

Esri News

for State & Local Government

Summer 2017

Horry County Deploys Drones to Survey Hurricane Impact

Horry County, South Carolina, is home to the tourist mecca Myrtle Beach. This beautiful location is at the center of a large and continuous stretch of beach known as the Grand Strand. The area, known for its warm subtropical climate, attracts more than 14 million visitors each year. It's also an area that sees tropical storms and hurricanes that can erode the beach that brings in tourist dollars.

The Challenge

Beach erosion is an ongoing problem, and the county needs to assess and mitigate damage regularly. Hurricane Matthew moved up the Atlantic coast in October 2016, causing inland flooding and coastal erosion. The county has worked to speed damage assessment. The faster it can quantify the impact to beachheads and dunes, the quicker it will have access to Federal Emergency

Management Agency renourishment and reimbursement funding.

The Solution

Horry County made an investment in drone aircraft in the summer before the storm. Administrators saw unmanned aircraft as a cost-effective way to quickly survey the county's 60 miles of Atlantic coastline. Drones are well suited to regular

continued on page 3



↑ Horry County IT/GIS uses drone technology for a variety of projects with proven results.

Contents

Summer 2017

- 1 Horry County Deploys Drones to Survey Hurricane Impact
- 4 Powering Next Generation Economic Development
- 6 Madison County, Kentucky, Improves Its Snow Response
- 8 Mobile Apps for Government Showing a Return on Investment
- 10 An Introduction to Green Infrastructure
- 12 Parcel Fabric: Flexing the Standard Mold
- 15 Esri News

Esri News for State & Local Government is a publication of the State and Local Government Solutions Group of Esri.

To contact the Esri Desktop Order Center, call 1-800-447-9778 within the United States or 909-793-2853, ext. 1-1235, outside the United States.

Visit the Esri website at esri.com.

View *Esri News for State & Local Government* online at esri.com/statelocalnews, or scan the QR Code below with your smartphone.

Advertise with Us

Email ads@esri.com.

Submit Content

To submit articles for publication in *Esri News for State & Local Government*, contact Natalie Jung at Njung@esri.com.

Manage Your Subscription

To subscribe, unsubscribe, or make changes to your Esri subscriptions, please go to esri.com/updates.

If outside the United States, please contact your international distributor to subscribe, unsubscribe, or change your address. For a directory of distributors, visit esri.com/distributors.

Circulation Services

For back issues, missed issues, and other circulation services, email requests@esri.com; call 909-793-2853, ext. 2778; or fax 909-798-0560.



Copyright © 2017 Esri.
All rights reserved.
Printed in the United States of America.

The information contained in this work is the exclusive property of Esri or its licensors. This work is protected under United States copyright law and other international copyright treaties and conventions. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system, except as expressly permitted in writing by Esri. All requests should be sent to Attention: Contracts and Legal Services Manager, Esri, 380 New York Street, Redlands, CA 92373-8100 USA.

The information contained in this work is subject to change without notice.

@esri.com, 3D Analyst, ACORN, Address Collector, ADF, AML, ArcAtlas, ArcCAD, ArcCatalog, ArcCOGO, ArcData, ArcDoc, ArcEditor, ArcEurope, ArcExplorer, ArcExpress, ArcGIS, arcgis.com, ArcGlobe, ArcGrid, ArcIMS, ARC/INFO, ArcInfo, ArcInfo Librarian, ArcLessons, ArcLocation, ArcLogistics, ArcMap, ArcNetwork, ArcNews, ArcObjects, ArcOpen, ArcPad, ArcPlot, ArcPress, ArcPy, ArcQuest, ArcReader, ArcScan, ArcScene, ArcSchool, ArcScripts, ArcSDE, ArcSdl, ArcSketch, ArcStorm, ArcSurvey, ArcTIN, ArcToolbox, ArcTools, ArcUSA, ArcUser, ArcView, ArcVoyager, ArcWatch, ArcWeb, ArcWorld, ArcXML, Atlas GIS, AtlasWare, Avenue, BAO, Business Analyst, Business Analyst Online, BusinessMAP, CityEngine, Community, Community Analyst, CommunityInfo, Community Maps, Database Integrator, DBI Kit, Drone2Map, EDN, Esri, esri.com, Esri—Team GIS, Esri—The GIS Company, Esri—The GIS People, Esri—The GIS Software Leader, FormEdit, GeoCollector, GeoEnrichment, GeoEvent, Geographic Design System, Geography Matters, Geography Network, geographynetwork.com, Geoloq, GeoPlanner, Geoportal, Geotrigger, GIS by Esri, gis.com, GISData Server, GIS Day, gisday.com, GIS for Everyone, Insights, JTX, MapIt, Maplex, MapObjects, MapStudio, ModelBuilder, MOLE, MPS—Atlas, PLTS, Rent-a-Tech, SDE, SML, SourcebookAmerica, SpatialABS, Spatial Database Engine, Story Map Cascade, Story Map Crowdsource, Story Map Journal, Story Map Series, Story Map Shortlist, Story Map Spyglass, Story Map Swipe, Story Map Tour, StreetMap, Tapestry, the ARC/INFO logo, the ArcGIS Explorer logo, the ArcGIS logo, the ArcPad logo, the Esri globe logo, the Esri Press logo, The Geographic Advantage, The Geographic Approach, the GIS Day logo, the MapIt logo, The Science of Where, The World's Leading Desktop GIS, Water Writes, and Your Personal Geographic Information System are trademarks, service marks, or registered marks of Esri in the United States, the European Community, or certain other jurisdictions. CityEngine is a registered trademark of Esri R&D Center Zurich AG and is distributed under license by Esri.

Other companies and products or services mentioned herein may be trademarks, service marks, or registered marks of their respective mark owners.



Horry County Deploys Drones to Survey Hurricane Impact continued from cover

monitoring efforts to track environmental change and the impact of natural disasters. They are a far cheaper and more flexible alternative to manned aircraft.

The county has two employees that have undergone Federal Aviation Administration certification to pilot the unmanned aircraft. They fly the drones up to 400 feet in the air, always keeping the drones in their line of sight. Using Esri Drone2Map for ArcGIS software, the county can create orthomosaics and 3D meshes from the still imagery.

The Results

County staff flew drones over portions of their southern coast one day prior to Hurricane Matthew's arrival. The flights provided a baseline so that erosion could be quantified by comparing the images from before and after this category 1 storm. Using the automated workflows in the Drone2Map solution, the county quickly assessed that from six to eight feet of beach were lost. Results that previously took weeks to achieve were returned in just days.

County staff then flew the drones over piles of debris that were left by the storm. Using Drone2Map, they could quickly calculate debris volume and extrapolate how many trucks and trips were needed to cart it away. When a king tide inundated the area and caused historic flooding,

the drones were able to capture images of the damage before recovery teams could access the area.

After the storm, a commitment was made to fly the full stretch of beach, capturing images of the coast during low tide from the water to the extent of the dunes. This thorough image capture took from mid-November through the end of January to complete. These images will provide a baseline for assessing damage from any future storms.

"Tightened budgets; [tech-savvy consumers, including], both citizens and employees; and always having to be ready for a potential hurricane place a demand on us to continue to push the envelope and provide GIS [geographic information system] solutions."

Tim Oliver
Director IT/GIS Horry County, South Carolina

→ Drones have proved so effective that two more employees are undergoing pilot certification. The county plans to expand its drone use to building inspections and impervious-surface assessments for storm water fees. It also plans to add infrared cameras to aid search and rescue missions, helping to find individuals in the dark based on their heat signature.



Powering Next Generation Economic Development

Move to the Top of the Short List

Michael Cleary, Chief Operating Officer, GIS WebTech

For economic development organizations (EDOs), getting on the short list is paramount. It is the opportunity to attract investments, create jobs, increase tax revenue, and improve the quality of living.

Site selector consultants, hired specialists, or corporate employees identify the best communities for relocating or expanding their business. They are data driven when making site recommendations, creating a list of potential communities by using several data sources. To shorten the list, these people anonymously research the long-listed EDOs' websites to gather data that can only be found through the local EDO. Based on their findings, the site selectors create the short list.

This process is more commonly known as site elimination rather than site selection. Unless contacted by the site selector, the EDO has no idea that it is under consideration or if the site selector has visited its website.

The Challenge

According to the International Economic Development Council (IEDC) 2016

publication *A New Standard: Achieving Data Excellence in Economic Development*, "The factors most influential in making location decisions are available sites and buildings; infrastructure and utilities; workforce characteristics; wages; and labor market characteristics." Much of this data is available only from the EDO, but "80% of site selectors will not contact an EDO until they have compiled a short list of potential communities." Why? Because "site selectors are able to access specific data about potential locations faster through online sources than through economic development offices." Hence, providing data and analysis resources online is crucial in order to get on the short list.

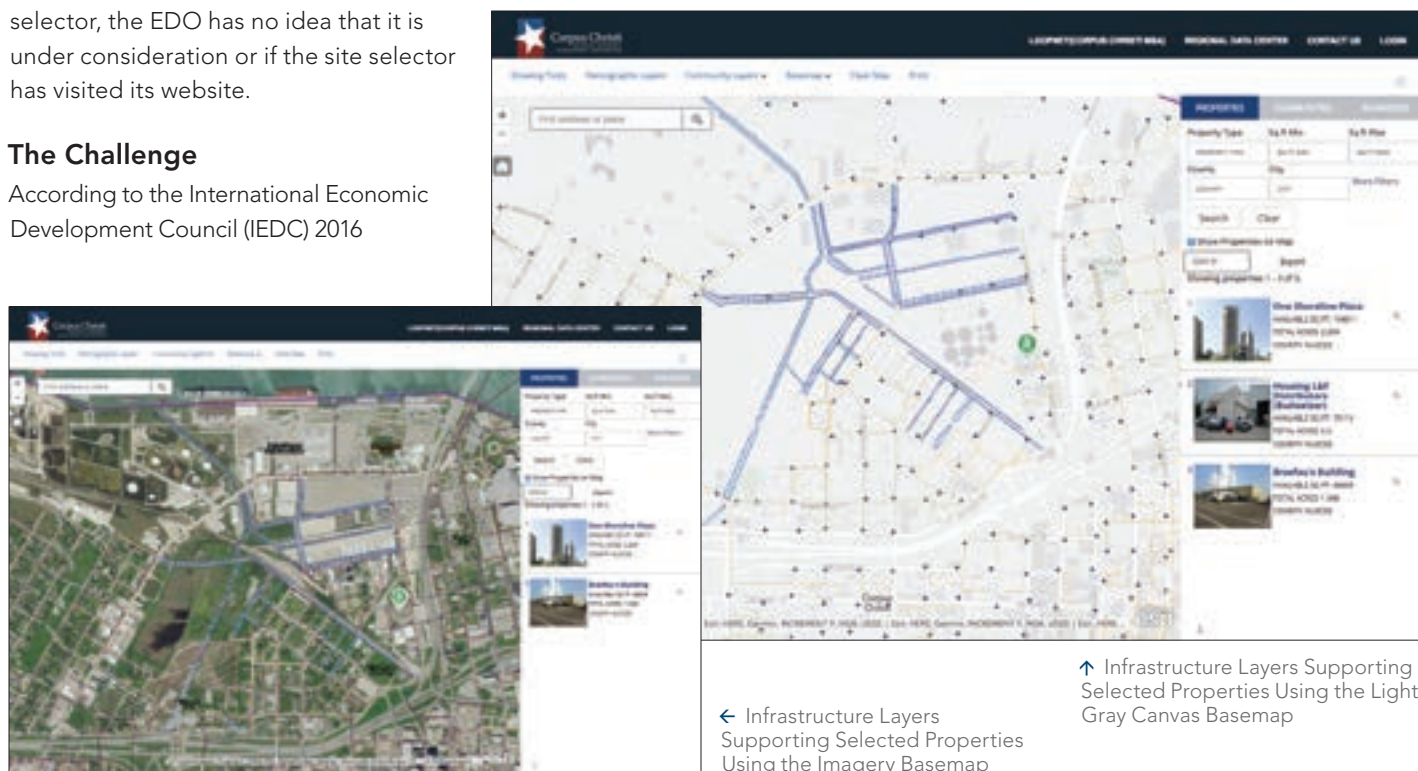
With more than 20 years of experience with state, regional, local, and utility organizations along the Gulf Coast, Tommy

The Corpus Christi Regional Economic Development Corporation (CCREDC) is a private/public nonprofit organization responsible for creating, managing, and supervising programs and activities that promote, assist, and enhance economic development within the city of Corpus Christi. The CCREDC's partners include the City of Corpus Christi, the Port of Corpus Christi Authority, and over 180 private-sector members serving a population of 450,000.

Kurtz joined the Corpus Christi Regional Economic Development Corporation as vice president of Business and Strategic Development in October 2015. His focus is to recruit major industrial and manufacturing projects to the Texas Coastal Bend and develop and implement a targeted business recruitment program.

To get short-listed, Kurtz had a vision to connect the regional counties and municipalities to share data using a common

continued on page 14





City of Charlotte and Mecklenburg County, North Carolina



WE KNOW LOCAL GOVERNMENT

Public Asset Management is a priority for your community. A GIS-centric asset management framework helps you better manage your capital assets critical to your community.

Cityworks and GIS enables the power of where™ for local government and utilities. For more than 20 years, our mission has been to leverage Esri's ArcGIS® to help organizations maintain safe, sustainable, and resilient communities—smart communities.

Create endless possibilities for your organization with a seamless user experience between Cityworks and ArcGIS. Discover how the Cityworks web GIS-centric platform can revolutionize how you manage your community at **Cityworks.com**.



esri

Partner Network
Platinum

Esri trademark provided under license from Esri.

Cityworks®
Empowering GIS

801-523-2751 | [Cityworks.com](https://www.cityworks.com)

Madison County, Kentucky, Improves Its Snow Response

Madison County, home of famed frontiersman Daniel Boone, is bisected by Interstate 75 in the center of the state. The county is nestled in the hills south of Lexington and serves as the gateway to eastern Kentucky. It generally has a temperate climate but can get hit hard by heavy snow, usually during the months of January and February. The county serves a mix of 87,000 urban and rural residents along with 16,000 students at Eastern Kentucky University and Berea College.

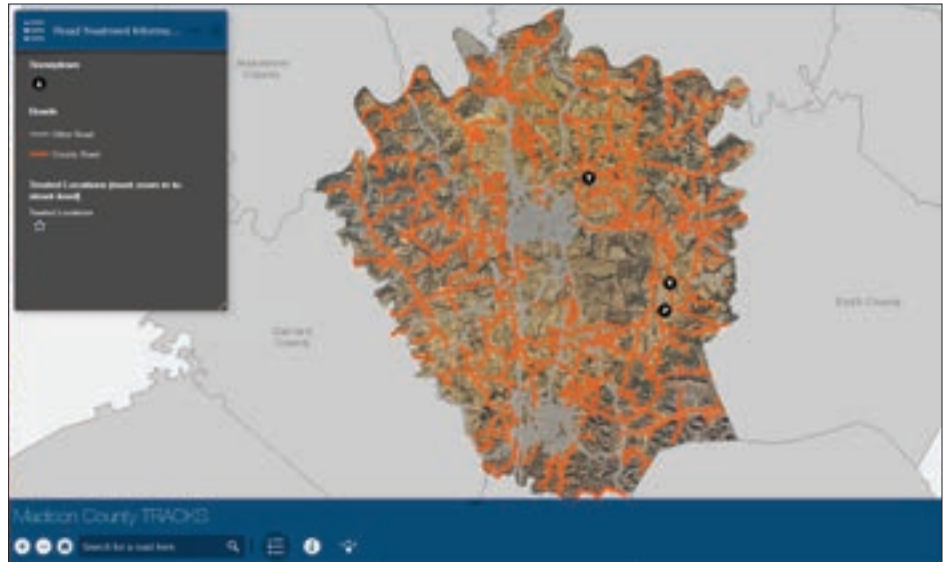
The Challenge

When the snow hits, the county deploys its fleet of 22 snowplow trucks. The crew covers a road network that's spread across 443 square miles, which presents a challenge when the snow falls thick and fast. In the past, it was easy for residents to think they had been missed, and they would typically flood the county road department with calls. Until recently, it was difficult for county staff to tell residents where the plows were or when they might arrive.

The Solution

Madison County didn't have a means to track its plows internally or share their locations or estimated arrival times with constituents until staff deployed the Snow Common Operational Picture (SnowCOP) solution from Esri. This solution—with the addition of ArcGIS GeoEvent Server—builds on the county's investment in geographic information system technology. With GPS devices in the trucks, GeoEvent Server provides an automated vehicle location (AVL) function to let staff track vehicles and other assets.

The SnowCOP configurable application adds operational details that allow the road department to monitor snow



↑ Madison County deployed SnowCOP—branded Madison County TRACKS (<https://madisoncountky.us/tracks>) for its citizens—with multiple positive results.

event response and correlate current citizen complaints with vehicle locations. SnowCOP includes a public-facing website that allows citizens to see the entire county road network, along with the approximate locations of plows, and to zoom in to see the status of their road and the roads around them.

The Results

Shortly after the SnowCOP solution was deployed, the county was hit by one of the worst storms in at least a decade. The snow fell hard and fast, with measurement totals ranging from 12 to 18 inches. Strong winds created drifts that were several feet high in many locations.

The public perception of the county's snow response improved dramatically when citizens could see where the trucks were and the work that was being done. Those who called in with complaints were given realistic status updates that the dispatcher could verify via the map. Many

citizens visited the website and could plan their day, knowing when they could get to where they needed to go.

Snowplow drivers who were once resistant to tracking became thankful, as there were instances where dispatch could see that they were stuck and quickly sent help. The road department learned a great deal from the event, adjusting routes to improve efficiency.

The next step that many snow operations managers are taking is to add sensors that indicate whether the plow blades are up or down or if the salt spreader is active. With these added details, staff can track the material cost of each event.

Contact Information

Keith Mann

State and Local Government Marketing
909-793-2853, Ext. 2701
kmann@esri.com

solutions.arcgis.com/local-government/help/snow-cop/

Powering Next Generation Economic Development

Attract Businesses that
Fit Your Community



esri

Emerging Business
Partner



GIS WebTech

www.giswebtech.com | info@giswebtech.com | 404-535-1261

Mobile Apps for Government Showing a Return on Investment

ORGANIZATION	DEPARTMENT	PROBLEM
Pierce County WA, USA	Public Works and Utilities	Pierce County Road Operations had an increase of assessments and cleanings of drainage features that peaked at \$120 per basin.
Harrison County WV, USA	Emergency Services	When a natural disaster strikes, it often takes a long time to collect and share damage assessment data.
Pima County AZ, USA	Building and Site Development	With Pima County encompassing 9,000 square miles, much of it being rural, staff needed to assist property owners and professionals in completing projects safely and sustainably and in a cost-effective manner.
Horry County SC, USA	GIS	Beach erosion is an ongoing problem, and the county needs to assess and mitigate damage regularly. Hurricane Matthew moved up the Atlantic coast in October 2016, causing inland flooding and coastal erosion. The county has worked to speed damage assessment. The faster it can quantify the impact to beachheads and dunes, the quicker it will have access to Federal Emergency Management Agency renourishment and reimbursement funding.
City of Guelph Ontario, Canada	Parks and Recreation	The City of Guelph is responsible for tracking and maintaining thousands of park assets such as benches and light poles as well as 37,000 city-owned trees. This included 10,000 trees at risk of a beetle infestation.
San Diego County CA, USA	Health and Human Services	The County of San Diego Health and Human Services Agency needed to efficiently capture blood pressure screenings with supporting data during the agency's annual Love Your Heart event, which is held at over 200 locations and serves 31,000 participants in one day.
State of Massachusetts USA	Emergency Management Agency	The Boston Marathon draws about 30,000 runners and half a million spectators, with attendance at a record high the year after the tragic events in 2013. The agency staff realized they needed a tool to track every aspect of the event as it happens.

SOLUTION USING GIS

Road Operations staff replaced laptops and a manual database-reconcile process with iPads using Esri ArcGIS Online. This, combined with Collector for ArcGIS for fieldworkers and operational dashboards for supervisors, increased access to drainage features.

Using Survey123 for ArcGIS, emergency responders were able to quickly create, share, and analyze surveys for damage assessment.

Using the Navigator for ArcGIS app, the county was able to upload data and effectively route inspectors to addresses. Staff were also able to analyze how much time they spend performing inspections, which allows them to determine an estimated time of arrival for their clients.

The county invested in drones to provide a cost-effective means to quickly survey the county's 60 miles of coastline. Using Esri Drone2Map for ArcGIS software, the county creates orthomosaics and 3D meshes from the still imagery.

The project team populated its database with existing park data from paper maps and other city records. Parks and Rec staff retrieved missing information using Collector for ArcGIS. This data was deployed into ArcGIS for Desktop and was then published and shared within the organization.

As the event attendance grew each year, the staff realized that the data collection process needed to be more efficient as well as easy to use. They decided to deploy Survey123 for ArcGIS.

Using Operations Dashboard for ArcGIS, the agency created the Boston Marathon Dashboard. It contains dynamic web map layers including live weather and traffic conditions, real-time tracking of runners and emergency vehicles, and information about emergency situations.

RETURN ON INVESTMENT

The cost per basin went from \$120 to \$60, with an increase in assessments and cleanings per day.

Within hours after a series of storms, Harrison County Emergency Services used Survey123 and ArcGIS Online to collect, map, and share data.

The department saves \$197,000 per year on mileage and inspector's time. Staff were also able to save four hours a day answering questions because they now alert their clients via email the day before regarding the time of inspection.

County staff flew drones over portions of its southern coast one day prior to Hurricane Matthew's arrival. The flights provided a baseline so that erosion could be quantified by comparing the images from before and after this category 1 storm. Using the automated workflows in the Drone2Map solution, the county quickly assessed that from six to eight feet of beach were lost. Results that previously took weeks to achieve were returned in just days.

The new tree inventory collection workflow has improved productivity for forestry staff nine-fold. Between early May and mid September 2015, staff inventoried 16,874 trees, averaging 180 trees per day.

They were able to reduce total staff labor by 164 hours, collect more accurate data, and share the results with leadership within one day.

With this dashboard, they are able to provide a real-time view and common operating picture; connect live data feeds; and integrate other maps, charts, and gauges. During the race, the crews on the ground use the Collector for ArcGIS app to do real-time tracking of police cruisers, ambulances, and other emergency vehicles.

An Introduction to Green Infrastructure

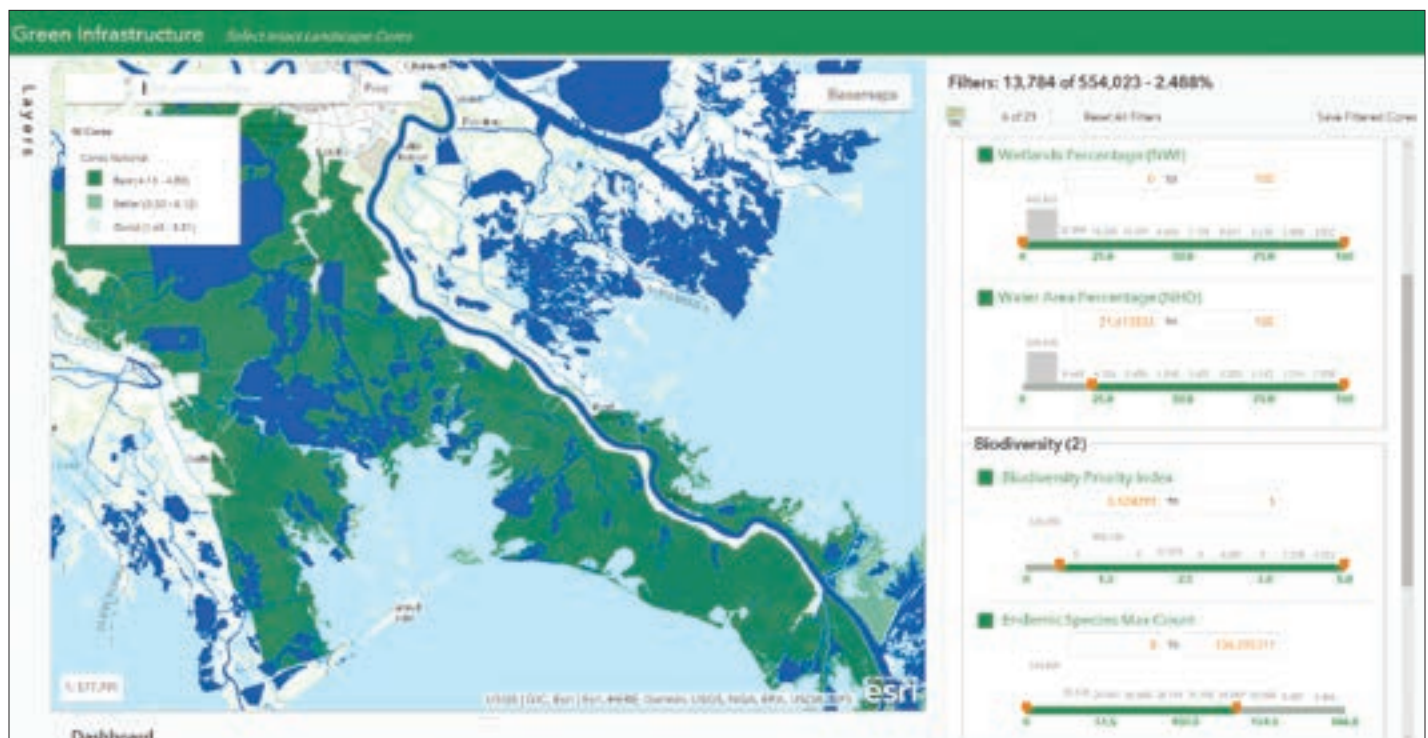
Among the first to adopt the concept nearly 30 years ago, Florida referred to green infrastructure (GI) as our landscape's fundamental intact natural ecological assets. These assets and the services they provide defended Florida's coast from millennia of tropical storms, safeguarded drinking water supplies by repelling seawater intrusion, fostered healthy fisheries, and supported vibrant local economies given the readily available access to pristine landscapes. The concept of GI was important to Florida as these valuable natural assets and their benefits were being lost at unprecedented rates.

Consistent with this original definition, Esri defines GI as a strategically planned and managed network of open spaces, natural lands, wildlife habitats, parks, and other assets that provide communities with the vital services that enrich and

sustain their quality of life. GI has become a well-accepted and increasingly adopted best management practice for protecting and promoting the sustainable use of environmental resources; improving economics; reducing construction costs; mitigating environmental hazards; achieving water, air, and biodiversity regulatory compliance; and numerous other benefits related to improving public health.

Leveraging Esri's Green Infrastructure Initiative

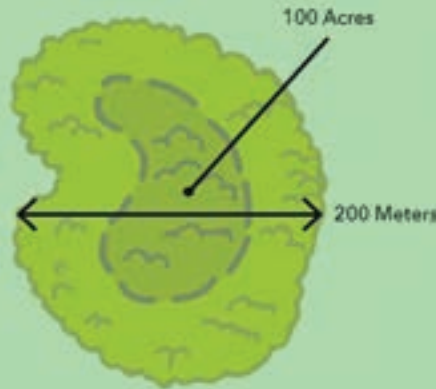
Esri's Green Infrastructure Initiative is a collection of authoritative geospatial resources, newly generated data, online applications, and downloadable models with the aim of empowering local organizations engaged in GI work, all while initiating a national vision of GI planning.



↑ The Select Intact Landscape Cores app allows you to search the database of intact landscape cores and identify those that include the landscape variables you're interested in protecting.

Core data: Esri has compiled a nationwide database of landscape cores and supporting landscape connectivity data. A core is an intact area of natural land cover that is sufficiently large enough to support some desired ecological function. These are unfragmented areas of natural land cover that are at least 100 acres in size and 200 meters wide.

Part of Esri's initiative to support green infrastructure planning was to assemble nationally-available datasets, construct an "intact habitat cores" dataset for the Continental US, and make both available for download.



Cores represent the embodiment of Florida's original idea: the identification of natural assets that provide a wide variety of services to humankind and the rest of the earth's inhabitants. Cores represent the foundational building blocks from which communities can begin assembling their most valuable natural assets. Coupled with effective land management, cores clean our air and water, provide habitat for threatened and endangered species, promote active and healthy lifestyles, improve aesthetics, drive healthy economies, mitigate floods, and provide a cost-effective alternative to costlier engineered systems.

Source data: Esri has compiled the best available authoritative source data in a single location. This data consists of 18 nationally available datasets that are among the most commonly used in GI planning, including the National Wetlands Inventory, soils, and ecologically relevant landforms. By using Esri's curated content from the Living Atlas of the World, your organization can expand on this data and spend less time gathering, acquiring, and organizing data and more time engaged in the meaningful work you aim to deliver. When combined with your locally relevant data, your organization is empowered with a rich library of geographic information for engaging in your GI work.

Models: Esri has adopted a modeling methodology developed by the Green Infrastructure Center, Inc., and configured a model for national application and current ArcGIS Desktop and ArcGIS Pro versioning. This model was utilized by Esri to generate the core data for the United States.

When configured with your organization's local data, this model can be used to derive a unique cores dataset for your

area. This puts the analytical tools needed to engage in robust GI planning immediately within your organization's reach. The model can be used to identify cores composed of specific vegetative communities and habitat tied to a local species of concern, meaningful stepping-stone cores that can help facilitate landscape connectivity and the movement and migration of wildlife, and smaller microcores that may serve as viable nuclei for environmental restoration efforts.

Apps: Esri has developed a series of freely available apps. Some of these apps function with ArcGIS Online for engaging in GI asset identification, prioritization, and customizable analysis associated with the cores data and the landscape at large.

These applications immediately equip your organization with a robust set of analytical capabilities. For example, if your organization is interested in integrated water management, you can use these applications to identify the GI cores with heightened levels of hydrologic resources. Similarly, if biodiversity protection is your primary goal, the apps can identify GI cores with the valuable landscape characteristics most likely to promote diverse ecosystems and species. And of course, land management decisions are rarely binary, thus these apps allow you to explore and derive unique assemblages of GI assets that are best suited to address multiple goals simultaneously.

Moving Forward

Communities find themselves at a crossroads. On one side, they can choose a business as usual approach, continually rebuilding costly infrastructure after natural disasters and making expensive outlays for constructing engineered systems to filter water, convey storm water, and mitigate floods, all while diminishing our natural capital and the resources our communities cherish. On the other side is the rebirth of an old idea—one that works with natural systems as opposed to against them. It's an idea that GI can deliver many of the services we aim to achieve at a fraction of the cost.

Esri is here to help. Contact Ryan Perkl, Esri's GI lead, for more information about Esri's Green Infrastructure Initiative and how Esri can help you realize your GI goals.

Parcel Fabric: Flexing the Standard Mold

By Corinne Compton, Office of the Commissioner of Revenue, Fauquier County, Virginia

Esri's parcel fabric is a solution for storing, maintaining, and editing parcels. It assembles a continuous surface or network of connected parcels. The features and tools of the parcel fabric are innovative and fundamentally suited to mainstream users. But not all the features and tools are necessary for every jurisdiction. The capabilities of the parcel fabric can be configured to fit a diverse range of jurisdictions, and the benefits can be achieved at multiple levels.

Parcel mappers tend to be very detail oriented in their work and often have a general feeling of guardianship over the data they maintain. When it comes to migrating parcel data and adopting the new solution, it may feel difficult to let go of what parcel maintenance was like in the past and understand how the parcel fabric can help in the future. Initial views of the parcel fabric are often focused on the data model and how data is managed, but once it is learned, the benefits can easily be seen. Implementing the parcel fabric may appear challenging, but it will prove to be exceedingly worthwhile.

Fauquier County, Virginia, is located on the outskirts of the DC metro area, approximately 50 miles southwest of Washington, DC. The county encompasses a land area of 650 square miles, being the eighth-largest county in the Commonwealth of Virginia. There are approximately 33,000 tax parcels within the county, including the towns of Warrenton, The Plains, and Remington.

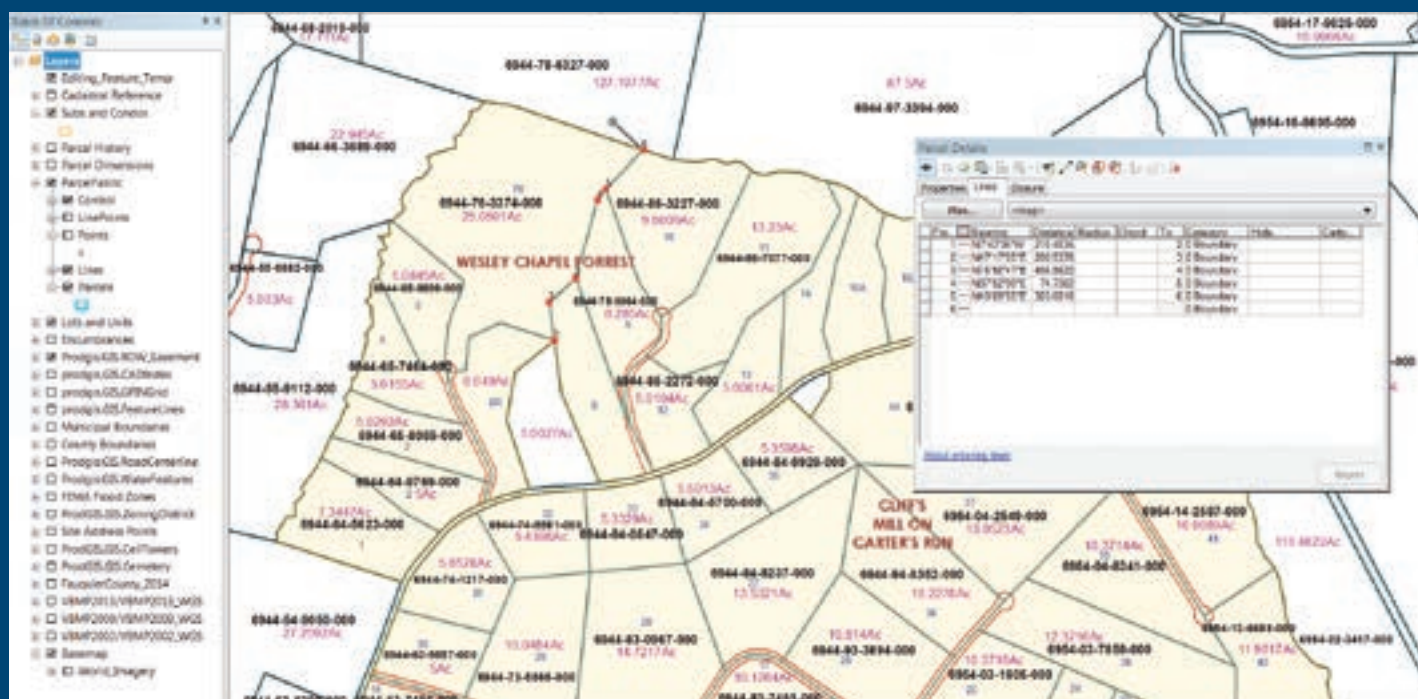
Migrating to ArcGIS

Fauquier County was an early adopter of computerized mapping, dating back to the late 1980s. Realizing the need to stay on top of GIS technology, the migration of the county's file-based legacy system to Esri ArcGIS technology began in 2011, and the final implementation was in mid-2012. With the support of Esri, the migration to the solution was handled in-house by four GIS staff, two Commissioner of Revenue staff, and a few designated IT staff.

From initial consultations and assessments, Esri felt implementing the parcel fabric was the most logical course to take for the county's parcel data management. At the time, the product was unfamiliar to employees, so they were hesitant to take this route. Despite this, Esri remained confident in its product and in the county's ability to implement and utilize the parcel fabric and enjoy the many benefits of the solution. To facilitate this implementation, customized tools and workflows were configured to fit the county's needs.

Grid Parcel Identification Number Tool

Fauquier County employs a unique parcel identifier called a Grid Parcel Identification Number (GPIN). This method of generating unique GPINs has been operational since the creation of the legacy system. The numbers are generated from a state plane coordinate system grid and have no relation to



any specific characteristics of the tax parcel. The generation of the GPIN is based on the approximate centroid of the parcel's location and uses a combination of x- and y-coordinate values. The GPIN is a 13-digit identifier and is used throughout county departments to index all records associated with a tax parcel. It is key to the operations of the mapping system.

Esri built a custom GPIN tool that mirrored this procedure when the tax parcel data was migrated from the legacy system to ArcGIS and the parcel fabric. The underlying grid is invisible to the user, but once the tool is selected, you can click anywhere on the map to manually indicate the centroid of the parcel, and a unique GPIN is generated. This GPIN is automatically entered in the Parcel Details window and related tables. If the configuration of the tax parcel is changed, such as with a division or consolidation, the unique GPIN is permanently retired and a new GPIN is assigned to the newly created parcel. For boundary line adjustments and boundary surveys, the unique GPIN remains active and is reassigned to the newly adjusted parcel.

Parcel Editing Workflows

Tax parcels in Fauquier County often contain complex geometry; therefore, it was necessary to configure the editing workflows that are used to modify parcels. With the help of talented Esri staff, new workflows were configured with the parcel fabric, but they were also configured to work in tandem with other programs the county utilizes to track tax parcel data. The complex parcel geometry warranted a creative approach to dividing and adjusting parcels that focuses on the use of the county's New Parcel tool.

The New Parcel tool essentially allows a user to traverse or construct a parcel with all new attributes and join it to the fabric. Standard division methods, such as Construct from Parent and Parcel Division, were only minimally useful for the county's data because those methods allow the user to divide an existing parent parcel without having to update or reconstruct the perimeter boundary. Most of the parcel divisions, consolidations, and boundary line adjustments recorded in Fauquier County are based on current field run surveys and contain updated perimeter geometry, thus requiring staff to update the entire parent parcel before constructing the child parcel.

The new parcel editing workflow begins with duplicating the original parcels and marking one of them as historic to preserve the integrity of its former attributes. Next, the new parcel is constructed using the New Parcel tool and joined to the fabric. After the new parcel is joined, the original parcel is deleted, since the duplicate parcel was already marked as historic. This new parcel can then be divided or adjusted based on the

recorded plat. Finally, the attributes are updated manually. Even though the county does not utilize the standard out-of-the-box parcel workflows developed by Esri, this method of updating tax parcels is effective.

Valuing the Outcome

Not all the well-designed tools and features built into Esri's parcel fabric have been a standard fit for Fauquier County, but methods have been created to maximize the benefits of the parcel fabric. It took effort to learn about and understand the fabric and the associated tools, but once that was accomplished, the ingenuity of the parcel fabric became evident. Fauquier County is encouraged by the fact that the tools for parcel editing in the parcel fabric have continued to be refined with each version release. Compared to the legacy system, the tax parcel data in the parcel fabric is now controlled and maintained at a much higher level of accuracy, and significantly improved editing procedures have resulted in a more efficient process.

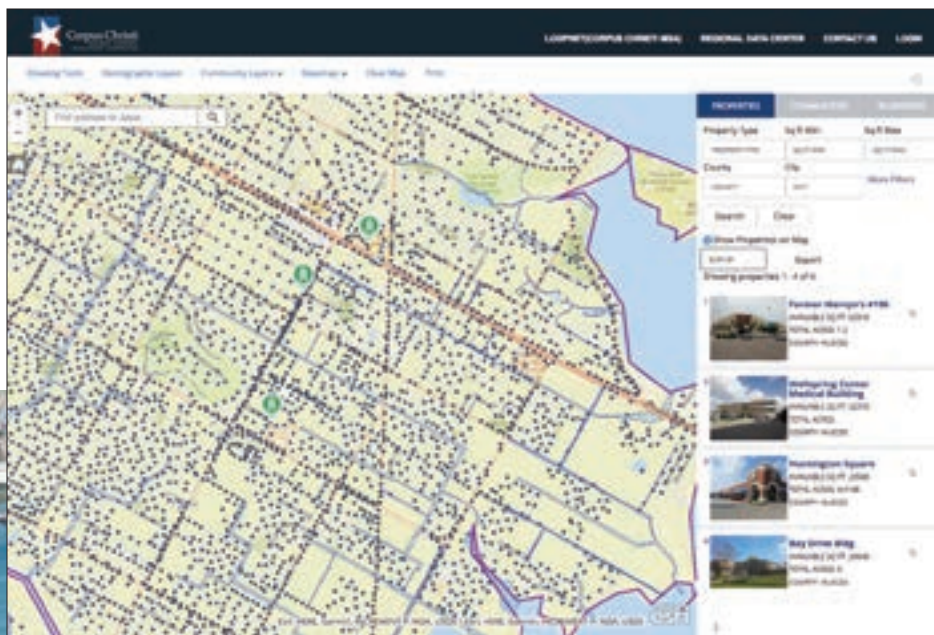


For more information, contact Corinne Compton at corinne.compton@fauquiercounty.gov, or visit Fauquier County on the web at <http://www.fauquiercounty.gov>.

technology platform. The next step was to thread it together with national, federal, state, and local data and display this through an online solution for site selectors.

His primary questions were about what technology was available to manage and demonstrate the data to attract and retain site selector interest. The next questions focused on the available critical data that site selectors value such as sites, buildings, and infrastructure layers (e.g., rail, waterlines, and pipelines).

↓ Infrastructure Layers within Specific Geographic Areas



The Solution

To start, CCREDC invested in ArcGIS Desktop and ArcGIS Business Analyst Online, ensuring platform consistency and data collaboration among stakeholders.

CCREDC switched its online site selection solution to GIS WebTech Recruit. Recruit is built natively on ArcGIS, and—unlike other market solutions—Recruit allows clients to control data and layers and make them accessible to their target audience.

To bring the regional partners' data into a single solution, GIS WebTech collaborated with the stakeholders and

synchronized map services, hosted in the cities' and counties' ArcGIS accounts, with Recruit.

GIS WebTech provided CCREDC with an administrative panel to manage the infrastructure layers, enabling staff to select the layers they wanted to activate and decide which layers to make publicly or privately accessible. Selections are immediately active and accessible to site users.

According to Kurtz, "The City of Corpus Christi was very favorable, as were the other counties and municipalities. A few of the counties, like San Patricio, and cities, like Corpus Christi, were already Esri users, so being on the same platform made this collaboration and sharing process much easier."

The Results

Since going live, CCREDC is responding to more proposal and information requests from sources like the Texas Governor's

↓ City of Corpus Christi Waterway (© Bob Redding)



Office of Economic Development and Tourism, national site selectors, and real estate brokers. CCREDC is receiving more calls and interest with the new site. Prospects, both foreign and domestic, are very impressed with the access and completeness of available data as well as the site responsiveness.

Property owners recognize that this provides the best chance to present their properties to decision-makers.

A major benefit is data consistency through an automated solution. The authoritative source maintains its system of record, and when staff make a change to the data, it is automatically revealed in Recruit, ensuring that users have up-to-date data. No action is required of CCREDC.

"With Recruit, I am able to demonstrate the solution online and take it on-site with prospects to demonstrate all infrastructure layers—including sites that are most attractive for industrial development—by showing sites that are not in flood zones; are near four-lane highways, key pipelines, rail lines; et cetera. There is no substitute for this solution to show this kind of information," Kurtz said.

The Partner

GIS WebTech, an MWBE technology developer based in Atlanta, creates solutions specifically for economic development clients. Recruit, the company's flagship solution, helps economic development organizations attract investments and grow existing businesses within their communities. Corporate site selectors can identify and analyze ideal locations. GIS WebTech solutions are built natively on the ArcGIS platform, ensuring compatibility and data consistency with other Esri GIS products. To learn more, contact Michael Cleary at michael@giswebtech.com or call 203-297-1433.

go.esri.com/GISWebTech

Esri News

Public Safety Webinar Series

Esri is hosting a webinar series dedicated to the trends, technical advancements, best practices, and special topics as they relate to GIS technology in public safety. Each webinar highlights a different subject relevant to your organization's missions, workflows, and operations. Emergency management, law enforcement, fire/rescue, emergency call taking, and national security personnel will not want to miss these informative webinars.

esri.com/pswebinar

National Security and Public Safety Summit

Hilton San Diego Bayfront
July 8–11, 2017 | San Diego, California

Join us at the Esri National Security and Public Safety Summit to see the latest advances in GIS and learn how it is being applied around the globe. Take advantage of this opportunity to meet national security and public safety professionals, hear them share their experiences, and network with peers working on the same challenges.

esri.com/nss

Public Works Webinar Series

To build a more livable community, public works organizations need to plan ahead. This webinar series will highlight how public works professionals can leverage mobile technology, real-time analytics, big data, and sensor information from the Internet of Things to meet citizen demands and improve service.

go.esri.com/pw-webinars

Departments of Transportation Webinar Series

How will you build smarter, safer infrastructure? Transportation professionals are responsible for planning, construction management, maintenance operations, asset tracking, safety improvements, and real-time traffic visualization as well as building sustainable infrastructure. This series will explore customer success and best practices and technology trends that departments of transportation use to integrate workflows, increase productivity, encourage communication, and support data-driven decisions.

go.esri.com/dot-webinars

Esri Health and Human Services GIS Conference

Esri Campus
October 17–19, 2017 | Redlands, California

Join us at the Esri Health and Human Services GIS Conference to connect with leaders from across the industry, and see how intelligent maps and analysis can help you eliminate disparities, drive more informed decision-making, and transform the health of your community.

esri.com/events/health

157226 G77401

Strengthening Health with Location

Esri Health and Human Services GIS Conference
October 17–19, 2017 | Esri Headquarters—Redlands, California

Leverage GIS Technology to Transform the Health of Your Community

The Esri Health and Human Services GIS Conference will give you a powerful new perspective on health through a better understanding of the power of location.

- ▶ Discover the latest advances and capabilities in geographic information system (GIS) technology for health professionals—maximizing return on your GIS investment.
- ▶ Collaborate with industry thought leaders to learn tried-and-true best practices to foster better health outcomes.
- ▶ Get real-world demonstrations of innovative solutions offered by the ArcGIS® platform.

A healthier community begins by unlocking data's full potential.

Register at esri.com/healthgis.