



Statement of John M. Palatiello  
Partner, Miller Wenhold Capitol Strategies, LLC/John M. Palatiello & Associates, Inc.  
On behalf of the 3D Elevation Program (3DEP) Coalition  
Before the House Committee on Appropriations Subcommittee  
on Interior, Environment and Related Agencies  
February 26, 2019

Madame Chair, members of the subcommittee, I am John Palatiello and I am honored to appear before you today on behalf of the 3D Elevation Program (3DEP) Coalition. As a Partner at the firm Miller Wenhold Capitol Strategies & John M. Palatiello & Associates, I also serve as Government Affairs Consultant to the National Society of Professional Surveyors (NSPS), the national professional society of individual licensed surveyors, and manager of U.S. GEO, an informal coalition of leading geospatial firms. I was also an original member of the National Geospatial Advisory Committee (NGAC), appointed by then-Secretary of the Interior Dirk Kempthorne. The [3DEP Coalition](#) is comprised of representatives of a broad cross section of stakeholders, including over 35 organizations from surveying, mapping and geospatial; real estate; home building; flood management; emergency response; environmental; science; mining; insurance; telecom; agriculture; and infrastructure. The 3DEP Coalition enthusiastically supports the U.S. Geological Survey (USGS) [3DEP](#), or 3-dimensional elevation program.

### **3DEP**

3DEP is satisfying the growing demand for consistent, high-quality topographic data and a wide range of other three-dimensional representations of the Nation's natural and constructed features, primarily through elevation data collected with Light Detection and Ranging (LiDAR). Among the applications that benefit from 3DEP data are [flood risk management](#); [infrastructure](#); [landslides & other hazards](#); water resources; aviation safety; telecom; homeland security; emergency response; [precision agriculture](#); [energy](#); [pipeline safety](#); and other areas.

Indeed, USGS has identified more than 600 applications that would benefit from such enhanced elevation data. 3DEP will promote economic growth, facilitate responsible environmental protection and resource development and management, assist with infrastructure improvement, and generally enhance the quality of life of all Americans. The USGS, with involvement from the private sector and other stakeholders, conducted a National Enhanced Elevation Assessment (NEEA), to determine and document the need for national elevation data within government and private markets. The results indicated that enhanced elevation data have the potential to generate \$13 billion in annual benefits, at a benefit:cost ratio of 4.7 to 1.

The equipment infrastructure and service capacity and capability of the private sector, as well as the contract vehicles in USGS, help to efficiently implement the 3DEP program. Moreover, Congress provided an innovative mechanism for cooperative activities in elevation data when it enacted the Biggert-Waters Flood Insurance Reform Act, in the MAP-21 Act, Public Law 112-141, in July of 2012. It included section 100220, which can be utilized to pool funding from Federal, state and local government entities for

elevation data. USGS was specifically named in that provision. Section 100121 required a National Academy of Public Administration (NAPA) study on how FEMA can improve interagency and intergovernmental coordination on flood mapping, including a funding strategy to leverage and coordinate budgets and expenditures and establish joint funding mechanisms with other Federal agencies and units of State and local government to share the collection and utilization of data among all governmental users.

In 2013, NAPA published "FEMA Flood Mapping: Enhancing Coordination to Maximize Performance" in which it proposed (page 11): "Recommendation 15: The Office of Management and Budget should use the 3DEP implementation plan for nationwide elevation data collection to guide the development of the President's annual budget request." In light of the controversy over FEMA flood insurance rates, particularly as that influenced the recent enactment of the Homeowner Flood Insurance Affordability Act of 2014 Public Law, 113-89, on March 21, 2014, there is an even more urgent and compelling need for the high-quality elevation data that 3DEP provides.

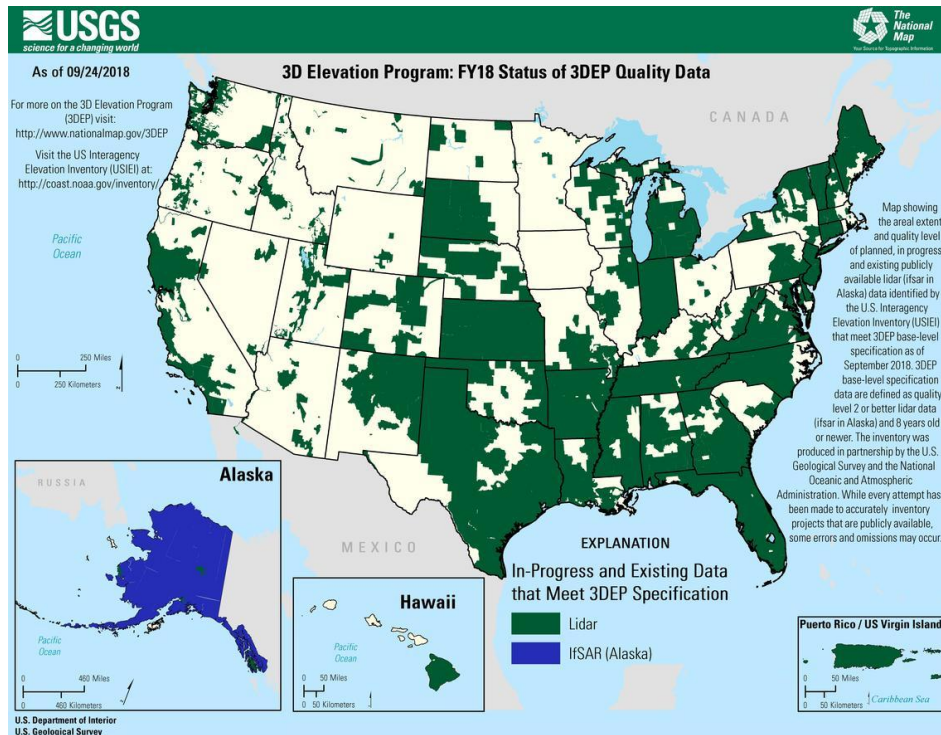
Earlier this month, the Coalition of Geospatial Organizations (COGO), of which NSPS and several other members of the 3DEP Coalition are also members of, published the second edition of a "[report card](#)" on the status of the National Spatial Data Infrastructure (NSDI). One of the data layer themes is elevation. In 2015, COGO's original report card on the NSDI gave the elevation theme a "C+". In 2019, the current version of the report card upgraded the elevation theme to a "B-". We believe 3DEP is primarily responsible for this improvement, but more work is needed to achieve a grade of "A".

### **USGS Public-Private Partnership**

3DEP stands out as a best practices model for coordination, inter-agency and inter-governmental cooperation, and a strong definition of government and private sector roles and responsibilities in a public-private partnership. There is significant capacity and capability in the private sector to support the program and USGS currently has contract vehicles in place to efficiently implement the program. The USGS manages a series of Geospatial Products and Services Contracts ([GPSC](#)) with ten main contractors, which include six large businesses and four small businesses, to perform a variety of surveying, mapping and geospatial services, such as imagery and LiDAR data acquisition; photogrammetric mapping; and aerotriangulation; orthophotography; thematic mapping; geographic information systems development; surveying and control acquisition; image manipulation, analysis, and interpretation; map digitizing; data manipulations; primary and ancillary data acquisition; metadata production and revision; and the production or revision of geospatial products defined by formal and informal specifications and standards.

These are Qualifications Based Selection (QBS) contracts competitively awarded under the "Brooks Act" (40 USC 1101 et. seq. and part 36.6 of the Federal Acquisition Regulation (FAR), 48 CFR 36.6) and task orders are negotiated directly with selected firms to provide contract services. The GPSC can accommodate the mapping requirements of all USGS offices and is also available to any Federal, State, or local agency. The primary data currently procured via the GPSC contracts is for the 3DEP program. This features LiDAR data in the conterminous United States and interferometric synthetic aperture radar (IFSAR) in Alaska.

## Broad Agency Announcement (BAA), Nearly 50% Complete, and Public Access



The image above is dated September 24, 2018. 3DEP has been acquiring three-dimensional information across the United States using light detection and ranging (LiDAR) technology- an airborne laser-based remote sensing technology that collects billions of LiDAR returns while flying- and making results available to the public.

The BAA is a public process to develop partnerships for the collection of LiDAR and derived elevation data for 3DEP. USGS elevation data is available for download through The National Map and GeoPlatform. 3DEP represents the USGS's latest iteration of national elevation coverage. Since 2015, over 200 federal, state, local and non-government partners have collaborated to support over 1.5 million square miles of 3DEP acquisition across the nation, and 3DEP data is now available or in-work for nearly 50% of the nation. The 3DEP BAA provides an opportunity for continued collaboration across the nation so that all governments, the private sector and citizens may have access to and derive the benefits of 3D elevation data.

The USGS has been strategically focused on providing new mechanisms to access 3DEP data beyond simple downloads. With 3DEP's adoption of cloud storage and computing, users now have the option to work with massive LiDAR point cloud datasets without having to download them to local machines. In fact, earlier this month, USGS announced that it has started uploading 3DEP LiDAR point cloud data with the help of Amazon. Currently there are over 1.77 million ASPRS LiDAR data exchange (LAS) tiles compressed using the LAS zip compression encoding in the us-west-2 region, which equates to over 12 trillion LiDAR point cloud records available from over 1,254 projects across the United States. This resource provides users a mechanism to retrieve and work with 3DEP data that is quicker than the free FTP download protocol. The 3D Elevation Program was founded on the concept that high resolution elevation

data should be provided unlicensed, free and open to the public. This agreement with Amazon helps to fulfill that promise by providing cloud-access to the trillions of data points collected through the Program. The democratization of elevation data is a tremendous achievement by the community of partners leading this effort and promises to revolutionize approaches to applications from flood forecasting and geologic assessments to precision agriculture and infrastructure development.

Earlier this month, Rep. Suzan DelBene (D-WA) and Sen. Maria Cantwell (D-WA) jointly [introduced](#) the National Landslide Preparedness Act (H.R. 1261/S. 529) which includes a provision to direct the USGS to implement a 3D Elevation Program to update and coordinate the collection of elevation data across the country, using enhanced, high-resolution data. While 3DEP is authorized by USGS's organic Act, this legislation illustrates the importance of such national elevation data.

### **Funding Status**

Optimally, USGS views this program to be funded at [\\$146 million](#) annually. 3DEP has been a recent success as the trend for certain budgets for other civilian agency programs have been reduced. In FY 2013, this Subcommittee helped 3DEP to achieve \$20 million in data collection efforts. By FY 2018, data collection efforts reached \$120 million, thanks in large part to the continued support of this Subcommittee as well as to additional funding provided from other Federal agencies outside of this Subcommittee's jurisdiction, particularly FEMA. It is our understanding that USGS received \$36 million in FY 2018 for all 3DEP-related activities. The recently enacted [funding agreement](#) for FY 2019 included an additional:

*"\$1,500,000 for 3D Elevation Program (3DEP) National Enhancement and a total of \$7,722,000 for Alaska Mapping and Map Modernization."*

We also want to highlight that the single agency within Interior to contribute to 3DEP from its budget is USGS. However, the map on page 3 identifies that the public land states in the West are largely not mapped to the 3DEP standard. Given that elevation data, including a focus on slope and topographic data are vital to wildfire mapping, rural broadband deployment and other forms of rural infrastructure, then this Subcommittee should also encourage other Interior agencies such as the Bureau of Land Management to participate and contribute in 3DEP.

### **Conclusion**

In conclusion, we respectfully urge the Subcommittee to work with other relevant subcommittees to fully fund this important program to meet the extraordinary demand for current, accurate elevation data for the nation. Our request and recommendation to the Subcommittee is:

- Congress should appropriate funds for the 3DEP program at its optimal annual level of \$146 million among all participating agencies.

Thank you for the opportunity to share our views and we look forward to working with the subcommittee to continue the work to build on past success and further improve the Interior Department's surveying, mapping and geospatial activities including the collection, management and dissemination of enhanced elevation data through the USGS 3DEP.