

Digitally Transform Vegetation Management on Campus

Justin Anderson – Esri

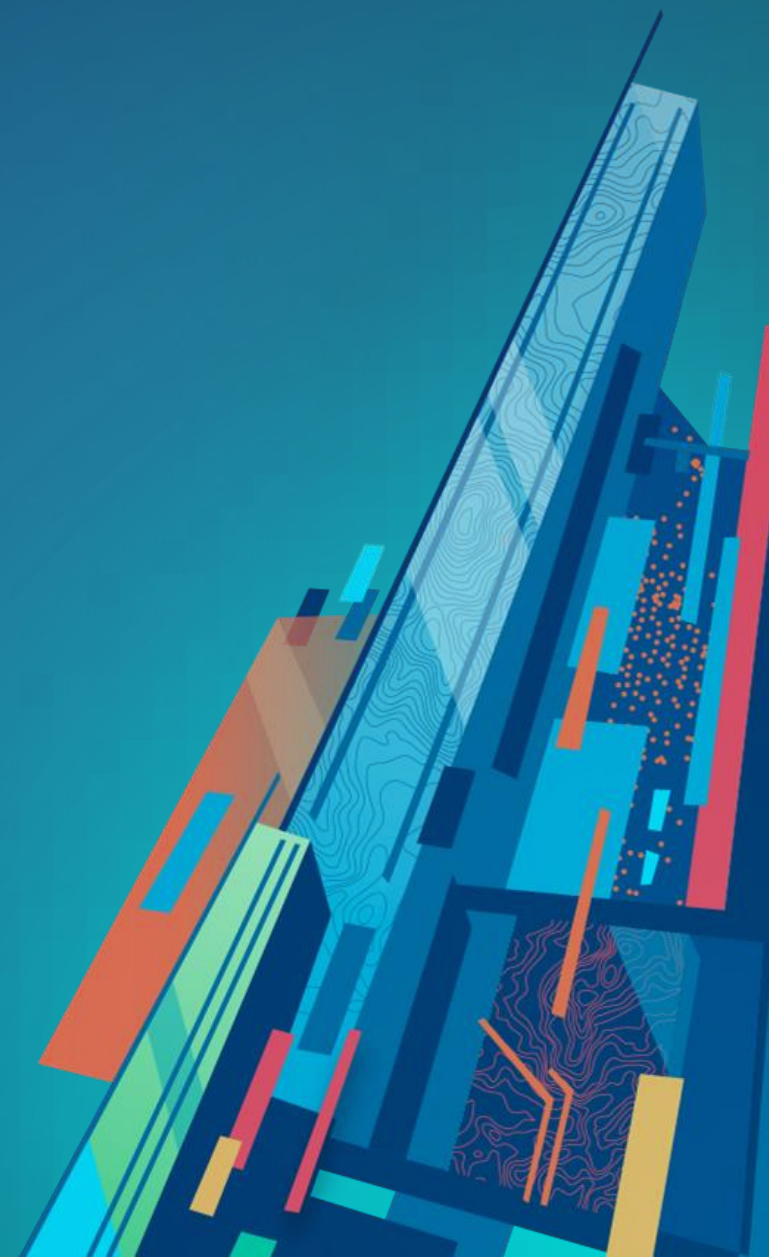
Daniel Wickens – Esri

Paul Graham – University of North Alabama

Mark Stewart – Esri

Transform Campus Operations with ArcGIS


Fall Webinar 1



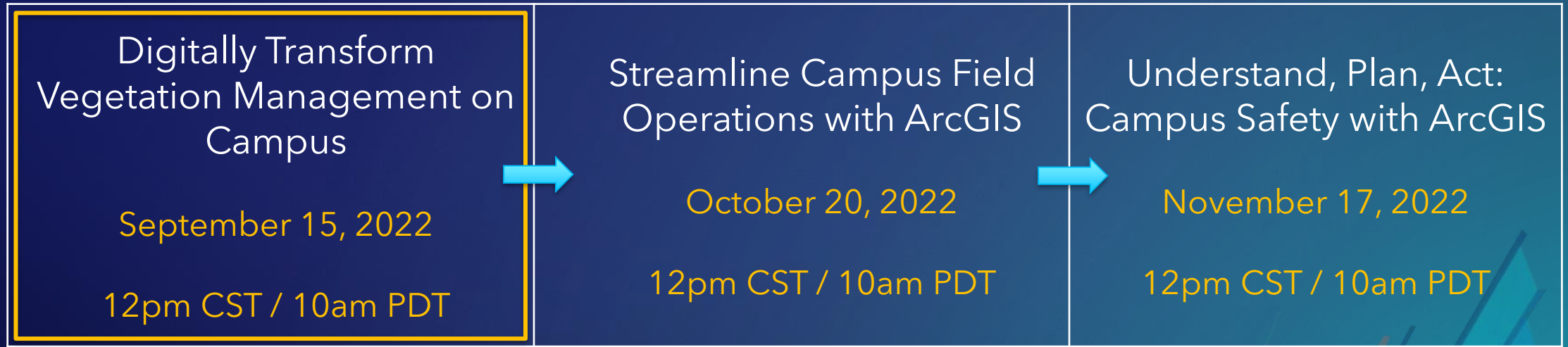
Agenda

- Introduction
- Tree Management Solution
- Vegetation Management at UNA
- Account Management Support
- Esri Resources
- Q&A

Webinar Housekeeping

- Please enter your questions in the chat box
 - Microphones will be muted
 - Q&A session at the conclusion of the webinar
 - Webinar & slides will be available
 - Survey following the webinar
- 
- An abstract graphic in the bottom right corner of the slide. It consists of several overlapping, semi-transparent rectangular planes in various shades of blue, teal, and green. These planes are oriented at different angles, creating a sense of depth and movement. Some planes have thin lines or patterns on them, and the overall effect is a modern, digital-looking design element.

Welcome to "Digitally Transforming Campus Operations with GIS" webinar series





Tree Management Solution

ArcGIS Solutions

Industry-Specific Maps and Apps

Preconfigured

Tools

Workflows

Apps

Comprehensive
Systems

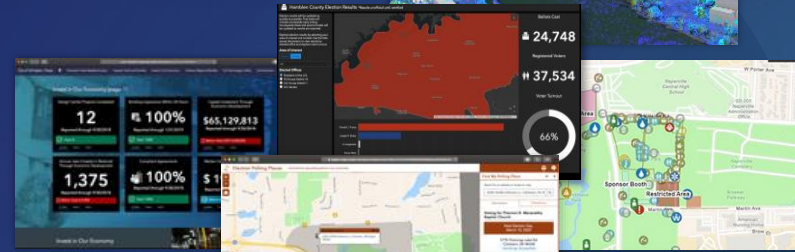
Maps

Data Models

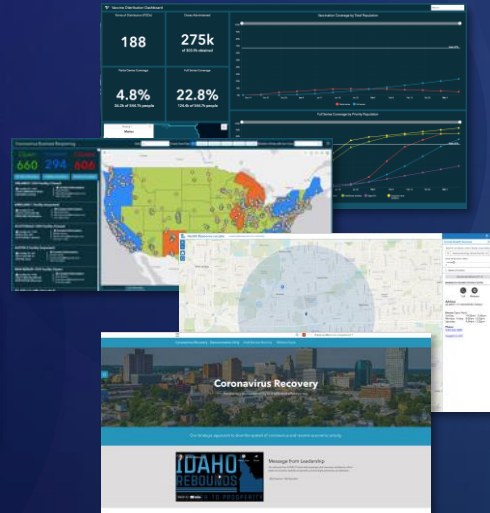
Initiatives

Dashboards

Campus
Operations



Campus Health
Services



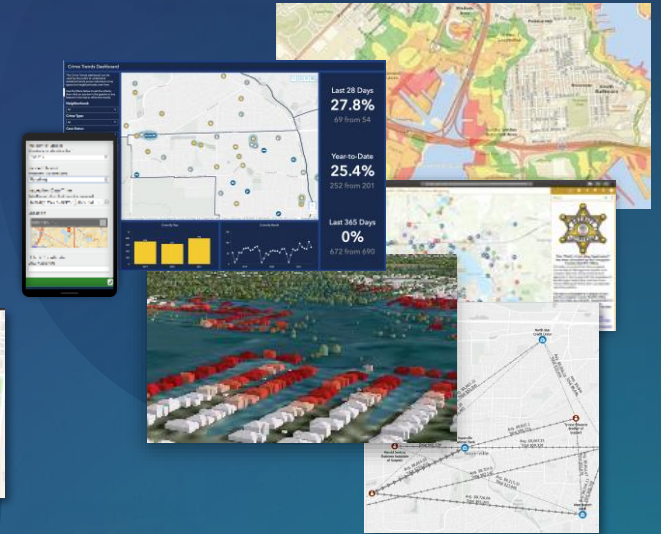
Utilities &
Telecom



EQUITY



Emergency Management
& Public Safety



COVID-19

- Extensive (100+)
- Easy to Deploy
- Come with ArcGIS
- Fully Supported

... Help Users Quickly Realize Value

An organization cannot manage its urban forest and plan improvements unless it knows what trees they have, where they are, and their condition.



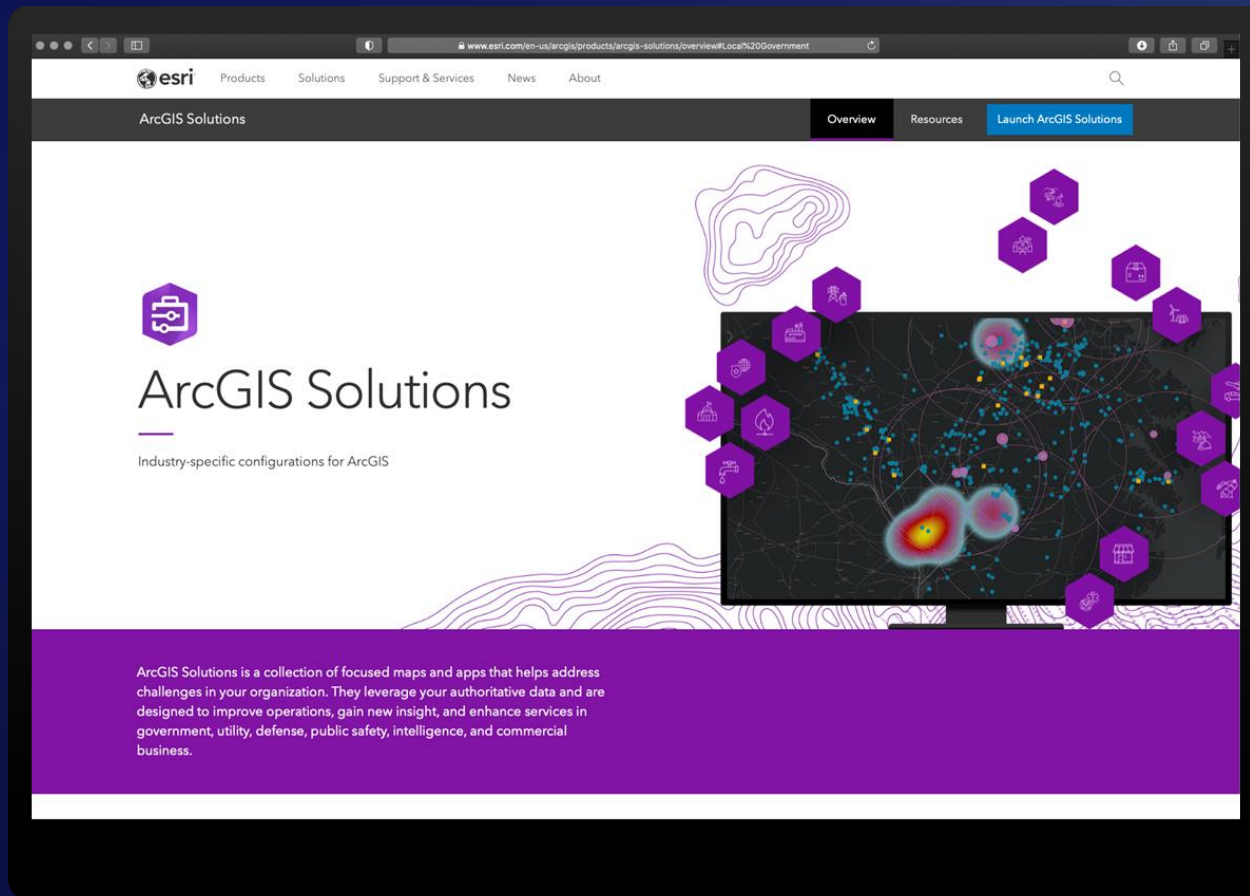
Tree Management

Streamline tree inventory

Efficiently assess tree conditions

Increase transparency and public trust



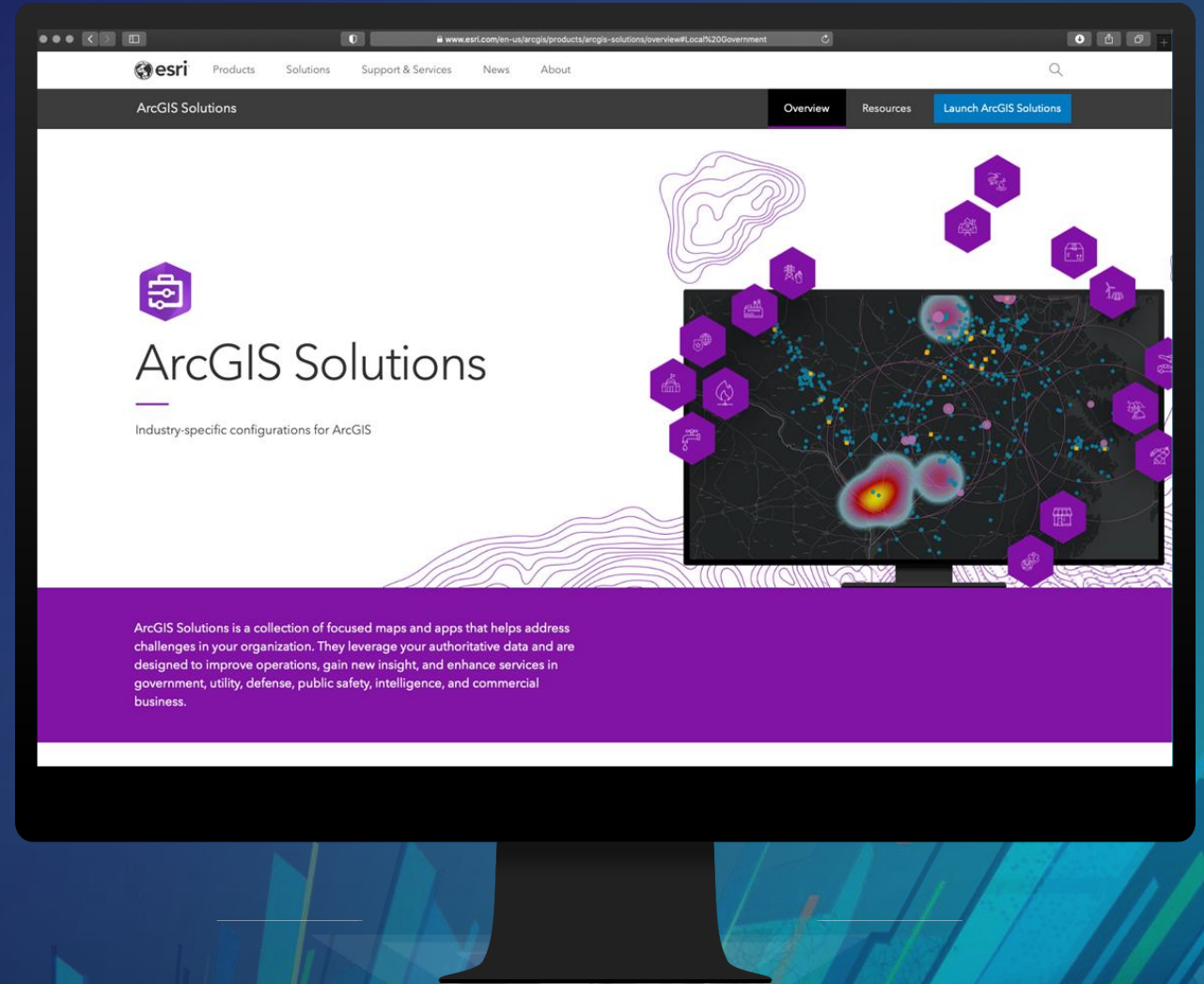


Demonstration

Getting Started

Simple approaches for all organizations

- [ArcGIS Solutions](#)
- [Introduction](#)
- [Configure](#)
- [Use](#)





Future enhancements

Contingent values (common name, genus, species)

Machine learning

Parks and grounds solution



ArcGIS Solutions Roadmap

Last update: September 2022

Near-term

- **Active Transportation Outreach**
- Beach Landing (Update)
- Catch Basin and Outlet Inspections
- Crime Reduction Statistics
- **Curb Management**
- Daily Activity Dashboard (Update)
- Dam Safety (Update)
- Electric Joint Use
- Environmental Analysis
- Equitable Property Value (Update)
- **Fire Hydrant Inspections**
- Gas Digital As-Building
- Gridded Reference Graphic
- Lead Service Line Inventory (Update)
- Military Overlay (Update)
- Police Transparency (Update)
- Pre-Incident Planning (Update)
- Roadway Management
- ROW / Encumbrance Data Management
- ROW Permitting (Update)
- Service Qualification (Update)
- Sign Management
- **Stormwater Data Management (Update)**
- Sustainable Development Goals
- Weather Operational Effects

Mid-term

- Adopt-A-Park / Adopt-A-Roadway / Adopt-A-Trail
- Capital Project Planning / Tracking (Update)
- Cemetery Management
- Combined Sewer Data Management
- Community Risk Reduction
- **Conservation Easement Monitoring (Update)**
- Construction Site BMP Inspections
- Crime Problem Management
- Emergency Management Operations
- **Forest Inventory**
- Gas Data Management (Update)
- Gas Leak Survey
- Military Land Operations
- Mosquito Operations (Update)
- **Parks / Grounds Management**
- Recreation Outreach (Update)
- Sewer UN Foundation (Update)
- Sidewalk Management
- Stormwater Outreach
- Streetlight Management
- Tax Parcel Data Management
- Utility Network Water Outage
- Water Distribution Data Management (Update)
- Water Distribution Valve Inspections
- Water Utility Outreach

Long-term

- Affordable Housing
- Bridge Inspections
- Communications UN Foundation (Update)
- Economic Development
- Electric Recloser Inspections
- Electric UN Foundation (Update)
- Fat, Oil, and Grease Management
- Gas / Pipeline Referencing UN Foundation (Update)
- **Green Infrastructure Inspections**
- Hazard Mitigation and Resilience
- Illicit Discharge Inspection
- Military Decision-Making Process
- Military (Air, Maritime, Space) Operations
- Military Training Center Management
- Neighborhood Stabilization
- Railroad Crossing Inventory
- RF Coverage Processing
- Signal Management
- Social Equity Analysis (Update)
- Special Event Permitting and Operations (Update)
- Stormwater UN Foundation (Update)
- Traffic Calming Inventory
- Water Distribution Backflow Inspections
- Water Distribution UN Foundation (Update)
- Weather Readiness
- Wildlife Monitoring



Vegetation Management University of North Alabama

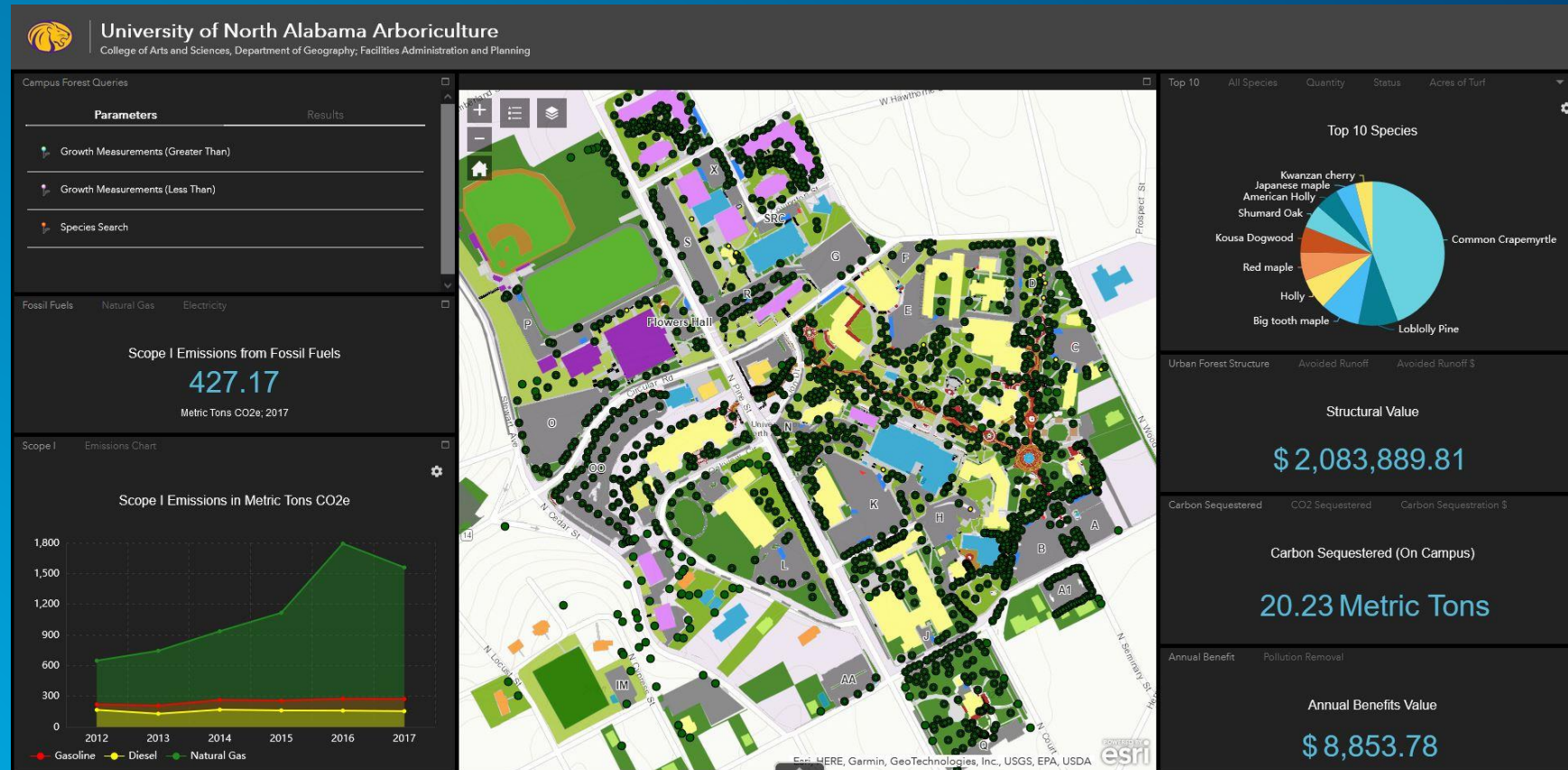


Paul Graham

GIS Facilities Information Manager

University of North Alabama

Arboricultural Management @ UNA



Paul D. Graham, GIS/Building Information Manager
ISA Certified Arborist WC-5772A

What stake holders benefit from the Urban Tree Dataset?

Municipal Urban Foresters

- **Municipal Administration**
 - City Council
 - Mayor
- **Municipal Departments**
 - Utilities
 - Engineering
 - Planning
 - Streets/Park & Recreation
- **NGO - Volunteer groups**

University Facilities

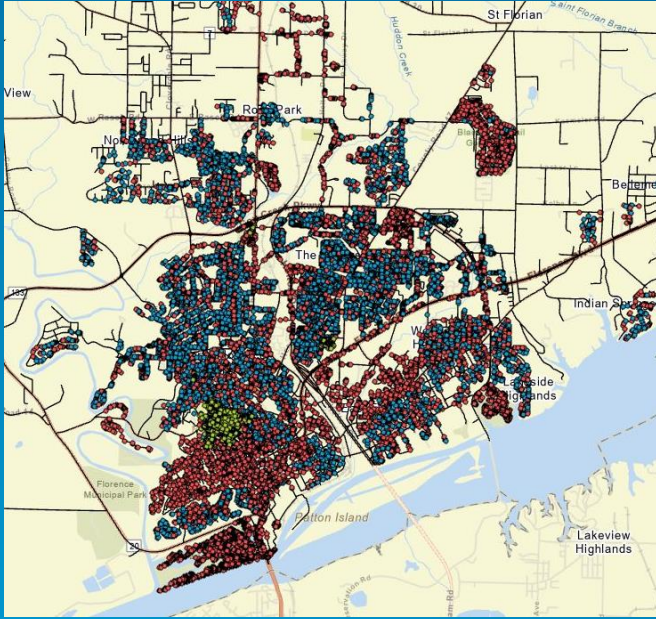
- **University Administration**
 - State Legislators
 - City Administration
 - Board of Trustees
- **Professors**
 - Biology/Horticulture
 - Geographic Information Science
- **Alumni & Students**

Using ArcGIS Pro, Field Maps & Web apps



- Resource Management, Analysis & Planning
- Resource & Service documentation
- Presentation of Results

ArcGIS Pro - Resource Analysis



Tree Dataset records

37,500 Unique specimens

- 26,000 Public; 9,500 Private; 2,000 University Trees

Related Data – Advanced Analysis

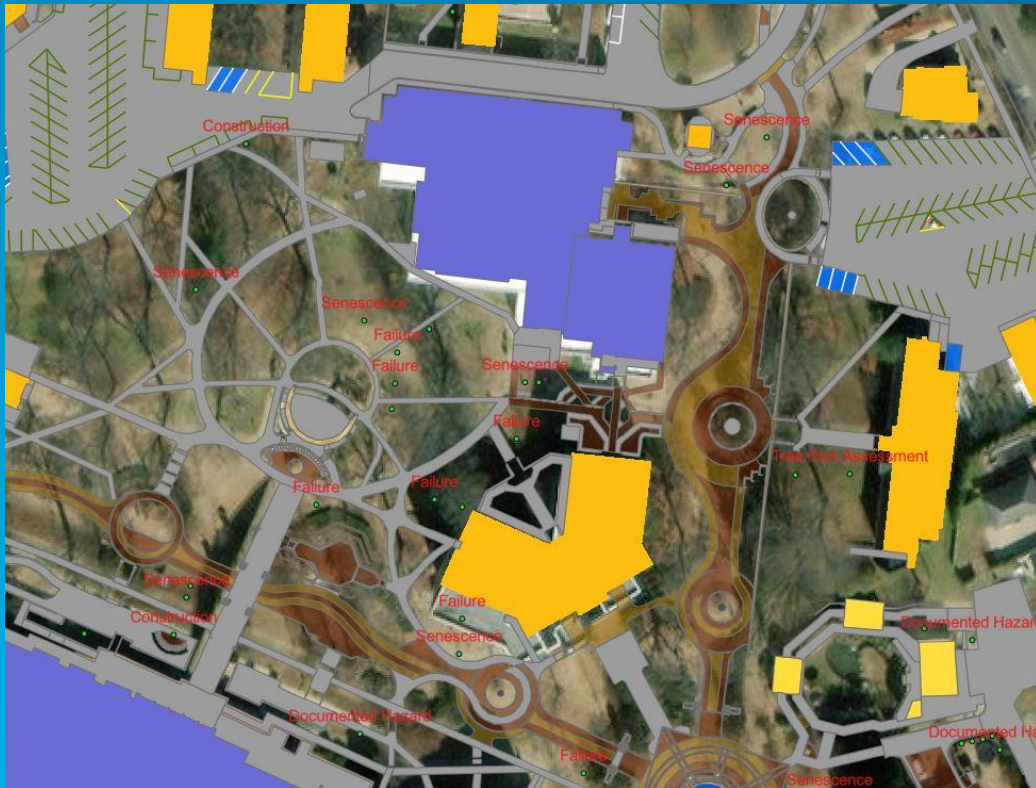
- Planting Site data
- Growth, Pruning and Removal
- Environmental Benefits



Crown Diameter (proportional)

Resource Analysis

Removals & Reason



New Plantings

- **Resource Service – Planning**
 - Planting – Species/Site selection
 - Removal – Reason and documentation
 - Pruning requirements and scheduling

Field Maps - Data Collection

- Initial Survey
 - Location and Species
 - Growth (biometric) Data
 - Site data
 - Attachments!

The image displays three overlapping screenshots of the 'Arboricultural Management' app, illustrating the data collection process. The background is a satellite map with a yellow highlighted area.

Top Left Screenshot (7:07 AM, Tue Sep 13): Shows the 'Survey Data for 12596' form. The form includes fields for Survey Date (3/14/2007, 7:00 PM), Tree Owner (UNA), Species Code (Lagerstroemia spp), Planting Date, Tree Status (Active), Reason for Removal, Removal Date, MemorialTree (Yes), and MemorialText (Made Possible by the generosity of Dr. Sephephanie Wagoner Teichmiller to honor the memory of her grandmother, Estelle Hall Wagoner). Below the form are links for 'Maintenance 1', 'GrowthData', and 'SiteData 1'.

Top Right Screenshot (7:09 AM, Tue Sep 13): Shows the 'Collected on 7/3/2018, 7:00 PM' form. The form includes fields for DBH Total (Calc 1-6) (19.00), DBH 1 (5.20), DBH 2 (4.30), DBH 3 (2.30), DBH 4 (2.30), DBH 5 (4.90), DBH 6, Total Height (19.40), Height to Live Top (19.40), Height to Crown Base (8.00), Crown Width (Calc Avg) (22.00), CW_NorthSouth (22.00), and CW_EastWest (22.00).

Bottom Right Screenshot (7:10 AM, Tue Sep 13): Shows the 'Collected on 3/14/2007, 7:00 PM' form. The form includes fields for Arborist Name (Ran Redding), Land Use (Institutional), Strata (Residence-Business Districts), Management Zone (Zone Two), Planting Location or Site (Cutout/Well), Growing Area, Sidewalk Damage (None), Wire Conflicts (No lines), and Trees. Below the form are links for 'Edit', 'Copy', and 'Delete'.

Data Collection - Attachments



Species Documentation

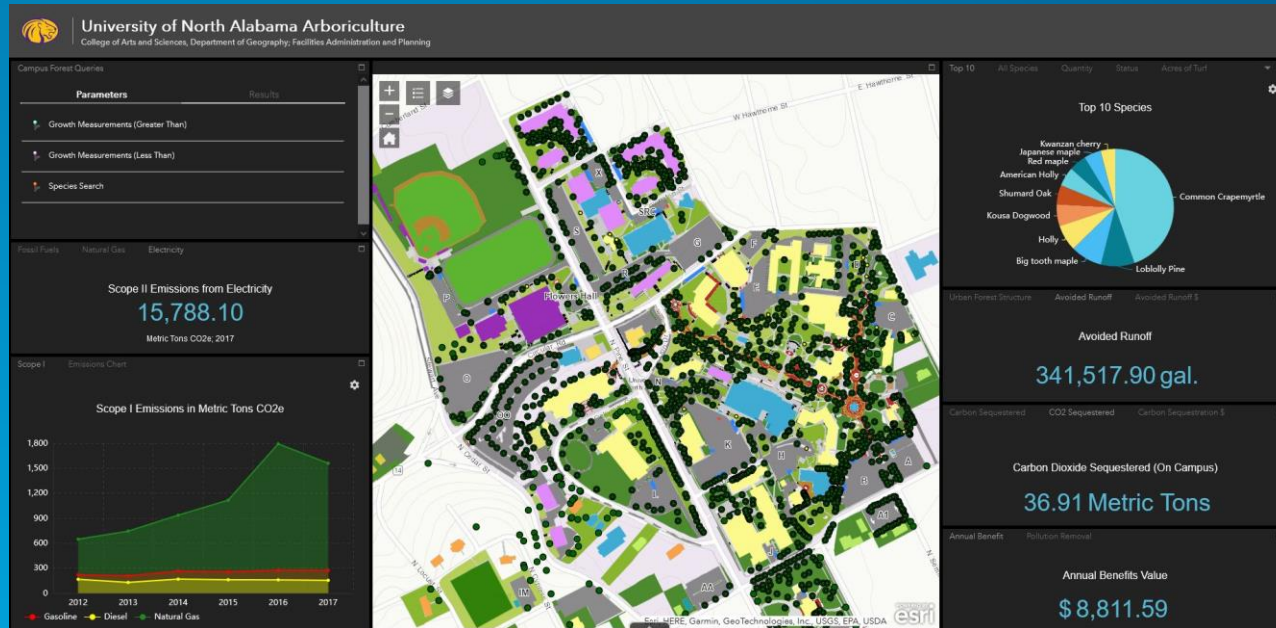


Alumni Memorial
Plaques

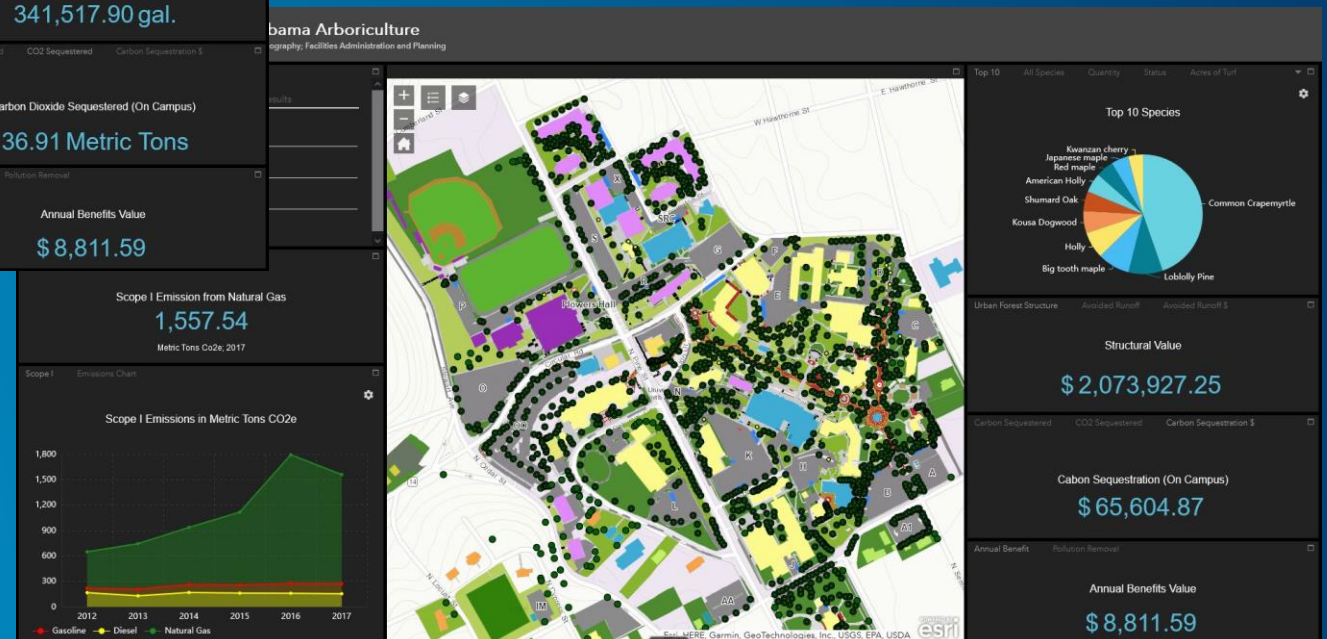


Wound Documentation

Web Apps – Information Presentation



Campus Wide
Environmental Benefit / Carbon
Sequestration Analysis



Future Plans

- **Additional Data–centric Maps/Dashboards**
- **Employ ArcGIS Workforce Solution**
- **Modelling – 3D**
 - **Growth & Shading (Future Environmental Benefit)**
 - **Inclusion in ArcGIS Indoors scene**
 - **Utility and Infrastructure Conflicts**
- **Maintenance Cost Analysis**



PAUL D. GRAHAM

University of North Alabama - Roar Lions!

pdgraham1@una.edu



Esri Account Management Support

Who We Are



The Esri Higher Education team is your face of Esri. We support Educational and Administrative use of GIS on your campus.

Esri Higher Education Account Managers

<https://esriurl.com/EsriEdTeam>



GIS improves learning, research, and administration

Supporting education customers with account management and technical solutions.



Geri Miller

Director

My mission is to work with Esri teams and international distributors to support the global Education community in the applications of teaching/learning, research and administration.



Justin Anderson

Team Lead

Justin leads our smart campus operations initiative, focusing on the administrative and operational use of GIS in higher education and K-12. He also supports Esri partner alignment and the larger account management team.



Mark Stewart

Account Manager - midwest

I help higher education users achieve their teaching, research and administrative goals with Esri solutions.



Mark Lecher

Account Manager - southeast

I help higher education users achieve their teaching, research and administrative goals with Esri solutions.



Ridge Waddell

Account Manager - northeast

I love supporting our Education users with successful implementations across campus of their Esri Applications for both Academic and Administrative use purposes. I also value building relationships with our customers.



Andrew Haglund

Account Manager - west coast

As an account manager, I work with faculty, staff, and administrators of colleges and universities to help them leverage geospatial technologies to achieve their teaching, learning, and institutional goals.



Ann Masangcay

Account Manager

Ann Masangcay collaborates with community colleges, universities, and K-12 school districts to better leverage Esri technology for academic, research, and administrative use.



Brian Baldwin

Senior Solution Engineer

I am passionate about supporting the growth of modern GIS practices in academia through lectures, workshops, blogs, and 1:1 engagements.



Canserina Kurnia

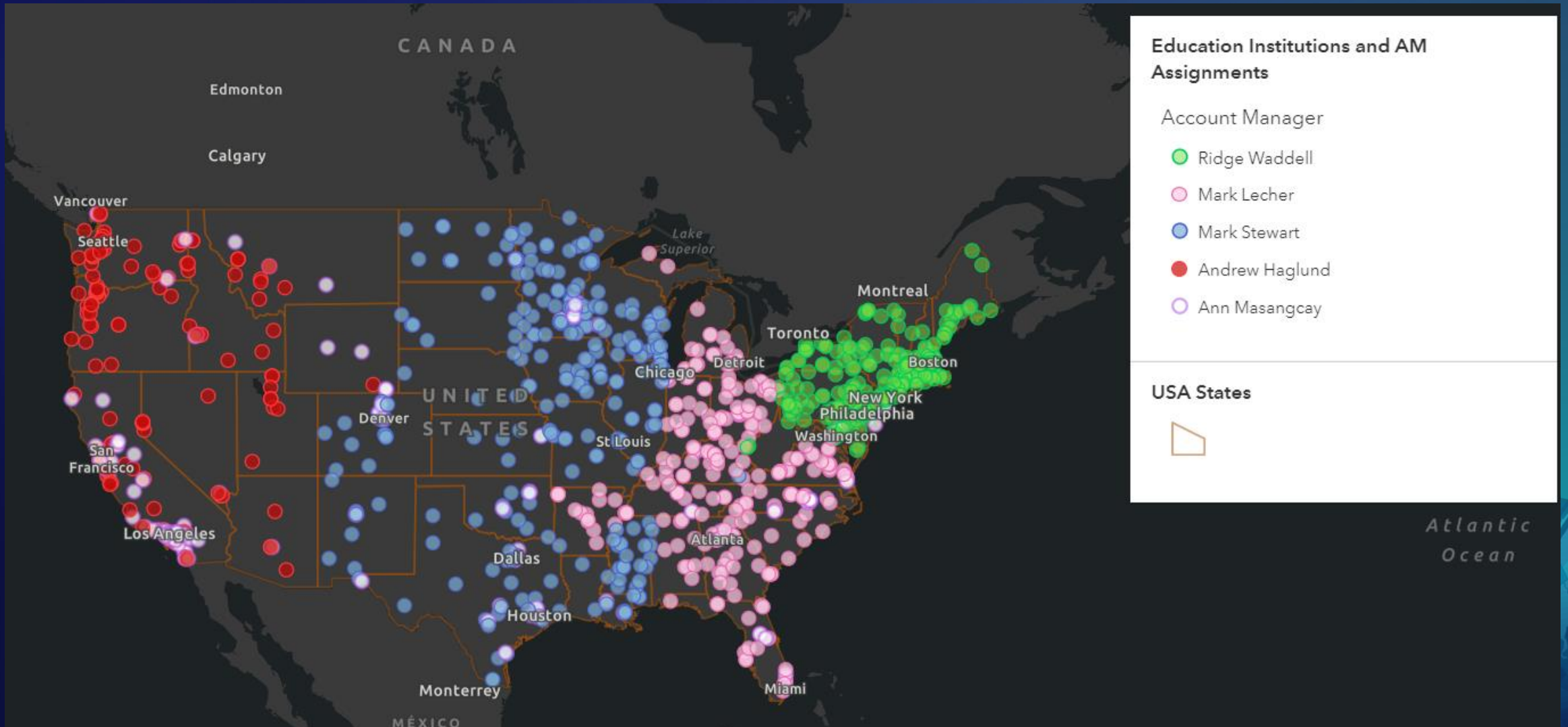
Senior Solution Engineer

I provide technical advice and assistance in advancing GIS and remote sensing technology for teaching and research in higher education.



Find Your Esri Account Manager

<https://go.esri.com/FindMyAM>



How does the Education Team help you?

We help with anything relating to your need to Apply Geographic Information Systems on campus

Licensing

What do you have. . .
. . . What do you need

Communication Facilitation

. . . Interactions with other Esri
teams

Support

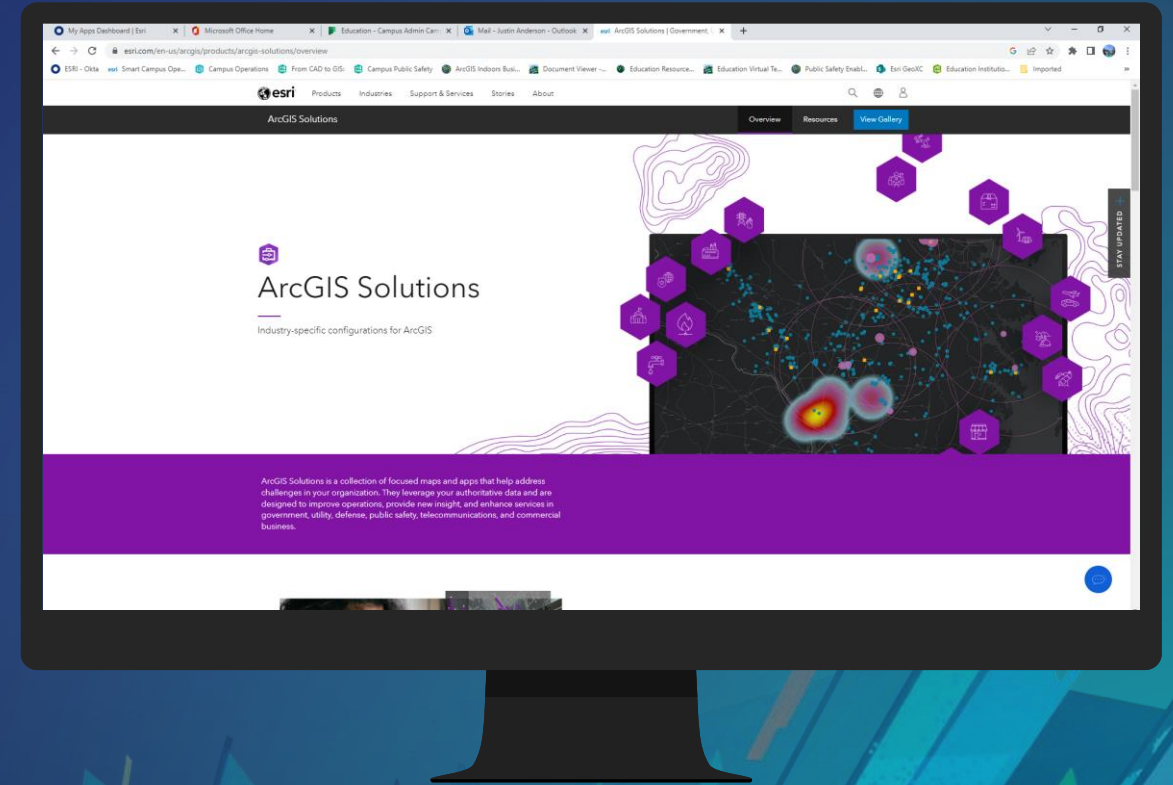
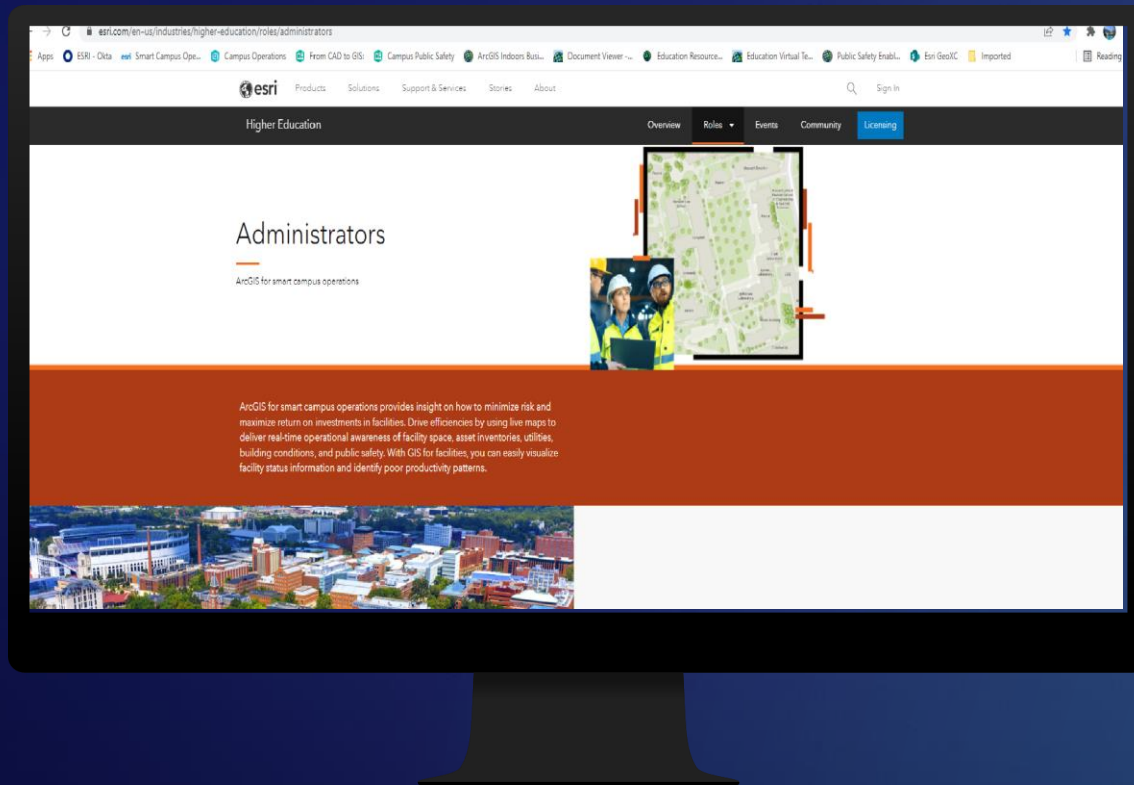
Tech support . . .
. . . Product support
. . . Best Practices
. . . Training



Esri Resources

The image features a blue gradient background. In the center, the text "Esri Resources" is displayed in a white, sans-serif font. The corners of the image are decorated with abstract, stylized map outlines. The top-right corner shows a map of North America with some areas highlighted in orange and green. The bottom-left corner shows a map of South America with various colored lines and shapes overlaid. The overall design is modern and tech-oriented.

Esri Resources - Justin



Links provided in the Chat window

Esri Resources

- Contact Your Account Manager
 - Andrew Haglund (west coast) - ahaglund@esri.com
 - Mark Lecher (southeast) - mlecher@esri.com
 - Mark Stewart (midwest) - mstewart@esri.com
 - Ridge Waddell (northeast) - rwaddell@esri.com
 - Ann Masangcay - amasangcay@esri.com
- Operations: Justin Anderson - justin_Anderson@esri.com



esri

THE
SCIENCE
OF
WHERE