

# the GIS PROFESSIONAL

A publication of the Urban and Regional Information Systems Association

## AN ETHICAL CHOICE, WHAT WOULD YOU DO?

Mark Salling, PhD GISP

Recent discussion on the URISA Open Forum about the GISP who was fired after allegedly refusing to change data on a COVID-19 dashboard web site in Florida provides an opportunity to discuss the URISA and GISCI Code of Ethics.

### Background

This background information is based on media reports and the statement of the GISP that are known to the author as of June 3, 2020. The reader is encouraged to search for more up-to-date and complete information.

According to the Tampa Bay Times "...the Florida Department of Health data manager lost her role maintaining the state's COVID-19 data when she objected to the removal of records." She was also asked to take down the web site she had built and then was removed as its operator. She was subsequently fired. According to the Miami Herald and another news outlet, a field in the dashboard was removed showing when people first reported coronavirus symptoms or positive test results. The field was later returned to the dashboard's publicly available database. The Department of Health Geographic Information Systems (GIS) manager was allegedly first asked to change county-level data in support of the governor's plans for reopening the state.

According to the Florida Today in a May 24, 2020 story, the GIS professional provided screenshots of emails and messages which showed she was distressed by the incident when it happened and wanted to quit her job because of it. A chain of instructions clearly

instructed her to not just revoke access to certain data, but to take down the whole site because it provided access to the data. A Department of Health administrator is quoted as saying in one email: "This whole site needs to come down. It literally has all the data files." Florida Today said that authenticity of these communication records could not immediately be verified. More recent news accounts of the situation have not been found at this writing. She also claims that she was "...asked to massage the data for specific rural counties so that they met the statistical criteria to re-open".

The Florida Governor's office issued a statement that said the employee was fired because she "...exhibited a repeated course of insubordination ... including her unilateral decisions to modify the Department's COVID-19 dashboard without input or approval from the epidemiological team or her supervisors."

News accounts are available below. You are encouraged to read these and other accounts.

- <https://floridahealthcovid19.gov/>
- <https://experience.arcgis.com/>

1 "DeSantis says dismissal of COVID-19 data chief a 'non-issue' though emails say otherwise", reporter Alessandro Marazzi Sassoon, Florida Today, May 20, 2020. [ <https://www.floridatoday.com/story/news/2020/05/20/de-santis-says-firing-florida-covid-19-data-chief-non-issue/5224739002/> ]



# URISA

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experience/96dd742462124fa0b38ddedb9b25e429

- <https://www.floridatoday.com/story/news/2020/05/29/fired-scientist-rebekah-jones-florida-coronavirus-dashboard-debate-department-health/5279224002/>
- <https://www.floridatoday.com/story/news/2020/05/23/rebekah-jones-fired-florida-health-department-scientist-covid-19-data-interference/5249295002/>

The data manager has posted her own account at <https://geojones.org/2020/05/22/public-statement/>.

### What Does the Code of Ethics Say?

GIS professionals sometimes must call on the GIS Code of Ethics to make difficult decisions. Can the Code's assertions about the GIS professional's responsibilities to employers, the community, and the profession be helpful in thinking through what she should have done or what you would do in similar circumstances? For this discussion we take no position on fault in the controversy. Instead, we take the opportunity to ask the reader to think deeply about the lessons that can be drawn.

The URISA and GISCI Code of Ethics are one-and-the-same. They speak to Obligations to Society, Obligations to Employers and Funders, Obligations to Colleagues and the Profession, and Obligations to Individuals in Society. Please refer to them at <https://www.urisa.org/about-us/gis-code-of-ethics/>.

For the situation in Florida I think there are several code statements with particular relevance.

### Obligations to Society

- **Be objective, use due care, and make full use of education and skills.**

Did the GIS professional show herself to be objective by including the date of infection in the dashboard? It seems unquestionable that she was using her education and skills in creating the dashboard. Other GIS professionals are helping with the COVID-19 response with dashboards for other states and some local agencies. In her own statement she says: "I used skills learned through my bachelor's, master's and doctoral studies in climate science, geospatial science and communications to take raw data, analyze it, prepare and format it, and publish it for our residents in an easy to understand and authoritative web resource."

- **Practice integrity and not be unduly swayed by the demands of others.**

Did the GIS professional do the right thing when she resisted making changes to the dashboard that were demanded by her supervisor?

- **Provide full, clear, and accurate information.**

If you believe her and the media reports one would conclude that the GIS professional was trying to provide as much useful information in a clear and accurate manner as possible. Certainly, the date of infection is a critical piece of information for the public and for researchers looking into the spread and contagiousness of COVID-19. It also can inform how effective responses by government and other agencies were to the

pandemic. Some persons cited in the media accuse the state of trying to hide that data to ward off criticism.

- **Be aware of consequences, good and bad.**

Were there bad consequences in the GIS professional's work for the agency or the public? The inclusion of the date of infection does not seem to have any negative consequences for the public. Note that all the data in the COVID-19 dashboard being displayed had no confidential data about the individuals involved.

- **Strive to do what is right, not just what is legal.**

Did the GIS professional try to do what was right in her judgment? "Doing what is right" is subjective and we all must make those decisions. The GIS professional in this case makes a case for herself that her motives were to help the public and researchers deal better with COVID-19. In doing that she disobeyed her employer (see discussion below). So far, no one has accused the GIS professional of anything illegal.

- **Make data and findings widely available.**

Clearly, the GIS professional, in creating the publicly accessible data dashboard, was trying to make that data widely available.

- **Strive for broad citizen involvement in problem definition, data identification, analysis, and decision-making.**

We don't know of any citizen involvement in this case, but it can be argued that by making the data available publicly, the GIS professional was trying to enable others to define issues, undertake analysis, and make more informed decisions.

- **Call attention to the unprofessional work of others. First take concerns to those persons; if satisfaction is not gained and the problems warrant, then additional people and organizations should be notified.**

This responsibility is one of the most contentious issues in the matter. Did the GIS professional talk to the press before trying to resolve the issue internally? She claims that she "...objected to repeated requests (by her supervisor) to manually alter, hide and delete public data." She also claims that, "Once they realized how much of a mistake it was to intentionally hide and delete data, they asked me to put it back up, and I did so immediately, without any data being altered or changed in any way." Further, she claims she has not "...done any public interviews, never intended to speak publicly with any members of the press, and this is my first public statement since being thrust into the national news by no choice of my own". The fact that the date of infection was apparently restored after media attention to the issue suggests that the GIS professional's reach to the media was effective.

### Obligations to Employers and Funders

- **Hold information confidential unless authorized to release it.**

Apparently, the GIS professional built and disseminated the data dashboard without prior authorization. The Florida Governor's office said she made "... unilateral decisions to modify the Department's COVID-19 dashboard without input or approval from the epidemiological team or her supervisors." It is not clear that her job description and responsibilities

required that input or approval (at least until the controversy arose). Was she performing her responsibilities as she and her employer intended before the agency allegedly asked her to alter data or remove the dashboard? The dashboard project was subsequently taken away from her responsibilities, though it is still in operation (at this writing). No personally confidential data is included, so the identification of the data as “confidential” would only be relevant in terms of whether the health department considered the data contained in the dashboard to be confidential to the agency. Should the agency withhold the data from the public it might indicate a lack of public transparency and would likely be challenged by the media and others.

- **Avoid all conflicts of interest with clients and employers if possible, but when they are unavoidable, disclose that conflict.**

Did the GIS professional try to avoid conflicts with her employer? The Florida Governor’s office said she “...exhibited a repeated course of insubordination...”. Based on current reports, no documentation of that charge has been offered by the state. Apparently, after attempting to convince the agency to allow her to post the data as she saw necessary and appropriate, she was taken off the project and asked to resign; declining that, she was fired. It is unclear to the author whether and when she may have gone to the press with an accusation about the agency, though she claims she has not

- **Accept decisions of employers and clients, unless they are illegal or unethical.**  
The GIS professional apparently and ultimately disobeyed her employer. She defends that by asserting that “The only directive I refused was to manually change data in a misleading way to drum up public support of resuming pre-pandemic level of activities without a science-based assessment of each county’s respective risk or readiness to do so.” Apparently, she deemed the directives to her to be unethical.

### Is there a Conclusion to be Drawn?

At this time, we don’t know for sure the reason the GIS professional was told to remove or change data, only her and others’ accusations that it was political. Was she insubordinate in not obeying, and if so was that insubordination ethical and the right thing to do?

There are several components of the GIS professional Code of Ethics that apply to one degree or another in this case. A few of them pose possible conflict. Is her and our obligation to society and the profession more important than to the employer when in conflict? These are tough questions for most of us.

This particular GIS Professional made a tough choice. Again, in her own words, “I did what any scientist would when asked to do something wrong – I said no and I made clear that I would not participate in any research or activity using misleading data that could get people sick or worse.”

**What would you have done? What will you do if faced with similar choices?**

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# URISA Statement Regarding Recent Events in Florida



## June 19, 2020

Alongside citizens of Florida and the nation, URISA<sup>1</sup> members watched the unfolding situation concerning the Department of Health's COVID-19 Dashboard that had been lauded in an April 20, 2020 online article<sup>2</sup> by Esri, creator of the GIS software used to build the dashboard, and by Dr. Deborah Birx, White House Coronavirus Response Coordinator, in an April 19, 2020 CBS Face the Nation interview<sup>3</sup>. Dr. Birx specifically mentioned that she was "... trying to really drive Americans to a website [Florida COVID-19 Dashboard] that I think is really quite extraordinary." Dr. Birx further stated that the dashboard provided the "... kind of knowledge and power we need to put into the hands of [the] American people so that they can see where the virus is, where the cases are and make decisions."

According to published reports in the media, it was shortly after this recognition that troublesome changes to the dashboard were requested by state officials. Specifically, it was reported<sup>4</sup> that Rebekah Jones, creator of the dashboard and a GIS Professional (GISP)<sup>5</sup>, was asked to make a series of changes that diminished its accuracy and obscured some data. While voicing her objections to the initial change requests before complying, Ms. Jones ultimately refused additional changes that would have included false data.

While all the facts have yet to be made public, we are concerned that the actions taken potentially put the public at risk

- 1 The **Urban and Regional Information Systems Association (URISA)** is a 53 year old nonprofit association that provides education and training, a vibrant and connected community, advocacy for geospatial challenges and issues, and essential resources for GIS professionals throughout their careers. <https://www.urisa.org/>
- 2 Geraghty, Este MD, MS, MPH, GISP and Ryan Lanclos COVID-19: Dedicated Scientist in Florida Made Quick Moves to Map the Disease; <https://www.esri.com/about/newsroom/blog/scientist-maps-florida-covid19-cases/> (Accessed June 2020)
- 3 CBS Face the Nation April 19, 2020 Transcript; <https://www.cbsnews.com/news/full-transcript-of-face-the-nation-on-april-19-2020/> (Accessed June 2020)
- 4 Florida scientist was fired for 'refusing to manipulate' COVID-19 data, she said, May 19, 2020, Florida Today <https://www.floridatoday.com/story/news/2020/05/19/florida-scientist-refused-manipulate-covid-19-data-and-fired/5219137002/>; Florida COVID-19 dashboard manager raises red flags about accuracy of state data after being fired, May 19, 2020, WFLA News Channel 8 <https://www.wfla.com/news/florida/floridas-coronavirus-data-questioned-after-removal-of-woman-who-designed-dashboard/> (Accessed June 2020)
- 5 GIS Certification Institute of which URISA is a founding member; <https://www.gisci.org/> (Accessed June 2020)

and prevented a certified GIS professional from following the Code of Ethics<sup>6</sup> that guides all GIS professionals working in government, non-profit and private sector positions.

The URISA Code of Ethics<sup>7</sup> is identical to the one that GISPs agree to when they earn their certification. The GIS Code of Ethics is similar to those of other professional and scientific ethics codes. The Code guides GIS professionals as they make decisions on collection, analysis, and presentation of data, whether through reports, maps or online systems.

The GIS Code of Ethics first states to "Do the Best Work Possible" by being objective and using due care. It says to practice with integrity and not to be unduly swayed by the demands of others. Provide full, clear and accurate information. Be aware of consequences both good and bad. Finally, strive to do what is right, not just what is legal.

The GIS Code of Ethics says to make data and findings widely available, striving for broad citizen involvement, and to speak out about emerging issues. GIS professionals should also call attention to the unprofessional work of others.

Finally, GIS professionals are required to deliver quality work and have a professional relationship with those they work for and with, which may involve accepting the decisions of employers and clients, unless they are illegal or unethical. They are honest in representations and strive to resolve differences. GIS professionals work respectfully and capably with others in GIS and other disciplines.

The GIS Code of Ethics includes more, but this is the heart of the ethical standards that URISA members and all GISPs follow. While endeavoring to follow these guidelines, situations may arise that make choosing the right course to follow difficult, and the GIS professional may need to emphasize some guidelines over others. What is important is to strive to do the right thing.

The situation in Florida has highlighted this dilemma. Published reports demonstrate that Ms. Jones was under extreme pressure to ignore her Code of Ethics. URISA will always support its members and all GISPs who follow the GIS Code of Ethics which in this case were indeed being followed.

Approved by the URISA Board of Directors on June 19, 2020

6 Ibid. A GIS Code of Ethics, <https://www.gisci.org/Ethics/CodeofEthics.aspx> (Accessed June 2020)

7 URISA International, GIS Code of Ethics, <https://www.urisa.org/about-us/gis-code-of-ethics/> (Accessed June 2020)

# Redefining Resilience in the Face of a Global Health Crisis

Bandana Kar, Ph.D.



## Oak Ridge National Laboratory

In the face of the high death tolls and major economic threats associated with the current COVID-19 pandemic, this global event represents a crucial time to reassess and possibly redefine resilience.

Resilience is not a new term or specific to one discipline. The United Nation defines resilience as *the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions*. As the UN set this definition as the central component of its disaster reduction initiative, resilience has been widely adapted at various scales – from local to global – to assess and activate risk reduction strategies. However, in addition to providing scant description of each concept identified, this UN definition gives minimal instruction on what aspects of a community or society should recover to make it resilient. Essentially, resilience has become a vague term with ambiguous meaning, subject to interpretation and implementation.

Due to the spatiotemporal nature of resilience, 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.” This definition of resilience accounts for the following integral dimensions required for a resilient community: social, economic, ecological, health (physical and psychological), infrastructure and political.

As the evolving impacts of the COVID-19 pandemic expose the vulnerability of the UN’s current resilience definition, the URISA task force definition accounts for the health components of the crisis that have impacts on the economic resilience of our communities. Considering this new definition, we researchers and professionals need to identify best practices for assessing current resilience and preparing for future resilience of our society by taking into consideration the foundational aspects of Geographic Information Science, such as scaling and reproducibility in the context of geospatial datasets and technologies, which are crucial to assessing resilience and implementing resilience initiatives.

## Understanding Scale

The global pandemic requires every country to implement policies that will protect its borders, populace and economy. Thus far, de-

pending on the severity and timing of the outbreak, each country has chosen a unique combination of strategies. For example, in the United States federal government took a more hands-off approach by allowing states and densely populated municipal areas to adopt their own rules and standards for quarantining and sheltering-in-place. Evidently, though the crisis has a global footprint, the containment of its health impacts and spreading requires implementation of policies at a local scale. Contrary to this approach, economic impacts of this pandemic have been widespread and require national-scale policy implementation.

Unlike policies implemented to prevent contagion and revive the economy, analytics and models needed to forecast disease spreading based on mobility, network connectivity, resource availability and allocation require granular implementation. For instance, spatiotemporal models used to forecast disease hotspots cannot be implemented at a county scale, because the population density centroid of a county does not appropriately show that every individual is susceptible to infection. Thus, such an analysis needs to be modeled at an individual level. Likewise, resource allocation models need to be deployed at the local community level (i.e., the census block level) to provide a clear picture of resource supply and demand at the local level to account for the dynamic nature of disease spread and resource needs on a daily basis.

Another aspect of this scale discussion should focus on the definition of space versus place. The virtual space connected through 5G networks has enabled the socio-political systems to stay connected during this pandemic. The lack of connectivity and mobility in physical space has diminished economic transactions, thereby reducing the economic resilience of local communities, countries, continents and the entire globe. As opposed to space, place refers to a location that has a meaning for a specific community. Thus, researchers, decision makers and other stakeholders need to acknowledge that while policies pertaining to resource allocation and supply-demand should be deployed at a place level, economic revival policies need to be deployed at physical and virtual spaces and regional level.

## Ensuring Reproducibility and Replicability

In recent years, the terms Reproducibility and replicability have been at the forefront of scientific research. According to the National Academy of Sciences, Reproducibility means *obtaining consistent computational results using the same input data, computational steps, methods, code, and conditions of analysis*. Replicability means *obtaining consistent results across studies aimed at answering the same scientific question, each of which has obtained its own data*. The following

two issues contribute to the lack of reproducibility and replicability of resilience research, which is a major concern during the COVID-19 pandemic.

- The vague definition of resilience itself makes it impossible to identify the parameters needed to assess resilience and account for its dynamic nature across space and time.
- The scale of the data being used as well as the quality and sources of data contribute to this issue.

Several models have been developed along with static and dynamic maps to visualize the spread and impact of the COVID-19 pandemic. Because some of these models and maps have been created without input from both geospatial and health professionals, they have the potential not to be reproducible or replicable during other pandemic events to be used for resilience assessment and strategies. While geospatial professionals sometimes do not understand the health concerns, health professionals may, in some instances, not have the full picture of the models and analytics as well as data sets used to create the products. In addition to the issue of scaling and lack of clarity about resilience, because a lot of uncertainties exist about the Covid-19 in terms of its economic, environmental, health impacts, it is essential for the domain experts to work together to develop models and tools using geospatial data sets for public health purposes that can be reproduced and replicated.

### Enabling Communication

In a crisis it is essential to proactively develop and promptly share appropriately detailed information about the crisis to include its

impacts, solutions to reduce the impacts, and available resources for the community at risk. Clear and appropriate communication paves the road to community resilience by taking strategic actions to mitigate the impacts.




As seen with the COVID-19 response so far, scientific information provided by the health experts have been crucial in implementing measures like social distancing to reduce the spread of the disease and prepare the communities across the US for the long term impacts of this pandemic. From the various strategies deployed at different spatial scales (city, county, state) and sectors, it is clear that communication is essential to enabling community resilience.

### Enhancing Decision Making

If resilience can only be achieved by including all interactive and dependent components of a community, one should expect an all-inclusive decision-making process in which all domain experts will interact and coordinate activities to build resilience. In the US, the decision-making process during the COVID-19 pandemic is fragmented. Because of the novelty of the corona virus and its widespread impact with a larger footprint, mitigation and response phases are at the forefront. Moving forward it is essential for decision makers and domain experts to more effectively work together to have a preparedness and recovery plan that will help with economic recovery and long term resilience to other disasters that the country is facing and will face.

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

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

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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.

## Take Home Message

Resilience of a community should be comprehensive and inclusive of the natural and human systems, political and economic dimensions, physical and mental health of the populace, technical and infrastructure systems that connect communities both virtually and physically.

A major lesson to learn from this pandemic is that resilience cannot be a vague term adapted according to a problem without accounting for the scales at which actions should be taken to build resilience or identifying datasets to measure resilience across the dimensions identified in the resilience definition. For instance, population density centroids are good representations of hotspots susceptible to the spreading of COVID-19 in urban areas and can be used to model resource allocation. In the case of rural counties as well as from a disease spread modeling perspective, individual level data is needed for accurate representation of contagion. Likewise, population density centroid data and modeling is useful for response, but not for testing site location or treatment.

Geospatial data sets are essential to understand the spatial and temporal variability of COVID-19 spreading and impacts as well as for other natural disasters. It is, therefore, crucial for geospatial and other professionals involved in resilience building efforts to consider the aspects of scale in: data availability and modeling; analysis; and decision-making. Having access to individual level data or data at finer resolution is essential for model accuracy as well as for strategic emergency planning. For instance, individual level information, such as cell phone data and cell phones can be used for contact tracing during COVID-19 and building footprint data can be and are used for damage assessment and risk financing in case of disasters such as flood, hurricanes, earthquakes. Use of such fine resolution data is a concern for location privacy violation. Although techniques like differential privacy are used to add noise to such data sets and diminish the accuracy of precise location information, machine learning approaches are available to reverse engineer the precise location. Resilience-building best practices, therefore, require an understanding that not all data and models can be reproduced and replicated. These deficiencies can be due to one or more of the following shortcomings: a lack of quality

data, the heterogenous nature of data sets with varying scale, and/or a lack of understanding of the problem or the parameters to portray the problem. In some instances, it can be due to the need to protect privacy of the impacted individuals by injecting noise in the datasets or aggregating the data to a coarser resolution or scale. This understanding and acknowledgement of issues will help generate data, maps and other visual products with significant metadata and documentation about potential errors and uncertainties such that they can be replicated across space and time to aid with decision-making. Last, but not least, decision making activities should account for a new definition of resilience that is inclusive and accounts for the geospatial nature of resilience so that the pertinent information can be communicated to a variety of stakeholders in a timely manner.

**Dr. Bandana Kar** is a R & D Staff in the National Security Sciences Directorate at Oak Ridge National Laboratory (ORNL). She was an Associate Professor in the Department of Geography and Geology at the University of Southern Mississippi before joining ORNL. She has a Ph.D. in geography with focus in GIScience from University of South Carolina at Columbia. Her research addresses problems in science, technology and policy with a special focus on energy and transportation infrastructure and community resilience, risk analysis and communication. She received the Emerging Scholar Award in 2019 from the American Association of Geographers' Regional Development and Planning Specialty Group) and was a fellow of the National Science Foundation's Enabling the Next Generation of Hazards and Disasters Researchers Fellowship Program in 2009. She is a co-editor of the book *Risk Communication and Community Resilience* and a founder of the *Advances in Resilient and Intelligent Cities (ARIC)* workshop organized within the ACM-SIGAPTIAL since 2018. She is the chair of the Technical Division Directors' Council of the American Society for Photogrammetry and Remote Sensing and the Geographic Information Science and Systems specialty group of the American Association of Geographers, and an Associate Editor/Social and Behavioral Science Editor for the *IEEE Natural Hazards Review*. She has been funded by the National Science Foundation, Department of Homeland Security, Department of Energy, NASA.



### Support the **URISA Dr. Marilyn O'Hara Ruiz Young Professional Scholarship Fund**

Dr. Ruiz was passionate about her role as a mentor of graduate education at the University of Illinois at Urbana-Champaign. This scholarship supports young professional participation in the annual GIS-Pro Conference, fostering their professional connections and educational development. *Contributions are tax deductible as charitable donations. Donate today!*



This column will be a regular feature in the GIS Professional and will highlight the various URISA committees.

In this edition of the Committee Column we focus on the **Exemplary Systems in Government (ESIG) Awards Committee**.

The Exemplary Systems in Government (ESIG) awards were inaugurated in 1980 by URISA to recognize outstanding achievement by government agencies in the use of geospatial information technology – with the first awards being presented in 1981. This exemplary achievement is defined as the effective application of computer technologies and geospatial data that can be measured in terms of improved government service delivery and increased benefits to citizens. The award competition is international in nature and open to all public agencies at the federal, state/provincial, regional and local levels.

The ESIG awards have gained considerable prestige over the past four decades and there is always substantial publicity surrounding the winning systems, both by URISA and the nominating jurisdictions concerned. In many cases, the awards have enabled additional budget support to be provided for the systems, as well as in-house acknowledgment and acceptance of their excellence.

The nominated systems may be in any application area for which the jurisdiction has responsibility. Major areas of interest include emergency response, public safety, finance and administration, physical and economic development, human services, planning and zoning, health, education, public works and transportation.

The annual call for ESIG nominations is made by URISA early each year with applications due mid-year and award winners announced in conjunction with the annual GIS-Pro conference later in the year. Nominations are made in one of two categories: *Enterprise Systems* which are used by multiple agencies and *Single Process Systems* which are used by one agency. Nominations are required to address the award criteria of system design; system implementation; organizational impact and use of resources to create the system.

The number of nominations received varies from 10 to 50 each year, and 28 nominations were received in 2019. To handle the assessment tasks, an ESIG Awards Committee is formed each year and typically consists of about 10 to 20 people, with one person serving as the chair. In 2019 there were 15 people serving on the committee. The committee members are all volunteers and include both URISA members and non-members. Most committee

members serve repeatedly year after year and the current Chair has served on the committee for the past 24 years. Calls for committee membership are made annually by URISA and volunteers are most welcome as they help lessen the committee workload. The administrative tasks are shared between the URISA Executive Director, Wendy Nelson, and the committee chair.

Immediately following the closing date for ESIG nominations, the assessment takes place in two stages over the next two months. In Round 1, each nomination is assessed independently by at least five or six different reviewers, which gives a very strong indication of the merits of each system. The nominations are awarded a score out of 50 by each reviewer using a scoring system based on the award criteria listed above.

The very best systems will normally achieve an average score of at least 40 out of 50 and these progress to Round 2 of the assessment process. Each Round 2 nomination is assessed by at least another three independent reviewers and again scored out of 50 by each person. By the end of the process, all Round 2 nominations will have been reviewed by a minimum of eight or nine committee members and an average score from all the reviewers is calculated to determine the winning system in each category and any close 'runner-up' systems. Occasionally, reviewers will recognize that one of the systems they have been assigned to assess is known to them, and in such cases a potential conflict of interest is avoided by ensuring they do not judge any system in that particular category.

The committee members are guided in their review tasks each year by general procedural comments provided by the committee chair as well as comments about scoring. While outliers do sometimes occur in the scoring, it is surprising how the very best systems are always identified by the reviewers. During both Round 1 and Round 2, the scores for each system are not revealed to the assessors and it is only at the end of the process that they learn which systems are to receive awards.





There are no working groups or subcommittees and there are no regularly scheduled committee meetings. Instead, all correspondence and downloading of nominations plus uploading of scores are handled using Podio software and SurveyMonkey for ratings.

New committee members are always welcome and the workload is not heavy. A reviewer could typically expect to spend about three to four hours on their assessment tasks over a two-month period

each year, and at the same time learn what the very best systems are achieving in both North America and overseas. The only requirement for reviewers is that they have a strong interest in geospatial information systems and applications, and are prepared to give a little of their time each year in identifying outstanding systems.

For more information, including applications submitted by recent winners along with organization testimonial videos, [click here](#).

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**In this edition of the Committee Column we focus on the GIS Leadership Academy (GLA) Committee.**

The GIS Leadership Academy (formerly the URISA Leadership Academy – ULA) has been offering a unique educational opportunity since 2007. The GIS Leadership Academy Committee produces the GIS Leadership Academy (GLA), an intense, week-long learning experience designed to provide GIS Professionals with the tools and tactics to become excellent GIS leaders in their organizations

and in the GIS field. It focuses on GIS leadership and management techniques, strategic planning, team development, organizational capacity building, program investment and justification, change management, and ethics and professional challenges, among other topics. The GLA is the only leadership training program of its type, tailored to industry leaders and practitioners faced with unique challenges of GIS leadership and management who want to make an impact leveraging the power of GIS. The GLA has typically been held annually at locations around North America and now holds as many as 3 sessions a year.

The GLA Committee typically consists of two Co-Chairs and a small group of volunteers. These volunteers, along with a larger group of instructors, team-teach throughout the GLA week. The GLA Committee and GLA instructors are all URISA Members. The process followed to prepare for the presentation week is always similar. A venue and week/date is selected to maximize attendance. The Co-Chairs then poll the group of instructors for availability to teach, and works with local GIS community to identify a closing keynote speaker. The teaching material is reviewed and updated as may be needed prior to each GLA session.



**URISA GLA Graduates (October 2019 - Phoenix, Arizona)**



**URISA GLA Graduates (May 2019, Raleigh North Carolina)**

All GLA instructors must be qualified in their topic area, have teaching experience, and be GLA graduates. The committee reviews GLA graduates regularly to identify new instructors in order to grow the teaching pool. There are also instructor requirements posted online

[here](#).

The GLA Committee provides a representative (Chair or other representative) to be a member of the Professional Educational Committee (PEC), and that representative participates in the monthly PEC meetings and the semi-annual professional education coordination meetings convened by the PEC.

There are no formal subcommittees of the GLA Committee, but there are working groups that update the content and exercises of each of the existing 5 Sessions of the GLA. In addition, there is a work group developing an outline and content for GLA 2.0 that will focus on key management techniques through hands-on exercises. Committee meetings are ad-hoc based on the needs of upcoming GLAs and building content for GLA 2.0. Given the “stay at home” nature of the current environment, a special working group has been collaborating to develop a “virtual” GLA, which will be presented for the first time in August. (Two GLAs have been postponed to 2021. One was to take place in Minneapolis in early June and the other in Portland, OR in mid-August.)

So if you want to develop your leadership skills, we would encourage you to seriously look into attending the GIS Leadership Academy. The perspective and network that you will gain from this workshop is unprecedented. You will work on leadership exercises and network with some of the top up-and-coming GIS specialists, managers, and analysts from across the country (sometimes there is international participation too) and gain a lifelong network of friends for outreach support for years to come.

For more information on the GIS Leadership Academy, visit [this webpage](#).



**URISA GLA Graduates (August 2019, Toronto, Ontario)**

### **Two GLAs Postponed to 2021**

As many expected... In recognition of the health risks posed by the Coronavirus (COVID-19) and decisions by governments and businesses to continue to practice social distancing, we have postponed this summer's Minneapolis and Portland offerings of the URISA GIS Leadership Academy to next year. The health and safety of our attendees and faculty is our top priority. The St. Petersburg, Florida event remains on the schedule for November this year. Hopefully, we will be able to meet in person by then.

# Eye Rolling: Five Ways to Keep the Conversation Rolling

Marcia Reynolds, PsyD



"I can handle when they talk back to me," the HR Director said, "but when they roll their eyes, it just gets under my skin."

"I know," said the Training Manager. "I have an intern who does amazing work, but when I try to give him some direction, the eye roll makes me explain myself far more than I normally would. I feel I have to defend myself when I'm just stating a clear expectation."

"It's not just the younger employees," the director added. "I get the smirk and sideways glance from one of my most senior specialists. If I ask if she disagrees with me, or disapproves of my approach, she says, 'Oh no, I see what you mean' and acts as if she is the most agreeable person around."

"I think we need to address how eye-rolling impacts our communications. But I bet they roll their eyes if we suggest it!"

## How to react when you notice eye-rolling

Most people emotionally react when someone rolls their eyes. The gesture is seen as a non-verbal judgment of your words. If you ask about the gesture, eye rollers generally deny they did anything disrespectful.

Whether in a business meeting or an informal conversation, the last thing you want to do is angrily respond to eye-rolling. If you stay curious instead of defensively reacting, you might find out what is underneath the eye roll. This could be your chance to connect by showing you care about the person's opinion.

For example, during a tense discussion, you might be focused on making your point heard. You want to influence thinking. Eye-rolling might indicate you have pressed too hard. You might back off and sincerely ask the eye roller to share his or her perspective.

You want the person to surface their anger and frustration, to feel safe enough to vent. You need to hear what they think is missing or what they feel they aren't getting in the moment. Even if you can't give them what they want, it is better they feel heard instead of ignored.

So, instead of checking out or having a knee-jerk reaction to eye-rolling, notice your urge to defend, reprimand, or shut off from someone for eye-rolling. Then follow these 5 steps to engage them in the conversation.

## Encourage eye rollers to express what is on their mind

1. Exhale your stress and recall feelings of respect and care for the person as best you can. Shift to wondering why they are resisting what you are offering. Even if you can't feel good about the

eye-roller, at least calmly (and genuinely) ask, "Would you please tell me what you think I have done or what I'm not hearing from you?" Then listen silently, resisting the urge to defend yourself.

2. Even if it takes prompting, encourage eye-rollers to vent. Venting is a way to release frustration. If you accept their words without making them wrong, they might feel you care about their point of view. In fact, letting people vent not only allows them to release their feelings, but you can find what they really want or what is causing them to feel the way they do if you listen. Then, once they feel heard, they will be more willing to try to understand your point of view.

## Flip their resistance into participation

3. Summarize what the person tells you and ask for confirmation. Don't analyze what they say, just share what you hear. Say things like, "I think you are saying...", "I see you are upset because you think...", "I now understand that you think the decision was made based on these factors...". Let people tell you what you got right and correct you if you are off. They must feel heard before the conversation can move forward.
4. Shift their frustration from blame to desire. Once they feel you are listening, ask them what they need to so they feel their ideas or contribution is valued. Ask questions like, "What has you most frustrated right now?", "What do you need that you feel you aren't getting from me or other people?", "Do you have some ideas we can work on together?", "What would you like to see people stop doing, and what would you like to see happen instead?".
5. Agree on what the desired outcome is. You may not agree now on the best way to move forward but if you want the same end result, you might find a way to integrate some of their ideas. Agree, negotiate, or explain your point of view in light of their concerns keeping in mind what they think should happen as an end result. If they aren't ready to provide an answer, ask if you can come back to the conversation after giving the situation some thought.

Don't let eye-rolling get by you. Eye rollers have something on their mind. See if you can get them to express their views. Show you value their perspective. Integrate their ideas as best you can.

"I discovered something today," the HR Director said, "Eye rolling could be a way of getting my attention, not pushing me away."

*continued on page 11*

"Thanks!" the Training Manager said, "That bit of wisdom could help me with my teenager."

Vincent Van Gogh said, "Let's not forget that the little emotions are the great captains of our lives, and we obey them without realizing it." Catch your reactions to eye-rolling. It's your chance to show them you care about what they think.

About the Author:

*Dr. Marcia Reynolds is an award-winning author and world-renowned expert on how leaders inspire change through conversations. She has spoken at conferences and taught workshops in 41 countries on leadership and transformational coaching. Global Gurus names her #3 coach in the world. Her books include Outsmart Your Brain, The Discomfort Zone, and Coach the Person, Not the Problem. Read more at [www.Covisioning.com](http://www.Covisioning.com).*

## URISA GIS Leadership Academy: Special Virtual Edition for Challenging Times

The demand for GIS leadership training is higher than ever. URISA GIS Leadership Academy faculty are working hard to optimize delivery for instructor-led online GIS leadership training. Because the interaction of each cohort is so important in the Academy, we are limiting attendance at the first virtual GLA to thirty (30) individuals. The Virtual URISA GIS Leadership Academy will take place during the **week of August 3-7**.

The curriculum emphasizes best practices and skills-based training taught by GIS experts committed to preparing others for leadership in managing challenges and figuring ways to help groups and organizations achieve their goals. As with the in-person program, attendance at the GLA earns **substantial GISP® Education Points**.

The cost of attending the inaugural virtual GLA will be 50% of the cost of attending the in-person event; just \$600 for URISA members and \$800 for nonmembers. Additional details and registration are [online](#).





# President's Corner

Keri Brennan, [president@urisa.org](mailto:president@urisa.org)



## Being laid off during a pandemic

I can say with absolute certainty that this was not the topic that I thought I would be writing about. But I was laid off from the company I had been working for, for the past three years, in mid-May.

As I look at LinkedIn, Indeed, Glassdoor and all of the other job sites, there is a certain optimism in my job search as I am seeing a number of positions posted. I am also optimistic about what I have been seeing as a trend on LinkedIn for professionals like myself who have been adversely affected by the downturn in the economy.

About a week after I was laid off, I posted on LinkedIn and Facebook that I had been laid off from my position of the past three years. I spoke of how my tenure was filled with opportunities for both personal and professional growth and that I was grateful for the opportunities afforded me. I also mentioned that I was on the market, had volunteer work to do with both URISA and NENA, and was looking forward to a new opportunity.

To be honest, I was completely taken aback by the outpouring of support for the GIS/geospatial communities and especially from my friends and family within URISA. Many people reached directly out to me with requests for my resume, calls to other GIS professionals and companies asking, on my behalf, if they were hiring and in general calls of support. It is humbling to know that my membership in URISA has had an impact beyond my wildest expectations.

My journey started in 2005 when I became a member and I have reaped the benefits of this investment in myself many times over the years. During this interesting time in my life, I completely understand that this investment was well worth it.

Why am I rather optimistic in these difficult times? Because I have had the opportunity to truly take charge of my career, utilizing the resources of URISA and beyond to not only take advantage of career resources such as the jobs board, but also to actively engage with the membership through URISA Connect, the online communities that URISA recently started. This is where we can ask questions, gain a larger network of peers, look for support, solutions, and opportunities. If you have not logged in and joined some of the conversations, I would highly recommend it.

Why join a professional organization like URISA? There are some obvious and tangible reasons, like the direct benefits you receive, including access to discounted or free training, publications and access to resources and most importantly, the relationships you make by getting involved. You have the ability to participate in mentoring programs and either be influenced or influence other professionals, especially young professionals.

By joining a professional association, you have the ability to grow your network, make connections and ultimately increase your value to potential employers.

John Nolte, an amazing URISA Board Director has been posting some very thought provoking articles on LinkedIn, including one on investing in yourself. For years, I invested in myself by way of my URISA membership. None of my employers have paid for my membership over the years. I used it as an itemized tax deduction, when that was still possible, and now, I see it investing in myself and honestly, I am worth that investment.

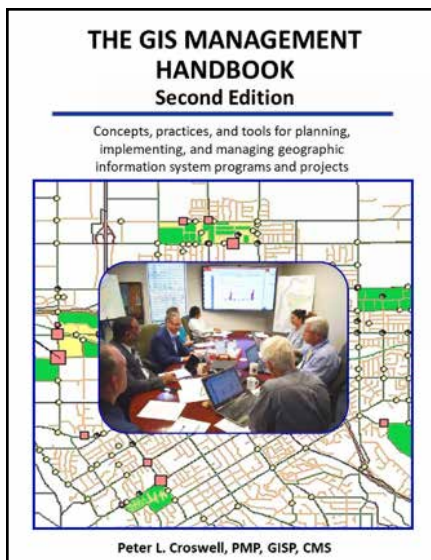
I have heard before that members of our community cannot afford to make the investment in becoming a URISA member. My question is this, will you invest in a \$150 pair of running shoes because you are planning on running a marathon? We should always be investing in ourselves and our careers.

Becoming involved has enabled me to expand my networks, both professionally and personally. Since being laid off from my previous position, I have had so many people reach out to me, post words of encouragement and send me links to potential new positions. None of this would have happened if I had not been an engaged member of a professional association and made an effort to constantly grow, both personally and professionally.

With so many people reaching out to me, I can say that it is humbling to know that I have even had a small impact on the geospatial community and that my fellow geospatial professionals care so deeply. We are a community of inclusion, and when one of us is in a challenging situation, we are never really alone. The community rallies behind us.

As for my job prospects? Unfortunately looking for a new position during the worst global pandemic and economic downturn since the great depression (perhaps even worse), is a challenge. However, I am confident that the right position, with the right company, that will enable me to engage with clients, co-workers and continue to grow, is out there. It is just a matter of connecting the dots.

My mother always had a saying that I have adopted as my personal motto: "What's for you won't go by you". The downturn in the economy, my being laid off and in search of a new position, is all part of a bigger plan, somehow. This journey will take me on a path that is right. The next great opportunity will not pass me by. If an opportunity does pass me by, then it was not the right opportunity for me.



# The GIS Management Handbook - Second Edition

Grab your copy of the second edition of The GIS Management Handbook. This is a major revision of the 2009 book by author Peter Croswell. The book has greatly expanded and updated content and comes with a valuable set of supplemental digital materials. It is a valuable resource and tool for practitioners in all types of organizations and is suitable for use in upper level college and university courses.

## Who should read this book?

- Current GIS program and project managers
- GIS users and technical staff who are transitioning into a management role or are planning to do so
- IT managers and support personnel with a requirement to understand more about GIS programs
- Consultants and contractors providing products and services to organizations using GIS
- Academicians and students in upper-level undergraduate and graduate GIS courses and certificate programs

This book is a comprehensive guide and reference to the field of GIS management. It provides practical information on the development, implementation, and operation of GIS programs and projects—for a full range of public sector, not-for-profit, and private sector organizations and companies. This book takes a practical approach providing clear descriptions of concepts, issues, and practices that may be used in operational to improve and maximize the efficiency of GIS programs and projects.

The book covers all pertinent topics, including: a) organizational structures, b) program governance, c) strategic and implementation planning, d) project planning and management, e) funding and financial management, f) communications, g) human resources and staff management, h) legal concerns, policies, and standards, i) technical management and administration, and j) GIS office operations.. A full chapter on additional resources provides an excellent guide to GIS and IT organizations, Web sites, and publications, and a well-organized set of suggested readings.

In addition, those who acquire this book will be given access to a comprehensive library of “supplemental digital materials”—actual documents, spreadsheets, and graphics that provide real-world examples and tools on topics covered in the book.

**Price:** \$175 plus \$10 shipping and handling for U.S. mailing addresses; \$40 for Canada; contact URISA for international orders. Discounts available for bulk orders and for college/university faculty and students). Contact [URISA](#) for details.

For more information and an online order form, [click here](#).

# Help Keep the COVID-19 Testing Data Accurate and Comprehensive



The COVID-19 response offers an opportunity for the GIS community to come together, apply new ideas, and document lessons learned. [URISA's](#)



[GISCorps](#) is a prime example of this coming together for a common good, matching volunteers with GIS skills to organizations who need support. They have responded to hundreds of calls for support for nearly 20 years and their collective experiences have been immeasurable in contributing to the speed of recovery, the quality of decisions and positive impact on people's lives in trying times.

Hundreds of URISA GISCorps volunteers have been working since March to build a nationwide COVID-19 Testing Sites feature service. These volunteers scour the websites of health departments, healthcare providers, and cities, counties and states to find and verify testing site locations and requirements.

That spatial dataset is accessible to the public on [FindCOVIDTesting.com](#) as well as on GISCorps' own [Testing Site Locator app](#). It's available to all levels of government and many NGOs on [FEMA's COVID-19 Geospatial Resource Center](#) and to anyone—including researchers, journalists, government agencies, NGOs, and the public—on the [GISCorps COVID-19 Resources open data site](#).

Anyone can filter our data by state, county, or municipality and display it in their organization's Testing Site Locator web app. (There's a Testing Site Locator app ready to go in the Esri Disaster Response Program's [COVID-19 Testing Sites solution](#).) GISCorps has also developed an [interactive dashboard](#) providing insights into the state of COVID-19 testing in the United States and its territories.

Now, as testing expands and resources wear thin, URISA's GISCorps needs your help to keep this nationwide testing site location data accurate and comprehensive.

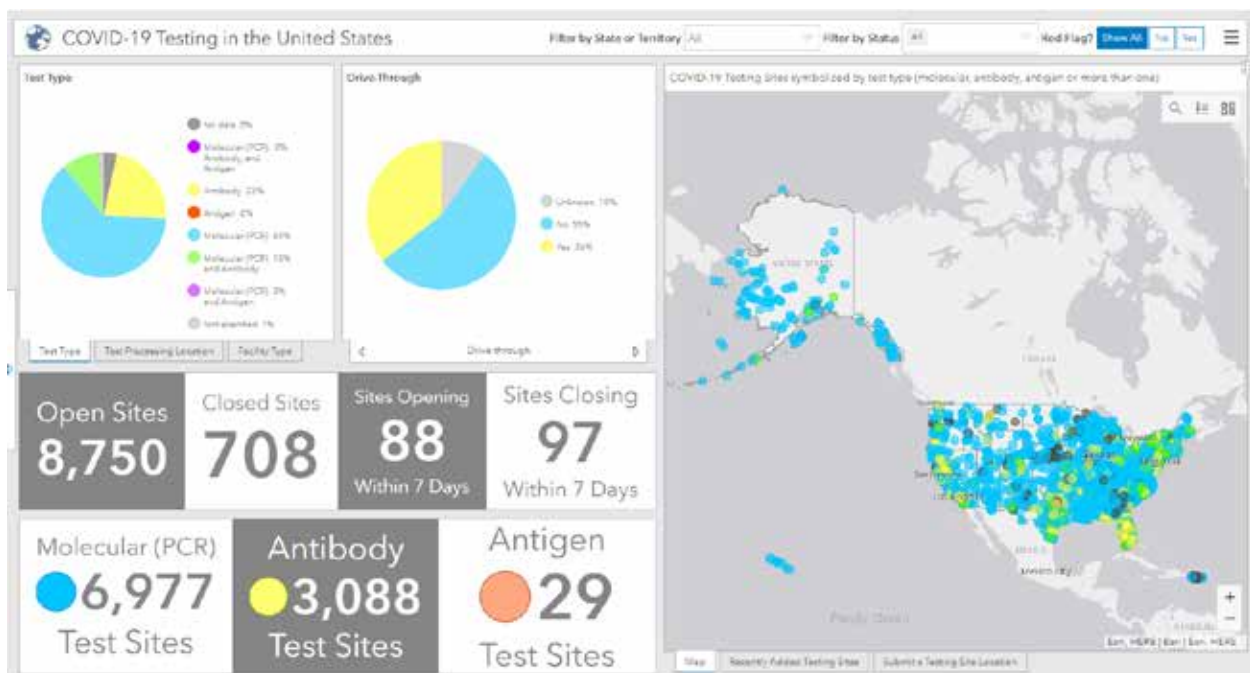
If you are a testing provider or you maintain testing site data for a government agency, here's how you can contribute:

Add a testing site to the map (or update one) using this form: <https://arcg.is/1o51ib>. Volunteers verify each site before making its location public.

Submit testing site locations in bulk by filling out a copy of this Google Sheet and emailing it to [admin@giscorps.org](mailto:admin@giscorps.org): [https://docs.google.com/spreadsheets/d/1NuTVYoela8e\\_rXeNIHKE\\_lBpDxYcOUUnW\\_OIGV\\_kcXc/edit?usp=sharing](https://docs.google.com/spreadsheets/d/1NuTVYoela8e_rXeNIHKE_lBpDxYcOUUnW_OIGV_kcXc/edit?usp=sharing)

If you are a GIS professional, consider [joining GISCorps](#) and adding and updating the testing sites you manage directly in our Volunteer Portal. Email [admin@giscorps.org](mailto:admin@giscorps.org) if you're interested in this option.

URISA's GISCorps volunteers are also validating submissions for [two other important COVID-19 projects to commemorate lost loved ones and stories of recovery](#).





# BOOK REVIEW

## Cartographies of Disease: Map, Mapping and Medicine



Tom Koch, *Cartographies of Disease: Map, Mapping and Medicine*, New Expanded Edition, ERSI Press, Redlands, California, 2017, xxi, 403 pages, \$38.93, paperback (priced at Amazon.com), e-book ISBN 9781589484764, \$19.99

Since the publication of Tom Koch's *Cartographies of Disease* in 2005, spatial epidemiology has expanded into an essential multidisciplinary arena of investigation and discourse, bringing together practitioners in the fields of public health, epidemiology, geography, spatial analysis and GIScience. In this enhanced book, Koch provides an updated and expanded edition, retaining most of the original content but two new chapters. As many readers may be unfamiliar with this book, this review describes the book as a whole, and places it in the broader context of the history of cartographic approaches to disease mapping and the evolving field of spatial epidemiology.

This book focuses on the history of maps and spatial presentation of data about human disease. In some ways it is a history of cartography, with emphasis on disease mapping, but it also illustrates the evolution of spatial perspectives in epidemiology. As the author himself states, the first edition helped spawn the study of 'historical spatial epidemiology' (p. xvix).

There are 14 chapters, with a brief foreword by Denis Wood, and introduction by the author. The first chapter provides an overview of the history of medical mapping. Koch has organized chapters and topics not by cartographic methods or thematic categories, but according to the chronology of advancing knowledge of medicine and eventually epidemiology.

The next two chapters survey the use of maps in study of human disease prior to 1850. Chapter 2 focuses on selected examples of early disease maps from the 17<sup>th</sup> to early 19<sup>th</sup> centuries, from Western Europe with a few selections from North America. Chapter 3 examines examples of disease maps from 1830 to 1849, with digressions to discuss the late nineteenth century work of Charles Booth as well as Johnston's 1856 map of the geographical distribution of health and disease. This period witnessed increasing sophistication in mapping methods, including the use of choropleth mapping, along with integration of evolving theories of sanitation as a factor in disease prevention into 'sanitary maps'. As Koch argues, the early or 'classical' period of medical mapping of disease is best viewed in terms of pioneering efforts at applying the scientific

method to understanding what causes disease in humans and how it is transmitted, with maps serving as one tool advancing this work.

The well-known work of John Snow serves as the focus of the next three chapters. While this reviewer tires of the oft-told story, now the subject of numerous papers and books, it remains a tale to spark the imagination of listeners young and old. Does it deserve almost 80 pages? Probably not, but Koch does describe Snow's work well and places it in contemporary context. One chapter focusing on 'variations' contends that most recreations of Snow's maps of cholera cases in the vicinity of the Broad Street pump fail to utilize information from the original maps. More useful from the perspective of history of epidemiology would be a study of how reconsideration of Snow's work has focused renewed attention on 'place', the third and most neglected 'leg' in the three-legged descriptive epidemiologic stool of 'person, place and time'. Chapter 7, titled "Mapping legacy", focuses on disease mapping in the second half of the 19<sup>th</sup> century, mostly with examples of maps of cholera outbreaks in various cities and regions around the world.

The next chapter, entitled "Public health: the divorce", provides disease mapping examples from the late 19<sup>th</sup> and early 20<sup>th</sup> centuries. While the partners in the divorce remain unclear, the underlying point that the use of mapping as an analytical tool or for generalization and hypothesis formation during this period is sound, and several map examples from legendary figures in early 20<sup>th</sup> century epidemiology are provided. Chapter 9 focuses on the mid-twentieth century notion of disease ecology, tracing the evolution of disease atlases from Jacques May to its multiple modern manifestations in automated cartography and GIS. This chapter would benefit from updating to examine the history of interactive and web-based disease atlases. The following chapter on "Complex processes: diffusion and structure" focuses a handful of examples from infectious disease, followed by a discussion of selected methods (e.g. Openshaw's geographical analysis machine, and techniques for surface analysis), concluding with examples from the geographical study of the HIV-AIDS epidemic of the late twentieth century. It's hard to say which came first, methods for spatial diffusion modeling in human geography generally, or more specifically in analysis of infectious disease processes, but suffice it to say the latter was highly influential in the development of modern spatial analytic methods. Chapter 11 focuses on applications of GIS in medical mapping, with a number of examples from health care delivery. However, the reader is treated to additional reinterpretations of the work of John Snow utilizing GIS tools, followed by brief discussions of a series of unrelated topics. This

*continued on page 16*

chapter would have benefited from a thorough updating given more than a decade of advances in the field. Chapter 12, initially envisaged as a summative look towards the future, would be better placed at the end of the volume, recast to consider how the use of GIS, spatial analysis and disease mapping may evolve in the coming years.

To his credit, the author added two chapters in this new edition. Chapter 13, entitled 'Plague to Ebola: 1690-2015', examines the spread of several emerging infectious diseases, including West Nile virus in the U.S. in the early 2000s and shows how disease spread has been depicted in the media and on websites. The final chapter begins with a more detailed look at the Ebola outbreak in west Africa, moving on to GIS examples of other contemporary disease episodes. As mentioned above, the book lacks a concluding perspective on where the field has been and what the future might hold.

Koch seems consumed by the John Snow Broad Street Pump example, a comparatively minor event in the history of disease mapping and one which by his own account was of relatively little direct importance, yet he is unable to place it in its proper perspective. With the large and growing volume of applications in spatial epidemiology and medical geography, there is much from

which to draw examples of both effective and less useful spatial data visualizations. From the promotional materials, a reader might expect that a comprehensive, authoritative assessment of the historical evolution of the use of maps and map-making in medical geography and disease ecology lies within the page of *Cartographies of Disease*. While the monograph falls somewhat short of this promise, it does provide a useful introduction to the many ways maps and atlases have been used to depict patterns and processes of disease and health care delivery. The book is heavily illustrated, with quality reproductions of maps and graphics, in some instances focusing on details because of scale.

Those new to the field of medical geography, or interested in the potential of GIS as a tool in spatial epidemiology, will find this monograph a useful introduction. Attractively produced, with extensive notes and references, written in easily readable prose, the book is reasonably priced and should be of interest to many GIS professionals.

Reviewed by: Russell S. Kirby, PhD, MS, College of Public Health, University of South Florida, [kirbyr@usf.edu](mailto:kirbyr@usf.edu)

## URISA Announces Election Slate

URISA's Leadership Development Committee recently presented its recommended slate of candidates to the URISA Board of Directors. The Board unanimously approved the slate, listed below, for its 2020 election. URISA is pleased to present the following list of candidates for URISA President-Elect and for Directors on the Board.

**For President-Elect:** Brent Jones, PE, PLS, Global Manager, Land Records/Cadastre, Esri, Vienna Virginia

**For Board of Directors (to fill 3 positions):**

- Kathryn Brewer, GISP, Partner, Spatial Relationships LLC, Boston Massachusetts
- Xan Fredericks, GISP, Lidar Coordinator/Associate National Map Liaison, US Geological Survey, Saint Petersburg, Florida
- Tari Martin, GISP, Director, National & Federal, National Alliance for Public Safety GIS (NAPSG) Foundation, Washington, DC

- Pravin Mathur, GISP, Clark Nexsen, Virginia Beach, Virginia
- Joseph Sloop, GISP, Geographic Information Officer, Forsyth County, Winston-Salem, North Carolina
- Steven J. Steinberg, PhD, GISP, Geographic Information Officer, Los Angeles County, Los Angeles, California

The official ballots will be distributed to the entire URISA membership by the end of June. The deadline for URISA members to cast their votes is July 30. To help members decide for whom to vote, each candidate will provide a profile of their professional experience and a statement about their ideas for URISA's future.

Those elected will begin their three-year Board terms following **GIS-Pro 2020**.

**GIS-Pro 2020 is pivoting to a virtual event and is currently under construction. Stay tuned for details as the planning committee curates the program, discusses the schedule, and fine-tunes the details.**

**Likely Schedule:**

- **Week of September 21:** virtual workshops will be offered
- **Week of September 28:** conference programming
- **Week of October 5:** virtual workshops will be offered

In the meantime, mark your calendar for October 3-6, 2021 when we will be in Baltimore for GIS-Pro 2021.



# GIS-Pro 2020 Virtual



## GIS-Pro 2021

**Mark Your Calendar! • Baltimore, MD • October 3-6, 2021**





# BOOK REVIEW

## Smarter Government: How to Govern for Results in the Information Age



Smarter Government: How to Govern for Results in the Information Age

by Martin O'Malley

Esri Press, 2019

Paperback: 332 pages

ISBN: 9781589485242 (paperback)

ISBN: 9781589485259 (e-book)

Esri Press has released a variety of publications on how location analytics are used in theory and in practice.

A recent book by former Maryland governor Martin O'Malley titled, *Smarter Government: How to Govern for Results in the Information Age*, does just that by describing the role of GIS in driving actionable governance at the city and statewide levels. This text is about leadership in government tactics, application of GIS for results, and how to make data-driven and informed decisions. Each of the fourteen chapters covers a different facet of government and effective leadership.

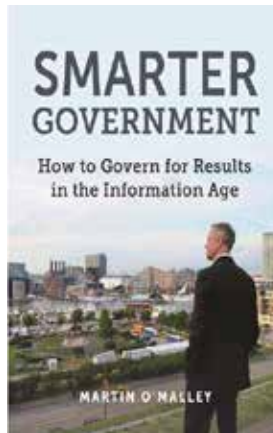
*Smarter Government* is a detailed overview of how governments at any level can transform from the traditional, "that's the way we've always done it" method to real-time, adaptable, and collaborative workflows that produce positive results faster.

This book reads like a story, but it's not just a story about O'Malley's rise in government. It's a story of successes, failures, inspirations, and hope. The first chapter introduces a new formula for effective governance, focusing on performance management, customer service, transparent government, and consistent and effective cooperation between stakeholders.

There are several themes introduced in chapter 1 that are reinforced throughout the book, such as the four tenets of performance management:

1. Timely, accurate information shared by all
2. Rapid deployment of resources
3. Effective tactics and strategies
4. Relentless follow-up and assessment

Similarly, chapter 3 is a thematic chapter that covers collaborative leadership and how bringing the right people together at the right time produces results. O'Malley introduces in this chapter his rules that build on the principles of performance management, 1) start and don't stop, 2) lift up the leaders, and 3) lead with real-time awareness.



If chapters one and three introduce the groundwork for what is needed in effective government, chapter 2 tells the story of why and when it is needed. O'Malley describes the 2001 Howard Street tunnel fire, in which a CSX freight train caught fire in the heart of downtown Baltimore during his first term as mayor. Without a unified command system and accurate and timely situational awareness, disasters like this and the attacks on 9/11 prohibited an effective emergency response.

Implementation of these novel performance management systems are introduced in chapter 4, where O'Malley pays tribute to Jack Maple from the New York City Police Department, who created the revolutionary performance management system, CompStat. By integrating GIS, data-driven solutions, accountability, and accelerating results with frequent roundtables, CompStat led to a stark reduction in crime in NYC in the 1990's that continues today.

Inspired by the success of CompStat and tired of the, "most violent, addicted, and abandoned city in America" label, O'Malley brought Jack Maple (and CompStat) to Baltimore, discussed in Chapter 5. It's a success story that led to Baltimore reversing trends in crime by reducing the murder rate and cleaning up the open-air drug markets.

Chapter 6 covers the impact of performance management systems like CompStat on crime while investigating how it could be extrapolated to the rest of government. O'Malley's administration did that by applying the concepts of CompStat to all sectors of the Baltimore government into a new system called CitiStat. CitiStat was first applied to the solid waste, police, housing, and parks departments and then brought to all departments throughout O'Malley's first term as mayor. The impact of CitiStat on Baltimore is apparent in this chapter and throughout the remaining chapters, demonstrated by reductions in job absenteeism, increased revenues and decreased costs, leveling of population decline, and overall just making Baltimore safer, cleaner, and better.

Chapter 7 reinforces the repeated O'Malley rule #2: start and don't stop. Following the success of implementing CompStat and then CitiStat in Baltimore, O'Malley launched StateStat when he became the 61<sup>st</sup> governor of Maryland. StateStat utilized practices that led to success like using GIS to identify targets, setting strategic goals, reporting through delivery and dashboards, inter-organization collaboration, and getting the numbers and results in front of the people who need it when they need it.

Chapter 8 describes the current state of the education system in the U.S. and in Maryland. Applying strategic goal setting and bolstering the leadership were some of the identified elements in

*continued on page 19*

driving college and career readiness, improving test scores, and increasing graduation rates at the local and state-level in Maryland. Health and wellbeing issues like lead poisoning, drug mortality, and infant deaths are covered in chapter 9. With the creation of additional Stat initiatives like LeadStat and DrugStat, O'Malley's administration was able to drive down illness and death due to lead poisoning and aid in supplying Baltimore with treatment centers to counter the opioid epidemic. Chapters 10 and 11 are about the role of performance management systems in addressing environmental issues like pollution in the Chesapeake Bay and protecting natural lands and preserving farmlands. Reducing greenhouse gases, increasing renewable energy sources, and moderating energy consumption are strategic goals that were set and met using programs like StateStat and EmPOWER Maryland which are covered in chapter 12.

Chapters 13 and 14 read like concluding remarks about how effective certain initiatives like StateStat or CompStat could be if they were adopted at the Federal and international levels. They might not be called Stat-type systems, but metrics like the Genuine Progress Indicator or the United Nations Sustainable Development Goals, have been created by other levels of government to counter

the biggest issues we face at all levels of geography.

In *Smarter Government* O'Malley deservedly showcases his administration's performance resume all throughout the book. The implementation of CompStat that led to the larger, broader CitiStat and StateStat systems has had a positive impact on many issues that the Baltimore and Maryland state governments face. It has been proven that real-time data and maps, situational awareness, effective meetings, open and transparent collaboration, and strong and accountable leadership are all qualities that drive effective governance. This book shows readers how all of us in this Information Age can leverage the tools and tactics readily available to us to make the best decisions that lead to actionable results.

Reviewed By: Dave Grolling, MPSGIS, [dgrolling@gmail.com](mailto:dgrolling@gmail.com)

**Governor O'Malley was the featured speaker at CalGIS in Long Beach in February and is confirmed as a keynote speaker at GIS-Pro 2020. You're in for a treat if you haven't heard him!**

## NENA to Request Public Comment on Changes to NG9-1-1 Address Data Exchange Standard

By Ed Wells, GISP

In late June or early July, the National Emergency Number Association (NENA) will invite public comment on proposed revisions to its address data standard, the Civic Location Data Exchange Standard (CLDXF). CLDXF defines how address data is to be structured for exchange within NG9-1-1 systems. The comment period will likely run for 30-45 days.

If you compile or manage address data, and especially if you provide address data to 9-1-1 operations, you will want to review this draft standard. Your comments will be important input to the CLDXF workgroup.

The proposed revisions would make one major change to CLDXF v1. CLDXFv1 defines landmark names (also called point-of-interest in many CAD software packages), and five subaddress elements (building, floor, unit, room, seat, and "additional location information").

The proposed CLDXFv2 would eliminate the landmark-subaddress distinction and replace it with a single eleven-category hierarchy:

Site, subsite, structure, wing, floor, unit, room, section, row, seat, and "additional location information" (a catchall category for anything that does not fit in the other ten).

All landmark names and subaddress identifiers would have to be placed into one of the eleven categories before they could be entered into a CLDXF exchange record.

When NENA posts the invitation for public comment, they will provide a link for downloading the standard and posting comments. Watch URISA Connect for details.

*Ed Wells is a member of the CLDXFv2 Working Group. He was Technical Editor of the CLDXFv1 Working Group and Co-chair of the Address Standard Working Group, which drafted the FGDC address data standard. He is Past-President of URISA.*

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To learn more about WyGISC, go to [www.uwyo.edu/wygisc](http://www.uwyo.edu/wygisc). To learn more about our course offerings and programs, go to [www.uwyo.edu/wygisc/academics](http://www.uwyo.edu/wygisc/academics).

## NEWS

### Applications for URISA's Vanguard Cabinet Invited

URISA is pleased to invite applications for its **Vanguard Cabinet**. Cabinet members are selected through an application process, reviewed by the Leadership Development Committee. The application process closes on July 20, 2020. For details and an online submission form, visit <https://www.urisa.org/vanguardcabinet>.



### URISA's Vanguard Cabinet Announces the 2020 University Student and Young Professional Digital Competition

**URISA's Vanguard Cabinet** is pleased to announce the details for the 2020 University Student and Young Professional Digital Competition. Eligible participants must be enrolled in a college or university, be a recent graduate (spring or summer 2020), or a young or emerging geospatial professional with fewer than five years of experience.

The competition is limited to projects that utilize web and mobile platforms, such as ArcGIS Online, Tableau, Mapbox, or Power BI. Projects should showcase the visualization functions of these platforms while also demonstrating knowledge and proficiency in spatial analytics, cartographic design, and/or geospatial techniques. Abstract submissions are due on or before July 31, 2020. An overview of the competition, requirements, awards and a schedule are detailed online: <https://www.urisa.org/vanguardcabinet>



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URISA members, remember that URISA will distribute your RFP/RFQ announcements to our corporate and business members at no charge. Simply email your announcement to [info@urisa.org](mailto:info@urisa.org) (Subject: RFP Service) and we'll send it right out for you!





## Mark Your COVID-19 Disruptions Calendar!

### **June 8-12, 2020 .... Postponed to June 7-11, 2021**

URISA GIS Leadership Academy  
Minneapolis, Minnesota

### **NEW August 3-7, 2020 ... Presented virtually**

URISA GIS Leadership Academy  
Presented virtually

### **August 17-21, 2020...Postponed to August 16-20, 2021**

URISA GIS Leadership Academy  
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### **September 27-October 1, 2020... Now presented virtually**

GIS-Pro 2020

### **November 9-13, 2020..... Hopefully not changed!**

URISA GIS Leadership Academy  
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