MSGIC Quarterly Committee Meeting
January 16, 2013 | 9a.m. – 3p.m.
USGS MD Water Science Center
5522 Research Park Drive, Catonsville, MD 21227

ATTENDEES:

Executive Committee:

Jim Cannistra	MD Department of Planning (MDP)	Chair
Mark Helmken	Towson University Center for GIS (CGIS)	Chair Elect
Julia Fischer	MD Geographic Information Office	Secretary
Doug Reedy	Frederick County Government	Treasurer
Patrick Callahan	Prince George's County Government	Data & Resources Subcommittee Chair
Lauren McDermott	Salisbury University/ESRGC	Education Subcommittee Chair
Shawn Wampler	City of Annapolis	Local Government Caucus Chair
Roger Barlow	U.S. Geological Survey (USGS)	Federal Government Caucus Chair
Marshall Stevenson	KCI Technologies, Inc.	Private Caucus Chair
Barney Krucoff	MD Geographic Information Office	Maryland GIO

Members:

Doug Adams	Baltimore County Government
Debbie Carpenter	Garrett County Government
Josh Cole	University of Maryland Baltimore County (UMBC)
Christine Conn	MD Department of Natural Resources (DNR)
Mary Creamer	Eastern Shore Regional GIS Cooperative (ESRGC)
Brett Dobelstein	Eastern Shore Regional GIS Cooperative (ESRGC)
Anthony Dowell	URS Corporation
Kaushik Dutta	MD Transportation Authority (MDTA)
Steve Eick	Fugro Earthdata, Inc.
Jasmine Forbes	MD Department of Planning (MDP)
Doug Goldsmith	KCI Technologies, Inc.
Audrey Graham	MD Department of Planning (MDP)
Molly Griffin	Eastern Shore Regional GIS Cooperative (ESRGC)
Michelle Guck	USDA – Natural Resources Conservation Services (NRCS)s
Bud Gudmundson	Washington County Government
Michael Herzberger	Maryland Environmental Services (MES)
Tu Hoang	Eastern Shore Regional GIS Cooperative (ESRGC)
Lisa Lowe	MD Geographic Information Office
Samantha Luckhardt	City of Baltimore
John Madigan	Unaffiliated
Theresa Martin	City of Laurel
Patrick McLoughlin	Spatial Systems Associates, Inc.
Ryan Mello	Eastern Shore Regional GIS Cooperative (ESRGC)/Critical Area Commission (CAC)
Bill Merrey	Straughan Environmental, Inc.
Erick Pate	Calvert County Government
Virginia Peterman	Howard County Government

Sai Pinnepalli	IIC Technologies
Anthony Puzzo	Esri
Joseph Rathvon	Washington County Government
Bob Ryan	URS Corporation
Boleslav Shklyar	Howard County Government
Erin Silva	Eastern Shore Regional GIS Cooperative (ESRGC)
Robert Slivinsky	Howard County Government
Dan Smith	Chesapeake Environmental Management, Inc. (CEM)
Alex Snead	AECOM
Kevin Stevens	Carroll County Government
Josh Sturgill	City of Annapolis
Mohammad Tariq	Peak Technology Solutions, Inc.
Mussie Tewolde	MD Department of Juvenile Services (DJS)
Matthew Webb	Anne Arundel County Government
Jason Wheatley	Century Engineering, Inc.
Eric Williams	STV Incorporated
Tim Williams	City of Hagerstown
Bonni Wittstadt	Johns Hopkins University
Andrew Woizesko	Student
Susan Wooden	Towson University Center for GIS (CGIS)

Guests:

Shelly Aprill	MD Department of Planning (MDP)
Brad Arshat	The Sanborn Map Company, Inc.
Mark Borgoyn	MD Department of the Environment
Craig Cole	Howard County Government
Stephen Elliott	Amazon Web Services (Guest Speaker)
Michael Gao	Johns Hopkins University
Sandy Hertz	MD State Highway Administration (Guest Speaker)
Russell Provost	Eastern Shore Regional GIS Cooperative (ESRGC)/State of Maryland (DoIT)
Kate Traut	Straughan Environmental, Inc.
James Wilkerson	Eastern Shore Regional GIS Cooperative (ESRGC)

Welcome and Opening Remarks – *Jim Cannistra, MDP – MSGIC Chair*

Bob Hanney – USGS MD Water Science Center Director

- Center has been located in the research park of UMBC since 2007
- Get a lot of students from the Geography Department at the University collaborating at the Center

Around-the-Room Introductions

Project Updates

GIO Update – *Barney Krucoff, Maryland GIO*

- GIO Office hiring – 1 position has verbal offer out
- Another position which 17 – 20 people applied for, but DBM disqualified all, but 1 candidate
- New announcement coming out shortly

- Russell Provost – Addressing Coordinator for the next 2 years

    - New hire with Broadband funding
    - Work through him to assemble point addresses maintained at the local level
    - Maryland Property View product providing centroids of properties, but not on structures
    - Russell will speak with local organizations to discuss what's available
    - Come up with ways of running other systems against this data to assure that it is as complete as possible

- Committee on Situational Awareness
- OSPREY project has been worked on, along with its predecessor EMMA, for many years with MEMA
- Law enforcement, emergency management and law enforcement tools
- Committee of agencies with tools – first meeting next week
- NCR GDX is a potential to leverage to make sure that the data is available in all systems across the board
- Solicit more participants who want to be in this group
- Interested in joining, contact Barney

- Upcoming TUgis conference – changed to 1 day, very cheap
- Get everyone together for 1 day, high networking value

MD iMap (http://www.msgic.state.md.us/docs/MDiMapUpdate_QuarterlyMeeting_January2013.pdf)
Executive & Technical Committee – *Julia Fischer, DoIT*

- ELA License Utilization
    - Only 14% of currently available licenses are being actively used
    - Current participating agencies include: DBED, DHCD, DHMH, DNR, DoIT, MDA, MDE, MDP, MDTA, MLIS, MTA & SHA
    - Contact DoIT Help Desk to get connected to the central license manager

- Subcommittee Restructuring
    - Security Subcommittee has been absorbed into the Application Subcommittee
    - Application Subcommittee contacts:
        - Kaushik Dutta (kdutta1@mdta.state.md.us)
        - Jason Keppler (jason.keppler@maryland.gov)
    - Data & Resources Subcommittee contact:
        - Lisa Lowe (lisa.lowe@maryland.gov)
    - Data & Resources Subcommittee actively looking for participants
    - Education & Outreach Subcommittee contacts:
        - Mark Helmken (mhelmken@towson.edu)
        - Scott Jeffrey (sjeffrey@ccbcmd.edu)
        - Julia Fischer (julia.fischer@maryland.gov)

- Application Template Updates
    - Adjusting layout to more closely match State standards
    - Updating base code to take advantage of new resources from ArcGIS API for JavaScript
    - Integrating with ArcGIS Server 10.1 services being hosted at DoIT

- Geocortex Demo (http://www.geocortex.com)
    - Recently participated in a live demo of this product from Latitude Geographics
    - Suite of tools supplemental to ArcGIS Server
    - Provides workflow component to facilitate deployment of applications using available services and geoprocesses quickly

- Open Data/Socrata
    - CGIS developed tool to transfer shapefiles from MD iMap to Socrata
    - Actively researching ability to transfer Socrata data into MD iMap

- Data Restructuring
    - Migrating map services to ArcGIS 10.1
    - Also reorganizing data and map services to remove duplicate services and rectify data gaps
    - All data to be projected in Web Mercator
    - Reorganizing hardware locations including considering Cloud services
    - New ISO categories are being applied which better accommodate Maryland data

- Cascading Geocoder
    - CGIS actively working on builder geocoder with multiple components including statewide centerlines, intersections, mile markers and more
    - Next steps: build geocoder and conduct testing

- Upcoming Meetings
    - Executive Committee: March 8, 2013 from 9:30a.m. to 2:30p.m. (Invitation Only)
    - Technical Committee: February 5, 2013 from 1 – 3p.m. at MDE (Open Invitation)

State Business Plan Updates

Eastern Shore Imagery & Parcels – *Jim Cannistra*
(http://www.msgic.state.md.us/docs/MSGICJanuaryquarterly_jc.pdf)

- Approved Eastern Shore aerial photography collection for 2013
    - Funding approved by the Numbers Board
    - Image available of coverage
    - Going through prep work at this time
    - Same team as Western Shore:
        - Axis Geospatial, URS (Bob Ryan is Project Manager/QAQC Manager)
- Flight plans have been produced and reviewed by the counties
    - 18,000 images to be collected
- Last time collected 1,200 to 1,300 frames of imagery per flying day
    - 1 camera 10 days of flying, etc.
- Another project included as part of this program
    - Howard County funded
        - Getting imagery collected this spring also, part of programming effort for this project

- Significant densification of the control network for accuracy validation
    - About 10 points per production block or county
- Photography will probably be , sun angle at a level for flying in Feb 15 to 20th
    - Trying to get everything in place before this so they are ready to go right away
- Flying seasons seem to be getting shorter and shorter
    - April 5 or 7 used to be the range of the flying season
    - March 20 or 25th has seemed more appropriate as of late
- Deliverables
    - Wide variety of projects to support GIS to go to MD iMap
    - Production photography and PSAPs – geotiff, .sid, .jpeg, .ecw deliverables all included
- Overall schedule
    - Shorten time frame from acquisition to delivery
    - Accelerate the schedule
        - Mid-Feb 2013 acquisition and deliverables by early December 2013
    - Data delivered to PSAPs, Counties and MD iMap

Question: Mosaic deliverables, MrSID

- Kick off meeting with almost all eastern shore counties 2 weeks ago
- .ecw mosaic countywide as deliverable

Question: Technology used for flight collection

- DMC camera, frame based digital camera
- Proven successful to get DMC data and Counties being able to produce planimetrics from the collected data
- 3 counties have already taken the products and seamlessly rolled into production work

Parcels

- Develop an integrated parcel dataset from MD Department of Planning (MDP) and Counties' products
- Still finishing up 2012 counties
- Delivered most of counties laid out for 2012, except Garrett County and Somerset County
- Calvert County to be complete in the next couple of weeks
- Going from 3 counties to 10 counties in 2012 was ambitious
- Want to complete quickly, but keep quality high
- 2013 counties already started working on all listed counties in some form (Worcester, Wicomico, Allegany and Charles Counties)
- As smaller or less populated counties are completed, the next step will need to begin next year to tackle some of the larger counties
    - Get together with MDP well in advance of what they are doing and talk about the experience they have already from previous counties
    - Want to work more closely on the front end with some of the other counties to share the work concerning this process

Tax Map Ordering System

- Tax maps for sale is available online (http://mdpgis.mdp.state.md.us/MapOrdering/index.html)

Septic Implementation Guidance (http://www.mdp.state.md.us/OurWork/septicsIMap.shtml)
- Developing tier maps for the septic bill
- Over the next few weeks as the maps get adopted will publish some applications which show those that have been adopted, the status and what the maps looks like countywide

Addresses
- Still putting together project implementation plan
- Phase 1 outreach to meet with all local governments in progress

TUgis Conference Planning – *Mark Helmken, CGIS* (http://www.towson.edu/tugis/)
- Repackage conference to be 1 day, instead of 2 and reasonable priced
- Still have openings for paper presentations
    - Anticipate sending out last call in the next few weeks
- Had some problems with getting emails out before, going to spam or junk folders
    - Issue has been corrected
- Some vendor slots still available
    - Contact Mark Helmken (mhelmken@towson.edu) or Doug Goldsmith (doug.goldsmith@kci.com) for more information
- Student volunteers process is available online (http://www.towson.edu/tugis/volunteers.htm)
    - Students need sponsor from advisor or dean and say why they want to be a volunteer
- There will be a video trailer released in the next couple of weeks
- Purpose of TUgis is sharing of information, projects and understanding that we are one cohesive community of GIS professionals
    - Reason why TUgis is being reconstituted is because it was difficult to carve out 2 days
    - Could not get it subsidized for 2 day's cost
    - Several people from the GIS community got together to make it more palatable and get more people to attend
    - Registration fee is $60
    - Understand that this is Maryland's GIS conference, this is your conference
    - We invite those from outside of Maryland to present and we want data and information sharing
    - We have made the changes from the people who made comments about wanting change, need people to come
- Keynote Speaker: Learon Dalby – formally Deputy GIO for Arkansas and now working at Sanborn
    - Arkansas has a cooperative and impressive GIS program and website
    - Admire what they have been able to accomplish
    - We have advantages over Arkansas of size and money and he can help us meet our potential
- Lightning talks also going to be made available (10 – 15 minutes) rather than standard 30 minutes

Notable Local Government Activities – *Local Government Reps*

- Continue to be impressed by work being done across the State and MSGIC involvement has allowed for exposure to a lot of the programs occurring across the State
- Asked to share notable activities from across the local governments

Calvert County Government – Erick Pate

- Website – a lot of energy has gone into the website over the last few months
- GIS groups is inside of Technology Services
    - Tasked with implementing new content management system
- Small success
    - Maps in prominent place on homepage
    - Couldn't do that with the previous content management system
    - Happy they are accessible now
- Increasing the number of map products both static and interactive
- Train internal users and the public that we have two basic types of maps – interactive and static
    - Received well, especially internally
    - Using third party tool, Silverlight and Flex-based maps
    - Looking to change direction
    - Went from a handful of maps to several, topography and property map and historic imagery maps are heavily used
        - Tracking utilization
- Most attention and interest is for historic maps
    - Vocal historic preservation presence in the county
    - Raided the map drawer, scanned and made available to the public
- Used a Microsoft tool, ZoomIT, to load .jpgs or other images into tool and via the web
    - Allows for a nice user experience
- Static topographic maps have been well received by engineering community
    - Link to .pdf of a grid for printing
- Need to address getting mobile maps out to the mobile user community
    - Struggling with the fact that maps are Flex-based which can't be viewed on iPads
    - Providing download from Esri as a go between while they revamp maps out of Flex environment
    - Challenge is to get away from Esri map and run natively on the device instead
        - Working on this right now

Question: How do you receive feedback about getting the apps working on mobile devices?

- Have been getting feedback from the website concerning problems, good and bad comments

- Attention from Esri recently concerning story map which has been implemented for a road route in Calvert County
    - Put together maps and pictures for all of the sites into story map template
    - Had to modify the code to allow for audio and visual downloads
- Approached economic development department to put together a similar product for restaurants in the area

- Interactive maps changing direction
    - Geocortex has been purchased and hope to use this tool to streamline the maps and have them available for multiple devices
- Updating planimetrics, obtaining new DEM, project progressing well and should be done this summer

Question: Tour Maps will be moved to mobile offerings?
- They will run on mobile devices now
- Lots of feedback, got more recognition from out of state at first
- Came up during a county commissioner meeting and got positive feedback and the utilization internal to the County has increased
- Working on the next story map, lots of upfront work before GIS gets involved
- Looking at local government templates to see what else can be utilized for a good user experience on mobile device

Question: Do you have statistics behind some of the maps
- Most popular map is the topographic/property map
- 700 hits per month for some of the most population applications

Question: Are you running ArcGIS Online with an ELA?
- We do not have an ELA; we have 5 user accounts available at this time, exploring ELA

Howard County Government – Rob Slivinsky
- Last year presented first mobile application in iOS
    - Used phone gap, JavaScript to get mobile apps out to all mobile devices
- Upload photos and report issues application
    - Some delays occurred and programmer learned iOS and started programming in the native application language
    - Launch application in next month or so
- Create portal with multiple applications
    - Convert some of mobile-friendly applications to a homepage
    - New content management system to incorporate mobile friendly apps into portal
- Want to develop in Android and maybe Windows
    - Programmer might get development experience in Windows
    - New programmer just hired who will take a crack at Android programming
- SQL server, no middleware

- Future applications being considered:
    - Parks app, Wine in the Woods app
- Integrate data into County CRM

- Using a new document management system and trying to integrate GIS with this new system

- New imagery to be obtained soon
- Continuing planimetrics work
    - Storm water fee to be charged soon and will need planimetrics to accomplish this and updates will occur every 2 years

Frederick County Government – Doug Reedy
(http://www.msgic.state.md.us/docs/FredCoRoadClosureApplicationMSGIC_Qrtrly20130116.pdf)

- Road closure application been using for 3 years, production for this app came out of 2010 snowstorm
- Many roads closed and no way to get information out to those who really needed it
- Needed a way to track road closures, which comes from multiple jurisdictions in different media formats
    - No standards for reporting and no local map, no visual way to show closures
- Provide map of closures in central location and centralize communication of this information
    - Can assist with road closures during any event including flooding, hurricanes or snow
- Workflow and filtering of information made available to allow for reporting and more efficiently collecting and sharing of information
- Integrate with At A Glance web mapping application which was already in place and very popular within the State
- Flex-based application
- All data maintained through SQL Server
- Hurricane Sandy had 150 road closures which took 3 people 45 minutes to add to the application
- Allows for selection of road segments and entering information about specifics in a text form to provide details
    - This also allows for closures which are based on maintenance and other non-emergency related closures
    - Also able to provide detour information to be shared based on the closure specified
    - Pop-up comes up with the information from the form
    - Summary entered as "Hurricane Sandy" so any request for mitigation funds could isolate relevant data easily from the system
- Setup up a way to enter information about closures based on all roads in a municipality at once
    - Cuts down on having to enter all road closures individually
- Application includes links to CHART camera feeds
- Allows for plume model or spill boundary integration on-the-fly
- Email notification option is also available
- Improvements include:
    - Security so it can be shared with more agencies within local government
    - Increase number of participating agencies, regional and local jurisdictions

Question: Are people reporting road closures and someone putting in or directly putting in road closures?

- Crews in the field or public would report and staff would enter the road closures
- Howard County has run into issues about not being told when roads reopen
- Working on workflow tweaks to make sure this information is being shared back to DPW who maintain the entries to the system

Question: Is this application being used every day?

- Is used regularly for culvert work or bridge closures
- Want to get DPW staff using it every day, not just during an emergency event
- Interested in consuming Frederick County services in OSPREY

Question: What are protocols for inputting data and a level of consistency which might impact reporting?

- Terminology comes from EOC concerning the entry specifics
- Need to use the same terminology if this information is being shared to the State or other jurisdictions

MSGIC Non-Profit Implementation – *Jim Cannistra*
(http://www.msgic.state.md.us/docs/MSGICnonprofitslides_jc.pdf)
Sponsorship Membership Status

- October 2012 a vote allowed Executive Committee to move forward with developing sponsorship structures and dues structure to be brought to entire membership
- Sponsorship document available on the website under Join MSGIC (http://www.msgic.state.md.us/msgicinf/SCS_MSGIC_Sponsor_Application_Form.pdf)
- Single structure for sponsorship with information concerning benefits of the sponsorship
- Sponsorship can also be meeting specific
- Already been several organizations (State agencies, universities and others) who have expressed interest to become sponsors and started the paperwork
- Those groups with large members, encourage checking this out
- In place and ready to accept new sponsors

Individual Membership Plans

- Dues and levels came from review committee and has been reviewed by Executive Committee
- Has not yet been adopted
- 3 tiers for membership
- Sponsors would fall into a different group for membership
- Next Steps: Implement recommendation, taken to a vote by membership
- Send out survey within next couple of weeks with questions, such as:
    - Are you in favor of dues?
    - Is the pricing structure acceptable?
    - What are your priorities of revenue spending?
- If successful, looking to begin dues collection process in February 2013
    - First round of dues would cover a member until July 2014
- Concurrently: Executive Committee would need to establish budget, priorities and reporting structure
- Research revealed West Virginia site (http://www.wvagp.org)
    - Provides example of where we want to go
    - 2006/07 established as non-profit with membership structure
    - PayPal and credit card payments available for receiving dues
    - Example of what their structure is: $90 for non-students and $45 for students

        - We are looking for something less than this
    - Meeting minutes have information about the funding which has been generated
        - 2012 annual report for WV includes:
            - $3,000 – $5,000 generated first year
            - $35,000 – $40,000 generated over the past few years
            - Got CAP grant during this time period to increase the funding available
            - Information about how they are spending the money
            - Separate GIS conference and revenues not going toward this or being generated from this, similar to MD
            - Sponsoring GISP certifications, etc.
    - Encourage review of this annual report, so you can get an idea of how a similar organization has collected and spent the funding coming into the organization
    - Documentation and accountability will be paramount for MSGIC once dues are put into place
- Jim Cannistra is available for questions or comments

Presentations – USGS

USGS MD Water Science Center

- Recent reorganization to focus on more of the mission priorities, organized work around mission areas
- Most of this location's focus is water, but activities do touch a number of the other mission areas
- 50 people in the office, 10 in Dover, DE office, 10 in Frostburg to cover Western MD

- Aquifer Information System – with MD Geologic Survey
- Put a lot of information together from multiple sources and making it accessible through GIS-based information system
- Key is MD Geo Survey – created geologic framework for the aquifer system
    - Need to know depths of the aquifers and surfaces were digitized
    - Click on an area of the map and access various information in that area
    - Gives virtual geologic log, provides column of depths to various geologic strata
    - Extrapolation going on based on several hundred well points and had to interpret in between
    - Click on wells and pull up additional logs and information
    - More interest from the public and interest to making it web-accessible to the public

- North Atlantic Coastal Plain Study – covers from North Carolina to Long Island, NY
    - Coastal plain aquifer system – study surface and ground water
    - Output will be groundwater model
    - Helping to develop MD and DE portions
    - Groundwater model requires values for hydrologic cycle
        - Groundwater recharge is hard to calculate
        - Varies across the landscape based on land use, land type, precipitation, etc.
        - Not easily measured
    - Using soil water balance model
        - Method developed 30 years ago
        - More powerful with the GIS computing capabilities on small scales and add them up

        - Looks at soil factors varying over the land surface
        - Also take into account climate factors
        - Model accumulates variables over time and compares them to soil moistures overtime
        - Calculates grid by grid space excess moisture that can pass into the aquifer
        - Factors include:
            - Use of water for agriculture on the Eastern Shore, water demand being considered in the model, based on crop demands and area of crops, compare to precipitation data also
            - Check on actual areas that have been irrigated, rather than just what was projected to be irrigated
    - Area served by public water and sewer is another factor to consider
        - Not always easy to obtain on a large scale
    - Last time Census asked these questions was back in 1990 and this question has since been dropped from the survey
        - Looked at the previous values, compared to population density in 1990, determined relationship, identified population density at current and extrapolated the amount of population served by public water and sewer

- Phosphorus Mapping – SPARROW Model
    - Trying to understand the sources of phosphorous, natural occurring substance from erosion
    - Create a dataset to quantify the potential for natural phosphorus from land to stream
    - Based on 50,000 streambed samples in areas of minimal development, unaffected by development
    - Compare landscape features within the watershed, land cover and soils and other factors related to geology to obtain which factors would impact natural occurring phosphorus into the stream bed
    - Use this to determine values in areas with more development and identify what impacts phosphorus amounts in both areas

- Potential Flooding Projections
    - Studies of elevation and flooding and potential road closures during storm events

- Land Use
    - Developing national dataset on soil characteristics by basin
    - STATSGO or SURGO – taking information from existing sources and pulling it together and reorganizing it by basin for water quality assessment
    - Looking at historic land use data, census of agriculture data, not put into GIS system
    - Pull information and determine how to get it into a dataset, includes land use data and historic road data

Question: Effort using orthoimagery to study the urban areas of land use cover?

- Don't think looking at that fine a scale, larger scale is more problematic because get into more land use/land cover standards
- Trying to remain in the national land use standards and leaving the larger scale to local jurisdictions

Question: On work with aquifers and soils, are Esri ArcHydro tools being used Esri ArcHydro tools?

- Yes

Question: Region studying going to be involved with the fracking or Marcellus shale impacts?

- Interest in Marcellus shale, not related to GIS projects mentioned
- MD Geologic Survey just came out with a new geologic map

Question: Is the interpolation method utilizing DEMs?

- Not sure of specifics, but can provide contacts for those (Mark Nardy – Dover Office) who are more specifically involved in the process

- Tide gauges and high water marks were tracked during Storm Sandy
    - Search from website for various water data, stream gauges and all are real-time, continuous record, sent up to satellite and transmitted every 4 hours, online records go back 120 days

- Organizing and Processing Data for non-tidal network of stream gauges and water quality points
    - Related to Chesapeake Bay studies

Federal Program Activities – *Roger Barlow and USGS Staff*

Stream Stat

- Based on hydrographic dataset, involving flow data, volume of water moving through streams
- More complete presentation at another time
- Hydrography in Maryland – had training last month with reps from DC, DE
- MDE steward of water mapping for USGS
    - Start revising stream data in MD at 1:2,400 scale
    - Initial watershed to be done is Patapsco
        - Incorporate local data which exists and conflate to the National standards
    - Model of NJ with statewide 1:2,400 scale data

Sandy Image of NJ (Slides Available from Roger Barlow)

- EAARL LiDAR flies low and slow, green laser with water penetration capabilities in clear water
- Wave form technology to determine plants beneath the canopy
- EAARL data collected pre-storm for DE and MD
    - Hoping to get data this week and get this shared with others

Question: Experimental equipment specifications include?

- LiDAR instrument, higher resolution than average LiDAR
- Vertical resolution 13.4cm in Sussex County, flies at 1,200 feet
- 2 engine airplane
- Not a production instrument, suited for linear acquisition

Question: What is the swath width?

- 3 passes to collect 600 meters, 240 meters and overlap

Question: Money going through Congress to support rebuilding or insurance?
- Includes LiDAR acquisition
- $6 million funds to collect LiDAR from Cape Cod to Cape Hatteras (Image Available from Jim Cannistra – LiDAR Hurricane Sandy Relief Bill)

Presentation – "The Watershed Resources Registry (WRR)" (http://www.msgic.state.md.us/docs/WatershedResourcesRegistry.pdf)

Presentation – "GIS Club at JHU" (http://www.msgic.state.md.us/docs/HopkinsGIS_MSGICSlides.pdf)

Presentation – "Amazon 101" (http://www.msgic.state.md.us/docs/AmazonWebServices101.pdf)
- Amazon web services
    - Basic level manages clusters of data centers across the globe, some on east coast and west coast and in other countries, called regions
    - Data centers offer many, many different services:
        - Servers, networking, application management, queries, data warehouse
    - GovCloud Region specifically for government to do Cloud computing allows for security and compliance requirements, meets ITAR which is compliance requirement at State and Federal government levels

- ArcGIS users adopting Amazon's Cloud
    - 4 main categories:
        - ArcGIS Online powered by Amazon Cloud
        - Web maps & apps – taking ArcGIS Server license installed on Cloud server
        - Map caching, geoprocessing & analytics
            - Allows for processing temporarily based on immediate needs
        - Disaster recovery & archive
            - Allows for redundancy and long-term storage and distribution
    - 6 reasons to adopt:
        - Swap large capital expenditures for small, variable operating expenditures
            - Cost and time savings, no up-front capital expense
        - Low cost because of scale Amazon works at, allowing to spread the costs to large number of participants
        - Utility based model, you only pay for what you use on month-to-month basis
        - Self-service infrastructure
            - Log-on through web interface
        - Easily scale up and down
            - Meet customer demand, set specifications to keep this in check
        - Improve agility and elasticity
            - Improve response time is valuable asset

- Buy to the median utilization and scale to the peaks
- S3 Management Console can be a document repository, all the way to an imagery repository
    - Automatically backed up 3 different times
    - Backups can be done at different data centers in different regions across the globe
- Launch instance = launch server
    - Contact Esri and tell them that a license is getting deployed on Amazon Cloud and they will provide an AMI to enter back into Amazon
- Can create a Esri environment in Amazon through Amazon or through Esri CloudBuilder (either way, same output)
- Bring your own license model, not charged for an software licenses (Esri is only this option now)
- ISVs have pre-configured software on the instance and charge per hour (pay as you go)
- VMware configurations can be imported and exported from Amazon

Announcements

- Esri Meet Up – Thursday, January 17, 2013 (Downtown, D.C., Architecture Center)
    - Topics will include Open Source activities
    - GitHub site with 70 apps already included
        - esri.gethub.com – already have this source code available to use and modify

- Esri CMUG – Friday, January 18, 2013 (CCBC Essex Campus)
    - ArcGIS Online Calvert County Story Maps
    - GISP information sharing

- Federal User Conference in February 2013