

# AGIC 2010



## Geospatial Education and Training EXPO

November 19, 2010

Glendale Civic Center - Glendale, Arizona

## Welcome to the AGIC 2010 Geospatial Education and Training Expo

On behalf of the Arizona Geographic Information Council (AGIC) we would like to welcome you to the AGIC 2010 Geospatial Education and Training Expo and to the thriving City of Glendale. This is a great opportunity to bring geospatial professionals together to learn, network, and share knowledge and experiences.

First and foremost – go forth - mingle, network, learn, share information and have fun!

As will be covered in the next presentation – much is underway this year for statewide GIS efforts. If you remember the Business Plan and Strategic plan goals, you will remember that creation of the Arizona Geospatial Clearinghouse is at the very top of the list for AGIC obtainment. And we are very excited with the progress that is being made toward that end.

Another newsworthy item is the changing of the Council face. Council members are undergoing the application process currently, and we are happy to report the following new members have applied. Sue Smith, from the Arizona Department of Emergency Management, Leslie Stovall from the Gila River Indian Community, Mark Manone from Northern Arizona University, Marcus Wilson from the Department of Economic Security, Jeff Wilkerson from ADOT, Brian Conway from ADWR, Jason Howard from MAG, Russ Heisinger from the Maricopa County Assessor's Office, Marta Dent from the Maricopa County Regional GIS Group. Welcome new faces and some familiar faces to the AGIC Council! We are also recruiting for the ADOA and AZ GITA representatives and hope to have those spaces filled soon.

I would like to encourage each and every one of you while you are here to visit the Expo Sponsors who make this event possible. Take the time to visit and thank these valuable people for their support. The sponsors for AGIC are our partners in the geospatial world and we need to acknowledge them as such.

And last but certainly not least - each year this conference relies on a dedicated team of volunteers from around the State. These are an enthusiastic and committed group of individuals who were led again this year by co-chairs Steve Whitney and Jami Garrison. Obviously – this is a winning combination for AGIC. I would like to personally thank everyone who made this opportunity possible.

Ok – game on! Have a great time at the Expo!!

Sincerely,

A handwritten signature in black ink that reads "Jana Hutchins". The signature is written in a cursive, flowing style.

Jana Hutchins, AGIC Chairperson, 2010



## Council Officers

### Chairperson

Jana Hutchins  
Arizona State University

### Chairperson-Elect

Keith Larson  
U.S. Natural Resource Conservation Service

### Past Chairperson

Kevin Blake  
Yavapai County

### Secretary

Gary Irish  
Arizona State Land Department

## Council Members

VACANT	Arizona Department of Administration
VACANT	Arizona Department of Commerce
Jane Huff	Arizona Department of Economic Security
Carol Warren	Arizona Department of Education
Victor Gass	Arizona Department of Environmental Quality
Wesley Kortuem	Arizona Department of Health Services
Sharon Nicholson	Arizona Department of Public Safety
Susan Husij	Arizona Department of Revenue
VACANT	Arizona Department of Transportation
Dena Gambrel	Arizona Department of Water Resources
Nicole Eiden	Arizona Game and Fish Department
Lee Allison	Arizona Geological Survey
Gene Trobia	Arizona State Cartographer's Office
Gary Irish	Arizona State Land Department
VACANT	Arizona State Parks
Jana Hutchins	Arizona State University
VACANT	Northern Arizona University
Craig Wissler	University of Arizona
Chris English	Bureau of Indian Affairs
Jackson C. Johnson	Bureau of Land Management
VACANT	Bureau of Reclamation
Dave Minkel	National Geodetic Survey
Keith Larson	Natural Resource Conservation Service
Candace Bogart	U.S. Forest Service
Tom Sturm	U.S. Geological Survey
VACANT	Arizona Association of Counties
Timothy Smothers	League of Arizona Cities and Towns
Howard Ward	Private Sector
Rudy Stricklan	Arizona Professional Land Surveyors Association
VACANT	Maricopa Association of Governments
Kevin Blake	Northern Arizona Geographic Information Forum
Steve Whitney	Tucson Area GIS Cooperative
Manny Rosas	Pima Association of Governments
Brian Brady	Yuma Regional Geographic Information System

# AGIC 2010 Agenda at a Glance

Time	Activity		
7:00a - 3:00p	<b>Registration</b>		
8:00a	<b>Vendor Exhibits Open</b>		
9:00-9:15	<b>Welcome</b>	<b>AGIC Chairperson's Address</b>	
9:15 - 10:00	<b>Arizona Geospatial Data - State of Affairs</b>	<ol style="list-style-type: none"> <li>1) Arizona Geospatial Clearinghouse               <ol style="list-style-type: none"> <li>a. Data Sharing Statutes</li> <li>b. Strategic Business Plan</li> <li>c. AGIC Working Group</li> <li>d. Data Sharing Agreement</li> <li>e. Naming Contest</li> </ol> </li> <li>2) Statewide GIS projects               <ol style="list-style-type: none"> <li>a. AZ3D</li> <li>b. Broadband Mapping</li> <li>c. Renewable Resources</li> </ol> </li> </ol>	
10:00-10:15	<b>BREAK</b>		
Time	Topic	Presentation	Speaker
10:15-11:00	<b>ArcGIS Desktop</b>	ESRI - ArcGIS Desktop 10	Jeremiah Lindemann
11:00-12:00	<b>Lightning Round</b>	1 - The Business of GIS (ESRI)	David Bryson
		2 - AZ3D: Arizona's Common Operating Picture for Emergency Management	Ayan Mitra Jana Hutchins
		3 - City of El Mirage GIS Website: EMGIS	Jose Macias
		4 - The Science and Use of Oblique Imagery in GIS	Brian Kienle
		5 - Can We All Get Along - Data Collection: Mapping Grade Vs. Survey Grade	Chris Christensen
		6 - Using GIS as a Maintenance Management Tool	Rick Chappelle
12:00 -1:30	<b>* LUNCH BREAK *</b> <b>Vendor Exhibits</b> <b>Networking</b> <b>Map Posters, Web App Viewing &amp; Voting</b>		
Time	Topic	Presentation	Speaker
1:30-3:00	<b>Applied GIS</b>	GIS to Generate Revenue Through Interagency Collaboration and Data Comparisons	Randy Booze
		Phoenix Sign Inventory and Replacement	Ryan Cook
3:00	Registration Closes		
3:00- 3:15	<b>BREAK</b>		
Time	Topic	Presentation	Speaker
3:15-4:00	<b>Lightning Round</b>	1 - ArcGIS.com	Jeremiah Lindemann
		2 - Adopting the Appropriate GIS Web Service Technologies	Bo Guo
		3 - BaseMap Caching and Updating (Pima County Street BaseMap)	Elisabeth Van Der Leeuw
		4 - Incorporation of Google API into the Peoria Unified School District's web portal: Moving beyond the paper map	Caroline Leland Ruiz
		5 - What I did on my summer vacation or a primer in Arc2Earth map publishing to Google Maps and Earth	Andy MacLeod
4-4:45	<b>ArcGIS Server</b>	ESRI - ArcGIS Server 10	ESRI
4:45 - 5:00	<b>Closing</b>	<ul style="list-style-type: none"> <li>- Poster and Web Application Awards</li> <li>- GITA Scholarship Award</li> <li>- AGIC Chairperson's Volunteer of the Year Award</li> <li>- Closing Remarks</li> </ul>	
5:30 - 8:00pm	<b>** Sponsored Social at Haus Murphy's in Downtown Glendale **</b> <b>Join us for Live Music and Door Prize Drawings!</b> <b>Heavy hors d'oeuvres provided by social sponsors</b>		

# AGIC 2010 Agenda

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## Friday, November 19, 2010

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### 7:00 am – 3:00 pm

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#### REGISTRATION

Foyer – Coffee and Tea available

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### 8:00 am

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#### Vendor Exhibits Open

Onyx Room

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### 9:00 am – 10:00 am

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#### OPENING SESSION

Crowne Room

##### AGIC Chairperson's Address

Jana Hutchins, Arizona State University

##### Arizona Geospatial Data – State of Affairs

Moderator: Gene Trobia, Arizona State Cartographer

##### Arizona Geospatial Clearinghouse

- Data Sharing Statutes
- Strategic Business Plan
- AGIC Working Group
- Data Sharing Agreement
- Naming Contest

##### Statewide GIS Projects

- AZ3D
  - Broadband Mapping
  - Renewable Resources
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### 10:00 am – 10:15 am

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#### BREAK – Sponsored by Compass Tools

Foyer – Coffee and Iced Tea available

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### 10:15 am – 11:00 am

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Crowne Room

#### ARCGIS DESKTOP 10

Jeremiah Lindemann, ESRI

ArcGIS 10 is designed to perform your GIS work faster. In this workshop we will highlight the NEW features of ArcGIS Desktop 10. Highlighted will be new functionality that will increase your productivity and allow you to manage, create, and share data more efficiently. We also incorporate best practices for migrating to ArcGIS 10 desktop as well as frequently asked questions on deprecated functionality.

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### 11:00 am – 12:00 pm

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#### LIGHTNING TALKS – ROUND ONE

Crowne Room

##### 1. The Business of GIS

David Bryson, ESRI

Doing Business Analysis online, the basics of using GIS with business application and support decisions

##### 2. AZ3D: Arizona's Common Operating Picture for Emergency Management

Ayan Mitra and Jana Hutchins, ASU

Arizona has shown a need to integrate geospatial information to provide information in order to mitigate, plan for, respond to, and recover from pandemics, man-made emergencies and natural disasters. AZ3D was created to accomplish this purpose by providing a "common operating picture" available via a web browser mapping support tool. AZ3D offers easy access for authorized emergency management users to a compilation of relevant GIS datasets and map services as well as the capacity to author an emergency related incident or event within an interactive digital mapping application. AZ3D offers quick access to the same set of comprehensive geospatial data, eliminating the need for each agency or entity to acquire, compile, administer and disseminate common information important to emergency managers. Improved communication and data exchange between State and local agencies better equips all levels of government to handle emergency events through the visualization and utilization of shared geospatial data. The AZ3D viewer will be demonstrated to illustrate how this has been successfully accomplished.

##### 3. City of El Mirage GIS Website: EMGIS

Jose A. Macias, City of El Mirage

Prior to having a GIS department, El Mirage city employees had to rely on old out dated maps, spending numerous hours going through cabinets trying to find the right map. Employees out in the field carried large map books in their trucks being careful not to lose or damage them. March 2008 the City of El Mirage established a GIS department and after years of collecting and building up the El Mirage GIS catalog the time to make the GIS data available to the employees and civilians of the City of El Mirage would soon be here, that time is now. With the assistance of our consultant EMS and ESRI's ArcGIS Server Enterprise we've accomplished this feat by deploying a new GIS website, called EMGIS (El Mirage GIS). EMGIS is interactive GIS website where users can perform many functions such as zoom in, zoom out, turn on turn off layers of information. Run queries; look up addresses and property information. View current and historical aerials and much more. Today El Mirage employees no longer need to rely on old maps, they now have access to the most current GIS data from their desk, the days of carrying map book are gone, and now laptops have replaced the book, granting employees out on the field GIS data at their finger tips. Our civilians can view general GIS maps from the comfort of their homes 24 hours a day 7 days a week. With ESRI ArcGIS Servers Enterprise easy capabilities, the GIS website can be updated on the fly providing the up most up to date data in matter of minutes. GIS technology has truly made everyday task easier, it's time saving, cost efficient and fun to work with.

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## 11:00 am – 12:00 pm (con't)

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### LIGHTNING TALKS – ROUND ONE

*Crowne Room (continued)*

#### 4. The Science and Use of Oblique Imagery in GIS

Brian Kienle, Pictometry International

This brief presentation will cover how and why a GIS professional would use oblique imagery in various GIS packages, including but not limited to ESRI's ArcGIS. We will touch on the fundamental differences between Nadir (vertical) imagery and Oblique (angled) imagery including the science of how a dynamic grid and varying GSD's (ground sample distance) work. A highlight will be given on an exciting new technology that will allow GIS users to consume oblique imagery as native content in ArcGIS 10 Desktop. This talk will also highlight a few other benefits of using intelligent oblique imagery like being able to acquire height measurements or creating photo-realistic 3D models. The session will end with examples of oblique and ortho imagery from various natural disasters over the last few years including Hurricane Ike, the 2010 Nashville floods, 2008 tornadoes that struck Suffolk County Virginia, and imagery from the Earthquake that devastated Haiti.

#### 5. "Can't We All Get Along?" Data Collection: Mapping Grade vs. Survey Grade

Chris Christensen, Entellus

The struggles of a GIS manager to outfit field personnel with the best GPS equipment and data collection software to be utilized for survey grade and mapping grade applications. What you get for your money, and why going with the most trusted names in the industry doesn't necessarily result in the biggest bang for your budget or final product.

#### 6. Using GIS as a Maintenance Management Tool

Richard Chappelle, CADSoft

Computerized Maintenance Management Systems (CMMS) significantly increase the effectiveness of any organization managing facilities or assets. Whether it's scheduling maintenance, tracking work orders, handling emergencies or determining the benefit of replacing an asset versus repeated repair, CMMS provides organizations powerful tools for decision-making and making the most effective use of personnel and material. By adding the principle of location, Geographic Information Systems (GIS) adds substantial value to these maintenance systems. Routing workers to repairs, identifying the closest crew in an emergency, locating material storage yards become simple tasks when combining CMMS and GIS systems. Indeed some organizations are able to provide much of the CMMS functionality using primarily their GIS. This presentation will demonstrate techniques and discuss issues involved with using as a Maintenance Management Tool to increase the effectiveness and reduce the cost of an organization's overall asset cost.

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## 12:00 pm - 1:30 pm

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### LUNCH BREAK

*Foyer - Boxed Lunch, Soda, and Bottled Water provided by our Lunch Sponsors: TerraSystems Southwest, Pictometry International, Holmans Inc., Allen Instruments & Supplies, and ESRI.*

- *Visit the Vendor Exhibits in the Onyx Room*
- *Check out the Map Gallery*
- *See the GIS Web Applications*

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## 1:30 pm -3:00 pm

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### APPLIED GIS:

*Crowne Room*

#### GIS to Generate Revenue through Interagency Collaboration and Data Comparison

Randy Booze, City of Mesa

The presentation will cover how the City of Mesa generated over Three Million Dollars (\$3,000,000) in additional Sales Tax Revenue in a pilot project to test a theory developed by the presenter, Randy Booze. The theory is about using GIS technology to perform data comparisons between the City's Sales Tax system and the County's Parcel data. This same process can be used to audit business licenses, verify property taxes, and build better land use and business support databases for City, County, and State Agencies.

#### Phoenix Sign Inventory and Replacement

Ryan T. Cook, Parsons Brinckerhoff

Jenny L. Grote, City of Phoenix;

Collaboration and the right approach saved time and money for the city of Phoenix to enhance and develop a computer-based sign inventory system that allows street signs to be counted and spatially referenced, while simultaneously creating an asset and maintenance record. The interdisciplinary project team included members from the City's Street Transportation Department/Traffic Services Division, Sign Shop and IT Division, as well as traffic engineers, transportation planners, and GIS specialists from Parsons Brinckerhoff. One of the City's primary goals for this project was improving safety for motorists, bicyclists and pedestrians. The city of Phoenix Street Transportation Department and the Parsons Brinckerhoff (PB) team collaborated to implement innovative GIS technologies to collect data in the field, saving significant time for the City. The City will improve safety by replacing 17,762 outdated signs with retroreflective signs with better visibility. Data collection and plan preparation was completed in ninety days, covering 517 square miles, 214 centerline miles of street and 28,000 street signs, allowing the City to utilize federal ARRA stimulus funding for the sign replacement. PB created a sign inventory database compatible with existing city of Phoenix Asset Management System. We collected sign attributes and location data and prepared sign listings, plans, special provisions, and estimates (PS&E) to allow the city to advertise the project for construction.

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## 3:00 pm - 3:15 pm

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### BREAK – sponsored by ESRI

*Coffee and Iced Tea available in the Foyer*

**Please Note: Registration closes at 3pm.**

*Be sure to visit the AGIC 2010 Expo Sponsors in the Onyx Room. Have your door prize drawing form stamped/signed by each vendor in order to be eligible for the vendor sponsored door prizes!*

*Forms must be turned in to the registration desk by 5pm to be eligible for the drawing.*

*Drawing takes place tonight at Haus Murphy's!*

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## 3:15 pm - 4:00 pm

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### LIGHTNING TALKS – ROUND TWO

*Crowne Room*

1. **ArcGIS.com**  
Jeremiah Lindemann, ESRI

This brief talk will cover the basics of what ArcGIS.com is all about, how you can make use of it and how it can help you make your data useful to others.

2. **Adopting the Appropriate GIS Web Service Technologies**  
Bo Guo, GISTIC

In recent years we have seen a growing number of available GIS web service technologies, and increased adoption of these technologies by GIS professionals and general users alike. But like many new technologies, GIS web service technologies pose certain opportunities as well as challenges, which should be taken into account when selecting a service for your GIS enterprise. In this presentation, we will explore various GIS web service applications and their architecture. We will then introduce a few popular GIS web service technologies and client APIs, focusing on their capabilities and performance. And finally we will discuss the various factors impacting our technology adoption strategies, such as open source options, performance, ease of integration, data relevance and/or data control, etc.

3. **BaseMap Caching and Updating (Pima County Street BaseMap)**  
Elisabeth vanderLeeuw, Pima County

This talk will cover the Pima County Street BaseMap Caching and Updating process, including:

- What went into building our Street BaseMap
- Why we decided to cache our Street Data Layer - even though it is fairly dynamic
- We are updating Cached tiles nightly through a specific updating process

4. **Incorporation of the Google API into the Peoria Unified School District's Web Portal: Moving Beyond the Paper Map**  
Caroline Leland Ruiz, Peoria Unified School District

The Peoria Unified School District (PUSD) is one of the largest public school districts in Arizona. We serve over 37,000 students at our 31 elementary and 7 high schools. The geographic area of the district covers approximately 135 square miles, serving constituents from 5 different local jurisdictions (The cities of Peoria, Glendale, and Surprise, the Town of Youngtown, and large portions of unincorporated Maricopa County). A major challenge of providing accurate geographic information on a broad scale has been a lack of enterprise-wide access to software such as ArcGIS due to budgetary constraints and limited staff with training in GIS software usage. The multi-jurisdictional nature of our boundary also creates issues of uniformity of GIS data. Until recently, access to spatial layers and data created within the Planning and Demographics division has been truly limited to hard-copy printing of maps and spreadsheets. Now, with the incorporation of Google Maps, the Planning division has been able to make spatial data available to a wide audience through their own internet browser. This presentation will show you how PUSD is successfully using the Google API to deliver geographic information across the web. The Geographic Information Portal (GIP) can be viewed at <https://www.peoriaud.k12.az.us/Maps>

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## 3:15 - 4:00 pm (con't)

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### LIGHTNING TALKS – ROUND TWO

*Crowne Room (continued)*

5. **What I did on my Summer Vacation or a Primer in Arc2Earth Map Publishing to Google Maps and Earth**  
Andy MacLeod, GIS Services

This lightning presentation will highlight the functionality of Arc2Earth Desktop and Cloud Services Arc2Earth Desktop facilitates map and image tile publication directly to Google Maps and Google Earth. The KML Export converts your data directly from ArcGIS. Maps can be published as single raster images or multiple interactive layers. Arc2Earth also creates Map Tile Caches for easy export to a local server. Four different license levels allow you to tailor Arc2Earth to any budget or project size. Arc2Earth Cloud bypasses the expense and time required in establishing a GIS Server. The cloud service allows you to publish directly from ArcGIS into your Arc2Earth Cloud instance. The new version, Arc2Earth V3, supports live editing with Cloud Layers.

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## 4:00 pm

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**MAP GALLERY CLOSES – voting for Map/Poster contest ends.**

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## 4:00 pm – 4:45 pm

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*Crowne Room*

- ArcGIS Server 10**  
Jeremiah Lindemann, ESRI

ArcGIS Server 10 enhancements include many new enhancements for Caching, Editing, and working with Imagery. An overview of the new Feature Services and the functionality they provide will be included. The new additions to the APIs, the new Flex Viewer, new resource centers with integration to ArcGIS.com will be discussed.

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## 4:45 pm – 5:00 pm

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### CLOSING AND WRAP-UP

The AGIC Expo will close with presentation of the following awards:

- Poster and Web Application Awards
- GITA Scholarship Award
- AGIC Chairperson's Volunteer of the Year Award

Brief closing remarks will follow the awards.

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## 5:30 pm – 8:00 pm

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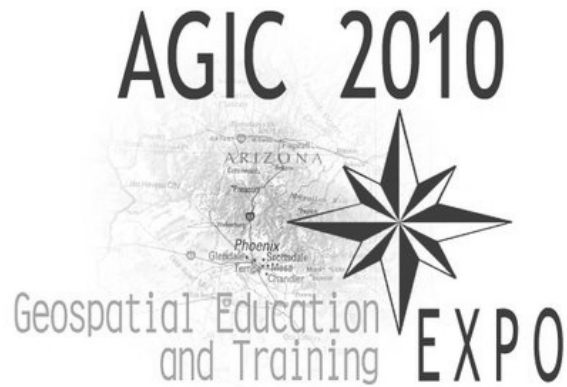
### SPONSORED SOCIAL

Join us at **Haus Murphy's** in downtown Glendale for live music, door prize drawings, and heavy hors d'oeuvres provided by our Social Sponsors!

**Haus Murphy's German Restaurant**  
5739 W Glendale Ave, Glendale, AZ  
[www.hausmurphys.com](http://www.hausmurphys.com)

*Haus Murphy's is a short walk from the Civic Center, directions and map available at the registration table.*

# AGIC 2010



Geospatial Education  
and Training **EXPO**

## Thank You to the AGIC 2010 Exhibitors:

Bohannon Huston, Inc.  
ASU MAS GIS  
Pictometry International Corp.  
The Plotter Doctors, Inc.  
GIS Services  
Holman's, Inc.  
Stewart Geo Technologies, Inc.  
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ESRI  
Engineering Mapping Solutions

Compass Tools  
Geodesy  
Arizona Professional Land Surveyors (APLS)  
Entellus Inc.  
LoggerHead Navigation  
OCE North America, Inc.  
Technology Associates International Corporation  
Landiscor Aerial Information  
Arizona Geological Survey

## AGIC 2010 Conference Committee

Brian Sovik, AMEC  
Craig Wissler, University of Arizona  
Francisco Jimenez, Az Dept of Water Resources  
Gene Trobia, State Cartographer's Office  
Glen Buettner, Office of the State Forester  
Jami Garrison, MAG (Co-Chair)  
Janelle Ramos, CADSoft  
Jason Howard, MAG  
Joseph Wagner, Maricopa Cty Flood Control  
Karen Wigglesworth, ESRI  
Kelly Hetzler, San Carlos Apache Tribe  
Kevin Blake, Yavapai County  
Lucas Murray, Az Dept of Economic Security  
Manny Rosas, PAG

Mary Cook-Hurley, AirPhoto USA  
Paulett Baker, Az State Land Dept  
Roger Knouff, ASU  
Santiago Garcia, City of Peoria  
Seth Franzman, Renaissance Man  
Sharon Nicholson, Az Dept of Public Safety  
Shawny Ekadis, Town of Queen Creek  
Shea Lemar, ASU  
Steve Whitney, Pima County IT GIS (Co-Chair)  
Tammy Schuerman, Sedona Fire District  
Terry Austin, US Forest Service  
Tim Colman, State Cartographer's Office  
Will Horton, HDR