

THE LONE STAR

A URISA Texas Publication

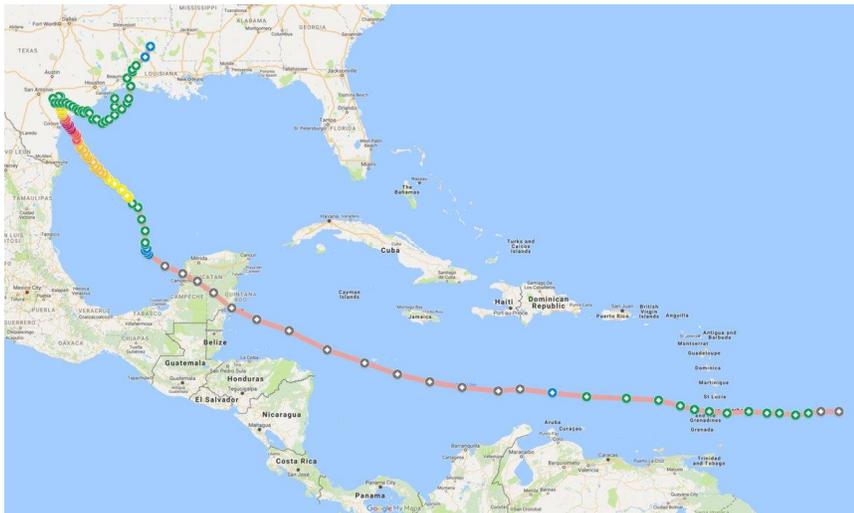
Issue 4 • Fall 2017

Hurricane Harvey – A Story of Maps

By: Gus Nodwell

Hurricane Harvey was a traumatic weather event that brought with it a stark reminder of how much we need maps. This is a personal recollection – more from a map user’s perspective than a geospatial professional perspective – of how maps played a role throughout the disaster.

Days before the storm was even classified as a hurricane, we had been watching the system form as it headed West across the Atlantic. Living in Houston, at this time of the year every day starts for me with a coffee and a check of the weather situation maps posted and refreshed on the NOAA National Hurricane Center website. We had been watching the system form many days in advance, wondering if it would strengthen, hoping it would die out, or head North into the Atlantic. Those of us that have been through a hurricane before had a good idea of the different ways the story could play out, and of course mentally you start preparing yourself. I had an added complication as good friends from overseas were enjoying a cruise around the Gulf of Mexico and the Caribbean, expecting to return to Galveston before coming to stay with us just north of Houston. I was watching the weather for them as well as ourselves.



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The path of the storm that became Hurricane Harvey

It was when the system was southeast of the Yucatan Peninsula and started turning northwards we started to seriously think we could be affected by a weather event, and as the NHC forecasted tracks continued to predict the storm was heading our way, we began to plan for an impact.

At this point, we started to use different maps. Having a large furry dog that really doesn't do too well in the Texas heat, we contemplated leaving town and holing up in a pet-friendly, very air-conditioned hotel far inland. We were checking all the travel websites and available hotels, seeing where we may be able to go to, on a map. In the end, with limited room availability and considering the plight of our cruising friends, we abandoned that idea and decided to shelter in place north of Houston.

It also became apparent we weren't the only ones. Thinking through the checklist of 'hurricane preparedness kit must haves', I realized we had a few gaps. A trip to Home Depot quickly showed me I was not alone in having a few things still to get. Shelves were already emptying. Flashlights, tarps, and gas containers were all sold out. While still at the store, checking availability at other stores using mobile maps showed me they were out of stock everywhere, and saved me many miles of fruitless driving.

Twenty-four hours before landfall we knew that Harvey was going to be a rain event. We also knew we would not be the first hit as NHC tracks showed Corpus Christi was where Harvey would make landfall. However, the system's behavior was concerning as it was forecast to both slow down, and return to sea before making a second landfall a lot closer to Houston. Again, we turned to maps as we tried to anticipate what the situation would be over coming days. We tried to find maps we could use to help us understand which areas were going to be affected by the predicted

inundation. This was a problem for two reasons; 1) the projected rainfall was also predicted to be unprecedented, and 2) unless you are a flood modeler or work for the Army Corps of Engineers, the maps available for predictions are not that helpful. Of course, the weather veterans around us had lots of "During Tropical Storm Allison..." types of comments, but would this be the same? What drainage improvements had happened since the? These were questions without answers.

By Friday night, we were as ready as we were going to be. We had already seen Corpus take the first beating, and our thoughts and prayers were with those who were affected there. Closer to home, by 8.00 p.m. the sky was cloudy, but the rain hadn't started yet, and we were getting ready for our own soaking. By now, roads were clear of traffic, gas stations were running out of gas, and filling up the car with fuel looked challenging. It wasn't maps we used but word-of-mouth advice that helped us get gas that night. A friend told us where she had just found gas. Safe back at home, we watched the rain start, and it was heavy. At the stroke of midnight, I put out an orange Home Depot bucket as a rain gauge.

The next morning, we awoke early to see what the world looked like. We live opposite a lake and the water was up – way up. In fact, the lake edge had relocated to 20 feet from the front door, meaning it had 12 more inches to rise before the "we get new carpet" scenario kicked in. That was the beginning of the long nervous wait, but we were OK. Turning on the TV, it quickly became apparent that others were not. Horrible stories were playing out as Harvey mercilessly wrecked the lives of so many Houstonians, while so many other Houstonians did so much to help those in need. New carpet was the least of their worries. We felt sickened by what we were seeing. As we flicked between TV channels, there were so many images that made you count your own blessings, but there were very few maps that we felt we could trust to understand how the situation was unfolding all over the greater Houston area. Sunday



morning was when our friends cruise ship was due to arrive back into Galveston, and it seemed there was a real threat they would be offloaded on the dock, with no access to a rental car, and nowhere to go. We were concerned. We were also trying to understand if the roads were clear enough to enable a 70-mile mercy dash to retrieve our friends. We were looking for information but the maps available online did not give a clear or consistent picture of what roads were passable or impassable, and no map seemed to correlate with what we were seeing and hearing on CNN. Live traffic feeds were beginning to conflict with the maps that we were viewing. As for our friends, in the end, the situation resolved itself. The ship never docked and after standing out at sea for many hours, was diverted to Florida. We were relieved to have avoided the need to take risks traveling in the heavy and persistent rain. At 3p.m. I emptied the orange bucket. That was fourteen inches of rain in fifteen hours.

Much has been written about how Harvey continued to wreak havoc. The weather systems sat over Houston for about five days, dumping more than 50 inches of rain over the area. The damage the storm caused to lives and property was widespread and devastating for so many. Rescue and recovery efforts of course started well before the rain stopped, and then continued wherever there was need. A friend called us from Dallas. He was driving to Houston with relief supplies donated by his church, and he asked if he could stay a night with us on the way back from East Houston. He was driving around shelters using a map that indicated what supplies they were lacking. Unfortunately, the map data was not current and some of the shelters he went to no longer had a need for supplies, or their need had changed. Great intentions can be derailed by a bad map. Perhaps this is the greatest challenge of not only mapping during a disaster but disaster response in general. Every action is based on information – how do you keep that information current and reliable in such fast-moving situations?



The first patch of blue sky we saw after the rain stopped – an interesting shape!

Now several weeks after Hurricane Harvey has passed, Houstonians are wondering what the long-term effects will be. Many homes were so heavily damaged they could not be saved. Where one of us grew up in Houston, the neighborhood had never flooded in anyone's memory – but, with the dam releases that happened, the homes are lost. Other homes, including those of some friends who live less than a mile from us, had flooding that caused significant damage, but are fixable. In some cases, these damaged homes are just feet from houses that stayed dry. That kind of selectivity is merciless. Homeowners across the city are wondering how the value of their properties will be affected in the coming months and years. There is widespread talk that Harvey has changed the dynamics of the property market. A number of people have no work due to the situation. Flooded businesses closed doors, and jobs vanished. There are and will be maps to be drawn that will illustrate this.



One thing is certain, before, during, and after Hurricane Harvey, a lot of people turned to maps to understand their world better, myself included. The importance of having reliable maps was amplified by being in a time of need, and we are thankful for the people that make

these maps for us. Maps are now ubiquitous, and they help real people make important decisions. The responsibilities of geospatial professionals in situations such as hurricanes are great and likely to increase. Thank you geospatial professionals.

Young Professionals in GIS

By: Patrick Young

In my 14 years in the GIS field, one thing I've learned is that GIS professionals come from lots of different backgrounds. As GIS technology embeds itself into more and more of our world, there are increasing opportunities for folks to get introduced to GIS through related fields like CAD, planning or environmental science. The keys below, however, are focused on that growing crop of young professionals who have just discovered the awesomeness of GIS and are just beginning to navigate the waters of their professional careers.

Consider Your Options

If you've started looking at job postings, you know that everyone needs GIS support these days, but not all GIS jobs are created equal. The easiest way to over simplify the field is to classify jobs as public versus private. Government is a huge employer of GIS professionals from your local city and county, to state, regional, and federal government. Each agency and its departments and programs will offer different levels of project variety and development opportunities.

GIS plays an equally integral role in the private industry. From privately operated utilities in the energy and communications field, to software vendors like Esri, to consulting firms that can range from those offering niche GIS services to those offering full-scale enterprise solutions, you have a lot to consider. The general perception is that the private industry offers higher wages than public entities, but

that usually comes with the added pressure of meeting client deadlines. Don't be surprised to find that this is not always the case as pressure and pay fluctuate wildly. And to that point, don't be afraid to consider a change especially early in your career! Employers love to see longevity on a resume, but as someone who's reviewed lots of resumes, I believe some variety of experience can produce a more well-rounded candidate who brings multiple perspectives to a new role.

The Job Hunt

If you're just getting started, internships are key. Degrees and certificates are great, but what employers like to see are 1- your proficiency to make a map and work with data (that may not be what you want to hear, but you have to learn to walk before you run) and 2- how well do you communicate (for example, how well can you explain what GIS is to someone who's never heard of it). Take your lab work in school seriously and take as much additional online training as you can. Most employers will assume they'll have to train an entry-level candidate, but your odds of landing an interview will increase if you can show on your resume that your training is applicable to the job description.

Speaking of resumes, ask for help! Talk to your advisor or career center, or better yet, find someone in the field who is in a hiring position to give you feedback. The idea is to customize your resume to the specific job description, but



if you're just getting started, you may not have much to customize. Don't add fluff! Employers usually see right through that, and they'll appreciate it if you get straight to the point.

There are more tools today than ever to network and learn of new opportunities. Begin by signing up for daily job posting updates from search engines like Indeed or Monster to decrease the time you spend searching multiple sites. And maintain a professional profile on LinkedIn with all the requisite keywords in your bio. Headhunters and recruiters are increasingly relying on this as a means to finding qualified candidates.

Develop a Reputation

So you've landed a job. Congratulations! Now, what do you? There are certain traits and skills that would server any GIS professional well. Here are just a few.

Know your data! That seems obvious, but all too often, we get into a rush to produce a deliverable and meet a deadline without fully understanding the data we're analyzing. This is especially important when you are responsible for acquiring new data for a task. For example, when someone asks for land use data, avoid confusing it with readily available land cover data, which has a different purpose. Similarly, if someone asks for 2 foot contours, don't use a coarse 10-meter DEM to produce what will be incorrectly perceived by others as a more accurate set of contour lines.

When you're given a new kind of task or you run into a technical issue, it's great to be able to figure things out yourself; such a skill is invaluable and will serve you well in the future. However, be aware of the time constraints you're under. It's easy to go overboard and blow a budget or miss a deadline. Ask for advice on how much time to spend on a given task. And as you do work through an issue, keep a record of the solution. You never know who will run into the same issue or when you might need to repeat a process.

Some of the most successful GIS professionals I've worked with demonstrate the ability to take a task and anticipate what the deliverable should be even when it's not explicitly stated. There are some people who will do only what's asked of them, and there are others who either know what's really needed or will ask. However, it's hard to better serve your end user without having an understanding of the information and bigger picture. Don't be afraid to ask questions! Most of the people you work with will enjoy the opportunity to talk about their work and would welcome the interest you show.

Professional Development

Many of you reading this may be in your first job. In that case, you've likely got a job title like "GIS Technician". Usually, the next step is to move up to a GIS Analyst and eventually a GIS Manager, but the path is not the same for everyone. At some point in your career, you'll be faced with the opportunity to focus on more of the management and/or marketing aspects of your career versus focusing more on a technical expertise. Which would you prefer? The answer should capitalize on your particular strengths and what offers you the most fulfilment.

As you progress through your career, you will have the opportunity to learn from others who will serve as mentors to you. Mentoring is invaluable to your professional development, and can come from many different sources. Look for opportunities to find mentorship beyond your current job. The more

perspectives you can draw from, the better off you'll be. Check out the Esri Young Professionals Network (<http://www.esri.com/landing-pages/ypn>) for some great resources to help you along your journey.

Getting involved in professional organizations is one way to find mentoring opportunities and lots of other intangible benefits. Groups like URISA, SCAUG and local GIS organizations offer you the opportunity to give back to your community while expanding your network and learning from others. Involvement means



something different in each organization and the benefits vary, but if nothing else, you'll get the opportunity to rack up some GISP points.

Speaking of which, it seems the GISP title has been slow to gain the respect it deserves throughout the marketplace, and many agencies still don't recognize it as achievement worthy of a monetary award like a professional engineers license. However, things seem to be changing as more and more professionals add those initials after their names and the title gains more respect through the addition of the exam. It would be in your best interest to begin developing a plan to earn that title now.

OneURISA

Introduction by: Tina Rust

Back in August you should have received a request to fill out a short survey concerning OneURISA. You were asked questions about how you thought the parent organization, URISA International, and chapters such as URISA Texas should be organized to be most effective for its members. OneURISA is an initiative to bring all of the members, chapter members and international members together by making them part of the same organization.

This is how Tripp Corbin, President of URISA International, explains the goals and objectives of the OneURISA initiative.

Dear URISA Chapter Leaders, Chapter Members and URISA Members,

I am very excited to announce to you that URISA has taken a historic step forward. During its June meeting, the URISA International Board approved a draft blueprint for a new OneURISA model. The blueprint is the result of several years of hard work by the Chapter Advisory Board and their OneURISA committee. This group of dedicated chapter leaders put together a great plan for

Don't Get Stuck!

Finally, keep in mind that GIS as a technological field is always evolving. Evolve with it or get left behind. If you love GIS, and you plan to make a career out of it, don't assume you'll be doing the same thing 30 years from now that you're doing today. GIS has become more ubiquitous than ever, and more and more people outside the GIS profession have basic map making and analysis skills. This applies more pressure on you to bring more to the table. Hopefully, the tips here will help get you on a path toward a long and rewarding GIS career.

the Board's consideration. Working from this strong foundation, the Board made only a few minor adjustments to come up with the approved blueprint.

So, what is OneURISA? First and foremost, OneURISA provides many benefits to individual members, chapters and URISA international. A key feature of OneURISA is that it provides the structure that empowers all our members, chapter members and international members alike, by making them part of the same organization. Currently, it is possible to be a member of a chapter but not a member of URISA International or a member of URISA International but not a member of a chapter. This often causes confusion for the members and the community. OneURISA will eliminate this confusion and provide more value to URISA members.

Other important OneURISA member benefits we hope to offer as part of OneURISA will include:

- *All URISA Members will be a member of their local chapter if one exists and all Chapter Members will become*



URISA International Members. So we will be OneURISA.

- *Being able to vote in URISA International elections, run for office, and serve on committees*
- *Receiving URISA International publications such as The GIS Professional and URISA Digest.*
- *Receiving discounts on URISA events such as GIS-Pro, GIS Leadership Academy, and specialty conferences.*
- *Having a voice on the international, national and local stage through URISA and our affiliations with groups such as Coalition of Geospatial Organizations (COGO), the United Nations, National States Geographic Information Council (NSGIC), and others to address issues facing the profession.*
- *Being a member of a stronger organization with a louder voice to address issues important to the profession and community. There is power in numbers and we are facing many challenges to the practice of GIS on several fronts.*
- *Accessing a larger professional network*
- *More contribution opportunities to earn GISP points.*
- *One stop shop for membership sign-up, renewal and information*

OneURISA will also include additional benefits to the Chapters as well. We are currently planning to offer many new benefits such as:

- *Liability insurance provided for Chapter events and Officers*
- *Membership administration provided by URISA headquarters*
- *Access to the URISA International Teleconferencing System*
- *Access to a Podio cloud based management/communication solution*
- *Use of the Sched App for conferences and events*
- *Chapter Website hosting*

Of course, URISA International will also benefit from OneURISA including:

- *Larger membership and volunteer pool to support initiatives and education opportunities*
- *Strength in numbers when responding to and considering matters of importance to the profession such as the recent Geospatial Data Act and the relationship between surveying and GIS Practice*
- *Greater community outreach*
- *Greater prestige within the larger geospatial community*

So, what is next now that the Blueprint has been adopted? A joint task force has been formed comprising members of the Chapter Advisory Board and the URISA Board of Directors. This task force is working on several items. First is a financial analysis of the impact OneURISA will have on the chapters and URISA International to ensure we know what this will cost everyone and where we need to set the dues in order to provide the services and benefits outlined in the Blueprint. The findings of this analysis may impact what we are able to offer under this new model.

Second is a communications plan to ensure all chapters and members are kept informed as OneURISA moves forward. We want this process to be open and transparent to all. Much of the work to date has already been posted to the Chapter Advisory Board Podio space and is available to all chapter leaders via their chapter CAB representative. The goal is to be able to announce the implementation plan at the GIS-Pro conference in Jacksonville this year. We expect full implementation will take approximately two years.

As I said, this is a very exciting milestone in URISA history. The idea of OneURISA has been considered, discussed, ideas put forward, ideas discarded, and plans reviewed for over 15 years. The desire to achieve this goal has kept moving forward due to the commitment of many passionate and dedicated volunteers who understand the potential of what OneURISA can and will achieve. I applaud all the URISA and Chapter Leaders that have enabled us to reach this historic point. We all



owe them a debt of gratitude for their contribution to our profession.

Look for more information to be forthcoming. As always, my proverbial door is always open. If you are a URISA Member, Chapter Leader or Chapter Member and have any questions, please feel free to reach out to me.

Your humble servant,

*Tripp Corbin, GISP
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URISA Texas Announcements

General Member's Meeting

URISA Texas will be holding a General Member's Meeting on October 31, 2017 at 12 noon. The Current Board of Directors will be giving updates, taking questions, and getting in touch with our membership. We urge everyone to drop in and participate.

You can sign up for the meeting on our [site](#), or simply drop into the meeting via Zoom.

Screen

Share: <https://esri.zoom.us/j/5125025040/>

Telephone:

1-877-369-0926

Webinar ID: 512 502 5040

International numbers available:

<https://zoom.us/join?m=KfuxHn7bU3XmzyKN3R-YQ7no4rojrDVv>

URISA Texas Elections

URISA Texas will be holding Elections in the coming months for its Board of Directors. Please keep an eye out for further announcements. Additionally please consider putting forth your name or someone you feel can help continue to grow our chapter. We've come a very long way in the last couple of years and none of this would be possible without our hard working volunteers and board members.

Upcoming Conferences and Workshops

Conferences

GIS-PRO, Annual URISA Conference

Jacksonville, FL - October 23-26, 2017

For more information visit:

<http://www.urisa.org/education-events/gis-pro-2017/>

TNRIS - Texas GIS Forum

Austin, TX – October 23-27, 2017

For more information visit: <https://tnris.org/texas-gis-forum/2017/>



SWAAG Conference - Southwest Division of the American Association of Geographers
Huntsville, TX, October 25-28, 2017
For more information visit: <http://www.sw-aag.org/2017-meeting.html>

Geodesign Summit
Redlands, CA, January 23-25, 2018
For more information visit:
<http://www.esri.com/events/geodesign-summit>

GIS/CAMA Technologies Conference
Houston, TX, March 19-22, 2018
For more information visit:
<http://www.urisa.org/gis-cama-technologies-conference/>

Workshops

URISA Certified Asset Management Workshop: Planning, Strategy, and Implementation

Public and private agencies face continuous challenges to accomplish more with less as increases in demand, regulatory requirements, infrastructure deterioration, and political and economic forces have significantly outpaced increases in capital and operating budgets. Many of these agencies are turning to Asset Management to cope with these challenges and improve business performance and effectiveness.

ESRI FedGIS Conference
Washington, DC, March 20-21, 2018
For more information visit:
<http://www.esri.com/events/federal>

URISA GIS Leadership Academy
Columbus, OH, April 9-13, 2018
For more information visit:
<http://www.urisa.org/education-events/urisa-gis-leadership-academy/>

AAG Annual Meeting
New Orleans, LA, April 10-14, 2018
For more information visit:
<http://annualmeeting.aag.org/>

This workshop will focus on several aspects of developing an asset management system that could help improve performance, reduce long-term costs, and maximize return on investment in infrastructure assets.

The workshop will be taught at 2 locations this year.

The first in San Antonio on November 2, 2017
<https://urisatexas.org/event-2638082>

The second in Austin on November 3, 2017
<https://urisatexas.org/event-2638120>



URISA Texas Events!

URISA Texas has had a blast so far this past year hosting our monthly Mappy Hours all over the state! Here are some of our favorite moments so far.



URISA Texas' July 2017 Mappy Hour in Garland.

MAPPY HOURS:

October's Mappy Hour will be in Dallas at the Katy Trail Ice House. For details and to sign up for this fun and relaxing event, visit our [events page](#).

The next Mappy Hour will be in Houston! Stay tuned for details.

SPEAKER SERIES:

URISA Texas will be hosting 2 more webinar series in the 2017 calendar year. We will be sending out more information on these presentations in the next few weeks!

Keep an eye out for these upcoming events:

- 2018 Mappy Hours
- 2018 Monthly Speaker Series

Visit our events [page](#) for more details



Interesting Links

URISA Texas members come from a wide variety of backgrounds and experiences. Their paths often allow them to come across interesting material. We are pleased to share the following with you in hopes that it may be of help or interest to you.

The Atlas of ReUrbanism is the result of an initiative by the National Trust of Historic Preservation to build the successful, inclusive, and resilient cities of tomorrow. The Atlas is a tool for urban leaders and advocates better understanding and leveraging the opportunities that exist in American cities. It takes the massive amount of data currently available about cities and makes it more accessible, allowing for the exploration and discovery of connections between older buildings and economic, demographic, environmental measures. Check it out at: <http://forum.savingplaces.org/act/pgl/atlas>

The North Texas Council of Governments (NTCOG) is once again offering an abundance of free GIS data for their 16-county region in the DFW area. These data include 2015 subdivision, development, and employer information. You can find these data and much more at <http://rdc.nctcog.org/Members/ServiceGroup.aspx?id=9>.

The National Pipeline Mapping System (NPMS) Public Viewer enables the user to view NPMS pipeline, liquefied natural gas (LNG) plant and breakout tank data one county at a time, including attributes and pipeline operator contact information. The user can also view gas transmission and hazardous liquid pipeline accidents and incidents going back to 2002 for the entire US. This is a data-viewer only – data cannot be downloaded. <https://pvnpm.phmsa.dot.gov/PublicViewer/>

Bridgehunter.com is a database of historic or notable bridges in the United States. The purpose of this site is to assemble a

database of the historic bridges in the Central United States. This includes everything from minor stone culverts to sweeping suspension bridges to massive steel truss spans. This also covers past, present, and future -- bridges that are long gone, those that are still standing, and those that might be built in the future using historic designs. <http://bridgehunter.com>

The Geologic Atlas of Texas (GAT) is a series of 38 hard copy map sheets depicting surface geology for the entire state of Texas at a scale of 1:250,000. In October 2002, the United States Geological Survey (USGS), in cooperation with the Texas Natural Resources Information System (TNRIS), embarked on a project to digitize all 38 GAT hardcopy map sheets and compile them into a single, stand-alone geodatabase. Completed in 2007, the project resulted in a rich, digital dataset containing more than 145,000 geologic features in Texas and portions of neighboring states. The Texas Geology Web Map Viewer allows you to explore all of the rich data at a touch of a button. You can find it here at <https://txpub.usgs.gov/DSS/texasgeology/>.

[City Maps: A coloring book for adults](#) by Gretchen Peterson

[2016 ESRI Storytelling with Maps Contest winners](#)

[The Great British Coloring Map: A coloring journey around Britain](#) (in association with Britain's Ordnance Survey)

Podcast discussions on [geography & geospatial technologies](#)

USGS [Historical Topographic Map Explorer](#)



The [Living Atlas of the World](#)—available through ArcGIS Online—is the foremost

collection of geographic information used to support crucial decision-making.

Thank you to our Sponsors!

URISA Texas would like to thank Dunaway Associates, Esri, and Western Data Systems for their generous donations.



Would you like an article, event, or GIS related group included in the Lone Star? Contact us at info@urisatexas.org.

