

NYS Geospatial Advisory Council

March 22, 2017 Meeting

10B Airline Drive, Albany, NY, Pride of NY Room

Mission: Advise the State on effective use of geospatial technology resulting in tangible benefits to NYS.



Attendance:

In person:

Alex Chaucer
Dave Richardson
Linda Rockwood
Jeff Herter
Dave Jorgensen
Jonathan Mayer
Todd Nelson
Jeff Langella
Mickey Deitrich
Matt Owen
Ross Baldwin
Eric Herman
Frank Winters

Via Phone:

Sheri Norton
Ann Deakin

Invited guests: Steve Campbell (CIO of ITS), Jeff Langella (GPO), Ben Houston (Spatial Analytics), and Austin Fisher (VHB Engineering, Surveying and Landscape Architecture).

10:40 a.m. Welcome/review of Agenda/Approval of Minutes

- Approved previous meeting minutes: Frank Winters motions, Todd Nelson seconds, unanimously approved.
- Introductions of new and existing members.

11:05 a.m. ITS Public Safety Cluster CIO Update (Campbell)

- Current push for increased Map Analytics to map state police and other data, with the goal of providing maps behind all the data for visual dashboarding and predictive modeling.
- Continued efforts for mapping NYS spending; plans to go live soon.
 - Multiple mapping requests made to GPO weekly from Governor's Office and other state agencies.

- Strategic Plan development underway.
- Career Fair outreach at RIT to facilitate long-term relationship with RIT's GIS program and also hiring of students for summer GIS work, starting this summer.
- Effort to integrate NY Alert (in parallel with NYC Alert) with local and school systems so that everyone can be using one (free) citizen alerting system, under the NY Responds umbrella.
- Nextgen911 work continuing.
- CIO hopes that feedback from the GAC and its represented sectors will continue to serve as a brain trust that can aid the Governor's Executive Chamber in increasing state efficiency.
 - Question (Jeff H.): given the GAC's mission to advise on strategy and actions that will serve GIS across the state, will what we identify as priorities get traction within the GPO and Public Safety cluster, and how will we get the most input?
 - Answer: yes, primarily through the Strategic Plan development.
- There is a technical need and scope for what innovations do the GPO (and NYS) need to support.

11:20 a.m. Nominating Committee

- Discussion of desire to fill Dick Johnston's nonprofit sector seat rather than have it remain empty for the full year (all four GAC meetings) following Dick's stepping down prior to the first meeting of the year.
- Motion to make a one-time exception to the bylaws to reconvene the Nominating Committee for the purpose of finding someone for the vacant nonprofit seat: Frank Winters motions, Dave Richardson seconds, unanimously approved.
- David Jorgensen and Jeff Herter to gather names for nomination, expect GAC to vote electronically before next GAC meeting in June.
- Note that ex officio position for the Director of NYC GIS is vacant following Colin Reilly's move to the Mayor's Office of Criminal Justice but will refill automatically once a new director is in place.

11:40 a.m. Elevation Data Update & Services Discussion (Langella)

- LiDAR program is its own program - funding is based entirely on savings from the ortho program.
- Flown LiDAR updates:
 - 5,000 sq. miles of quality level 2 data, including 3DEP for Madison and Otswego, has been approved by the GPO and is in review at USGS.
 - 2016 data for Steuben/Allegany to finish GPO review this month (March) then go to USGS for final review.
 - Ontario County LiDAR now being shared by the county.
- GPO identifying edge gaps in LiDAR coverage along project collection boundaries so that new planned LiDAR by federal partners will extent to ensure overlap.
- Planned LiDAR:
 - FEMA to fly Herkimer in 2017.
 - GPO to fly Onondaga and Cayuga Finger Lakes region in 2018 to replace old 5m poor quality LiDAR data.

- Cayuga doubles as a NYS Museum water quality monitoring project, but its LiDAR is quite old and currently not made available (>2m resolution, >8 years old).
- 8,000 sq. miles of tiled Bare Earth DEMs have been made available since 2005.
- GPO wants to develop an easier way to fill requests for batch downloads (like full county datasets)
 - Desire to provide as web services, which would enable both display and some analysis like hillshading and contours and other geoprocessing tools.
 - To provide largely 2m gridded data, immediate without batch processing wait.
 - In discussion with ShareGIS about hosting (200 GB, 1 TB reserved on ShareGIS for publishing and caching).
 - No extra licenses needed, but will need extra expertise to get up and running.
 - There's also talk about moving to cloud services beyond state servers.
 - Eventually GPO wants to handle LAS requests, where small subsets could be potentially automated.
 - Desire to provide data formats for multiple platforms and software.
 - Richardson: In the meantime, it'd be useful to provide some kind of stopgap downloading procedure for users (like providing a scripting example) so that users can fulfill their own batch requests.
- Support for web services:
 - Mickey Dietrich: Lots of the towns served by the Tug Hill Commission use PostGIS and QGIS, and the Commission does a lot of data processing to create contours for the towns, so anything that points towns directly to usable data where the commission doesn't have to act as a middleman in good.
 - Richardson: The more (and more open source) software that the service can be consumed by, the better for most sectors
- In addition to the Bare Earth DEM, access to a first return surface DEM would be quite useful for many users who might not need a full LAS point cloud, like those working with structure heights and forest canopies (Richardson).

12:05 p.m. GIO/GPO Report (Winters)

- State parcel initiative
 - School districts added as a new owner type, instead of being lumped into local government.
 - Road Right-Of-Ways as a type of ownership
 - 2016 assessment data coming out soon.
 - Work has been going on refining state-owned parcels and attributes
 - Civil boundaries update coming out in April.
- Street Address Matching (SAM) points

- NYC to provide a parsed version of their data to the GPO. Provenance for SAM will be from NYC for City addresses, from GPO and individual addressing authorities (counties) for the rest of the state.
- National Grid to provide to GPO utility meter locations (MOUs in place). This is an example of companies using open SAM data and in turn helping to update it.
 - GPO to use meter info to cross check addresses and to upgrade addresses where SAM address has no record or is based only on the parcel center, in which case the meter location for the address is probably better.
- All counties in the geocoder but seven counties not yet in full public download until after update procedure meetings are held with those counties (in near future).
- GPO in meetings with the U.S. Census so that hopefully the next Census will make use of the state's SAM points.
- State data center
 - Three servers with ShareGIS up in test mode currently, with geocoder services too. URL will be shared pre-production with GAC for additional testing and feedback.
- Othoimagery
 - 2016 imagery is in review

12:30 p.m. Lunch

1:15 p.m. Group Photo

1:20 p.m. UAV/UAS Presentation and Q&A (*Benjamin Houston*)

- Terms: Unmanned Aerial Vehicle (UAV), Unmanned Aerial System (UAS), but due to common usage probably stuck with the term “drone” for foreseeable future.
- Presented results of joint NYGISA and NYSAPLS (New York State Association of Professional Land Surveyors) 2016 online survey covering familiarity with UAVs, planned investments and use of the technology, and concerns over their use, with breakdowns by sector.
- FAA has issued over 10,000 certified licenses for UAVs to date under section 107; notes that having a commercial license doesn't equal proficiency.
- Current industry focus is on UAS hardware and software, instead of data quality and accuracy, like trying to adhere to the ASPRS (2014) standards for digital geospatial data.
- Need to use the right kind of UAV for the desired purpose of the data collection (photo monitoring, 2-D mapping, 3-D object/point cloud modeling) and to design regular overlapping flight plans accordingly.
- Discussion of different levels of data processing.
- What's expected in the near future (pushes that include a mapping component):
 - More waivers from FAA sought for Beyond Line of Sight data collection.
 - Legal clarification (perhaps) for “is data collecting with drones in NYS surveying or not surveying?”

- Use of UAVs for maintenance monitoring (ex. buildings and grounds monitoring at Bard College).
- Private companies driving increased use:
 - UAVs for site elevations, cut and fill estimates, stockpile volume estimates
 - UAVs for energy site characterizations (esp. solar and natural gas), and stream corridor impacts (monitoring).
- Jeff Herter: Looking forward, it will be useful for GAC and GPO to know what specs and issues to keep in mind when putting out requests for contracting UAV services.
- Presentation to be shared with GAC afterwards.

2:20 p.m. NYS GIS Association Update (*Dietrich*)

- May 9 is Legislative Map Day, to raise awareness of how GIS is being used across the state and how GIS projects are impacting NYS.
- A legislative agenda for NYSGISA is being put together.
- Emerging GIS (NYC-funded grant): working with village of Croghan, NY to highlight how a small community got a GIS program going from scratch.
- Education committee: model curriculums after Monroe County Community College's program to get more GIS into high schools.
- Material up on NYSGISA website for conducting Return On Investment (ROI) evaluation for using GIS by local communities.

2:30 p.m. State Agency Advisory Group report (*Herman*)

- Cloud services at state agencies:
 - Most agencies, if using cloud services, are ingesting outside services or else using them to backup copies of data, not as much for processing data.
 - Some agencies using the cloud for providing data access portal for the public
 - Primary "real" versions of data almost always stored locally, due to lack of confidence/trust in cloud services.
 - Had a presentation on the U.S. national grid and asset ID numbers.
- Other items covered already duplicated here (earlier in GAC meeting).
- Note about services for counties with authentication for data that the GPO has (internal) but that the counties otherwise don't share publicly.

2:35 p.m. Big Data Working Group Update (*Austin Fisher*)

- Goal statement for the Big Data Working Group
- Big Data definitions
- Related technologies for processing and getting derived useful data products out of Big Data
- Examples of companies that offer Big Data solutions
- Examples of the use of Big Data for interesting purposes. Fewer examples where the Big Data products have a geospatial component.
- "Big Data is an enabling technology."

- Recommendations:
 - Continue to keep tabs on the technology
 - Maybe have outside expert present to the GAC, or have this as a possible webinar topic for NYSGIS, or jointly.
 - Explore possibility of putting this presentation on the GAC website (similarly for other future working group presentations/reports).
- Discussion:
 - Herman: GIS presently can't largely work with Big Data but can consume analyses that could come out of Big Data.
 - Many note that there are some current attempts, including by ESRI, to be able to mine big Data databases and perform analyses.
 - Spatial components to Deep Learning, examples are out there or under development in the private sector, including in NY.
 - Linda Rockwood: "Data Geek" organization opened up a chapter in the Capital District.
 - Winters: Would analyzing the voluminous log files from the GPO's geocoder service logs to find input addresses where low probability matches and misses resulted in order to ID where to focus future addressing activity be an example of analyzing Big Data?
 - Fisher: Could you do it before (albeit with difficulty), or would you need the new technology in order to be able to conduct the analysis? This is the type of question to ask to determine if something is Big Data. (So it's not just size of the data like in the GPO geocoder example.)
 - An example that fits: Setting up post-disaster aid stations and determining how to best deploy resources based on a lot of different data, including social media, for who is being served and what are the best ways/methods to reach out to them. Also necessary security related to hostility to agencies providing aid, but that also raises misuse issues).
 - Possible Big Data future speaker from within NYS: Todd Harbour, Chief Data Officer for NYS.

3:05 p.m. Topic Planning for future GAC presentations and discussions

- Review list of future presentations from Sept. 2016 GAC planning meeting
- Erik Herman has some slides for how the GIO, GPO, state agencies, this GAC, and the NYSGIS all fit together
 - Willing to update for next GAC meeting.
- Mickey Dietrich working with a nonprofit group to crowd-source mapping "acts of kindness" globally.
 - Reach out to Jeff Herter to see where the Crowd-sourcing working group is at.
- Follow up with Big Data (and Todd) while the subject is still fresh
- Training, instruction, and ROI for GIS training for local and rural municipalities
 - Heaviest GIS users in small towns are their Dept. of Highway folks.
 - GPO did some workshops in the past, but mostly reached current GIS users

- ROI work from NYSGIS likely now ready, fully fleshed out for more general non-specialist use in maybe a year.
- Blue tooth GPS talking to cell phones = best traction for mobile data collection implementation in smaller communities.

3:40 p.m. Meeting adjourns