the situation. At this time, GIS-Pro 2020 will still take place as scheduled. It may be in-person or virtual or a hybrid of the two. We are discussing options but certainly hope to meet in person in Baltimore in six months’ time!

We had a fantastic planning committee meeting for GIS-Pro 2020 in Baltimore in early March. The conference program is fantastic. Start reviewing the featured keynote speakers we have lined up, in addition to the sessions and individual presentations on the agenda in these program tracks:

- GIS Leadership & Management
- Community Resiliency & Sustainability
- Equity & Social Justice Implications of GIS
- GIS Supporting Health & Human Services
- Data Management & Analysis
- Geospatial Technology Innovations
- NextGen 9-1-1
- Federal GIS
- National Spatial Reference System/Datums 2022
- Inspiring the Future of GIS and Education

Sponsorship opportunities are now available. Start reviewing the various opportunities at different budget points.

Registration will open soon!

A registration table detailing rates for individuals, students, young professionals, one-day, full conference, etc. is posted online.

Venue: Events will take place at the Hilton Baltimore Inner Harbor (401 W. Pratt Street, Baltimore, Maryland 21201 USA). The Hilton is located in a prime place in the Inner Harbor, an iconic seaport area of restaurants, museums, shops, sports complexes, nightclubs and historic ships. It is right next door to Camden Yards (Baltimore Orioles) and across the street from M&T Stadium (Baltimore Ravens). It’s a short walk to the National Aquarium, Maryland Science Center and a waterfront concert at Pier Six Pavilion. URISA negotiated an amazingly affordable $179 single/double occupancy room rate at the Hilton for GIS-Pro 2020, including wifi access. The group rate will be available until August 26 or until the room block is depleted. (Note that in New Orleans last year, the block filled extremely quickly so make your plans early!). A limited number of rooms are also available in our government per diem block.

Baltimore is easy to get to and easy to navigate once you’re there. Start planning your trip!

Get started:
- Neighborhoods of Baltimore
- Local Artisans
- Dining/Foodies
"A geographical line has been drawn across the Union, and all the States north of that line have united in the election of a man to the high office of President of the United States, whose opinions and purposes are hostile to slavery."

-South Carolina Declaration of Causes for Secession, December 24, 1860

"The medium is the message"

-Marshall McLuhan

Many times, during the past quarter century, when I have questioned why in the United States of America, we display Confederate Civil War monuments in many of our public spaces, some of my friends have replied with a variation of the following statement:

“Greg – Don’t tell me that we should remove Confederate civil war monuments from public places. They are a symbol of my Southern heritage and culture.”

This statement very effectively stops a conversation. How do I reply? Southern heritage and culture are not mine. What qualifications or evidence can I provide to make the case that Confederate Civil War monuments are a symbol of something other than benign ‘heritage and culture’? How can I make my case that they should be removed from public places?

This paper examines the meaning of Confederate Civil War monuments. It asks the question: ‘what is Southern heritage and culture?’ It examines the meaning of war monuments in other cultures and societies.

It asks the questions: What were the goals of the people who erected Confederate Civil War monuments? What message was intended by erecting Confederate Civil War monuments in public places? What message is received by someone who observes such a monument displayed in a prominent location in their community? Is there any legitimate justification in a society of free and equal citizens for expressions of those goals in American public places?

Examination of the erection of Confederate Civil War monuments in their temporal and spatial context exposes them as part of a broad media campaign, the purpose of which was to replace the hard, defined boundary line referred to in the South Carolina Declaration for Secession (Fig. 1), with a new boundary line that exists to this day and that is an affront to a society of free and equal citizens.

Boundary lines are the legitimate concern of geographers, and GIS-based geographic analysis can help shed light on the meaning of Confederate Civil War monuments. My examination of this topic leads me to the conclusion that societies can use media campaigns to establish boundary lines, not just between north and south, or east and west, but also between classes of people and even individual people. Sinister and persistent boundary lines can be imposed on people that move with them as they move through space across the course of their lives.

To outline how I reached my conclusions, I will first discuss media campaigns in general. I then discuss the meaning of the terms ‘heritage and culture’, the nature of civil war, and the meaning and place of war monuments in civil society. Then I combine these threads into a discussion of the original goals of those who erected Confederate Civil War monuments. I examine where and when Confederate Civil War monuments were erected as part of a coordinated media campaign. Then I examine other types of social activity that show a temporal and spatial correlation with the erection of Confederate Civil War monuments, focusing on the lynching of Black American citizens. I define lynching and discuss its history, classes of victims, and spatial distribution in the United States.

I discuss the deferential nature of local social environments that provided an alternate power structure to government institutions. I then analyze the spatial and temporal correlation between the erection of Confederate Civil War monuments with acts of lynching of Black Americans by Whites across ten Southern U.S. states. I conclude by outlining my evidence that the erection of Confederate Civil War monuments and the lynching of Black Americans were both part of a multi-faceted media campaign by White racists who rejected the outcome of the Civil War. This media campaign sent a message to society which imposed, and still imposes boundaries around individual Black American citizens. Lastly, I outline my data sources and suggest areas for future research.

![Fig. 1: Conceptual geographical boundary line as referred to in the South Carolina Articles of Secession](image)
Media campaigns

Messages are communicated by elements of society to society as a whole (or to targeted sub-groups) via a variety of media platforms. Traditional media channels of the Twentieth Century (newspaper and magazine ads, billboards, radio and TV commercials, bus ads, skywriters, sponsorships, etc.) have been supplemented in the Twenty-first Century with social media channels. A Twenty-first Century media campaigns for an insurance company might include a variety of spokespersons (a Gecko, Flo the Progressive Lady, etc.) with a value proposition (save money or reduce risk) via multiple media channels (TV, Radio, Print, Social Media, product placement, etc.). Likewise, political movements have their iconic spokesperson, value propositions, and multi-media strategies.

The media environment in the United States in the period following the Civil War until the early 1920’s was very different from today. There were no national media channels, other than a few periodicals (mostly literary magazines and specialty journals targeting individual industries like agriculture, railroads, shipping, etc.). Newspapers were the chief media channel, and with very few exceptions, they were all local with geographically limited circulation. The primary commercial media channel was a static sign outside a store or office stating that inside one would find a general store, livery stable, depot, doctor, lawyer, etc.

Confederate Civil War monuments were part of a similar localized marketing campaign by elements of mostly southern White society in the period after the American Civil War, continuing to the present day. Confederate Civil War monuments (and other related iconography) were static symbols delivering a powerful message.

A monument in a public space is a durable symbol. With the passage of decades, most people are not now aware of the circumstances when most Confederate Civil War monuments were erected. That period of our history coincided both temporally and spatially with the birth, spread, and influence of the Ku Klux Klan. The period when most Confederate Civil War monuments were erected also coincided with an era when the names of persons and allegories associated with the Confederacy were applied to cities, counties, highways, parks, schools, government buildings, rivers, mountains, and even US military bases and naval vessels. The Confederate Battle Flag was unfurled at the end of the Civil War in 1865 but unfurled and proliferated as part of a coordinated media campaign that continues to this day. The period when most Confederate Civil War monuments were erected also coincided with the formation of the United Confederate Veterans, an organization whose stated purpose was to foster ‘…social, literary, historical, and benevolent…’ ends (Fig. 2). However, the United Confederate Veterans also published the Confederate Veteran, a magazine that espoused the ‘Lost Cause of the Confederacy’ ideology. This ideology maintains that the cause of the South during the Civil War was just and honorable, not morally flawed and traitorous.

These elements: the erection of Confederate monuments, the application of Confederate place names, the activity of the Ku Klux Klan, the display of the Confederate Battle Flag, the activity of the United Confederate Veterans, and the Lost Cause of the Confederacy ideology emerged and peaked in activity at approximately the same time – the period of Jim Crow Laws in Southern States in the period from the mid-1870s to about 1920 (Fig. 3).

The period when most Confederate Civil War monuments were erected also shows a strong temporal and spatial correlation with the lynching of Black Citizens by Whites across Southern States.

These elements (monuments, place names, flags, United Confederate Veterans, Ku Klux Klan activity, and lynching) were part of an interconnected media campaign.

Heritage and culture

What is the meaning of the terms ‘heritage’ and ‘culture’? What is their meaning when someone claims that Confederate Civil War monuments represent “Southern heritage and culture”?

Heritage refers to something passed on from an ancestor. It can be represented by the legacy of a founding pioneer, or an influential educational institution, or traditional celebrations, or a way of government and laws, or language, arts, music, literature, and cooking. But we discriminate on those aspects of our heritage that we cherish and choose to preserve, versus those that we choose to relegate to history books or forget altogether. Across the era of Southern history, we do not cherish or choose to pass on Native American language, the French, Spanish, and English forms of government and laws that once held sway, or the economy and social structure of centuries past. At any point in time, society defines its values based on the aspects of its heritage that it chooses to emphasize and those that it chooses to reject.

Culture refers to various social norms and customary acceptable conduct within a community. Culture guides individuals in society as to acceptable behavior, dress, language, and demeanor in social interactions. Social culture can change more rapidly than heritage. Culture can guide society as to the aspects of its heritage that are cherished and passed on, versus those aspects of heritage that are discarded in the ‘rubbish bin of history’.

The area we refer to as the Southern United States has a human history of thousands of years. The era of European occupancy (and occupancy by Africans brought by force) in the South is as much as 450 years. The Civil War lasted only four years. Why are Confederate Civil War monuments, which represent at most just one-percent (1%) of Southern history and cultural development, so seemingly important to people who claim that heritage?
The Civil War as taught in history books lasted only four years. The Civil War had its seeds in the institution of slavery. The inevitability of the Civil War was fertilized by the concept of White racism, which was necessary to create a flawed religious, moral, and legal basis for slavery. The Founding Fathers of the United States deferred addressing the moral and legal problem of slavery by omitting the liberation of slaves as a goal in the Declaration of Independence, and also by accommodating slavery in the Constitution. The Civil War ended slavery. What it did not end was White racism and the concept of White superiority over Black American citizens.

War monuments, civil wars, the American Civil War, and Confederate Civil War monuments

From the time of the ancient Greeks and Romans, monuments and other public symbols have been placed in public places to remind people of the courage, devotion, and sacrifice of those citizens who fought and died in wars (Fig. 4).

It is an axiom (attributed to Winston Churchill) that ‘history is written by the victors.’ But not always. Many American communities and the National Mall itself have monuments to the Vietnam War, but no one could say that the United States won the Vietnam War. I understand the desire to honor the final resting places of those of our citizens who died in a lost cause. ‘It is fitting and proper that we should do so’, as Lincoln said in 1863 at Gettysburg (Fig. 5).

Most civilized nation would not begrudge respectful burial grounds for their enemies even on their own soil. Many WWII German dead are buried in Russia, France, Poland, Britain and in the land of other foes of the Nazis.

But there were no monuments to the Persians in Ancient Greece. No monuments to the Carthaginians in Ancient Rome. There are no monuments to the Nazis in Russia, France, Poland, Britain, or even in Germany. There are no monuments in the United States to the Redcoats and Hessians who fought against the 13 Colonies in 1775-1783 and against the United States in 1812-1815. There are no monuments to Benedict Arnold, an American who was a traitor to the United States.

But in the United States there are hundreds of monuments in public places that commemorate personages and allegories of the Confederacy who participated in the American Civil War – the most traumatic event in our history. These are monuments to citizens of the United States who, no less than Benedict Arnold, were traitors to their country. Why are these monuments here? What was their purpose when they were erected? Do they have an appropriate purpose now?
What about civil wars and civil war monuments? The goal of a civil war, or interstate war, is to change the government of a nation or to achieve independence for a portion of an existing nation. Some civil wars succeed and some fail. Notable examples during the last 100 years include the Russian Civil War of 1918-1921, the Spanish Civil War of 1936-1939, and the Chinese Civil War of 1935-1949. Again, the victors do not erect monuments to the vanquished side, nor do the victors countenance the losers erecting monuments to remember those who fought on the losing side.

Those who fought for the Confederacy in 1861-1865 did so because of their convictions. These convictions included belief in states’ rights, but primarily belief in the right of states to continue the practice of slavery (Fig. 1). The declarations of secession by the states of the Confederacy made this clear. Without the issue of slavery, there would have been no American Civil War.

The rationale that enabled slavery included the belief in the racial superiority of White people over Blacks, underpinned by the economic benefits that slavery provided to individual slave owners and to the southern economy as a whole.

When the Confederacy lost the Civil War, many White Southerners (the Confederados) left the United States for Brazil, Mexico, Cuba, or other countries to remain true to their convictions. Those White Southerners who remained within the land of the defeated Confederacy were expected to reconcile their former convictions with the process of reaffirming their loyalty to the United States, to its Constitution, to its laws and institutions, and to its Federal government.

States’ rights concepts to the degree claimed by the secessionists were untenable after 1865, with Union troops occupying the defeated states of the Confederacy. Former Confederate states had to write new constitutions and reapply to the US Congress for readmission to the Union.

As states were readmitted, those White Southerners who remained after the Civil War were expected to reconcile themselves to the equality of all Americans. Prior to 1865 slavery was legal in the Southern States. Slaves were invariably Black, and most Blacks in the Southern states were slaves. Black slavery was justified by a concept of racial superiority supported by Biblical sanction and the laws of many states. But in 1865 the 13th Amendment outlawed slavery in the United States. The 14th Amendment in 1868 affirmed that all those born in the United States were citizens. The 15th Amendment in 1870 guaranteed voting rights to all citizens (regardless of race or previous servitude). The Civil Rights Act of 1875 codified the rights conferred by the Constitution to all citizens (Fig. 3). In 10 years, those Southerners who fought in the Civil War saw laws enacted that overturned their ideas of racial superiority and exploitation.

Confederate Civil War monuments

Confederate Civil War monuments were a media channel for people at the local level in the South to communicate their unchanged beliefs in the White racial superiority that had caused the Civil War, while professing outward loyalty to the United States. Confederate Civil War monuments, when they were erected, represented a statement that for the local White community, states-rights and especially local prejudices trumped national laws. They were also a powerful medium to deliver the message, along with Jim Crow laws, that the White rulers of the old South still determined the rights, liberties, opportunities, and economic benefits that Black Americans would be permitted.

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Confederate Civil War monuments played a key role in the media campaign to replace the hard boundary line of slavery, racism, and Black subjugation that was smashed along with the Confederacy in 1865, with a new fluid boundary line around each Black and White American citizen.

My source for data about Confederate Civil War monuments is from the Southern Poverty Law Center (Southern Poverty Law Center 2019). The SPLC database includes other types of Confederate Civil War iconography, including place names (city, county), seals, flags, school names, park names, trail names, bodies of water, highways and road names, military base names, markers, holiday observances, commemorative license plates, scholarships, bridges, buildings, postage stamps, songs, and plaques. However, my study focusses solely on monuments, as visible and durable symbols of the Confederacy.

A temporal display of the SPLC data (Fig. 6) shows that there were spikes in Confederate iconography, including monuments, at various points in post-Civil War history. These include the period when the franchise was being extended to former slaves after passage of the 1875 Civil Rights Act, during the period when Jim Crow laws were being enacted across Southern States, during the Civil Rights era of the 1950s-1970s, and most recently during the past 30 years as society is questioning the appropriate place for Confederate monuments in public places.

The generation that saw the greatest number of Confederate Civil War monuments erected (1890-1920) began as the first segregation laws were being passed in the Southern States, later reinforced by the Plessy v. Ferguson Supreme Court Decision, which enabled broader spread of Jim Crow laws (Fig. 3) based on the flawed ‘separate but equal’ principle.

The concept of ‘separation’ that Plessy v. Ferguson and Jim Crow laws enabled could only be realized by the establishment of new boundaries. This boundary was referred to after the Civil War by Frederick Douglas as the ‘Color Line’ (Douglas 1881). W.E.B. DuBois brought the term ‘Color Line’ into wide acceptance in the late 1890s and into the Twentieth Century (DuBois 1900). This paper examines how a multi-faceted media campaign was used to establish and maintain the color line that Douglas and DuBois identified.

Goals of erecting Confederate Civil War monuments
Local people in Southern States erected hundreds of monuments to commemorate and glorify individual leaders and participants in the war that attempted to achieve the goals of the treason of 1860-1865. What legitimate place do they have in public places? Some people try to excuse the traitorous nature of the Confederacy by defending these monuments with the ‘Southern heritage and culture’ argument. Such claims are also grounded in the ideology of the Lost Cause of the Confederacy, which holds that the cause of the Confederacy was just and heroic.

The evidence however shows that Confederate Civil War Monuments had another purpose. This purpose was to reject the concept of reconciliation between Blacks and Whites after the Civil War, and to reaffirm the concept of White superiority and racism that had been the foundation of Black slavery and oppression. Their purpose was to establish the unmapped Color Line, despite the 13th, 14th, and 15th Amendments and the Civil Rights Act of 1875. Their purpose was to impose a boundary line around every Black and White citizen that moved with each person through time and space throughout the course of their lives. And their purpose was to warn Black citizens that if they crossed that boundary line, they could suffer deadly consequences.

Correlation with lynching
There is ample evidence that the period when most Confederate Civil War monuments were erected shows a strong temporal correlation with the lynching of Black Americans. Lynching was defined by the Dyer Anti-Lynching Bill (Fig. 7), introduced into the US House of Representatives in 1918, as…

‘...the crime of lynching...shall mean an assemblage composed of three or more persons acting in concert for the purpose of depriving any person of his life without authority of law as a punishment for or to prevent the commission of some actual or supposed public offense.’

During the era when most lynching occurred and when most Confederate Civil War monuments were erected (1865 to 1930) there was no true national media. Print media was highly localized. Towards the end of this period, radio was becoming a more...
important media, but still with very few national or even regional networks.

This provided a county-focused local media environment in which the erection of Confederate monuments provided a powerful symbol of White racial superiority within a community. A Confederate monument was expensive to erect. But it provided a powerful symbol of White superiority and power that even poor illiterate Blacks and Whites could understand.

Counties also provided a fertile local environment in which the lynching of Blacks by Whites served as a demonstration of continued White superiority and power. County governments were of course charged with administering national and state laws. But counties were distant from state and especially national power centers in both a geographic sense and in the spirit of adherence to the Constitution and the Civil Rights Act of 1875.

Compared to the expense of erecting a Confederate Civil War monument, a lynching was cheap in financial terms. The social conditions that allowed acts of lynching to occur are complex. As an act of non-judicial murder, a lynching required a group of conspirators to act towards the identified victim as police, prosecutor, judge, jury, and executioner. This is a combination of roles that violates any civilized system of laws, including Roman Law, Civil Law, Canon Law, etc.

In addition, an act of lynching required complicity by non-conspirators. The conspirators who perpetrated an act of lynching did so under the belief that the broader community would not bring them to justice for the murder that they committed. The silence of the community as a whole was the necessary fertile environment for any act of lynching. But silent community members were also complicit in the act of murder.

The Project HAL: History of American Lynching data that I use for my research is the best source of data for the states included in my analysis (Hines and Steelwater 2019).

Seguin and Rigby summarized and analyzed statistics from multiple sources (including Project HAL) related to lynching (Seguin and Rigby 2019). They identify two major and one minor distinct ‘lynching regimes’ in the United States (Fig. 8). The first regime they identify as the ‘Wild West’ era. This was the era when the plains states were settled by ranchers, homesteaders and other pioneers, in advance of the establishment of strong territorial, state, county, and municipal law institutions. As government institutions were established, by the 1890’s, ‘Wild West’ lynching declined. 76% of the Wild West lynching victims were White, 11% were Black, 6% were Native American, 4% were of Mexican descent, and the remainder were Chinese and Japanese. A minor lynching regime can be identified in Texas. 56 people of Mexican origin were lynched in Texas, with 40 of them in five border counties. Wild West lynching of Whites and Mexicans was depicted in literature by Walter Van Tilburg Clark in his 1940 novel The Ox Bow Incident.

The other major lynching regime identified by Seguin and Rigby was in former slave holding states. 97% of total Black lynching victims and 88% of all lynching victims occurred in former slave states. Seguin and Rigby demonstrate that the highest concentrations of Black lynching were in areas that had the highest proportion of slaves in the population in 1860. They also cite a concentration with plantation cotton cultivation across the South, and within the Little Dixie area of Missouri where hemp and tobacco plantations were common. The lynching of Black Americans by Whites was depicted in popular culture by Billie Holiday in her 1939

![](Fig. 8: Lynchings in the United States by race and location (Seguin & Rigby, 2019 CC BY-NC 4.0))
recording of Abel Meeropol’s song *Strange Fruit*, and in literature by Harper Lee in her 1960 novel, *To Kill a Mockingbird*.

In the mid-Twentieth Century literary works like *The Ox Bow Incident* and *To Kill a Mockingbird* and songs like *Strange Fruit* shed nation-wide light on the phenomenon of lynching regimes in the United States. But lynching and the erection of Confederate Civil War monuments were successful media for their intended local purpose because of the lack of effective nation-wide scrutiny of their extent and purpose for two reasons: Lack of comprehensive data and the limited national media of the era. There was no comprehensive record and database of all Confederate Civil War monuments and related iconography. There was no comprehensive record and database of all incidents of the lynching of Blacks and other people in the United States.

**Social deference and new boundaries**

The concept of social deference may explain the dynamics of a closed environment that would allow a lynching to be perpetrated without consequence to the conspirators. Within a small community like a county during our study period, interpersonal relationships were based on deference to dominant personages. If the dominant people in the community condoned (or led) an act of lynching, it would be difficult for subservient personalities to resist or object. Indeed, a lynching could benefit a subservient White by establishing and reinforcing their superiority to any Black member of the community. The Lost Cause of the Confederacy ideology provided a pseudo-intellectual foundation for elements of local society to reject the rights of Black American citizens and to justify lynching.

Each Confederate Civil War monument and each lynching of a Black person was intended to make clear the social hierarchy that elevated any White person above any Black person. The fixed geographical line that separated free Northern States from slave-holding Southern states was crushed by the Civil War. But that fixed line was replaced by a moveable geographical line that surrounded each White and Black person. As individuals moved through space during the course of their lives, the Color Line went with them. When a Black person and a White person came into proximity, the Color Line proscribed the options and limits of human activity that each possessed.

What about oversight from the State or National level? The limited nature of State and National government would make it difficult to investigate abnormalities in the exercise of justice at the local county level. By its very nature as extrajudicial murder, there was no mandated reporting of lynching to superior levels of government. There was no integrated data collection and analysis that could expose the extent and nature of lynching.

*Southern counties with more religious diversity, black-controlled churches, and more racially segregated churches all experienced more lynchings. The incidence of public-torture lynchings was a function of white racial solidarity at the county level in Georgia and Louisiana. Southern lynchings were more common in counties where Populists challenged existing political orders. Finally,*

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**Fig 9:** Temporal Correlation between Confederate Civil War monuments and lynching of Blacks in ten study states (based on SPLC and HAL but note no reliable lynching data before 1880)
Lynching was less common, net of other factors, when lynchings had recently occurred in bordering counties. Lynching was less common in counties where local law enforcement was more proactive in suppressing lynch mobs. (Seguin and Rigby 2019)

Likewise, the erection of Confederate Civil War monuments was a highly localized phenomenon. The fund-raising required to erect a monument was considerable. The people who could raise the necessary funds would likely control the government administration needed to approve erecting a monument in a public place. Almost certainly the Black members of the community had no desire to see such reminders of the past erected in their public places. We can also speculate about the attitudes or opinions of Union Civil War veterans or the families of Union soldiers killed, when seeing Confederate Civil War monuments. But there were no effective media mechanisms at the time to document and analyze the number and distribution of Confederate Civil War monuments on a nationwide basis.

The geographical correlation between Confederate Civil War monuments and acts of lynching of Black Americans

Now we have extensive data, carefully documented and compiled, to show the temporal and spatial distribution of the Jim Crow media campaign. The Nineteenth and early Twentieth Century erection of Confederate monuments and incidents of lynching of Blacks shows a strong spatial and temporal correlation. The temporal and spatial correlation between the spread of Confederate monuments and incidents of Black lynching exposes their true purpose.

The location of individual Confederate Civil War monuments and their geographic distribution across the former slave-holding States is now well-documented. Because of their intended durability, their location can be easily verified. Confederate Civil War monuments sit passively but communicate their message day by day and year by year.

Likewise, the location of individual incidents of the lynching of Black American citizens and their geographic distribution across the former slave-holding states is now well-documented. However, unlike a monument, an act of lynching was not passive. It had mortal consequences for the primary victim, who lost his or her life. Terrorism has been described as ‘...the use of intentional violence, generally against civilians, for political purposes...’ Acts of lynching of Black American citizens was terrorism. Its political message was that Whites rejected the equality of Black American citizens. This rejection of equality was demonstrated when Whites took away the ultimate civil right (life and liberty) of a Black person without recourse to due process and without legal consequences from the local political entities.

For this study I focus on the ten Southern states that have the most complete data on incidents of lynching. These ten states are Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, and Tennessee. Note that before 1880 HAL lynching data is incomplete.

GIS allows us to combine and analyze the geospatial distribution of both the erection of Confederate Civil War monuments and incidents of the lynching of Black American citizens. The temporal correlation between monuments and lynchings from the data for the ten states that I used for this study is shown in Fig. 9. My analysis for the ten states coincides with the national SPLC lynching data shown in Fig. 6.

Table 1 outlines the summary results of my statistical analysis of the data on monuments and lynching for the ten states in this study.

The ten states in the study area have a total of 875 counties, continued on page 20
based on current county boundaries. Note that county names and boundaries have a history of some minor changes throughout the study period. The National Historical GIS is a good source for documenting these changes on an annual basis. However, the individual data sources for the location of both lynching and monuments lists data based on current boundaries, which are used for my analysis.

Within the ten states there are 571 Confederate Civil War monuments and 2,412 documented instances of lynching that can be located in a county. In addition to the 2,412 cases of lynching that can be located by county, the HAL data also lists 17 instances of lynching where the county is identified as ‘indeterminant’ and two listed as ‘undetermined’ although the state in every case is known. The total cases of lynching for the study area was 2,431, including those identified as indeterminant or undetermined county. Why might the county be unknown? Most of the records of lynching are based on contemporary newspaper reporting or correspondence. A lynching in a rural area where the location could not be precisely determined is listed as indeterminant or undetermined to avoid a possibly inaccurate association with an individual county. For this study, I have ignored the 19 instances of lynching where the location cannot be determined at the county level. Of the 875 counties in the 10 study states, 395 counties (45.1%) have at least one Confederate Civil War monument (Map 1). In the 395 counties with monuments, there was an average of 1.45 monument per county. 480 counties (54.9%) have no monument. Many of these counties have other Confederate iconography. Naming a school, park, or other feature was a less expensive option than erecting a monument in order to convey the message of continued White dominance and racism. However, this other iconography is outside the scope of this study.

Of the 875 counties in the ten states studied, 571 counties (65.3%) had at least one documented lynching (Map 2). These 571 counties had an average of 4.22 incidents of lynching per county. 304 counties (34.7%) have no known documented lynching. The number of lynchings per county ranged from zero (0) in 304 counties, to a maximum of 37 in Bossier Parish, Louisiana.

Seguin and Rigby discuss factors that may account for the variation in the quantity of lynchings from county to county. Factors that they identified that may have a correlation with higher rates of lynching include the predominance of a cotton-based farm economy, counties with higher rates of religious diversity, counties with more Black controlled churches, and counties with more active populist challengers to existing political structure. They also suggest that lynching was less common in counties when and where lynching had recently occurred in neighboring counties. Also, counties where the local economy was more connected to the national or international economy seem to have had lower incidents of lynching (Seguin and Rigby 2019).

Of the 395 counties with at least one Confederate Civil War monument, 89 (22.5%) of the counties have no recorded instances of lynching (Map 3). 306 counties (77.5%) with Confederate Civil War monuments also have recorded incidents of lynching of Black citizens (Map 5).

Of the 480 counties with no Confederate monument, 265 (55.2%) had at least one documented lynching of a Black person (Map 4).
Of the total 2,412 recorded cases of the lynching of a Black person, 1,456 (60.4%) occurred in counties with a Confederate monument, while 956 (39.6%) took place in counties with no Confederate monument. Of the total 875 counties in the study states, 306 counties (35.0%) both have Confederate monuments and recorded cases of the lynching of Black persons (Map 5).

The average number of lynching cases for all 875 counties was 2.76 per county. The average number of lynching cases for the 395 counties in which all 571 Confederate monuments are located was 3.69 cases of lynching per county. This includes 89 counties with a monument, but no recorded incidents of lynching.

Of the 395 counties with Confederate monuments there were 1,456 documented cases of lynching (3.69 cases of lynching per county with a Confederate monument, including counties with a monument but no lynching). This is an 85% overall higher rate of lynching compared to counties with no Confederate monuments.

For all 571 counties with a recorded lynching of a Black American there was an average of 4.22 incidents of lynching per monument (Map 6).

For the 408 counties with no Confederate monument there were 956 recorded instances of lynching (1.99 per county). This is a 28% lower rate than the average for all 875 counties.

306 counties (35.0%) have both Confederate monuments and at least one instance of a recorded lynching. Within these 306 counties there were 1,456 recorded instances of lynching (4.76 per county) (Map 7). This is an 139% overall higher rate of lynching compared to counties with no Confederate monuments.

In 258 of the counties with both a monument and a lynching, there is also a generational correlation between the erection of a monument and at least one lynching (Map 8). For this study, I defined generational correlation as at least one lynching and the erection of at least one monument occurring in the county within 33 years or less. This is based on the sociological concept of people ‘born and living at the same time, collectively’. This is a significant criterion, because within the largely closed environment of Southern
counties, it is very likely that some of the people who committed acts of lynching were known by (if not the same people) who were instrumental in erecting Confederate monuments. This was also the end of the generation of the Confederate Civil War veterans, whose legacy in the community was championed by the United Confederate Veterans.

In the 258 counties with a generational correlation between the erection of at least one Confederate monument and at least one incident of lynching, there were a total of 1311 incidents of lynching. This represents a rate of 5.08 incidents of lynching per county (155% higher than the rate for counties with no Confederate monuments.

For some counties with monuments, a generational correlation with lynching cases could not be determined. These counties had only monuments for which the date of erection is listed in the data source as ‘unknown’. Hence, a generational correlation cannot be determined. There are 19 counties with monuments where the only recorded date of erection is listed as ‘unknown’. These counties have 98 recorded lynchings (5.16 incidents of lynching per county).

The data also shows that 33 counties with monuments show no generational correlation with cases of lynching. In these counties there were 64 recorded lynching cases, for a rate of 1.94 per county.

Another phenomenon in the erection of confederate monuments is a slight recent increase (Table 2). The peak years for the erection of Confederate Monuments were the 1900 decade (140 monuments) and the 1910 decade (139 monuments). The numbers for the next two decades declined more than 60%. New monuments declined to ten or less for the next 5 decades (1940-1989).

However, the decades of the 1990s and 2000s have seen increased numbers of new monuments. Since 1950, new Confederate monuments were erected in 63 counties. Of these, 17 counties had no previous recorded cases of lynching. However, 46 of the counties (73.0%) have a history of previous cases of lynching.

The message of Confederate Civil War monuments

There is a strong temporal and spatial correlation in the period after the Civil War between incidents of the lynching of Black people with the erection of Confederate Civil War monuments.

Some counties in the ten Southern states that I studied have no Confederate Civil War monuments (although I did not analyze other Confederate iconography). Some Southern counties within the study area had no recorded incidents of the lynching of Black American citizens.

But there is strong evidence to support the connection between incidents of the lynching of Black American citizens and the erection of Confederate Civil War monuments. The distribution of monuments shows a strong spatial correlation with the area defined by Seguin and Rigby as the regime of Black lynching. Only 22% of counties with a monument had no recorded incident of lynching of Black citizens. 60% of recorded incidents of lynching occurred in counties with monuments. The rate of lynching per county was 139% higher in counties with monuments, compared with counties with no monuments. In the 258 counties where I...
identify a generational correlation between at least one monument and one incident of lynching, the rate of lynching was 155% higher than counties with no monument at all. Morality complicity in allowing the lynching of Blacks is not limited to people in the counties where it occurred. White Southern heritage was strongly rooted in the concept of White racial superiority. After the Civil War ended in 1865, White racism as an aspect of Southern culture did not change substantially. The Southern culture of the post-Civil War era was one that created the Color Line that Douglas and DuBois identified. From a geographic standpoint, the pre-civil war boundary between free states and slave states (Fig. 1) was replaced by the Color Line (Fig. 10). The Color Line, based on Jim Crow Laws and publicized via Confederate Civil War monuments and incidents of lynching Black citizens, established a new geography. It appeared on no maps. But across the states that claim Southern heritage and culture, it placed a boundary line around each Black and White person that moved with them through space and time. This boundary line was also placed around what we would consider traditional geographic features – Black schools, White-only hotels, Black drinking fountains, White-only waiting rooms, Black backs of busses, etc. The message of Confederate Civil War monuments and Black lynching was powerful. Crossing the Color Line would lead to conflict and potential violence. When a Black American crossed the Color Line, he or she entered a zone of conflict. The consequence of crossing the Color Line and entering the conflict zone for a Black person could range from annoyance (refusal of service at a White-only hotel or lunch counter) to the mortal peril of a lynching.

My analysis demonstrates the original purpose of Confederate Civil War monuments. Their purpose was to continue the racism that had enabled slavery in the period after the Civil War. The message of Confederate Civil War monuments was and is to proclaim White racial superiority.

Conclusion

White racism was not unique to the Southern States nor was it directed only towards Black people. Native Americans, Chinese, Japanese, Philippinos, Hawaiians, Latinx, South Asians, and others were held to be inferior to Whites and in turn subjected to various types and degrees of racism. My study concentrated on the ten southern states for which comparable data of Confederate Civil War monuments and the lynching of Blacks is available at the county level.

This research and spatial analysis provide insights into the interconnected nature of lynching and Confederate monuments in the ten states studies. There is strong evidence that the erection of Confederate Civil War monuments and incidents of lynching of Black Americans were part of a media campaign to affirm the concept of White racial superiority. They were unsubtle affirmations of racist views and racial discrimination within the local society. Confederate Civil War monuments and incidents of lynching of Black Americans were interrelated aspects of a media campaign to establish the color line that DuBois identified and that every Black American citizen experienced.

Marshal McLuhan would have recognized the inter-related phenomena of Confederate Civil War monuments and incidents of lynching of Black Americans as effective media to ‘massage’ human perception (McLuhan and Fiore 1967).

All media work us over completely. They are so pervasive in their personal, political, economic, aesthetic, psychological, moral, ethical, and social consequences, they leave no part of us untouched, unaffected, unaltered.

Does the Color Line that Douglass and DuBois identified in the Nineteenth Century exist in the Twenty-first Century? Some legal impediments have been swept away by the Civil Rights movement and the Civil Rights act of 1964, and subsequent legislation. However, any statistical and spatial analysis of demographic data would demonstrate that comprehensive equity and social justice is still lacking in the United States. The persistence of White racism has been apparent throughout the author’s life.

Lynching is rare today, but the color line exists to this day. White and Black racial narratives are ingrained in the consciousness of most Americans. To achieve an equitable society and social justice for all citizens, American society needs to recognize the true purpose of Confederate Civil War monuments and their place in our public spaces now and in the future. Confederate Civil War monuments remain a powerful, visible symbol of racism. We choose as a society which aspects of our heritage to cherish and teach. We choose what our cultural norms are year by year. If these monuments are a symbol of Southern heritage and culture, perhaps Southern heritage and culture should change.

If Confederate Civil War monuments reflect a snapshot of Southern history that has no place in a future society that truly embraces equity and social justice, they should be removed from public places and relegated to an environment which supports critical comparative analysis of their meanings within the context of American history and society.

One final note on numbers related to incidents of lynching in the United States. Timothy Snyder, in discussing statistics related to incidents of genocide before, during and after World War II, wrote: ‘...But this number, like all the others, must be seen not as 5.7 million, which is an abstraction few of us can grasp, but as 5.7 million times one. This does not mean some generic image of a Jew passing through some abstract notion of death 5.7 million times. It means countless individuals who nevertheless have to be counted, in the middle of life...’ (Snyder 2010)

We must acknowledge the statistical record of 2,431 documented instances of the lynching of Black American citizens within the ten study states (and the thousands more outside those states). But we must also acknowledge the humanity of the individual men, women, children, and infants who had the potential of their full lives snuffed out, merely to demonstrate the superiority of Whites over Blacks, and to reinforce the moveable Color Line necessary for White racism to persevere.

To recognize the humanity of one or two of the victims of lynching, let us pick a date, say August 28, 1963. This was the date of...
both Martin Luther King’s ‘I Have a Dream Speech’ and of the
first URISA Conference. Exactly 43 years earlier, in Corinth, (Alcorn
County) Mississippi, Butcher Higgins and Daniel Callicut, were
lynched by a mob of 75 to 100 White men for escaping from a chain
gang. We cannot look Butcher Higgins and Daniel Callicut in the
eye, but we have a moral obligation to recognize their humanity and
the crime that was committed on August 28, 1920 in Corinth, and in
hundreds of other communities across the South.

Timothy Snyder also wrote:
“It is easy to sanctify policies or identities by the deaths of victims.
It is less appealing, but morally more urgent, to understand
the actions of the perpetrators. The moral danger, after all, is
never that one might become a victim but that one might be a
perpetrator or a bystander.”

The ‘heritage’ symbolized by Confederate Civil War monuments
is a heritage of slavery, racism, White racial superiority, and
the people who fought to defend and preserve those institutions.
The ‘culture’ symbolized by Confederate Civil War monuments
is a culture that excuses slavery, racism, White racial superiority,
and reveres the people who fought to defend and preserve those
institutions.

Erecting Confederate Civil War monuments is protected by First
Amendment Freedom of Speech. But freedom of speech includes to
right to question the meaning of Confederate Civil War monuments.

If those whose culture and heritage are ‘Southern’ cannot reject
the symbolism of the White racial superiority that was the cause of
the Civil War, then they stand in opposition to American heritage
and culture that is based on equality of all people.

This study has shown that for about 50 years, there was a
strong temporal and spatial correlation between the erection of
Confederate Civil War monuments and the lynching of Blacks by
Whites.

The time is long past to deny the purpose of Confederate Civil
War monuments. Carl Sagan stated:
“One of the saddest lessons of history is this: If we’ve been
bamboozled long enough, we tend to reject any evidence of
the bamboozle. We’re no longer interested in finding out the
truth. The bamboozle has captured us. It’s simply too painful to
acknowledge, even to ourselves, that we’ve been taken. Once you
give a charlatan power over you, you almost never get it back.”
(Sagan 1997)

To be a bystander is to abet perpetrators.

Notes on data sources and future research
The primary data sources I consulted document the date, location,
and circumstances of the erection of Confederate Civil War monu-
ments and of instances of lynching in the United states.

Confederate Civil War monuments:
The primary source for data about Confederate Civil War monu-
ments is from the Southern Poverty Law Center. Whose Heritage?
Public Symbols of the Confederacy was originally published in 2016.

The 2016 SPLC report was updated and published online in
2019 (https://www.splcenter.org/20190201/whose-heritage-public-
symbols-confederacy), with newly updated data. I downloaded the
SPLC Confederate Monument data (available at: https://docs.google.
com/spreadsheets/d/17ps4aqRyalfpnu7KdGsy2HRZaaQixUFLrpUbaR9
y5S5I/edit#gid=22298983) from the SPLC website.

The SPLC database lists many types of features other than just
monuments. These other types include place names (city,
county), seals, flags, school names, park names, trail names, bodies
of water, highways and road names, military base names, markers,
holiday observances, commemorative license plates, scholarships,
bridges, buildings, postage stamps, songs, and plaques. However,
my study focusses solely on visible symbols of the Confederacy.

Lynching:
Because any lynching was an extra-judicial act of murder that re-
quired the complicity of the community, there was no mandatory
governmental reporting. But often there were local newspaper
reports or private correspondence that provide evidence of a
lynching. Most of the documentation of acts of lynching in the data
sources identified below come from scanning through thousands
of local newspapers. The fact that so many incidents of lynching
were reported matter-of-factly in local newspapers reinforces the
concept of county-level social deference and community complicity
in lynching. In addition to the incidents of lynching that have been
documented, there were likely hundreds, maybe thousands more,
that were never documented at all.

There are two major sources for detailed historical data about
lynching in the United States.

First, Project HAL: Historical American Lynching. This
project is administered by Elizabeth Hines, Ph.D., Geographer,
Department of Geography & Geology, University of North Carolina
in Wilmington and Eliza Steelwater, Ph.D., an Independent Scholar
from Bloomington, IN. (http://people.uncw.edu/hinese/HAL/
HAL%20Web%20Page.htm#HAL%20History). Project Hal data is
readily downloadable from their website. A limitation of this data is
that it covers only ten states: Alabama, Arkansas, Florida, Georgia,
Kentucky, Louisiana, Mississippi, North Carolina, South Carolina,
and Tennessee. These are the ten states covered by my study.

Another source of lynching data is from MonroeWorkToday.
This is a program of the Department of Records and Research
at Tuskegee University. MonroeWorkToday data is based on the
work of Monroe Work and his successor Jessie P. Guzman, who
served as the archivist and curator of the data. See: http://www.
monroeworktoday.org/. MonroeWorkToday’s data covers 8,045
instances of lynching, including 5,647 people of color and 305 of
unknown race. The MonroeWorkToday database covers the entire
United States. But the data is considered incomplete outside the ten
states that are the focus area of the HAL data. MonroeWorkToday
also includes extensive bibliography related to lynching records in
general, the historical context of lynching, and sources related to
race riots and massacres.

Sample MonroeWorkToday data is available to the public but
limited to 100 records. Access to the entire MonroeWorkToday data
is granted to researchers upon application. I chose to use the Project HAL data for my research. In the future I plan to apply for access to the MonroeWorkToday data, to explore this topic outside the ten states.

National Historical GIS
I examined historical GIS data, but found that I did not need to rely on it for this paper. However, future research on the Jim Crow era media campaign might benefit from NHGIS Data. The National Historical Geographic Information System provides easy access to summary tables and time series of population, housing, agriculture, and economic data, along with GIS-compatible boundary files, for years from 1790 through the present and for all levels of U.S. census geography, including states, counties, tracts, and blocks. See: https://www.nhgis.org/.

Future research
Areas of future research regarding the meaning of Confederate Civil War monuments should start with analyzing the full set of MonroeWorkToday lynching data. Also, the correlation of incidents of lynching should be analyzed against other Confederate Civil War iconography in public places (pictures in government buildings, geographic locations named for Confederate civil war personages, Confederate flags and other symbols on display in public places, schools, military bases, etc.). This research should also analyze the spatial and temporal pattern of counties and cities which changed their names at any point after the civil war to honor Confederate Civil War persons.

Other lines of research could look at the temporal and spatial correlation between monuments and the rise and spread of the Ku Klux Klan across the South and beyond.

The racial makeup of individual counties when monuments were erected and when and where lynching occurred can also be analyzed. Issues include irregular census records across the South, where it is likely that many Black citizens were not counted.

Analysis of the location and dates of United Confederate Veterans Camps is also a possible line of research. This might lead to detailed analysis at the individual county level, to try to link individuals who were UCV members, involved in County politics, associated with groups who promoted the erection of Confederate monuments, and possible records of lynch mob conspirators. This line of research would be aided by contemporary sources (newspapers, guidebooks, county histories, genealogical sources, WPA state guidebooks, etc.).

Credits for illustrations
All maps, figures, and tables are mine, unless noted otherwise.

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Bibliography
Wikipedia articles consulted for historical context and meaning:

continued on page 26
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Committee Column
This column will be a regular feature in the GIS Professional and will highlight the various URISA committees.

Want to serve in a Leadership or Board position? It’s simple – get involved!
By: Wendy Peloquin, GISP

Hello! For those of you that I have not had the pleasure of meeting, my name is Wendy. I am now in my second year on the URISA Board of Directors and I also serve in a leadership position, Placement Chair (responsible for placing members in leadership positions and committees), in my local Junior League. This year I have the pleasure of serving on URISA’s Leadership Development Committee. This the committee that is tasked with identifying future leaders and candidates for the URISA International Board of Directors. This is not an easy committee to serve, as there are so many wonderful volunteers within the organization and we have limited positions each year.

There are two questions that generally come up when talking about serving in volunteer and leadership positions. These are “how did you get a leadership/board position?” and “how do I get nominated?”. The answer to both is quite simple – get involved! It is hard to get nominated (and elected) if fellow members do not know who you are, what you have contributed to the organization, and if they believe you will be a good representative on the Board.

What do I mean by getting involved? The first step would be to participate in a committee. Participation can be as little as a few hours to serving as a committee member. Committee members typically attend 1-hour, virtual meetings once a month in addition to committee tasks/activities. Both of these options are a great way to learn more about the organization and meet fellow members. It is more importantly an opportunity to directly contribute to the profession. These volunteer opportunities are not only a chance to advance and strengthen the profession, but also an opportunity to develop skills to lead within your own organization.

If you are interested in learning more about URISA committees, please start by checking out this list: https://www.urisa.org/board. URISA is also utilizing its new online platform, Connect, to communicate committee tasks and solicit volunteers. If you are not sure where you belong or where you may be a good fit, I challenge you to reach out to a Committee Chair or Board Member and we will help you find an opportunity that will be a good fit for you.

I also recommend attending in-person events and conferences, as these are major networking opportunities within the URISA organization. URISA’s GIS-Pro Conference even has an open Committee Coordination meeting the day before the conference begins. It is open to all attendees to participate, learn about what is going on within the organization, and find a committee to join. It is also a great way to meet other attendees before the conference is officially kicked off.

Once you get involved on a committee, the next step is to serve in a leadership role. A Committee Chair and Vice-Chair organize and lead the committee meetings, as well as oversee all committee tasks/activities. If you are interested in committing more time and serving on the Board of Directors (3-year term), the Board conducts meetings virtually (~1 hour). Each Board Member also serves as a Board Liaison to a committee within URISA and participates in their monthly meetings. Board Members also participate in committees related to Board activities (Leadership Development Committee, Strategic Planning Committee, etc.). The Board of Directors also meet in-person four times a year (including before and after GIS-Pro).

My final piece of advice is to speak up! Let those in leadership positions know that you are interested in stepping up and taking on a larger role within the organization. Be your own advocate!
We look forward to hearing from you!
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Hanover County — Hanover VA
Harris County Appraisal District — Houston TX
Jefferson County - Alabama — Birmingham AL
Lafayette Parish — Lafayette LA
Linn County — Cedar Rapids IA
Los Angeles County — Los Angeles CA
Manatee County Information Technology Dept. — Bradenton FL
Matanuska-Susitna Borough — Palmer AK
Montgomery County Emergency Communication District — Conroe TX
Prince William County — Prince William VA
Rouett County — Steamboat Springs CO
Skagit County — Mount Vernon WA
St. Johns County — Saint Augustine FL
Strathcona County — Sherwood Park AB Canada
Wasco County — The Dalles OR

Municipal
City of Alexandria — Alexandria VA
City of Bozeman — Bozeman MT
City of Brentwood — Brentwood TN
City of Burlington NC — Burlington NC
City of Clovis — Clovis CA
City of Hoover — Hoover AL
City of Largo — Largo FL
City of Lawrence — Lawrence KS
City of Leduc — Leduc AB Canada
City of Manteca — Manteca CA
City of Mobile — Mobile AL
City of Newport News — Newport News VA
City of Salinas — Salinas CA
City of Suffolk, Virginia — Suffolk VA
City of Temple — Temple TX
City of Victoria — Victoria TX
City of Westminster — Westminster MD
City of Wilmington — Wilmington NC
Denver Water — Denver CO
Town of Collierville — Collierville TN
Town of Dedham — Dedham MA
Town of Flower Mound — Flower Mound TX
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THE GIS PROFESSIONAL
A publication of URISA

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