# MSGIC Quarterly Committee Meeting

April 23, 2014 | 9a.m. – 3:30p.m.
General James F. Frettered Community Center
Denton, Maryland

**ATTENDEES:**
**Executive Committee:**

| | | |
|---|---|---|
| Mark Helmken, | | Chair |
| Julia Fischer, GISP | MD Department of Information Technology (DoIT)/GIO Office | Chair - Elect |
| Theresa Martin, GISP | City of Laurel, MD | Secretary |
| Matthew Webb | Anne Arundel County | Local Government Caucus Chair |
| Erin Lesh. GISP | MD State Highway Administration (SHA) | State Government Caucus Chair |
| Mara Kaminowitz, GISP | Baltimore Metropolitan Council (BMC) | Regional Caucus Chair |
| Roger Barlow | USGS | Federal Government Caucus Chair |
| Marshall Stevenson | SHA/WBCM | Private Industry Caucus Chair |
| Scott Jeffrey | Community College of Baltimore County (CCBC) | Education Caucus Chair |
| Patrick Callahan | Prince George's County | Data and Resources Subcommittee Chair |
| Michael Scott, GISP | Eastern Shore Regional GIS Cooperative (ESRGC)/ Salisbury University (SU) | Grant Development Subcommittee Chair |

**Members/Guests:**

| | | | |
|---|---|---|---|
| Mary Buffington | ESRGC | Barney Krucoff | MD Department of Information Technology |
| Bill Burgess | MSGIC | Justin Lahman | AXIS Geospatial |
| Mark Cohoon | Talbot County | James Latson | MSA |
| Lauri Dafner | ESRI | Patrick McLoughlin, GISP | Spatial Systems |
| Brett Dobelstein | ESRGC | Joe Miller | Caroline County Parks and Commissions |
| Kaushik Dutta, GISP | MDTA | Russell Provost | MD Department of Information Technology/ESRGC |
| Thomas Earp, GISP | RK&K | Brie Puican | ESRGC |
| Barbara Ewell | MDP/Wicomico County | Anthony Puzzo | ESRI |
| Eric Flinkinger | Earth Data | Frank Rowe | ESRGC |
| Tess Foster | Worcester County | Bob Ryan | URS Corporation |
| Logan Hall | ESRGC | Erin Silva | ESRGC |
| Robert Hayward, GISP | Pure Technologies | Alan Travis | Phoenix Engineering |
| Kelly Henry | Worcester County Technology Service Division | Austin Williams | BMC |
| Tu Hoang | ESRGC | Eric Williams | STV Incorporated |
| McKendre Jay | Anne Arundel County DPW | Tim Williams | City of Hagerstown |
| Jordan Krock | ESRGC | Charlie Wrenn | Prince George's County Fire/EMS |

**Continental Breakfast – Courtesy of Eastern Shore Regional GIS Cooperative**

**Welcome and Opening Remarks – Mark Helmken (MSGIC Chair)**
- Introductions and those attending their first Quarterly Meeting asked to raise their hands.
- Attendees can join MSGIC and or pay dues anytime during the meeting on the computer set up.
- Changing the format of the meeting today to allow for Caucus groups to break out.

**MSGIC Business**
Financial Report
- Doug Reedy is taking a leave of absence for medical and hoping to be back in June.
- Mark H. & Mike S. have pitched in to cover duties.
- Beginning Balance:  $9,383.26
- Membership Dues & Sponsorships:  $2,677.11
- Total Expenses:  $1,571.90
    - Mostly for TUgis conference (breakfast sponsorship and booth materials which are a one-time expense and will be used for future events).
    - Also Coppin State parking for last quarterly.
- Last Account Balance: $10,488.47

By-Laws
- MSGIC is in transition from a volunteer to a non-profit organization.
- Executive Committee busy making sure the group is working appropriately and the proper governance and procedures and policies are in place.
- Have been working on bringing the bylaws in better alignment with a non-profit status.
    - Voting language had been vague.
    - We are required to have an annual meeting as a non-profit.
    - Looking to make October this meeting which would coincide with election of officers.
    - Also need to make changes from fiscal to calendar year (from July to January)
    - Needed to make changes after temporary loss of Treasurer to ensure verbiage existed for how to cover those duties
    - Changed verbiage for Data and Resources Subcommittee to update their mission.
- By our own By-laws, we are required to notify members 2 weeks in advance of bylaw change vote.
- Recommended By-law changes will go out via survey monkey to members who have paid their dues or belong to an organizational membership.
- Previously had sent votes out to the entire contact list.
- Ballot will be all yay or no for entire package of changes.
- Reviewed By-law recommendations and how they would be disseminated (deleted text ~~in strikethrough~~ and new text in **bold**).
- Any questions regarding the bylaws should be forwarded to Executive Committee.

TUgis
- Successful conference and have received a lot of positive feedback.
- MSGIC was a breakfast sponsor.
- MSGIC had a display booth in the non-profit area.

- o Number of volunteers at the booth throughout the day.
- o This is the first year we had a display at our booth which was donated by ESRGC.
- o The Executive Committee worked on putting the display together.
- o Linda Loupert (pictured volunteering at the MSGIC Booth) has been in the news regarding her Women in GIS story map.
- o Had featured Sponsor for hour slots throughout the day.
- o Had lots of students come by to sign up and have their resumes reviewed by booth staff.
- o We had the jobs board up on one of the laptops so did not take resumes.
- o 15-16 new members signed up that day.
- As a conference co-sponsor, MSGIC gets time to present during the plenary.
  - o M. Helmken gave 10-15 talk during plenary.
  - o Great opportunity to market and promote MSGIC.
- MSGIC also provides the MC and other support for the Social.
  - o J. Fischer was MC for social event.
  - o Had multiple giveaways at the social including 2 for MSGIC memberships.
- TUgis 2015
  - o Executive Committee has already had some discussions of our involvement for next year.
  - o This came about from TUgis planning committee.
  - o MSGIC responsibilities (TUgis): Will continue to get the word out, provide volunteers & session moderators, present during plenary, contribute to breakfast sponsorship and MC and support Social.
  - o Members are encouraged to submit comments prior to May 14th Executive Committee where we will be discussing with TUgis Planning Committee.
- Comments:
  - o B. Krucoff – Had hoped that MSGIC would use TUgis as their annual meeting - it would not preclude using Survey Monkey.
  - o It has been discussed and the thought was that there is already so much going on that members might be hard-pressed to pass up attending other sessions.
- M. Scott – Would like to see how we can take some of the workshop information and push that to the day before or the day after since the session time allotment makes it difficult to cover all they want to.
  - o The Executive Committee did start to discuss workshops. The TUgis Committee independent of MSGIC did also have the discussion of holding workshops throughout the year as they made more money at the conference than anticipated.
  - o MSGIC could assist in providing workshop leaders, or identify and suggest workshops that the members would like to see.
  - o MSGIC now has a budget and one of the biggest line items is for education as it was one of the most important item members have said they want to see.

**Question:** Have you been able to go through the surveys?
- o TUgis Committee has reviewed them all.
- o One of the issues brought up was that there was so much going on attendees could not get to everything they wanted.
- o Also lunch was an issue as the amount the catering said the food would serve 700 people which it did not.

- o Had discussions on the layout of lunch in the future (two locations), more volunteers, and making the dietary options more known.
- o Overall the conference surveys were positive.
- o Some asked to have the conference back at the Union, however,
  - ▪ The new building has fantastic facilities for sessions (amphitheater seating).
  - ▪ The new building is also gotten at a huge discount.
  - ▪ The Union likely would not accommodate all the sessions or the number of electrical connections).
- o As for the loss of power that day - the whole campus lost power.
- o The power plant nearby has a button that says "Do Not Push" and a contractor apparently hit the button.
- o Something else that continues to come up is that TUgis is now Maryland's Geospatial Conference and its location could move.
  - ▪ Towson has always been accommodating and gives us their space for a fraction of what it might cost but that is always an option.
- o Keynote speaker did a great job.
- o She charged to group to help out someone in their career.
  - ▪ M. Helmken– Had an encounter with an attendee who had previously helped her out and she saw him at TUgis and thanked him.

MSS/MSGIC Joint Committee
- MSGIC joined a joint committee with MSS to take a look at the new datum being proposed and its impacts.
- MD has legislation on what the official datum is for the state and can be used.
- David Doyle will be presenting later and is extremely passionate about this issue.
- He will be giving us the big picture as to what the change means.
- We will also be looking to educate the group further in the future.

Caucus Meetings & Caucus Report
- Meet with your Caucus Chair to Discuss Topics Specific to Your Caucus Region
- Your Caucus Chair will Report to the Group Topics Discussed During Your Meeting
- Report Outs:

Education Caucus – Scott Jeffery
- Political
  - o Need Charter and mission statement
  - o Need Job description for chair
  - o Role of caucus with respect to MSGIC internships
    - ▪ Oversight management function of caucus w/respect to internship
- "Education" component for membership
  - o Solicit educational interest from membership via survey monkey
  - o Course offerings with respect to content/topic , when offered (quarterly/TUgis?), how offered (web based, classroom or other).
    - ▪ Should they be courses offered by ESRI or given our MSGIC membership should they be offered by volunteers?
- "Education" component for students

- o Networking opportunities
- o Resume workshops
- o Mock Interviews
- o Using Education Caucus to determine what the geospatial workforce footprint is in MD- - to be done by Survey Monkey?
  - ▪ Questions:  How many jobs in an organization? Who are they with? What is the educational level of the workers? How much GIS does that position do? What is the job title?

Federal – Roger Barlow

- Talked about LiDAR, how to make to available and USGS data center.
- Will be getting together with Mike Scott after finals and put together a survey for what elevation data users want in advance.

Regional – Mara Kaminowitz

**1. Welcome and Introductions** - Everyone introduced themselves.  Chair gave an explanation of what the Regional Caucus was, how it was evolving, and summarized the Caucus' recent activity.

**2. Discussion of challenges unique to regional groups**

- Coordinating projects that involve governments from more than one jurisdiction.
- Regions can cross states, not just county lines.
- Communication issues that stem from regional group/COG/MPO boundaries.  An important potential partner might border one region but not be involved in projects because that party is part of a different regional group.
- Acquiring and merging data, especially across state lines.

**3. Discussion of how the Regional Caucus can help with these challenges**

- Foster communication between regional groups.
- Identify issues that affect all groups and bring people to the table to discuss solutions.
- While previous caucus meetings focused on meeting activities, this current meeting group was of the opinion that advocacy and communication was more important to the caucus than activities such as meeting speakers and training.
- Exchange projects and ideas.
- Get members of each regional group active in other groups meetings.  Each group could hold an open meeting once a year.

**4. What sort of topics should be discussed at future meetings?**

- Data sharing
- GDX
- Socrata
- Give state activity updates to group

**5. Mission statement and goals**

- The group was given a copy of the mission statement and goals that were developed at previous meetings.

- The group suggested rewriting the recruiting section of the goals to specify that recruiting should represent all areas of Maryland as well as adjoining states.

Local – Matt Webb

Attendees:  Matt Webb (Anne Arundel County), Charlie Wrenn (Prince Georges County), Tim Williams (City of Hagerstown), Tari Martin (City of Laurel), Laurie Dafner (Esri), Mark Cahoon (Talbot County), Tess Foster  (Worchester County), Kelly Henry (Worchester County), Mckendree  Jay (Anne Arundel County), Joe Miller (Caroline County)

**1. Each caucus member discussed current projects that they have been working on:**
- Charlie Wright – Working on CAD system and is currently implementing distance to time based routing.
- Tim Williams – Data maintenance
- Tari Martin – Using ArcCollector and developing a parcel exchange with Prince Georges County.
- Laurie Dafner  - Working on the open data team, Working with Collector and dashboards
- Mark Cahoon – Looking into Geocortex as an enterprise solution, has been involved with the Delmarva Emergency Task Force
- Mckendree Jay – Intern with Anne Arundel County's DPW, Working on the state centerline initiative
- Tess Foster – Data Maintenance
- Kelly Henry – Working on Mapbook for disaster assessment areas,  Planning Dept. will take over addressing shortly
- Joe Miller – Looking into Dashboards and incorporate live sources, data maintenance
- Matt Webb  - Inventory for Recreation & Parks assets, centerline and address maintenance

**2. Members discussed caucus business:**
- Could locals "piggy back" on the state's ELA? – Matt will bring up at Next exec Meeting
- Caucus liked the emails regarding the executive committee notes
- In the future maybe send out emails with thoughts on a particular topic
- Push for data standardization – Matt will bring up at next Exec Meeting

State – Erin Lesh
- Discussions really spanned across multiple caucus groups.
- Agree these breakouts should happen at each of the quarterlies.
- Rarely get feedback from emails.
  - Suggest emails should have a specific topic and ask for feedback on those topics.
- Can have side conversation meetings following quarterlies.
- Want data sharing agreements between all agencies.
  - Probably much larger than a MSGIC issue would be political.
- Presentation this afternoon and GPS committee on June 6th.
- Suggest combining meeting with Datum folks.
- State archives likely a source that GIS community has not tapped but should evaluate moving forward.

Private – Marshall Stevenson
- The members are encouraged to visit in other caucus breakouts.

**Action Item:** Caucus Chairs send notes to T. Martin.


<Networking Break>

# Presentation #1

Dashboards: What We Need and How Do We Achieve It?
Presenters: Bryan Ebling, Emergency Services Director, Caroline County; Frank Rowe, ESRGC/Salisbury University; Fred Christie, Easton Utilities
http://msgic.org/wordpress/wp-content/uploads/2014/09/MSGIC_Dashboard_CarolineCounty_Apr_2014.pdf

(Bryan Ebling)
- Caroline County: population 33K, pretty rural
- Emergency Services identified need of metrics of performance within organization (dispatch and paramedics).
- Heard from M. Scott about what ESRGC was doing for another group.
- Could not get data out that was easily read and easily extracted.
- Needed to find a way to see visually and graphically their performance and filter.
- Information for internal use only for measuring their goals.
- Map of county showing station and line connected to location of call.
- From the time they get a 9-1-1 call want a medic to be there 80% of the time within 12 minutes.
- Goal to process call within 1 minute 30 seconds.
    - Chute Time: Once the paramedic gets notified of call to wheels turning.
    - Travel Time: How long paramedic once they start rolling to arrival (8:00 minutes).
    - Goal for total of all these: 12 minutes.
- Also need to know how long it takes them to get back in service (starting at hospital).
- No hospital within the county.
- Takes the CAD data and puts in a format that allows them to track their performance.
- Visualizing these statistics is helpful.

(Frank Rowe)
- Dashboards used are made entirely with open source software.
- Dashboard Elements: Charts, Graphs, Maps.
- Can filter by Station:
    - Map shows all the calls in the last year
    - Can view metrics on response times.
- Goal of Dashboards:
    - Take complex and large datasets and extract meaningful information.
    - Queries, Filters and User Interface to simplify and visualize data.
- Why Open Source?
    - Vast library of reusable components
    - Easier to write and maintain
    - Large community a resource for bugs and fixes,

- o Cost is free, flexible – can do what you want with it.
- Server Side Tools
  - o Runs on Linux (usually use Ubuntu)
  - o Database is PostgreSQL – do a lot of spatial queries "What calls are in this quadrant?"
  - o Website is in Node.js and can write whole thing in java script.
  - o Node Package Manager (npm) – lots of packages available.
  - o Client-side use Leaflet for mapping – probably the best open source mapping libarry out there.
  - o Backbone helps organize things.
  - o Bootstrap library for layout and style.
  - o D3 for visualizing data.
  - o Using Chrome but mostly works in IE also.
- D3.js – Data Driven Documents
  - o A general purpose visualization library – Not a chart or map library.
  - o A JavaScript library that connects your data to documents in a webpage.
  - o If you have raw data that you want to map it in a webpage.
  - o Allows you to make all kinds of visualizations with them (bar charts, line charts, etc.).
  - o Browser is made up of Document Object Model (DOM) each webpage is made up of a tree of objects.
  - o D3 allows maps the data to those documents in the browser.
  - o It lets you do things with color, scales and other cool stuff.
  - o <Example of the code>
- D3 and GIS
  - o Geo.path – makes svg path from GeoJSON. Can make a map in your browser
  - o Geo.scales – can color your map. Can interact with map and have feature access
- D3 and Charts
  - o Tons of chart libraries.
  - o None did exactly what they wanted to do so they made GeoDash.
  - o Available on GitHub

**Question:** Hear that organization like the Red Cross are using OSM. Have you ever considered incorporating it into this project?
  - o They use it for their basemaps.
  - o Trying to use it for routing in some other applications.
  - o No choice in some geographic locations as no other data exists.
  - o Their only experience with the routing has been international.

**Question:**  Many of us are publishing ArcGIS map services. How can you consume them or do you want to consume them and in what format?

  - o Leaflet is not built for ArcGIS services but it works.
  - o Making the LiDAR viewer in Leaflet.
  - o Arc has the rest API so you can use regular http and WMS.
  - o Leaflet works pretty well with Arc it only gets difficult when data is in state plane. Works better with web Mercator.

**Question:**  Can you expand on what the logic was behind selecting the libraries you did?
  - o For the back end they picked node because I like working with Linux and also works in windows.

- o Already write a ton in java script, i.e., mapping, charts, websites, so having the ability to write js on the front end and back end is nice. Can share libraries between client and server.
  - o Chose PostgreSQL because it is the go-to database.
  - o Choose Leaflet over open layers. More active community, bugs solved faster, better on mobile, easier to use, and better documentation.
- Important to look at dynamic aspect of the community that is behind the Open Source solution.
- Always a question of longevity.
- Can always have the code should it no longer be supported.
- ESRI has a plugin for Leaflet called ESRI-Leaflet.

**Question:** How much data do you wish you had from surrounding jurisdictions, Delaware?
  - o Don't need it on a daily basis but would be good to compare.
  - o Others don't seem to have that data readily available.
  - o Are they measuring what we are measuring? What constitutes chute time, travel time?
  - o From a regional perspective, interested in what they are doing but would not impact what they do.

**Question:** Do you have multiple agencies using the system? No, we're all one.

**Question:** What about in terms of a large scale emergency? Is there a community effort to stay in touch?
  - o Work out of an EOC environment during that time.
  - o One of things they want to do is identify roads are closed and why.
  - o All the crossings into other counties during Floyd were closed or flooded out for about 5 hours.
  - o A good Segway for next presentation for what Easton is providing Talbot Co.

- **Dbed explorer –** shows statistics about different counties in MD and different states.
- http://apps.esrgc.org/dashboards/countycomparison/
- Hits census API.

**Question:** Did you have a general framework in the design?
  - o It has evolved. Made first dashboard for department of labor.
  - o Trying to build reusable components for new dashboards.
  - o BoardPress a template for starting dashboards.
  - o All available on GitHub.


(Fred Christie)

- Multiple facilities under their umbrella
- A lot of information that needed to be aggregate from multiple sources.
- Outage map
- SCADA, automated IVR, mobile app
- Started talking w/Talbot Co.
- Need for an Internal and External Version
- Based on Microsoft Sql, Dot Net and SharePoint
- Sockets interface with each of the disparate systems
- All separate databases with interfaces
- Built one for CAD system for Talbot Co
- One of the requirements for Talbot was Work Order System where things could be put into manually

- Wanted to be disconnected from CAD during an emergency.
- Drop icon and enter in details – configurable by user.
- Switch to CAD mode – Incidents that meet the filters show up in real-time.
- Can look up open and historic issues.
- Can pick a date range to view what was going on.
- Can create reports
- Settings - Can have a plethora of service types that you can create a lookup table for.
- External view a hybrid of the CAD and manual
- Same platform for Outage Management.
- Billing, financial, GIS, CRM, phone, weather and GPS.
- Can see who was dispatched, when and when it was closed.
- Live, have gps on all the trucks using Linxup. Through web services. Can send out to mobile devices.
- Tablets used for inspections.
- Can use a lasso to edit multiple occurrences all at once.
- Quick reporting to filter
- Front Page of Portal – Sits on top of SharePoint made of web parts to pull on the information together. Includes outages, Power Plant generation, hooks into ESRI maps,
- This is what they build for other utilities. Can be exposed for public faces and allow customers to pay their accounts.
- Customer Page – Number one reason other utilities buy this. Interface with phone system and pull in all data on that address. Can also hit all that Cable set top boxes in the customers house.

**Question:** Are you consuming state services like Chart?
- o No and their biggest weakness in GIS. Probably do not even know what they are not consuming.
- o Local road closures are a blind to the state. MD Broadband comes right through their trunk. Have unlimited bandwidth.

**Question:** How do you deal with sensitive data in the cloud?

- o The only thing they interface to the cloud is GPS for the bucket trucks.
- o Use GIS (ESRI) primarily for infrastructure. Is not incorporated but available and limited.

**Question:** What about local data?
- o There a concern for use of street centerline from Bing etc, but our local data is very good.
- o Could integrate with local data and use ESRI GIS data whatever is best

**Project Reports**
GIO Report -  Barney Krucoff, Maryland GIO
- Moving to servers in College Park
- If using MDiMap services in your applications, these will break.
- Website is changing, including updated section on LiDAR from ESRGC
- Big changes to the data catalog that will allow you to query and download the data more easily.
- Website in the works and not yet ready for prime-time.

- National Capital Region – Geospatial Data Exchange (GDX )
    - Mostly for emergency management
    - Built in security making it more of a broker system to allow for sharing data and services with only those selected.
    - Has been reinvigorated and a new version has been developed.
    - Will likely be coming around offering training.
- There has been some turn over at DoIT specifically with emergency management.
    - MEMA had left and now Jason Kepler has accepted a promotion and gone back to Ag.
    - Tim Hutchinson now at MEMA.
    - Two openings coming - Contract position working directly for MEMA now and a second Full-time doing similar tasks likely in May or June.
- Putting money into upgrades into Caroline County's LiDAR
- Mainly hydro enforcement, capturing breaklines in both Queen Anne's & Caroline.
- Will be talking next month at DelMarva
    - Looking for ideas for regional issues that he can highlight
- Open Data
    - New Portal
    - Law changes which creates a new policy council
    - Will be working with governor's office for getting people appointment to new council
    - Means that institutional structure will survive through next administration
    - Law also defines what should and should not be public data
        - Personal data, where there are security concerns and where it is expensive to distribute
        - This policy council will cover the Socrata and the iMap data (non-geospatial and geospatial data)
- Socrata Sites
    - Any local government can host up to 50 datasets paid for by the state.
    - Have money at least for 2 years, potentially beyond that.
    - Jurisdictions would have a cloud hosted site for free.
    - Also been talking with ESRI doing some of the same stuff using ArcGIS Online
    - Already have rights to do that just a question as to how to coordinate.
    - State has been doing some surveying internally to determine what data they would like to see.
    - Looking for a local government to go first and then will roll out to other jurisdictions.


MDiMAP Updates
http://msgic.org/wordpress/wp-content/uploads/2013/06/MDiMapUpdate_QuarterlyMeeting_Apr_2014.pdf

- Completely redesigned portal – Orange color is 2.0
    - Trying to get the message out to as many people as possible
    - Subpages in imap.maryland.gov may be changing
    - Hoping to go live sometime in mid-May
    - Will have a whole section dedicated to LiDAR
    - Will have interactive maps on the homepage
    - If you have any web maps you would like featured they can include them for use in Map Gallery

- ESRI GIS Open Data
  - Looking to incorporate seamlessly into the portal
  - Have been working very closely with ESRI for enhanced searching capabilities and data downloads into excel, KML, etc.
  - LiDAR viewer will be one of the interactive maps that will be featured
  - Continuing to support their address look-up
- Completely Redesigning an enterprise GIS
  - Moving to "in-house" aka College Park from contractor site.
  - Data Migration – made sure all data owners identified and data update schedule defined.
  - Will be reaching out to owners when those schedules come up for updates.
- Continue to develop in-house Template
  - Currently being used by Charles County and others are interested.
  - John Boken on-site from MES.
  - Template up on github
  - If users have flash map using 1.0, contact John who can assist in upgrading and making your maps and apps more mobile friendly.
- Kaushik Dutta is new co-chair for technical committee.

NSGIC Update - Bill Burgess
http://msgic.org/wordpress/wp-content/uploads/2014/09/NSGIC_National_Activities_Apr_2014.pdf

- Congress has a license to ArcGIS online and every member and committee has access
  - Best guess, maybe 40 offices really using it
  - Will be hand delivering documents to each office to inform them about NSGIC and the fact that they have an AGOL license and how to reach their local GIS community (like Barney in MD).
  - Want them to be using their state and local datasets so that they are working with the best data.
  - Started in the senate office of James E. Risch (Idaho) – his deputy legislative officer came from the Department of the Interior and he "gets it"
  - They track constituent concerns and provide good constituent services through their website and their mapping and they are interested in making better decisions.
- National Wetlands Inventory
  - Important on the national level for climate adaptation and the planning effort involved in that.
  - The resilience effort, particularly in coastal communities.
  - Budget has been widdled away over the last several years and they've lost their line item in the 2015 budget.
  - Asked Secretary Jewell to intercede.
- 133-Cities Imagery
  - Has put money into states. USGS mgmt. has dropped support for the program. Shifted priorities. Starting next year NGIS not sure who they will be able to partner with to be the in-between for this collection. These partnerships are at risk so have asked Secretary Jewell among others.
- Midyear Meeting Report
  - Census Bureau making good progress on address point database
  - Geospatial Preparedness – Maintaining HSIP and ARNOLD and address point data – Will be discussed at their annual conference.
  - Were asked to audit Federal Agencies – Orthoimagery and Address are two areas they want to focus on.
  - Digital Coast Act
    - Has met resistance because of 85 million dollar appropriation.

- ▪ Have been redrafted and optimistic for passage this year.
    - o New version of GIS inventory – complete rewrite, now in Leaflet and API's will be available.
    - o Handouts on Lickety –Split metadata
    - o After Action Reporting – set up an online survey tool they will start circulating URL
    - o Data reports will be made available on their website
- NSGIC Annual Conference – Charleston, SC – Sept 2014
    - o Meeting minutes and conference archive is a good resource for those who cannot make them.
    - o Include present LLIS?
- Common Data Models? Still having discussions. Know the DOT has their plan. Also working very closely with NENA.
- Would like to have MSGIC members get involved on their committees.
- Retired their transportation for the nation committee.
- All their committees are listed up on their site.


**Federal Projects – Roger Barlow**
- Data has been collected for MD except for one small area.
- USGS LiDAR collection has been successful on eastern shore but not western.
- Eastern (Caroline & Dorchester to include Poplar Island and Talbot County).
- Will be getting an estimate on delivery (expecting December).
- Got zero data for Saint Mary's County, Charles County, Prince George's County, D.C. and Fairfax.
- Last week got notice that USGS had extra money from Sandy for Carroll, Kent, Talbot, and City of Baltimore (who had outdated LiDAR) would be collected in the next leaf off season.
- Couple other possible opportunities to acquire Garret County.
    - o NRCS putting together a proposal.
    - o Other aspects of research going on although unclear what that might yield.
- USGS NED map shows all of MD covered with the exception of Garrett.

**Question:** What is the reason for Western Shore?
- o Not sure exactly. PG & DC had snow piles though March, although not sure why they couldn't find a day or time at night to collect.
- o Particularly concerning that St Mary's & Charles which did not have snow piles was not collected.
- o Should be communicated that it is affecting other state projects, i.e., had hoped to use the LiDAR for the Orthoimagery collection.
- Local Updates:
    - o Balto Co – This coming leaf off season
    - o Ongoing effort to work w/Cecil to get some deliverables
    - o Montgomery data – picking up today and will have that available soon. Will be sending for USGS for review and inclusion in NED.

**Regional Projects – Mara Kaminowitz, Regional Caucus Chair**
http://msgic.org/wordpress/wp-content/uploads/2014/09/MSGIC_RegionalInitiatives_Apr_2014.pdf

- Eastern Shore Regional GIS Cooperative – Contact Lauren McDermott

- o 2013 Eastern Shore imagery available
  - o LIDAR
  - o Joint Mid-Shore Regional Council and Tri-County Council meeting will be May 21 at Salisbury University
- Baltimore Regional GIS Subcommittee(BRGISC) – Contact Mara Kaminowitz
  - o Combined regional address point and centerline layer
  - o Regional centerline conflation
  - o Regional geocoding web service
  - o Data replication to MD iMap
- Baltimore Metropolitan Council
  - o Web applications using ArcServer, ArcGIS Online,
  - o [Maximize 2040](#) - Long Range Plan
- Maryland Washington Council of Governments – Contact Charlene Howard or Martha Kile
  - o Convert COGTools (network editing) to be compatible with ArcGIS 10.x
  - o Regional Transportation Data Clearinghouse
  - o Washington Regional GIS Committee
- Western Maryland GIS User Group – Contact Bud Gudmundson
  - o Next meeting May 16th at Hood College in Frederick
  - o Agenda: Amphibian habitat, ArcMap Attribute Assistant, Bumblebee colony health, ArcGIS Online

**State Project Update– Erin Lesh, State Government Caucus Chair**
[http://msgic.org/wordpress/wp-content/uploads/2014/09/MSGIC_StateInitiatives_Apr_2014.pdf](http://msgic.org/wordpress/wp-content/uploads/2014/09/MSGIC_StateInitiatives_Apr_2014.pdf)

- Orthos – Contact Jim Cannistra
  - o 5-yr contract By-ups include: LiDAR, planimetric, LULC, Oblique
  - o A couple municipalities have exercised the by-up for true orthos

- MDP / County Integrated Parcel Initiatives - Contact Jim Cannistra
  - o Parcel Initiatives – 100% Complete (legislative and budgetary)
  - o As of July products will be available at no cost
  - o PropertyView and secondary; Finder Quantum but w/ a quantum GIS app; web app that is currently subscriber base; inclusion of additional services (parcel polygons and points for ex)
    - ▪ MSGIC and community support was important for helping change the business model that had existed.
    - ▪ Montgomery County has decided to open up their data.
    - ▪ Baltimore County has recently
    - ▪ Washington County will be changing their distribution following MDP
- LiDAR Web Services – Contact Erin Silva
  - o Hosted by ESRGC
  - o Topography Server/Viewer
  - o 2013 Harford elevation data
  - o 2013 Montgomery elevation data
  - o LiDAR Server reorganized

- Maryland Statewide Addressing Initiative – Contact Russell Provost
  - o All but two counties have been collected
  - o Sharing Centerline & Address Point initiative with Delaware and MD counties that abut DE.

- One Maryland One Centerline – Contact Erin Lesh or Marshall Stevenson
    - Conflation for local maintained and State maintained and also those from other states.
    - Conducting outreach with local jurisdictions
    - Close to procuring ESRI Roads and Highways.


**Local Projects – Matt Webb, Local Government Caucus Chair**

http://msgic.org/wordpress/wp-content/uploads/2014/09/MSGIC_LocalInitiatives_Apr_2014.pdf

- Washington County- Bud Gudmunson
- City of Annapolis – Shawn Wampler
- City of Laurel – Tari Martin
- Anne Arundel County – Matt Webb


# Presentation #2

ArcGIS Online Entitlements and Spring Update
Presenters: Anthony Puzzo, Esri ; Lauri Dafner, Esri

- ArcGIS Online
    - Cloud, Hybrid or On premises.
    - Each Desktop license under maintenance gets an ArcGIS online user ID
- ArcGIS Desktop - ERSI is considering Desktop as a premium Application
- ArcGIS Pro – Totally connected with Desktop, 64 bit, good for both 2D and 3D analysis
- App, Dashboards, Analytics, Basic Mapping, Sharing Open Data - Apps act as windows back into the platform
    - Can get same information not matter what system you are in
- Maps work everywhere
    - ESRI working on getting everything into Java Script and HTML5
    - App builder in the works similar to the Flex Builder
- All these Apps are getting included with ArcGIS online
- ESRI offers all kinds of data that you can mash up with your own data
    - Ex: Maps for Office extension viewing hospitals and can add columns to your table with demographics data
- Any user that has a desktop license under maintenance gets an ArcGIS Online organization Plan.
- Comment: Have been slow with releasing logins out of fear of credit consumption.
    - Get a set number of service credits for anything done on the cloud (publishing, geocoding, spatial analytic functions and network analysis functions).
    - New functionality allows you to calculate the credit consumption prior to "running" a geoprocess.
    - Every time the public hits a map, credits are NOT consumed.
    - 40 or so geocodes/credit
    - Can swap out and use MD geocoder

- On MD State (State Agencies) are ArcGIS Portal – ESRI geocoder is embedded and used when searches go beyond MD.

**Question:** When did credit model change (web hits for example not being a credit consumer)? Probably in December.

- ArGIS Open Data App
  - Special Update Last Night
  - Can now organize all your content into different groups (ISO for example) and can tag them add logos to them.
  - Similar to creating a Gallery in ArcGIS Online
  - App takes those map services that allows you to download kml, csv, shapefile, or gdb.
  - When you put your map services into the Open Data Application, it will automatically generate those different formats (kml, csv, etc).
  - Open data automatically available, you just have to turn it on.
- New Functionality to ArcGIS Online Quarterly Release –
  - Allow you to review your addresses; route to all features in a web map; new analysis capabilities; updates to your Collector App (Available on any device Apple and Android); Operations Dashboard and Story Maps.
  - Map Viewer Updates:
    - Add a CSV file with location information directly to AGOL and turn it into a layer.
    - Any unmatched addresses will bring up viewer with suggestions to manually match.
    - Route to all features in optimal order.
  - New Analysis Capabilities:
    - Derive New Locations - Create new features in a study area that meet certain criteria.
  - Collector App
    - Disconnected Field Collection for devices without internet connection in the field.
    - Download webmap to device and sync edits
    - API enabled so can take offline editing into another app as are a lot of the other spatial and network analysis capabilities.
  - Operations Dashboard
    - Recently updated to be able to open on any browser and any device
    - Dashboard can be used for any purpose for example, Damage Assessments, Incident Management, etc.
    - It all works off of one web map.
    - Some out of the box widgets available – pie charts, lists, maps.
    - New DOTNET script allows you develop your own widgets.
  - New Story Maps website
  - Revamped and details how to get started, application available and lots of examples
  - New Help Page for ArcGIS Online – videos, resources, etc.
  **Question:** What was Dashboard running in? It wasn't a browser.
  - App that you download and can share as a browser base. Built on desktop. Configuration not a customization.

**Question:** When you upload a csv, does it use the ESRI geocoder or can it use another?

- o  Different geocoders can be uploaded by your organization.

**Question:**  Do you see all these updates and enhancements a challenge to you users to keep up with?
- o  Yes, we could be here every meeting.
- o  Would not be an issue if versions would be backward compatible.

**Question:**  Are there any best practices for how users are supposed to keep up with this without constantly reading blogs and releases, etc.?
- o  A lot of what was discussed here has been around. Some users just get it, most others just jump in and make mistakes. The enhancements are meant to make users tasks easier. Several products were shown here today and most users aren't looking to be proficient in them all.

**Question:**  Is there any guidance to cope with the rapidly changing business model?  Government disproportionately afraid of open ended costs? Is anyone doing that well?
- o  The only model aware of that has worked well is in the Northwest.
- **Comment – It is an issue when asked how much something is going to cost.**
- o  There has been a call to have unlimited credits but ESRI does not own its cloud and there is a cost.


# Presentation #3

Modernization of the National Spatial Reference System

Presenters: Dave Doyle, NGS Chief Geodetic Surveyor (Retired)

http://msgic.org/wordpress/wp-content/uploads/2014/09/ModernizationOfNSRS_Apr_2014.pdf

- • Base 9 Geodetic Consulting Services
- • Important for anyone interested in a horizontal accuracy better than 2 meters or if heights are important to you.
- • Reference frames for the United States are going to change - target date is Jan 21$^{st}$ 2022
- • In response to changes that will impact how we collect data
- • NAD83 has to be replaced as well as the NAVD88
- • NGS tasked with geodetic control – foundation for how everyone derives horizontal and vertical reference
- • Scale, Gravity and Orientation how they deliver the top three (Lat, Long, Height)
- • Locally we have some concerns regarding Sea Level Change and subsidence
- • Migrating down to several cm with no ground control will be an issue
- • Anybody know how fast Denton is moving along the North American tectonic plate? About 1.5 cm
- • Historically have been taking that and throwing it away
- • NSRS Components:
  - o  Networks of passive control points (monuments) some sort of quasi permanent
    - ▪  If you need a high level of accuracy – those monuments  have been put in place historically
    - ▪  If you want to be able to use them you have to be able to find them assuming they are still there
    - ▪  Unable to determine when last surveyed.
    - ▪  Entire Chesapeake Bay subsiding 1 – 3 mm /yr so vertical in area not good or current
    - ▪  Primary benchmark of the US done in 1877 done in Hagerstown
  - o  Network of Continuously Operating Reference Stations

- No need to go there.
- If there is a catastrophic event (earthquake, tsunami) can detect it virtually instantaneously.
- Can be used for real-time or post processing of data.
- Interest in getting to cm level accuracy is coming sooner than you think (done through this type of station).
- NGS has transitioned half of the national reference frame to these kind of stations.
- Problem still with the stations is the vertical side which is still managed by benchmarks.
  - NGS website models and tools
    - Available in their online toolkit for data transformation, coordinate conversions, etc.
- Global Positioning System History (highlights)
  - 2010 – 3$^{rd}$ Civil frequency allow for use in more areas and better accuracy
  - 2015 – US launch First Block III satellite 95% confidence, no ground control to 60 cm – just from the satellites. Likely even better.
  - 2020? – within 10cm just using your phone.
    *This is why NGS is trying to build a reference frame that will support this level of accuracy.
  - 2020/2025 - Stop thinking about GPS, start thinking GNSS
- This forces us all to reevaluate how we look datums (not just horizontal and vertical) as everything is in motion.
- Reference frame now has to be more geocentric than it is now.
- NAD83 problems identified:
  - Not as geocentric as it could be. About 1.5 meters off.
  - We now know the earth center to be roughly within an inch now.
  - Everybody will be able to see the 1.5m in the future, not just surveyors.
  - Every street centerline will be affected by this.
- On the vertical side:
  - Vast majority of benchmarks have not been remeasured.
  - They are often hard to come by.
  - To get high level vertical need to find 2 or 3 benchmarks.
  - Does not take care of issues that deal with changes like post glacial isostatic readjustment – forebulge.
    - Much of area around Chesapeake Bay was pushed up because it was in front of the glacier and are now subsiding.
    - Subsurface fluid withdraw (bigger in Houston and Galveston).
    - Sediments loading and sea level rise are all occurring and will be able to measure better and mitigate against.
- Mapping showing 40 year old map of subsidence in the Chesapeake Bay Area had not been updated.
  - Using GPS devices was able to confirm the reports validity.
  - Baltimore County for example, subsidence of about 3mm/yr
  - With CORS can monitor this on real-time basis for a long period of time.
- NAVD88 has a tilt – more of an issue globally.
  - Water is going to follow gravity which is how we should be looking at it.
  - Commonly and erroneously referred to as Mean Sea Level.
- In order to use something like the GNSS:

- o We need the big H what we get w/GPS is little h.
- o Green line – is thought of as mean sea level and if you could extend it around the planet
- o Getting the N (Geoid model) is really hard to do.
- o Get can little h fairly simply with a high accuracy GPS.
- o Need a new methodology to determine that N
- MD is just about as good as it gets for GEOID accuracy (right now)(mostly green)
  - o Owe a lot to work done by SHA and MSS
- Gold Standard – International Earth Rotation and Reference System Service (IERS)
  - o Organizations around the world share data with them and they give a global picture of all this data.
  - o Incorporates 4 geodetic services.
  - o IERS network are all collaborating organizations (academic, fed government, private sector, etc.).
- Tectonic Plate Velocities - US lucky for the most part all moving in a similar westerly direction (until you get to California)
- Offset - What we know our national origin of coordinates relative to the best global reference frame International Terrestrial Reference Frame(ITRF)
  - o In general across the country will change roughly about a meter, meter and a half.
- How we will redefine the vertical?
  - o Geodetic leveling – Done previously, would cost about 1.3 billion to do it for the whole country.
  - o New plan is to do by gravity observations.
    - Possible now with improved technologies and modelling software.
    - Will fly airborne gravity across the entire US and matching it up with Space Base Observations.
    - Will give us a snapshot of what the gravity field looks like
    - Combining these 3 technologies should be able to determine that value of N
  - o Will see height changes (About 30 cm or 1ft in MD)
  - o Why GRAV-D?
    - Future technologies will demand it
    - Way cheaper
    - Cannot bulldoze this stuff out of the ground once it's observed
    - Can deliver 1-2 cm anywhere (From Main to Guam and Alaska to the US Virgin Islands)
  - o How will I access the new Vertical Datum?
    - Right now users have access to OPUS (dual frequency GPS receiver) can submit data to NSG and get results back in about 5 minutes with accuracy down to a couple centimeters.
    - New database will allow anyone to share their high accuracy data with anyone else.
  - o There will be transformation Tools
    - Tool for horizontal already done
    - Vertical being developed.
    - Ex: One Survey Mark near Denton will see about 4' change horizontal & 1.2' vertically.
    - Metadata will be key.
  - o How to get ready for 2022?
    - Understand the impact of these positional changes for your community/agency
    - NGS does periodically post [webinars](webinars)

- Need to determine if State Plane Coordinates are still important
  - would require legislative change
  - MSGIC would need to work with MSS and SHA
  - If state plane important, will need to ensure NGS knows.
- Change will come at a cost so need to be prepared.

**Question:** We want to use the CORS and not the benchmarks? Aren't the CORS stations calibrated using the benchmarks?
  - We do want to use the CORS and it's the other way around.
  - The oldest CORS in the US is in Gaithersburg (about 20 years)
  - Many are making measurements every few seconds, 24/7.
  - CORS are connected in a global network
  - Every morning at 1 AM every CORS (roughly 2K) that NGS manages (not owns) in the US are calibrated to ensure within 1cm horizontal & 2cm vertical.
  - Can broadcast or make available for post processing
  - Now the benchmarks are rechecked with CORS

**Question:** Will the new measurements be in Metric or US measurements.
  - NGS has always been in metric, leaves it up to the states.

**Question:** Based on the estimate what happens to RTK?
  - There will still be some form of real-time network
  - Current accuracy with a Garmin is about 5 meters
  - Will still need some kind of ground related coordinate reference frame for a couple cm accuracy.

**Question:** You had mentioned the horizontal datum transformation tool was already available. Is that going to be standard?
  - Yes, it is the HTDP Tool – Horizontal Time-Dependent Positioning.

**Question:** Will this be a dynamic or a status reference frame for some period of time.
  - Right now high accuracy positioning is for a relatively small number of users.
  - Will be consumer driven
  - Surveyors have been pressuring NGS because of changes in technology but nobody has been pushing them because average individual did not have the technology.
  - Organizations like this will be key in developing a plan

New Business: Mark stepping down as of now.