

HYDROGRAPHIC SERVICES REVIEW PANEL

A federal advisory committee, advising the NOAA administrator

Public Private Partnerships

To meet national ocean and coastal mapping goals, NOAA should establish Public Private Partnerships for data acquisition similar to what USGS did with the 3D Elevation Program (3DEP) and Alaska IfSAR.

BACKGROUND

The Federal Geographic Data Committee (FGDC) defines a Public Private Partnership (P3) as: “A long-term agreement between one or more public agencies (Federal, State, and/or local) and private sector entity or entities that includes shared responsibility, risk, and reward among the parties. Through this agreement, the skills and assets of the private sector are employed in delivering a product, service, or infrastructure for use by the public at large.”

In 2012, USGS completed the National Enhanced Elevation Assessment, a major benefit/cost analysis for inland topography that resulted in the creation of the 3DEP based on QL2 lidar mostly nationwide, with QL5 IfSAR in Alaska. 3DEP has been extremely successful because of two P3s summarized below.

In 2022, NOAA and USGS will complete the 3D Nation Elevation Requirements and Benefits Study analyzing benefit/cost for inland topography and inland, nearshore and offshore bathymetry. This study was already in progress when the National Ocean Mapping, Exploration and Characterization (NOMECE) and the Alaska Coastal Mapping Strategy (ACMS) were developed. NOMECE and ACMS support collaborative mapping and creative approaches to funding mapping data acquisition, opening up potential for effective use of P3s to meet national ocean and coastal mapping goals.

The 3DEP Broad Agency Announcement (BAA)¹

The 3DEP BAA is a grants-based process that allows Federal, State, local, Tribal, and private organizations to propose 3DEP lidar data mapping projects, which USGS then contracts for acquisition. BAA applications are selected based on several scoring criteria published annually in a BAA Program Announcement. Selection criteria prioritize projects proposing to collect areas larger than 1,500 square miles with no existing QL2 or better quality lidar coverage, areas that overlap federal areas of interest, and applicants proposing to provide a larger proportion of the project cost. 3DEP received 259 BAA project proposals between 2015 and 2021, 74% of which were approved. Because 3DEP is a cost-sharing program, the vast majority of the total 2.76 million square miles of complete or in progress 3DEP data (see Figure 1) has been funded through either the BAA or direct partnerships with Federal agencies.

The Alaska Statewide Digital Mapping Initiative (SDMI)²

The SDMI was a state program designed to work in partnership with Federal, local, industry and non-profit partners to acquire first-ever statewide base maps -- primarily elevation data and orthoimagery -- to national mapping standards.

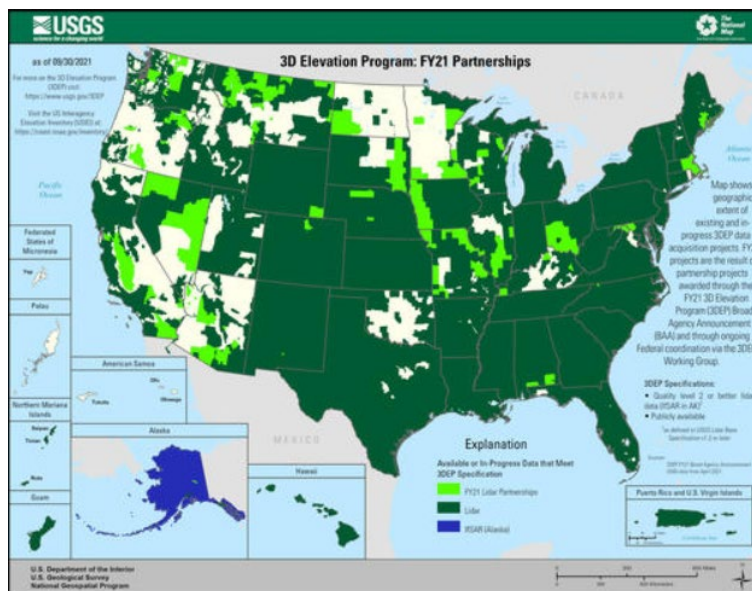


Figure 1. Dark green shows prior BAA lidar partnerships; light green shows 2021 BAA lidar partnerships; blue shows Alaska statewide IfSAR completed in 2020. All data produced to 3DEP specifications for lidar or IfSAR.

¹ [3DEP Data Acquisition Status Maps \(usgs.gov\)](https://www.usgs.gov/3DEP-Data-Acquisition-Status-Maps)

² <https://www.alaskamapped.org/sdmi>

Statewide IfSAR elevation mapping was completed in 2020, allowing USGS to produce statewide orthophotos, statewide U.S. Topo Maps, and the start of elevation-derived hydrography (EDH) for update of the statewide National Hydrography Dataset (NHD). The SDMI's public sector partnerships succeeded in getting major funding to help USGS; 46% of the funding came from outside USGS. But the funding did not arrive for large, efficient, contiguous acquisition blocks. Instead the annual funding often came in piecemealed manner for small, inefficient acquisition areas (see Figure 2).

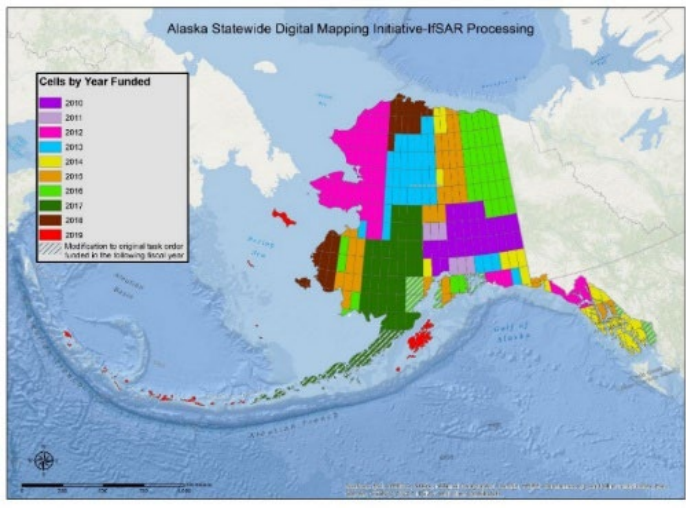


Figure 2. This map shows the sequence in which annual funding was received between 2010 and 2020 in piecemeal, inefficient fashion.

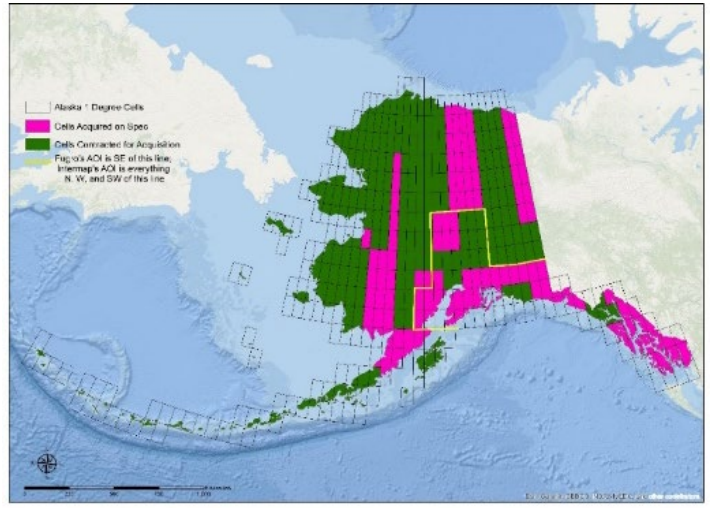


Figure 3. The pink areas were acquired in large blocks on speculation, at risk of never being paid, but saving ~\$30M in acquisition costs.

The SDMI's private sector partnerships succeeded in completing the IfSAR mapping of Alaska with speculative data acquisitions for \$67M, far below the anticipated price tag. Fugro risked ~\$9.2M acquiring 71% of its area of responsibility (AOR) on speculation (south and east of yellow line in Figure 3); Intermap risked ~\$11M acquiring 26% of its AOR on speculation; and Dewberry risked ~\$0.7M acquiring QA/QC checkpoints on speculation.

Figure 4 is an example of hydrographic surveys NOAA acquired in 2020 based on navigation priorities and funding. If NOAA had a mechanism to fund the area of the red polygon over a few years, the acquisition firm could have efficiently acquired the larger area on speculation, meeting longer term requirements for NOAA and the NOMEAC and more efficiently using contractor resources. This would save money for NOAA in the long run while potentially earning larger profits for speculative risks taken. With data for the larger area "in the can," data could be processed when funded in later years.

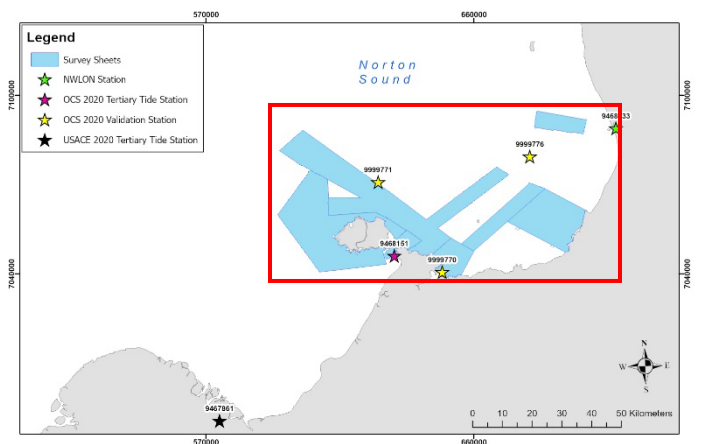


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In October 2003, Secretary of Commerce Don Evans established the HSRP as directed by the Hydrographic Services Improvement Act of 2002, Public Law 107-372. Panel members, appointed by the NOAA Administrator, include a diverse field of experts.

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