The Mountain State Geospatial Journal

The Official Newsletter for

West Virginia Association of Geospatial Professionals

Join Us

for the

2017 Annual Meeting

at

Stonewall Jackson Resort—Roanoke, WV

June 1st, 2017

9:00am—5:00pm

Registration is FREE!!!

Board of Director Elections
ESRI ArcGIS Pro Presentation
Collaboration & Networking Opportunities

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VOTE!

Board of Directors Election
June 1st, 2017

It's that time of year again! The past few years election participation by members has been low, and we're hoping that this year we'll be able to bring those numbers up. WVAGP members having voting rights in all Board of Director elections, so use your voice and vote for who you would like to see on the Board. To vote, select your top five candidates among those listed below. You can vote for multiple candidates from the same constituency group, and your are not required to select a candidate from each constituency group. For full election packets visit the WVAGP Website.

Voting is EASY!!!!

1. **Fill out your ballot**— In the election packet, select Five candidates for the Board of Directors. Preferential voting method will be used, so rank your candidates accordingly.

2. **Print and Sign your ballot**— Be sure to sign your name at the bottom of the ballot. Your ballot is not valid unless you print and sign your name. This is used to ensure only current WVAGP members are voting.

3. **Submit your ballot**—There are multiple ways you can submit your ballot! You can mail your ballot in a sealed envelope, on or before, May 30th, 2017 to the following address: **WVAGP c/o Jennings Starcher, PO Box 3903, Charleston, WV 25339**. Alternatively, you can deposit your ballot directly with the treasurer or his/her designee before the annual meeting begins on June 1st, 2017.

2017 Candidates

State

Justin Adams (Charleston) - GIS Analyst II for WVDOH.

Steve Harouff (Morgantown) - GIS Manager for WV Division of Forestry.

Regional/Local Government

JD Adkins (Huntington) - GIS Coordinator/IT Administrator at Cabell County Assessor's Office.

John Barth (Charleston) - GIS Supervisor at Kanawha County Assessor's Office .

Marvin Davis (Oak Hill) - GIS Coordinator for the City of Oak Hill.

Nate Davis (Charleston) - GIS Manager for the City of Charleston Sanitary Board.

Pam Hoskins, GISP (Harrisville) - Contract Mapper; under sub-contract with Ritchie County Assessor's Office.

at Pocahontas Land Corporation

Education & Research

Kevin Kuhn, GISP (Morgantown) - GIS Analyst and Instructor at the WV GIS Tech Center.

Barbara MacLennan (Morgantown) - Doctoral Candidate at WVU.

Private Sector

James Taylor (Pittsburgh, PA) - GIS Technician for The Gateway Engineers, Inc.

Chelsea White (Burton) - GIS Analyst at Blue Mountain, Inc.

Harold Yancy, GISP (Bluefield) - GIS Technician

Senate Bill 588—Tax Map Sales & Funding of County Assessor Mapping Departments

Chris Chrzanowski

SB 588 was originally written by Doug McElwee a lawyer in Charleston, WV who felt the cost of purchasing an entire county's tax maps was prohibitive to economic growth and unfairly made this data unobtainable to the general public. He felt that electronic maps (i.e. shapefiles) were especially so, for example in Kanawha County the cost of the entire county dataset is almost $12,000. McElwee believed that since this data is created with taxpayer dollars, it should be more readily available for use by the public. The trick was to maintain the funding that map sales provided to county assessors, as well as the courthouse improvement fund.

The bill was introduced to the Senate by Senator Sypolt in March 2017. The bill had overwhelming support in both the House and the Senate. While the bill was in the House there was only one minor amendment, and the Bill was signed by the Governor in April 2017. Some major changes in the law states: The paper and electronic tax maps including mineral boundary maps shall be made available for sale by the assessor and the map sales unit of the Property Tax Division of the Department of Revenue. In connection with these sales the assessor and map sales unit of the Property Tax Division of the Department of Revenue shall offer the electronic tax maps in all available formats and with all underlying map data, including that necessary to tie electronic parcel data to associated land book ownership and related data. Sales of paper and electronic tax maps shall be without limitation as to the reproduction or disclosure of information contained therein or thereon by the purchaser.

The fees charged for the sale or reproduction of paper and electronic tax maps by the assessor or the map sales until of the property Tax Division of the Department of Revenue shall be limited to those reasonably calculated to reimburse it for its actual cost in making reproductions of the records (i.e. the charge shall be no more than what is reasonable for disclosure of the information under a Freedom of Information Act request under article one, chapter twenty-nine-b of this code). Tax maps are prepared for taxation purposes only and the assessor and map sales unit of the property Tax Division of the Department of Revenue may have no liability to any third party for any errors or omissions associated therewith or in connection with the use of tax maps for any other purpose.

Leveraging Perception to Promote Understanding

Michael H. Duminiak, GISP (2/8/17)

Visualization of data is a key component of GIS. All the fantastic analysis in the world is wasted if the target audience can't fundamentally grasp the results. We often take for granted the symbology we see daily. We don't give much thought to precipitation color coding because it has been standardized for so long that a simple glance tells anyone the type and intensity. Yet, it wasn't so long ago that we saw catastrophes in cartography created by using the default "fruits and vegetables" palette in the old Arc products. While default symbology has improved, we have all seen plenty of maps, websites and other presentations that hurt the eyes and confound comprehension. As we add layer upon layer to complex interactions, that which we hope to distill becomes lost in a jumble.

When I was in college, I participated in research that sought to determine how people perceive visual representations of geographic data. Various types of data were symbolized in various ways and the perception and comprehension of them was measured. Cultures have embedded defaults when it comes to colors and the relationships between them. The research done in the early 90s helped to identify them and also the average ability to distinguish between shades. The result (always being refined) was a lot of interesting papers and ColorBrewer.[1]

ColorBrewer is an online tool that applies some of the research to help pick color schemes and includes the ability to pick schemes that are colorblind safe, print friendly and/or photocopy safe. It distinguishes between diverging, qualitative and sequential data sets and adjusts the colors to best fit those data types. Certain color combinations are inherently associated with sequences or divergences in our culture and are best for those applications and, conversely, bad for use in others. The goal is to produce a visual that is not misunderstood at a glance. The tool is a great start, but there is more to great visualization.

In my first job doing GIS, I had a project manager come to me and say, "Just don't make any of the contamination areas red." He gave good advice. While red is a great color for maps because it isn't found in most base layer features and it draws the eye, it also has connotations in our culture which come into play with certain data like temperature and bad things in general. People don't look at the totality of your presentation and just jump to a conclusion based on seeing a trigger color. Making those contamination sites red would have caused people to assume horrible things. Making them blue would have confused people. They ended up an earthy orange, i.e. dirt that wasn't quite right. The point being that we, who are overly close to our data, need to consider how those who are seeing it from a different perspective will perceive it.

As the number of layers increases and we struggle to find colors and symbols that are unique, tell a story and don't confuse, we sometimes find that we've made a monstrosity. I don't want to provide any examples and call out anyone (myself included), but I think we've all see some. Web applications are the worst offenders. Not knowing which layers a person will activate and having to make them all unique has resulted in some of the ugliest, most confusing and generally repulsive things ever to curse the history of cartography. The solution to the problem is a little more coding and the increased use of story maps.

Research has shown that people retain the original presentation of data.[2] What does that mean? If you present a layer with a set color scheme, the viewer will continue to see it in that scheme. If you modify the ranges, the viewer will still perceive it under the old ranges and misinterpret your data. But, if you mute all the features in an equal proportion, the viewer will perceive them the same way. Ok. That's interesting, but how is it useful? It solves your complexity problem.

The most important features should be the ones that stand out most.[3] This is common practice for labeling, color coding, etc. Yet, it often isn't applied to the interaction between increasingly complex data layers. When a new layer is added, it should be at 100% of its palette. Then, when another is added, the previous one should be muted so that the new stands out while the perception of the first remains despite it taking a step down in intensity. This process of introducing new layers allows the viewer to imprint them and retain that impression as new layers are added and to help the viewer focus on the new features even while the map may be loaded with a dozen other layers. It builds the story of the map without overwhelming the viewer. In short, it trains the viewer's mind to see the data the way you see it.

This is easily done in story maps where you can control the presentation of layers. It is harder in interactive web applications. For those you have to consider the 'active layer' as the most recently added and each time a new layer is activated, the previous 'active layer' needs to be returned to a muted version such that no layer is at full intensity except the one most recently toggled. When a layer is turned off and then turned on again, it would go to full intensity again. That extra work in coding gives the user the experience we all strive to create. It shows interactions while highlighting the key features intended (in this case intent being determined by the user selection).

The technology we have today is so much better than that which I started with in the early 90s. So much of the research that was incredibly difficult to apply then can be relatively easily applied now. It just takes a desire to go a little further on our part. Are we going to be considerate of colorblindness? Are we going to help tell a story with our data so that those who are seeing it for the first time can become familiar with it in a meaningful way? Are we going to avoid triggering wrong perceptions and embrace the simplicity of leveraging common ones?

The wealth of research in this area runs from the psychology of color, to advertising, to fonts, through to cockpit design and everything in between. The human mind is an amazing thing, but the cultural conditioning it encounters during childhood greatly affects the way perceptions are formed. We jump to conclusions all the time. A good map helps the viewer jump to the right ones.

See:

1. www.colorbrewer2.org

2. Aesthetic response to color combinations: preference, harmony, and similarity http://link.springer.com/article/10.3758%2Fs13414-010-0027-0

3. Guidelines for Consistently Readable Topographic Vectors and Labels with Toggling Backgrounds http://icaci.org/files/documents/ICC_proceedings/ICC2013/_extendedAbstract/349_proceeding.pdf

With this new language Assessors will be able to make tax maps and shapefiles more accessible to the public for little to no cost. Our plan in Kanawha County is to not charge at all for shapefiles, and only charge if a person requests a large number of printed maps. The Kanawha County Assessor's Office is looking into creating an FTP site where shapefile and PDF copies of tax maps can be downloaded.

The section of the bill that seemed to cause the most angst among Assessor's Offices is "Sales of paper and electronic tax maps shall be without limitation..." However, the more I thought about this the less it bothered me. Prior to SB 588 there is nothing we could do short of ensuing a lengthy and costly court battle. This bill allows us to offer the most up to date data for free, which will ideally cut down on private companies illegally selling subscription services to tax map data, and protects the state and assessors from any errors in the data made by third parties.

Another highlight of SB 588 involves funding for Assessor's Mapping Departments:

- <u>Twenty-five dollars</u> for a deed of conveyance (with or without a plat), trust deed, fixture filing or security agreement concerning real estate leases.

This is a ten dollar increase of the current cost for filing. Of the ten dollars, the assessor will get five dollars dedicated to the operation of their mapping departments. Three dollars will go to the courthouse improvement fund, one dollar will go to county's 911 centers and the last dollar will go to the county clerk's office. The money dedicated to the mapping departments will great benefit us at the county level. Many of the smaller counties will now have a source of funding that can be used to start a GIS department if they desire, or even help pay an outside contractor to set one up. Even if a county does not wish to go into GIS, they can use the funds to help maintain their paper maps. Overall, this bill is a positive change for the future of mapping at the county level.

Legislative GIS Day

On April 4th, 2017 geospatial professionals from around the state exhibited their capabilities and projects in the State Capitol. This event seemed to be well received by the general public, government officials, and exhibitors. The Association would like to acknowledge Jessica Perkins and Tony Simental for organizing the event. Exhibitors included:

State & Local Government

- City of Charleston
- Kanawha County Assessor Office
- Monongalia County GIS
- WV Department of Transportation
- WV DHHR—Office of Environmental Health Services, Source Water Assessment Program
- WV Division of Homeland Security and Emergency Management
- WV Division of Natural Resources
- WV Geological & Economic Survey
- WV State Historic Preservation Office
- WV DEP—Technical Applications & GIS
- WV DEP—Water Use Section
- WV Property Tax
- WV State GIS Coordinator's Office

Non-Profit Organizations

- WV Association of Geospatial Professions
- WV Association of Metropolitan Planning
- Organizations
- WV Association of Regional Planning &
- Development Councils
- WV Society of Professional Surveyors

Research & Education Organizations

- WV GIS Technical Center
- Mountwest Community & Technical College— Geospatial Science & Technology Program

Private

- Atlas Geographic Data, Inc.
- Blue Mountain, Inc.
- ESRI
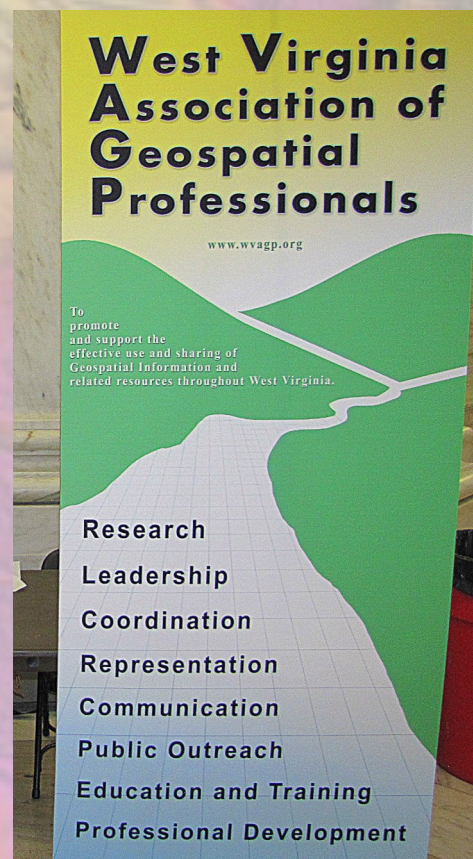- GRW, Inc.
- SURDEX Corporation
- Woolpert, Inc.

West Virginia Association of Geospatial Professionals

www.wvagp.org

To promote and support the effective use and sharing of Geospatial Information and related resources throughout West Virginia.

Research
Leadership
Coordination
Representation
Communication
Public Outreach
Education and Training
Professional Development

Photo Credit: John Bocan

Adam Cottrell, GIS Manager for the City of Charleston knocked it out of the park with his Augmented Reality Sandbox Display.
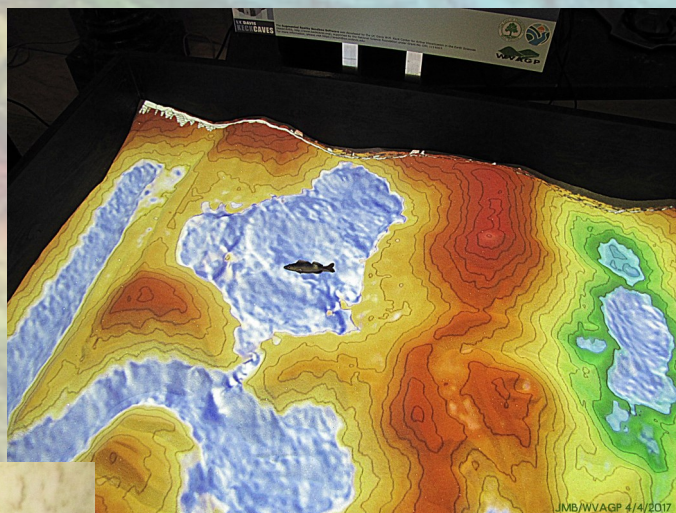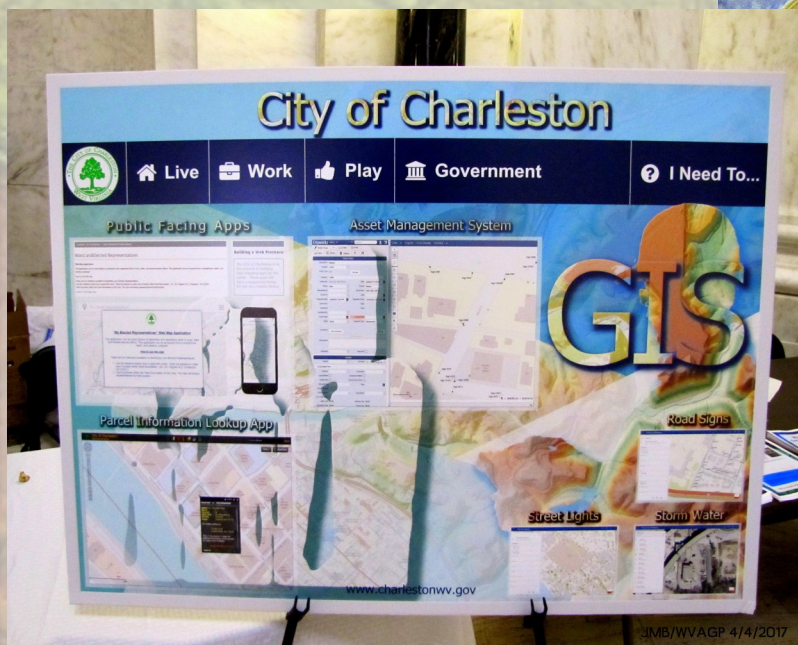

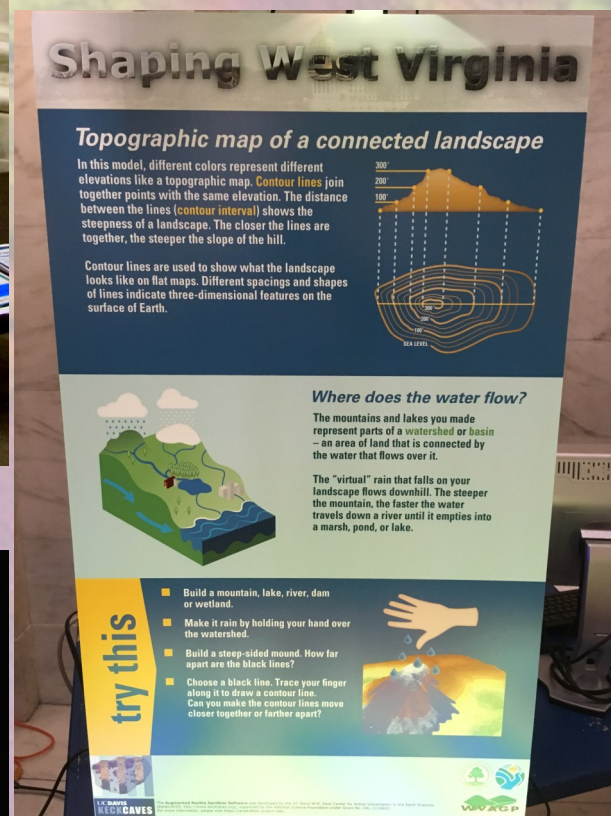Photo Credit: John Bocan
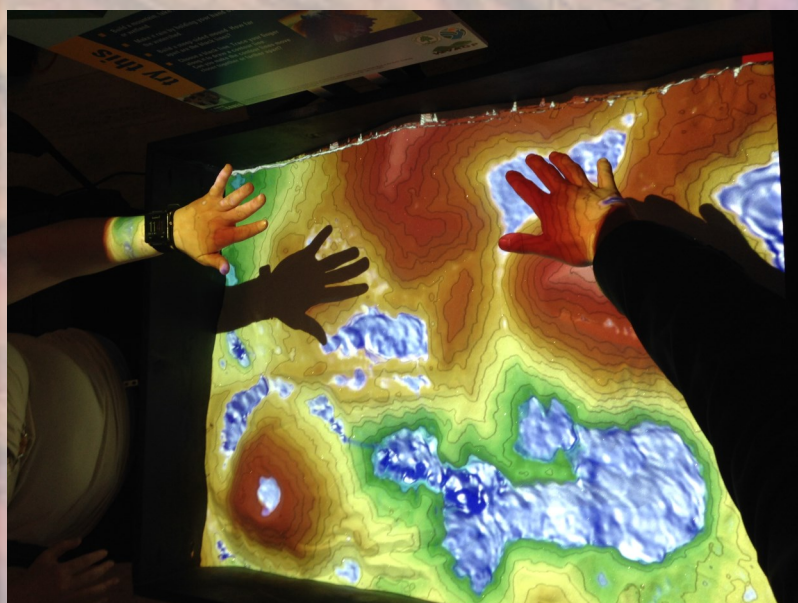

Photo Credit: John Bocan

Photo Credit: Kevin Kuhn

Photo Credit: Jessica Perkins

Richard Binns, John Bocan, Tony Simental, James Britton

Sam Moffat
Photo Credit: Will Price
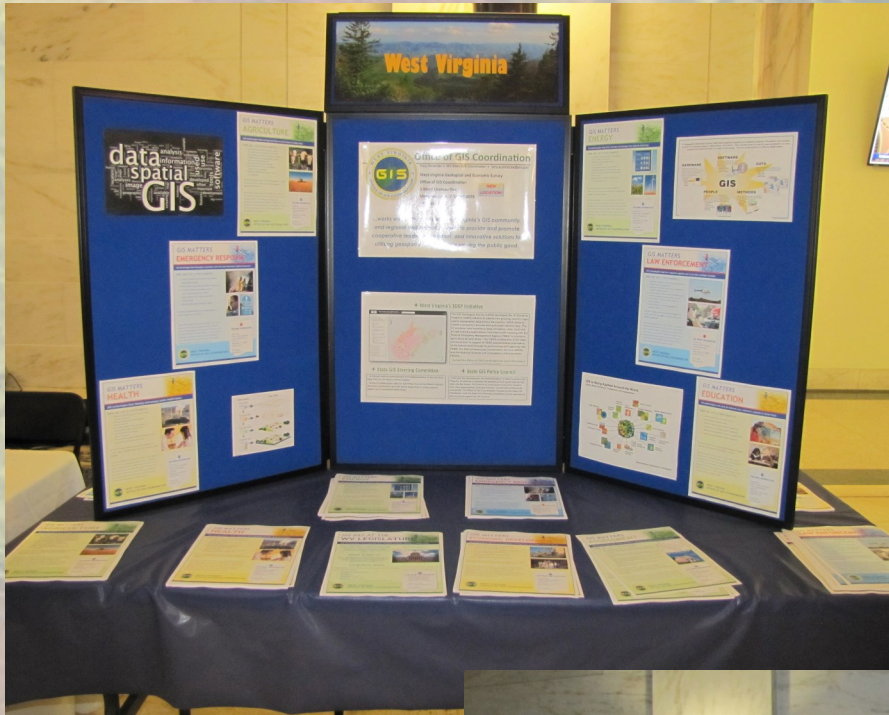
State GIS Coordinator Booth
Photo Cred: John Bocan

WVDNR Booth
Photo Credit: John Bocan

Photo Cred: John Bocan

GIS Day Exhibitors
Photo Credit: Kevin Kuhn

Thank you to all of our Exhibitors who helped make GIS Legislative Day a huge success!

Keep an eye out for details on next year's event in the coming months.

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