

## DID YOU KNOW:

- Nike launched a new app, Nike+ Running App for Android, that allows runners to track, share, and compare their runs?
- ArcGIS for Android is now available on the Kindle Fire?

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# PAMAGIC MATTERS

JULY 2012

## Local Firm, Universities Partner to Create Central PA Geospatial Technology Center

Gannett Fleming, Harrisburg University of Science and Technology, and Harrisburg Area Community College (HACC) have partnered to create the Central Pennsylvania Geospatial Technology Center (GTC). Students, faculty, and professionals from the three organizations will offer their expertise and resources to geospatial technology projects for the public. The partnership will focus on providing substantive and practical knowledge for students, while providing valuable services for the greater central Pennsylvania area.

The GTC partnership brings together three innovative leaders in the fields of geographic information systems (GIS) and global positioning system (GPS) technologies. Headquartered in Harrisburg, Pa., Gannett Fleming, through its geospatial technology division, GeoDecisions®, is a global leader in the design and development of innovative geospatial solutions and applications. Harrisburg University offers the only four-year degree program in geospatial technology in the region. HACC offers an associate degree in GIS and a certificate program for those with a degree that are looking for job advancement. It is anticipated that more organizations who are stakehold-

ers in the geospatial technologies industry with ties to central Pennsylvania will engage with the center throughout time.

"Gannett Fleming is pleased to be partnering with Harrisburg University and Harrisburg Area Community College to form the Geospatial Technology Center," said Robert M. Scaer, P.E., president and chief operating officer of Gannett Fleming. "This is a terrific opportunity to work closely with students in all aspects of running and implementing geospatial technology on large comprehensive projects. Providing students with real-life experiences in a cutting-edge field will give them an edge in competing for future jobs."

The GTC will operate online and offer practical, real-world assignments for students that will supplement a comprehensive program of academic content. "This center will become a nucleus of experiential learning for students studying geospatial technology and will create a pipeline of career-ready graduates to address the immediate needs of the region's geospatial technology workforce," said Albert Sarvis, assistant professor of geospatial technology at Harrisburg University.

Students in HACC's degree and certificate programs in GIS have already completed some projects for local nonprofits. "We are fortunate to have a very dynamic GIS program and outstanding faculty," said Ron Young, HACC provost and vice president of academic affairs and enrollment management. "The students have completed work with some organizations, and the GTC is a welcome enhancement to the curriculum. The added opportunities will prepare students further and add to their qualifications. Employers will know their new hires have practical experience that matches their needs."

Leaders of the GTC will focus on content areas and activities, including professional development, project-based experiential learning, project management, research and technology development, student/professional networking, and advocacy and outreach. The center will serve as a platform for raising awareness and understanding of geospatial technology at student, professional, and political levels. As a regional resource for this rapidly growing profession, it will serve as a hub for coordinating with other successful geospatial technology organizations across the U.S.

*What are your thoughts on the establishment of the Central PA Geospatial Technology Center? Write a [Letter to the Editor](#) to share your thoughts!*

# President's Corner



**PAMAGIC President**  
Ken Juengling

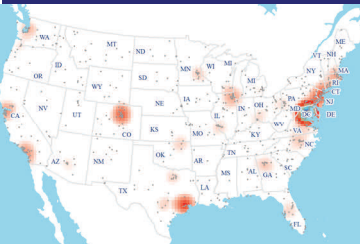
## Calendar of Events

**Esri User Conference**—July 23-27, San Diego

**Central PA GIS Day**—November 14 (FREE registration, free exhibit space)  
HACC Midtown

**Esri MUG 2012 Annual Conference**—December 11-12

If you have an event that you would like to share with the PA GIS community, email it to our [newsletter editor](#).



Top Ten States by Number of Job Listings for a three week period: California - 178, Texas - 178, Virginia - 170, Florida - 88, Colorado - 84, Pennsylvania - 83, Maryland - 70, District of Columbia - 64, New York - 63, Washington - 53

Leadership... coordination... guidance... as it relates to the use of and access to spatial information and services for the citizens of Pennsylvania... The mission of PAMAGIC is a critical function for the citizens of our Commonwealth.

The PAMAGIC Board Retreat was very productive and it was great to have the breadth and depth of knowledge gathered to discuss the plans for the upcoming year. We reviewed the challenges and successes of the past year and planned for next steps.

PAMAGIC remains "in the black" as finances go, though the budget has continued to shrink over the years. We will

re-opt the 501(c)(3) status to maintain our official status as a charitable organization.

We discussed ways to hold true to our mission and focus on key areas to best deliver the impact intended. As a coordination conduit, PAMAGIC is in the unique position to be inclusive for all stakeholders in Pennsylvania and is connected with key contacts to make a difference.

### GOAL:

Through outreach and raising public awareness we will continue to direct energy into garnering support with the constituents for the Geospatial Council, standards, and statewide initiatives.

### GOAL:

Continuing a theme of efficiency and creative use of resources, we will leverage technology and communication methods to achieve our goals.

Thank you for your continued support and participation. There is so much energy and talent in Pennsylvania – let's continue our momentum and make sure that the doors are open for the next wave of GIS Professionals.

Ken Juengling, GISP  
PAMAGIC President

## Where are the GIS Jobs?

According to private research, GIS industry reportedly grew in the double digits in 2010 and another 8% in 2011. The Bureau of Labor Statistics' 2010-2011 Handbook labeled GIS skilled workers as having "favorable job prospects" and the US Department of Labor's High Growth Industry Profile - Geospatial Technology report found that the geospatial market is "growing at an annual rate of almost 35 percent, with the commercial subsection of the market expanding at the rate of 100 percent each year."

So, with all those positive and glowing reports about the geospatial job sector, where are all the GIS jobs? Unfortunately, complaints by newly minted GIS graduates and GIS veterans alike, as expressed via Twitter and on LinkedIn, is very common. To best way to answer where GIS jobs most frequently occur is to map out the location of GIS related jobs to see where, geographically

within the United States employers are hiring.

Over the course of three weeks, 3,000 GIS related positions within the United States posted on a range of sites during the month of February 2012 were pulled and geocoded. GIS positions were listed on popular GIS jobs listings sites like GIS jobs clearinghouse, the GIS Lounge associated GISgig.com, as well as from individual company sites. The jobs were geocoded based on the city and state listed on the job description. Of those 3,000 jobs, 28 were unable to be geocoded due to missing locational information, leaving 2,973 locations for geospatial related jobs that were mapped out.

A heat map was generated using QGIS' heat map plugin to see where GIS job clusters are located. Several distinct geographic regions emerged and are discussed below. While GIS is a growing field, a career in GIS is not an ubiquitous

employment opportunity. As Enrico Moretti's book, "The New Geography of Jobs" explains in a nutshell, innovative and high quality jobs beg other similar jobs which means that location is key. Despite the growing presence of the GIS cloud and remote work opportunities, "Geography [still] matters." While individual and isolated GIS jobs may be found tucked into a local government's planning group or at a federal government office all around the country, the vast majority of GIS job opportunities across the range of skill levels aggregate in specific areas of the country. Targeting a GIS job cluster for your GIS job search increases the number of opportunities for not only finding an initial GIS job but also for growth opportunities.

- Article written by Caitlin Dempsey, entire article on the GIS Lounge, "[Where are the GIS Jobs? A look at the GIS Job Market in the United States.](#)"



Mike Bialousz, Nicole Ernst, Ken Juengling, Peirce Eichelberger, Glenn Mohler, Laura Simonetti, Eric Jespersen, Dave Gilbert, missing from photo: Tom Denton

## PAMAGIC Offers Free Membership to High School and College Students!

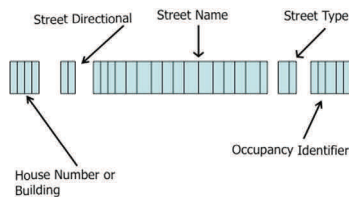
That's right! Did you hear that high school and college students? PAMAGIC is offering free membership to students. This is an opportunity to enhance your resume, network with GIS professionals across the state, and to get involved with GIS in PA. To take advantage of this offer, complete the membership form on the last page of this newsletter.

# Good Addresses in GIS More Important Than Ever!

All valid addresses should be stored in GIS! There I said it. Most folks in Pennsylvania think that 911 has all the good addresses and that may be the case (but only some of them). The problem is that the addresses need to be available to anyone accessing local government maps and records. Remember that 911 may have all the higher level geography needed for emergency vehicle dispatch—all valid street names, addresses ranges and other emergency geocodes. The TELCO's remember, store all the exact addresses and the land-line telephone numbers as a cross-reference, the "E" part of E-911. These exact addresses are not available to use and share locally and are in fact "proprietary" to the TELCO.

I think that GIS should serve as the address repository of all local government addresses. These good addresses should then be off-loaded to the specialized CAD systems in a timely and proper format. All addresses in any IT system or software package should also be verified against the GIS' address repository. No exceptions! There should never again be any discussion or disagreements as to

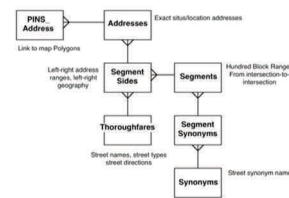
how street names are spelled in a county or in its municipalities. All combinations of street types and street directions should also be thoroughly detailed in the GIS. Never again should we see address data fields called "address1" and "address2" and let any kind of data go into those fields never to be accessible again. All addresses should be captured and queried by the components, so unique addresses are always ensured, see the following graphic.



All potential (and actual) address ranges for each street segment (from intersection-to-intersection) should also be maintained in the GIS. All key geography and geocodes should also be attached to these address ranges by all unique street name/type/direction occurrences. Key geography should include everything from municipal identifiers, Census Tracts and Census Blocks, Traffic Zones and Vot-

ing Precincts, etc. Only in GIS can this important geography be stored, maintained and accessed properly.

In addition, all exact addresses should also be stored in GIS. The focus here should be upon those situs (location) addresses for all property (think parcels) in the county. Remember that these situs (location) addresses are different and distinct from mailing addresses, though they may appear to be similar they really are not. Yes, there may need to be a cross-reference. The following data model shows the relationships among all of these address components, note that street name synonyms are an integral part of the data model.



Also remember that we need to do a better job of capturing all addresses for all buildings and structures and even down to the "occupancy" level for individual

stores, offices and apartments. Increasingly we will need to be capturing many subparcel attributes in the future and our addresses should follow suit.

- Article submitted by PAMAGIC Board Member F. Peirce Eichelberger

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## OK PA Governments: It Is Time to Start Collecting Applicant and Contact Information in the Proper Formats!

A few months ago I spoke to a group of local Recorder's of Deeds here in Pennsylvania. I was showing examples of on-line GIS capabilities that could help the title community do an easier job of searching land records by using common GIS keys and indices, example situs addresses, Parcel Identification Numbers or UPI's (Uniform Parcel Identifiers). After a bit of discussion, one of the Recorders said "wouldn't it be neat if we could send an email to a property owner letting them know that some type of instrument was recorded that affected their property?" The discussion came from thinking about how GIS might help reduce land fraud and protect the "goodness" of the public record.

Wow, such an incredible idea! Let's begin by collecting email addresses just like we have captured mailing addresses and contact telephone

numbers for so long. The idea of storing email addresses and "pushing" information out to interested parties is an idea whose time has come. While we are at it, we should also very explicitly be collecting the proper mailing address and the situs location address of most applications, requests, people and records. The average citizen is still confused about the differences between their mailing address and their actual location or situs address. Just because their post office is in Royersford, PA and that is how their mail is addressed, does not mean that they actually live in the "jurisdiction called Royersford." They may live in an adjacent jurisdiction actually Limerick, Spring City or Upper Providence. We need to ensure that we collect the proper information in a very exact manner.

I am reminded of an early Geoaudit project where the mailing address

was improperly used to collect a utility tax on cellular telephones. While the cell telephone bills went to a supposed City of Orlando (mailing) address, most of the cell customers did not actually "live" in the City! The Geoaudit led to hundreds of thousands of additional dollars in additional utility taxes for the County.

There is a difference between mailing/contact addresses and actual situs/location addresses. Now is the time to start getting this right.

Let's start collecting the kind of addresses more explicitly to minimize confusion. It is also time to start collecting and using email addresses of our citizens and customers.

- Article submitted by PAMAGIC Board Member F. Peirce Eichelberger

**2012 Dues Notice and Membership Database Update**

You can also update your membership information via: <http://svy.mk/pamagic>

**Please provide the requested information:**

Member Name: \_\_\_\_\_

Organization: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Website: \_\_\_\_\_

GISP Certified \_\_\_\_\_ (year)

Please mail this form and a \$25.00 payment to:

**PaMAGIC**  
PO Box 916  
Havertown, PA 19083

or



make a payment through paypal:  
<http://bitly.com/PAMAGIC>  
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