3D Elevation Program Stakeholder Meeting

April 15, 2015, 1:00 – 5:00 PM

Hilton Hotel, Crystal City (Arlington), VA

Executive Summary and Meeting Notes

Executive Summary

The 3D Elevation Program (3DEP) is a partnership designed to produce nationwide lidar coverage (ifsar in Alaska) to address the requirements of 34 Federal agencies, 50 states and local, tribal, and private organizations. The purpose of the 3DEP Stakeholder meeting was to provide a status report to primary Stakeholder associations and discuss strategies, challenges and opportunities to fully implement 3DEP in collaboration. Over 30 participants and 25 observers attended the meeting including representatives from the following organizations:

- 3DEP Executive Forum (represented by FEMA, NOAA, NRCS and USGS)
- American Society for Photogrammetry and Remote Sensing (ASPRS)
- Association of American State Geologists (AASG)
- Association of State Floodplain Managers (ASFPM)
- Coalition of Geospatial Organizations (COGO)
- Management Association for Private Photogrammetric Surveyors (MAPPS)
- National Geospatial Advisory Committee (NGAC)
- National Society of Professional Surveyors (NSPS)
- National States Geographic Information Council (NSGIC)

Perspectives were provided in presentations by the Department of the Interior (DOI); the National Oceanic and Atmospheric Agency/National Geodetic Survey (NOAA/NGS) and U.S. Geological Survey (USGS) as leads for the A-16 Elevation Theme; the USGS 3DEP program; and Federal and State 3DEP partners FEMA, NRCS and North Carolina. Open discussion followed and resulted in the following action items:

- MAPPS proposed to form a 3DEP coalition and invite the broader, non-Federal community to join the effort. A follow on meeting will be organized and some of the suggestions for materials will be taken up in that group.
- The USGS will continue outreach to other Federal agencies and will consider the suggestions for tools and materials that will support general 3DEP communication.
- North Carolina will share additional information about its real estate transaction fee and funding for their lidar program.
- The USGS will publish notes for this meeting.

Meeting Notes

Background and Purpose - The 3D Elevation Program (3DEP) is a partnership designed to produce nationwide lidar coverage (ifsar in Alaska) to address the requirements of 34 Federal agencies, 50 states and local, tribal, and private organizations. Since its inception in 2012, the USGS and its partners have been laying the foundation for implementing national data coverage in 8 years. A fully funded program will provide a 5:1 return on investment and more than $690 million annually in new benefits to government entities, the private sector, and citizens. 3DEP presents a unique opportunity for collaboration between all levels of government, to leverage the services and expertise of private sector

mapping firms that acquire the data, and to create jobs now and in the future. 3DEP is operational and ready for full implementation. Several associations have documented their support and have played a critical role in advancing 3DEP communications. *The purpose of the meeting was to provide a status report to our primary Stakeholders and discuss strategies, challenges and opportunities to fully implement 3DEP in collaboration.*

Welcome and Introductions – *John Palatiello, Executive Director, MAPPS*

John Palatiello opened the meeting by sharing a coffee table book about 3DEP that was produced by MAPPS. John also showed the quarter-page 3DEP advertisement that MAPPS placed in *The Hill* newspaper for two consecutive days. The ad features the www.3DEP4America.com webpage developed by MAPPS to support their communications efforts.

John proposed to form a coalition with other associations to work in a coordinated effort to make 3DEP successful. Stakeholders need one message they can all use about 3DEP.

Kevin Gallagher, Associate Director for Core Science Systems, USGS, highlighted the significant legacy of a nationwide lidar baseline that this group can work together to create for the nation through 3DEP.

Opening Remarks – *Camille Touton, Counselor to the Assistant Secretary for Water and Science Department of the Interior*

Camille Touton discussed the importance of 3DEP to the priorities of the Department of the Interior and the Nation, including powering our future, the climate action plan, resources management applications, and ensuring healthy watersheds and sustainable, secure water supplies. 3DEP is unique in the broad range of applications it supports and in the collaborative way it is being built from the ground up. 3DEP should be the model for Federal collaboration.

Guiding principles of the 3DEP vision include the role of public/private partnerships; the role for the USGS in acquiring critical public domain data that can be accessed, value-added, and underpin a host of new and evolving uses and technologies; the role of the private industry in provisioning the data, maintaining the operational expertise and capacity, and increasing, new and innovative applications; and the USGS role as the lead Federal agency for terrestrial elevation and its responsibility for creating a National program that results in quality and consistency while ensuring there is no duplication.

The objective of the meeting is to gain a shared understanding of what each stakeholder group is doing, and discuss needs and ideas for working together to realize the 3DEP vision. Camille challenged the group to be open, creative and think big as we strategize on how to make the audacious goal of consistent nationwide lidar data coverage a reality. On behalf of DOI, Camille thanked the participants for contributing their energy and insights. The USGS was on the frontiers of mapping and science at its beginning, and we are here again today, with our partners and 3DEP.

3DEP Report to Stakeholders: Status, Plans and Call for Action – *Kevin T. Gallagher, Associate Director for Core Science Systems, USGS*

Kevin Gallagher provided an overview of the work done from the inception of 3DEP in 2012 through 2015 to develop the infrastructure, including a plan with extensive stakeholder input, the 3DEP specification, the data inventory, the Geospatial Products and Services Contract re-scoped to meet the needs of a national program, the Broad Agency Announcement (BAA) open process for data acquisition partnerships, and more. Extensive coordination and outreach has been done, the 3DEP Executive Forum has been established and is pursuing initiatives such as a budget cross cut, and 3DEP has been endorsed by the stakeholder organizations represented at this meeting. 3DEP is operational and ready to fully implement an 8 year program as proposed in the 3DEP *Call for Action* (USGS Circular 1399).

The estimate for funding required to complete national coverage in eight years is approximately $130M annually across all contributing partners. The FY2015 estimate of investment across all contributing partners is approximately $45M. Scenarios for how to apportion the cost share for the remaining $85M needed across Federal, State, local and other partners to complete the program will be under discussion in the 3DEP Executive Forum and the 3DEP Working Group. In FY15 the USGS Broad Agency Announcement for 3DEP data acquisition partnerships attracted more than $50M worth of proposals from State, local, private and other organizations. The USGS, together with the Federal Emergency Management Agency and the Natural Resources Conservation Service, funded nearly $10M towards these proposed efforts which will achieve an approximate total value of $27M, but leaving more than $40M of proposed contributions by other organizations unmet. Estimates for additional funding needed to implement the 8-year program, at a USGS one third cost share for data acquisition plus program management costs is $30M and being further refined with information from the 2012-2015 3DEP start-up phase. The FY16 President's budget includes an increase of $4.5M for 3DEP.

3D Nation – A-16 Elevation Leadership –*Juliana Blackwell, Director, National Geodetic Survey, NOAA and Michael Tischler, Director, National Geospatial Program, USGS*

Juliana Blackwell provided an overview of the 3D Nation effort to coordinate and unify the goals of the 3DEP, NOAA's GRAV-D program, and the coastal topographic and bathymetric mapping activities of NOAA, USGS, FEMA, USACE and the states. 3D Nation will provide an authoritative national geospatial foundation to support multiple needs and will ensure access to an accurate, routinely updated, continuous elevation surface from the land to the depths of our waters. The 3D Nation Elevation Subcommittee is being formed as the A-16 subcommittee under the FGDC, and incorporates the 3DEP Working Group (formerly the National Digital Elevation Program) and the Interagency Working Group on Ocean and Coastal Mapping. Mike Tischler, who very recently stepped into the National Geospatial Program Director position, described the 3D Nation effort as a collaborative investment to create a consistent baseline for the Nation.

Federal Partner Spotlight – *Doug Bellomo, Director, Risk Analysis Division, Federal Insurance and Mitigation Administration, FEMA and David Smith, Acting Deputy Chief for Soil Science and Resource Assessment, NRCS*

Doug Bellomo discussed the ways in which data have real implications not only for government agencies and decision makers, but for citizens. In the area of flood insurance for example, decisions affect everyone's pocket books. We have seen where data have made a positive impact, for example, lidar data in North Carolina have been critical to flood insurance determination. As users we are, or should be, investors in the data. The legacy of how we coordinate ourselves is as lasting as the data.

FEMA is establishing standards in coordination with USGS and investing resources and talent towards joint 3DEP goals. FEMA invested $12M in lidar last year, mostly though 3DEP, along with some regional office procurements. More and more, FEMA funding is going through the 3DEP Broad Agency Announcement. The FY16 President's Budget includes a significant increase for FEMA that essentially doubles the mapping budget. Should it pass, FEMA would put at least $20M into lidar data acquisition.

Decision makers look at leveraging among Federal and other partners. Getting the Federal agencies coordinated towards a unified plan goes a long way, but with State and local partners coming to the table there is a lot more likelihood of getting 3DEP fully funded.

Dave Smith described NRCS as a strong supporter in contributing funds towards a national approach for lidar.

The NRCS mission includes providing farmers and ranchers with financial and technical assistance and supporting State Conservation Districts. Major efforts of NRCS include dam rehabilitation, highly erodible land determinations, and others.

NRCS' goal is to be efficient and use the best available technology. 3DEP is an important tool for conservation. The USFS is doing similar management on Federal lands, and the land managing agencies must all be partners of 3DEP. NRCS believes in the BAA process as an effective data acquisition vehicle.

State Partner Spotlight – *Gary Thompson, North Carolina Emergency Management*

Gary Thompson described the origins of North Carolina's statewide lidar collection beginning with flood plain mapping in 2000 after Hurricane Floyd. Now it is time to do a refresh, and the State has embarked on a 5-year plan to collect quality level 2 (QL2 -3DEP quality) data statewide. USGS and NRCS contributed to the first phase. For the subsequent phase the State DOT and other agencies created a reserve fund. Gary provided multiple examples of cost and time savings resulting from lidar applications, including identifying navigable streams and wetlands, supporting precision farming with subsurface irrigation installation, and many others. North Carolina's experiences demonstrate the many benefits that state agencies and their citizens reap from consistent lidar data coverage.

Stakeholder Strategies and Needs Discussion– *All*

After a few clarifying questions, the participants engaged in an open discussion about their needs for support and information, and ideas for further increasing awareness and support of 3DEP. The following is a summary of the themes discussed.

For states with many, independent stakeholders (like Florida) it would be difficult to bring everyone onto a statewide QL2 plan. What can be shared to assist this effort?

- Create a plan to map the state over multiple years rather than trying to do it all at once.
- Make sure you have good geodetic control, and a dense CORS network.
- Some states have or are looking at a fee on transactions as a dependable source to help fund data acquisition. For example, North Carolina receives a fee from every real estate transaction that helps to fund their program.
- The USGS National Map Liaison network distributed in states is dedicated to helping state and local partners.
- Find out who the big stakeholders are in the state. For example, Departments of Transportation in most states care about lidar.
- In Alaska, the Governor's office has been involved in funding data acquisition and has worked through their Congressional delegation as well.
- The BAA public meetings were announced on FedBizOpps and Federal Register. There will be two National Webinars and 41 state/regional coordination meetings to support bringing stakeholders together in each state.

There are probably organizations who would benefit from 3DEP but do not know about it. Brainstorming about other voices that could be invited into follow on meetings and activities included:

- Others that may be helpful on the advocacy side include NGOs like Ducks Unlimited, The Nature Conservancy, APA and others.
- Society of American Military Engineers
- National Emergency Managers Association
- American Public Works Association
- American Society for Civil Engineers

- National Association of Counties
- National Association of Municipalities
- Western Governors' Association
- The National Geographic – has used lidar, for example highlighted the discovery of a lost city in Honduras. This helps galvanize consumers and citizens.

State and local participation is also essential to the success of 3DEP.

- NSPS has 16,000 members, all who have relationships with local DOTs. NSPS can help - don't underestimate how a surveyor could help you.
- Ensure there is outreach at state GIS conferences, that's where the action is for coordinating among state and local stakeholders.
- Need to include importance of geodetic reference frame - need partnerships with states, locals and others to reprocess datasets as reference frames are redefined. The NGS State/regional advisor program will have representatives in place for all states by 2017.
- Host webinars for state chapters of local flood plain managers.

Other Federal agencies mentioned that should be more strongly involved in 3DEP coordination and communication include: USACE, FAA, DOT, and USFS.

Brainstorming on tools to help provide outreach included:

- USGS and other organizations could provide prerecorded Webex sessions on 3DEP goals and initiatives. Everything we do relates to elevation. Show stakeholders visually what 3DEP means to them.
- Have North Carolina record a presentation on costs savings and efficiencies realized from statewide lidar coverage.
- The mechanics of the BAA need to be better understood and the public meetings will be helpful. MAPPS members will be proactive, and work with liaisons to spread the word.
- Ensure that USGS National Map Liaisons provide 3DEP briefings at state and local meetings.
- ASPRS may focus one hour of the monthly GeoBytes on lidar and 3DEP.
- Everyone needs a consistent 30 second elevator speech that can be tailored to specific markets. For example, one city saved on insurance premium costs for citizens through lidar applications. The premiums cost more than the cost of the lidar which can be applied to multiple uses.
- MAPPS provided their 1-page budget request handout. A few of the nuggets from the handout from MAPPS could be pulled out and customized to the specific users/need.
- The 29 projects selected in the first round BAA are 3DEP partnership success stories. They can tell a story about uses and demand. The BAA shows how many people are interested.
- The budget cross cut demonstrates it also. The 3DEP Executive Forum recognizes that it's important to show we are collaborating. The budget cross cut can bring visibility to what Federal agencies are doing for flood risk management, but many things fit within that. The Executive Forum is pulling out a subtotal for 3DEP acquisition. It's the first year that explicit definition will be applied. Next time we are called to testify with the GAO on duplication we can point to it as an artifact to show coordination.
- Another example is that many groups came together to sign a unified letter for USGS gaging stations. For stream gages the politics are local, but can be joined together nationally. This could easily be done with 3DEP. Translate the importance of 3DEP to local issues to help illustrate its value.
- Continue to testify to Congress on GAO report or other issues that 3DEP is a way to reduce duplication.

It was emphasized that more outreach to potential users is important, but what is missing from 3DEP is the funding, and the challenge is to find groups who have the money or know how to ask for it. The previous "For the Nations" efforts failed because they didn't have a political strategy. Many end users are unlikely to be funding advocates. A recommendation for the stakeholder groups to form a coalition without Federal membership was repeated. Who should be part of the coalition, who has money or knows how to ask for money?

- The ASFPM Floodplain Policy review includes a plan specifically calling for funding for 3DEP. It is a goal in the strategy.
- MAPPS looked at the potential to establish a user fee related to geospatial information. It would be helpful to understand more about the real estate transaction fee in North Carolina.
- Would Amazon or Google fund 3DEP? Outreach to date has not indicated interest to date. They want to retain data licenses, which is in conflict with the goal of 3DEP to provide publicly accessible data.
- A disaster goes a long way in generating funding. North Carolina started with Hurricane Floyd. It galvanizes attention to a problem. Legislative branch wants voters, voters care about disasters. For example, Washington State has a new lidar initiative there following the Oso Landslide.
- The Western Governors' Association and other Governor groups identify policy areas that are politically neutral which could be a source of funding and political legitimacy.
- Industry can help by decreasing costs and highlighting savings to the Nation.
- Change detection is an important application area that could be highlighted. The Association of Assessing Officials whose members levy assessments would be supportive. Change detection is not just covering the nation once with lidar data. For sinkholes, crustal movement, and other needs, it is critical that 3DEP be a sustainable, long-term program.
- Stakeholders can provide outreach to OMB in a way that the Federal agencies cannot. OMB should look at other Federal agencies collecting lidar and get them to do that in a united way under 3DEP. The 3D Nation messaging could be very helpful in bringing together the messaging to OMB and others about topographic and bathymetric lidar.
- Stakeholders noted that a coalition of associations can do outreach that Federal agencies cannot, and asked how could the organizations in this room join together?
- There is a USGS coalition but it doesn't generally address specific issues. So while linkages to this group could be helpful, it wouldn't provide a forum for the kind of activity proposed by the stakeholders.
- For flood mapping a coalition formed of a very diverse group of people who didn't always get along – for example, homebuilders and environmental groups. They agreed that new flood maps were needed to advance their missions. What makes a powerful coalition is a group of unlike-minded people coming together on a mission.
- The coalition proposed by the private sector does not involve the government. The private sector has the most to gain and should take the lead and ask others to be part of it. There are different types of support that can be coordinated in a coalition - some groups may provide a letter of support, others may coordinate hill visits. The private sector is interested in all types of support.
- Today's meeting is unique in bringing together disparate groups with a common interest in 3DEP. The stakeholder groups assembled here are key, and it was recommended that the group continue discussions together and bring in others. The private sector again offered to take the lead.
- This is the most aggressive stakeholder effort to reach out to Congress that the USGS Office of Communications has seen.

The COGO report card and its impact or benefit to 3DEP communications was discussed.

- The purpose of the report card was to draw more attention to effective and ineffective programs, including how programs are funded. The results show room for improvement, with the highest grade at B+.
- The USGS understands the purpose and intent of the report card, but has concern that the C+ grade for elevation will not be understood by appropriators and in an environment of negative GAO reports, the report card may detract from efforts to communicate the benefit of funding 3DEP.
- ASCE used its report card as a successful tool to increase funding.
- It is all about the messaging now – COGO needs to be active in communicating what the report card means and what outcomes are being sought.
- It is important to note that COGO is an organization of other organizations that work by a unanimity rule. Thus, most issues that come to COGO don't come out of COGO. But the 3DEP endorsement did.

ACTION ITEMS

- MAPPS proposed to form a 3DEP coalition and invite the broader, non-Federal community to join the effort. A follow on meeting will be organized and some of the suggestions for materials will be taken up in that group.
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