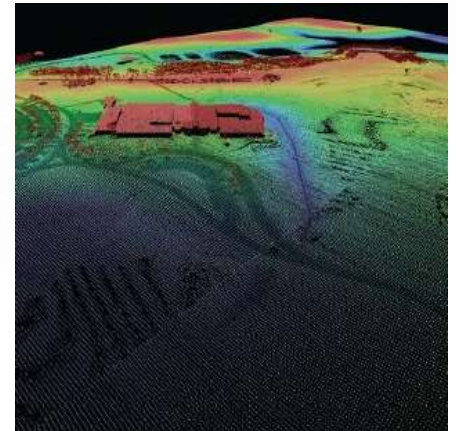
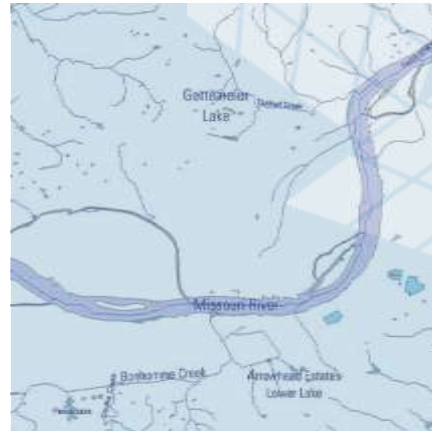
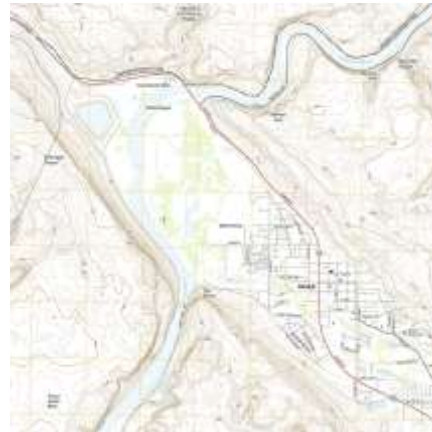
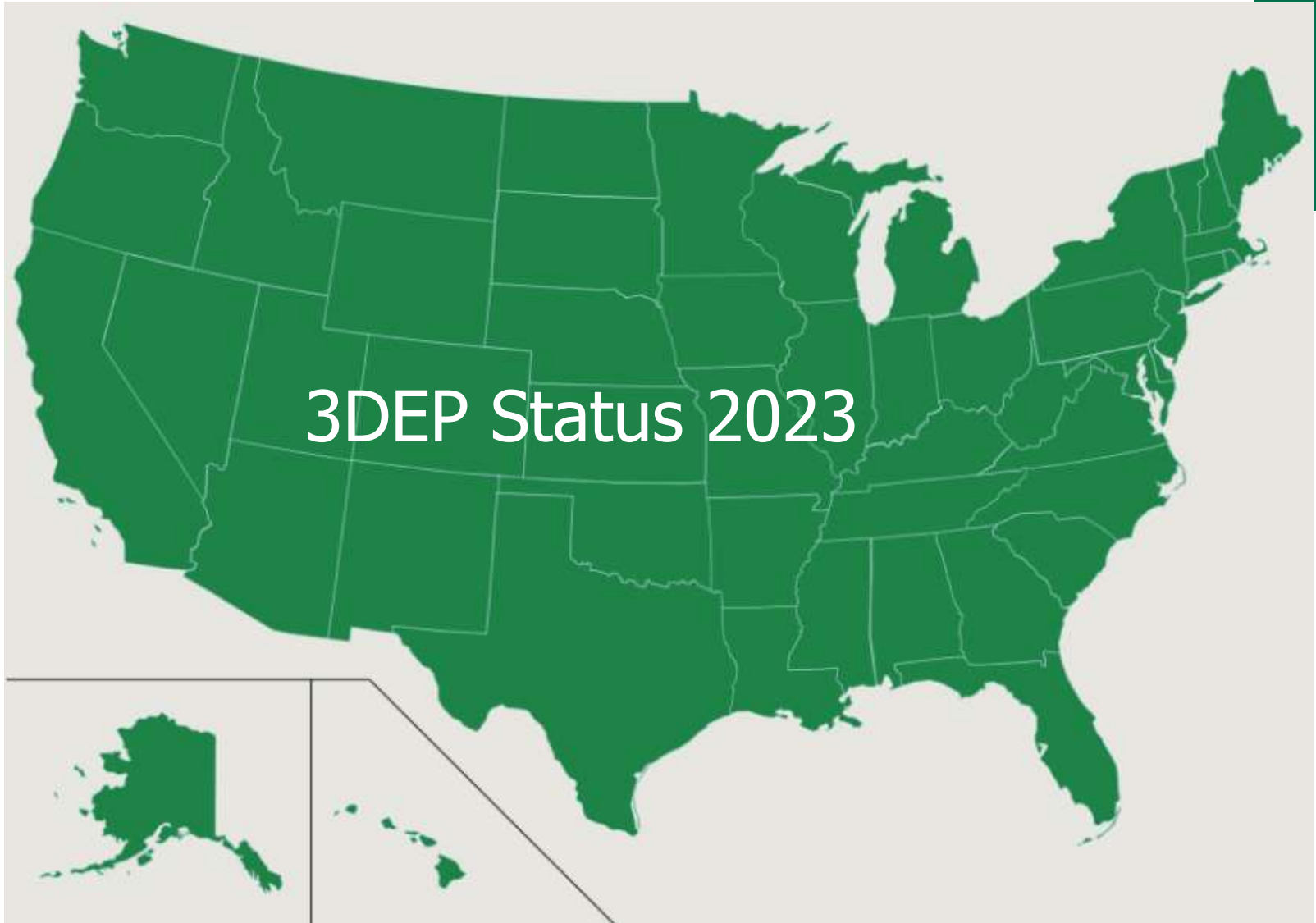




3DEP Coalition Meeting

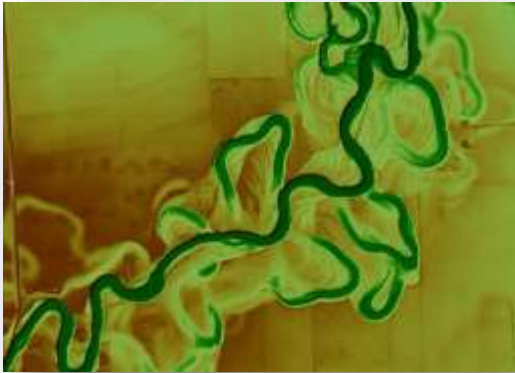


Kevin T. Gallagher
Associate Director, Core Science Systems
November 10, 2016

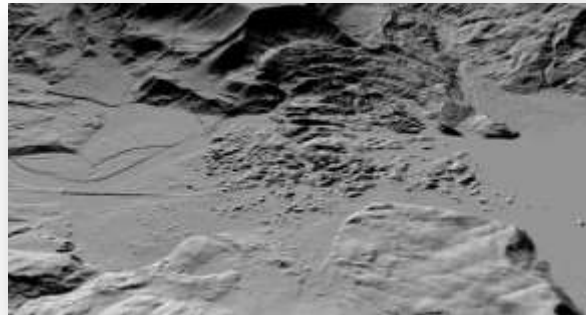


+ 3D Elevation Program (3DEP)

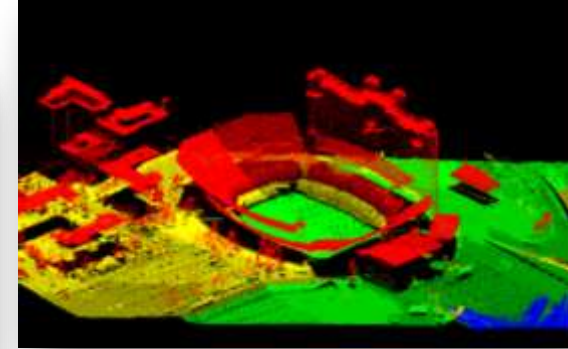
Mission Critical Applications



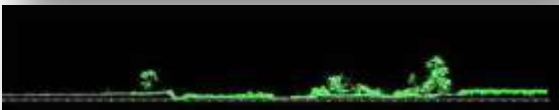
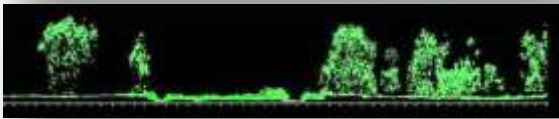
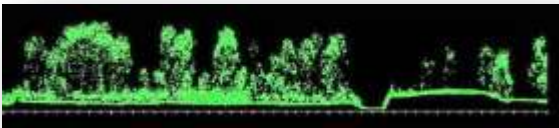
Flood Risk Management



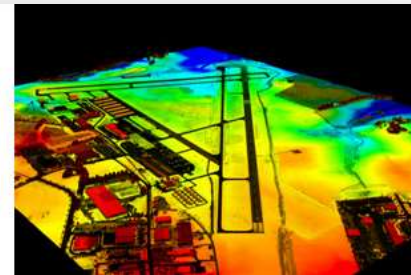
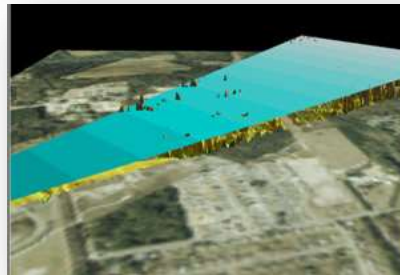
Geologic Hazards



Infrastructure Management



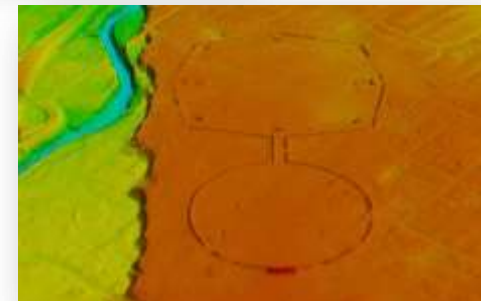
Precision Forestry



Aviation Safety



Alternative Energy



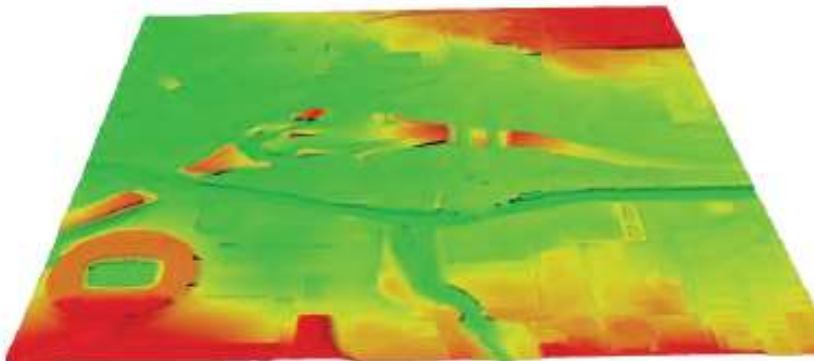
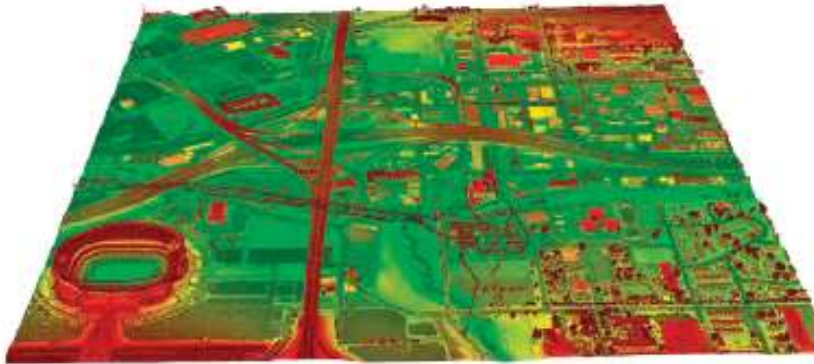
Archaeology

+ 3DEP For America's Infrastructure

The significant challenge of improving the Nation's infrastructure depends on high-quality elevation data

Uses include:

- Route, grade, line-of-sight, and utility surveys and corridor mapping
- Terrain and other obstruction identification for aviation
- Dam, levee, and coastal-structure failure modeling and mitigation
- Hydraulic and hydrologic modeling
- Evaluations of geologic, coastal, and other natural hazards, and geotechnical evaluations
- Permit application and construction plan development and evaluation
- Drainage issues and cut-and-fill estimate requirements
- Vegetation, topographic, and geomorphologic feature analysis
- As-built model development
- Preliminary engineering, estimate development, and quantity estimation activities
- Bridge site selection
- Base-map and elevation model creation



Lidar point cloud (top) and a derived bare-earth digital elevation model (bottom) for Denver, CO

As of 11/09/2016

3D Elevation Program - FY16 Partnerships

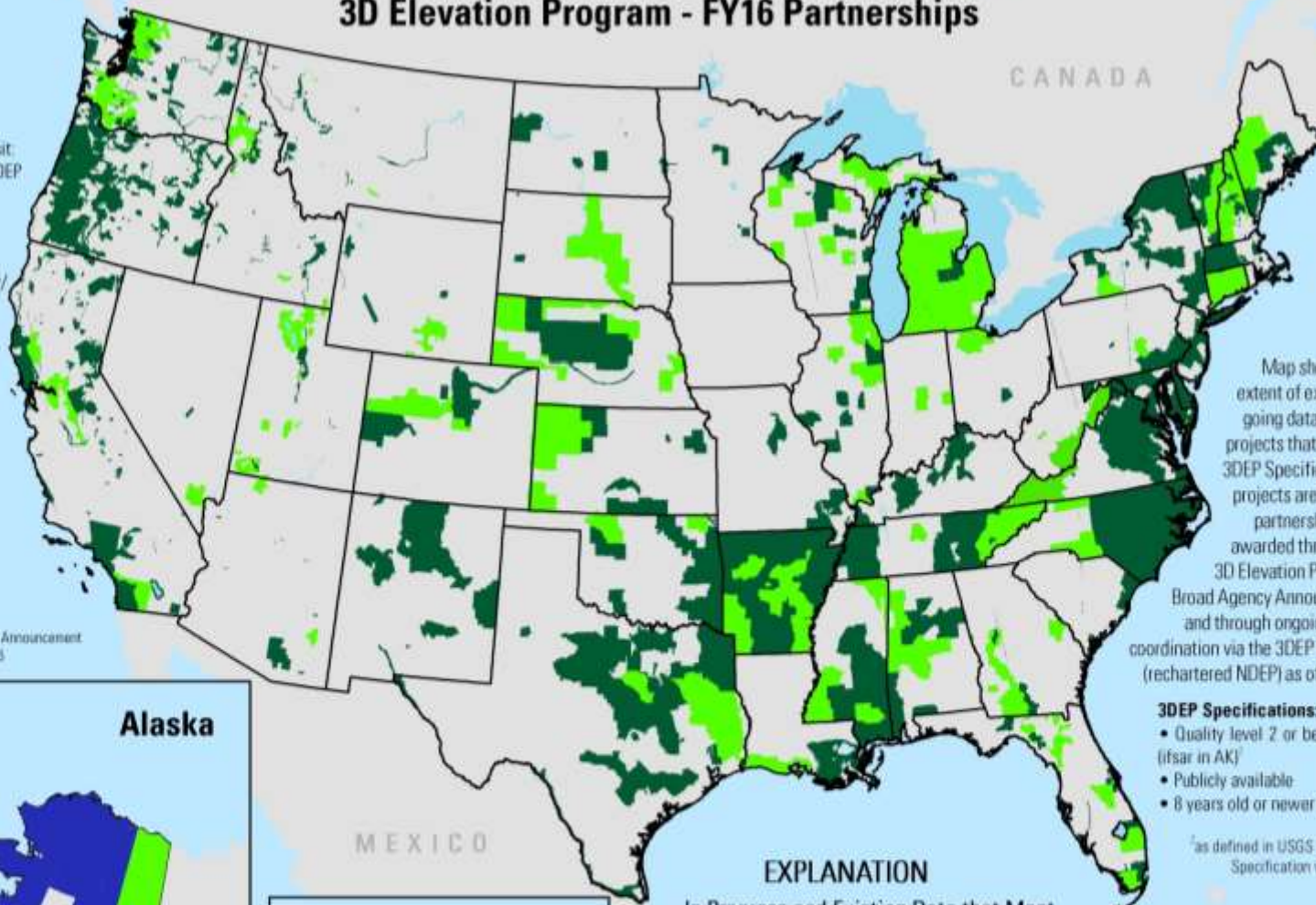
For more on the 3D Elevation Program (3DEP) visit: <http://www.nationalmap.gov/3DEP>

Visit the US Interagency Elevation Inventory (USIEI) at: <http://coast.noaa.gov/inventory/>

Pacific Ocean



Sources:
3DEP FY15/16 Broad Agency Announcement
USIEI data from October 2016



CANADA

Atlantic Ocean

Map shows geographic extent of existing and ongoing data acquisition projects that meet current 3DEP Specifications. FY16 projects are the result of partnership projects awarded through the FY16 3D Elevation Program (3DEP) Broad Agency Announcement (BAA) and through ongoing Federal coordination via the 3DEP Working Group (rechartered NDEP) as of Oct 2016.

3DEP Specifications:

- Quality level 2 or better lidar data (ifsar in AK)
- Publicly available
- 8 years old or newer as of 2016

¹as defined in USGS Lidar Base Specification v1.2

Alaska



MEXICO

Hawaii



EXPLANATION

In Progress and Existing Data that Meet 3DEP Specification

- FY16 partnership projects
- lidar
- ifsar (Alaska)

Puerto Rico / US Virgin Islands



U.S. Department of Interior
U.S. Geological Survey



6.7% of the lower 49 and territories added in FY16



3DEP Data Contracted in FY16

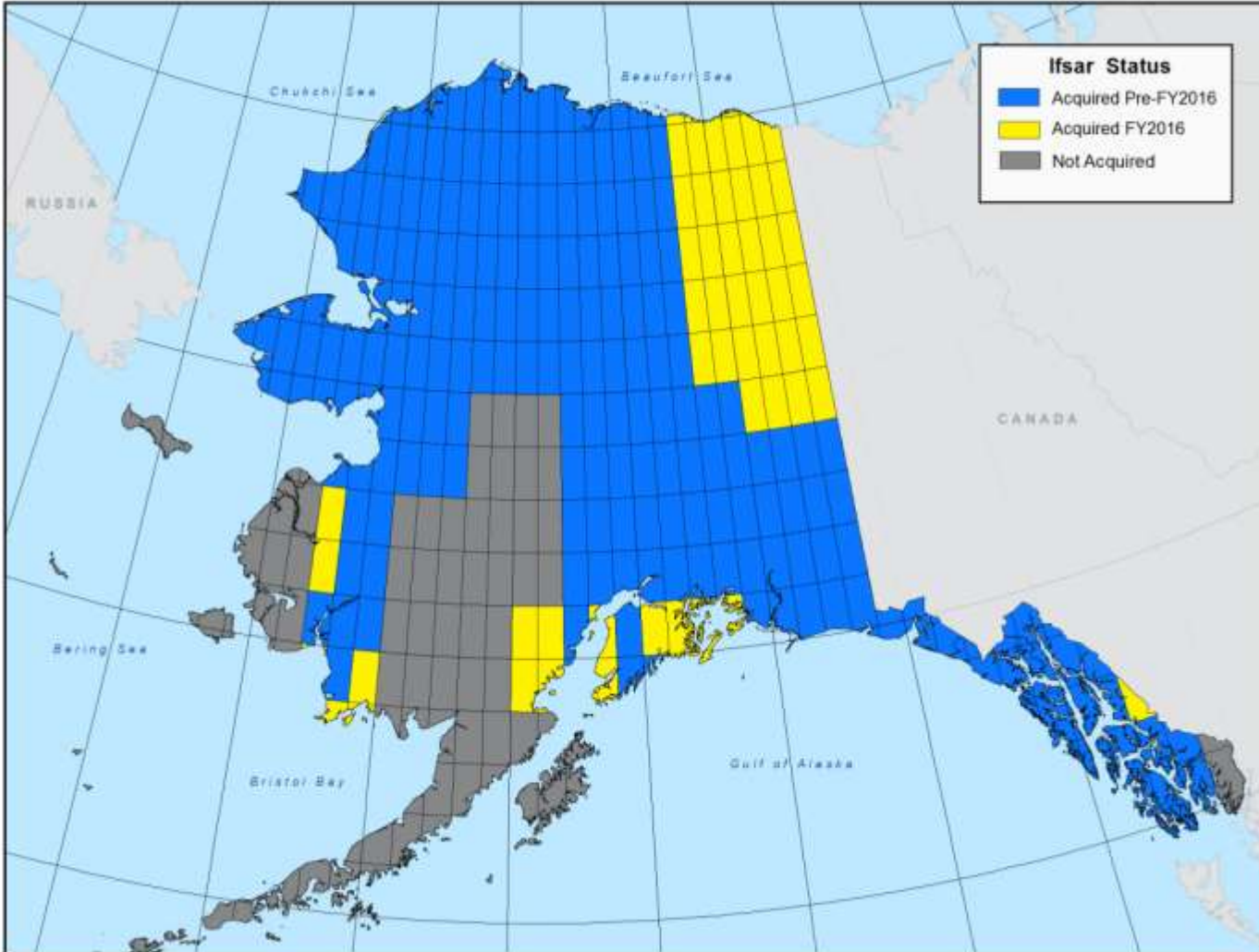
PRELIMINARY Results – Subject to Change

	3DEP Funds			Partner Contributions		Total Project Value	Square Miles
	USGS	FEMA	NRCS	Other Feds	Non-Federal		
Broad Agency Announcement	\$6.5 M	\$2.1 M	\$3.9 M	\$0.8 M	\$14.4 M	\$27.8 M	121.0 K
	\$12.5 M			\$15.2 M			
Other partnerships	\$2.7 M	\$9.9 M	\$6.1 M	\$0.6 M	\$2.0 M	\$21.2 M	82.1 K
	\$18.6 M			\$2.6 M			
TOTAL	\$9.2 M	\$11.9 M	\$10.0 M	\$1.4 M	\$16.4 M	\$49.0 M	203.1 K
	\$31.2 M			\$17.8 M			

- Additional investments were made in FY16 that are being contracted in FY17: \$44.8M Lidar; \$1.2M for Alaska IfSAR
- FY15 \$39M and 150,000 square miles

+

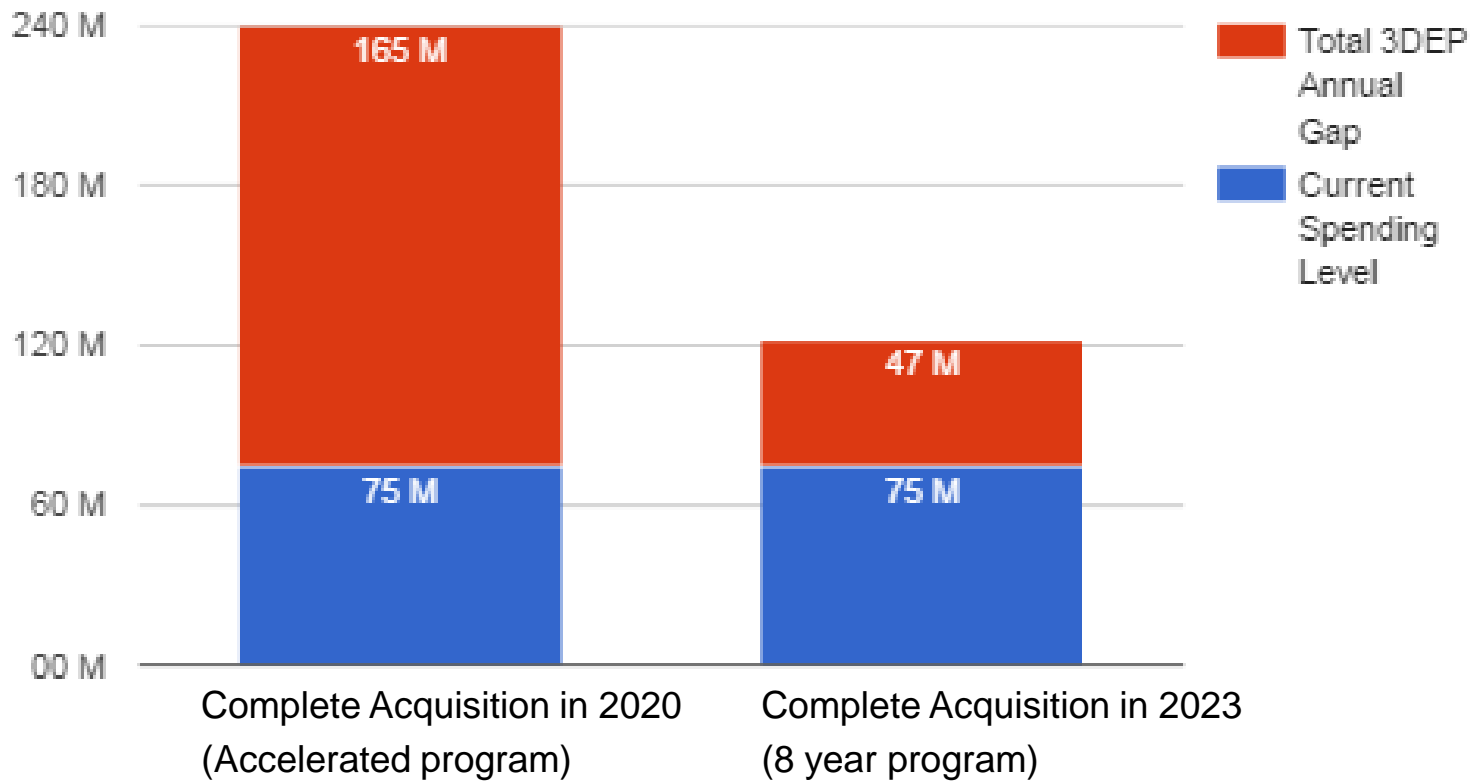
Alaska IfSAR – 77% Available or In Work





3DEP Funding

BALLPARK Estimate of Gap Across All Partners/Total Program
Includes Alaska IfSAR



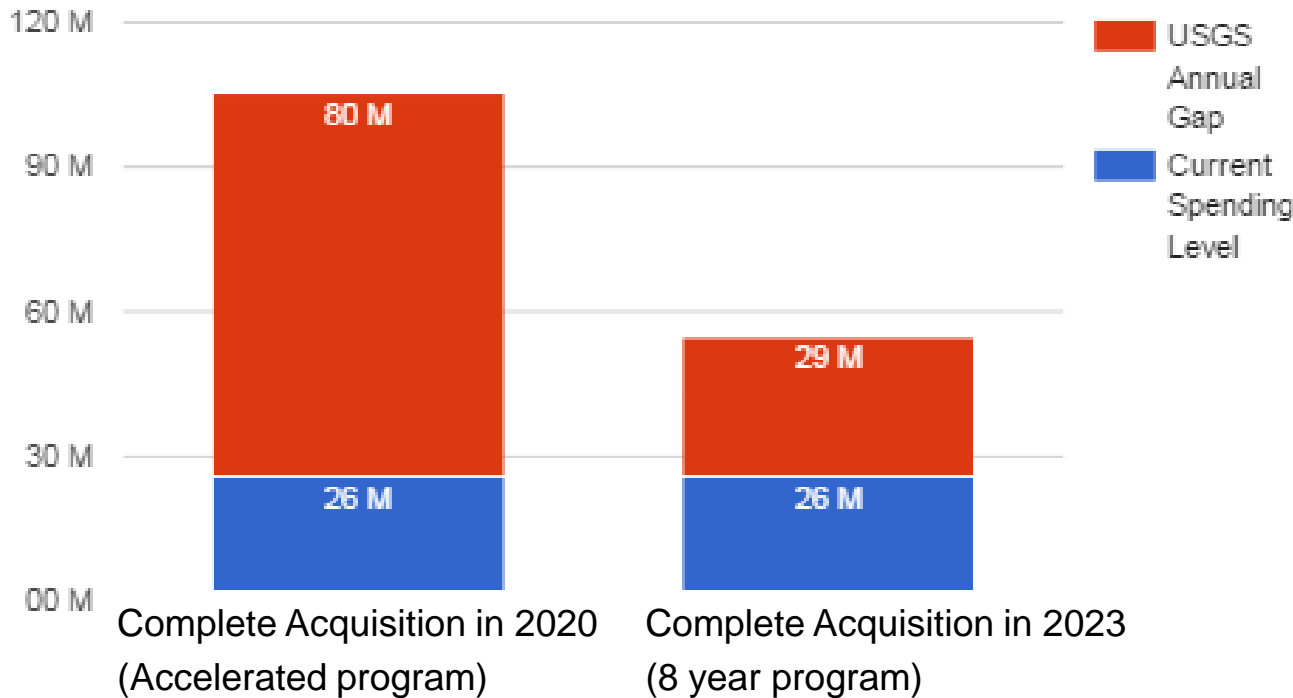
+ 3DEP Funding

USGS Budget Estimates

Includes Alaska IfSAR

	FY16	FY17
USGS Base budget (includes acquisition and operations)	\$21.4 M	\$25.7M
Increase (FY16 enacted, FY17 proposed President's budget)	\$4.3 M	\$4.9 M
Total USGS 3DEP budget	\$25.7 M	\$30.6 M

Funding Gap Estimates



House 17 mark: "an increase of \$2,194,000 is provided for 3-D elevation mapping"

Senate 17 mark: "program increases include \$2,000,000 for 3D Elevation program and \$2,500,000 for Alaska mapping program"

+ FY17 Broad Agency Announcement

Preliminary results of proposals

- 36 proposals in 23 states
- Total value of ~\$28.4M
- ~121,000 sq miles
- 27 propose to use GPSC, 9 propose to use partner contract
- Partners offering \$17.3M and seeking \$11.1M from 3DEP

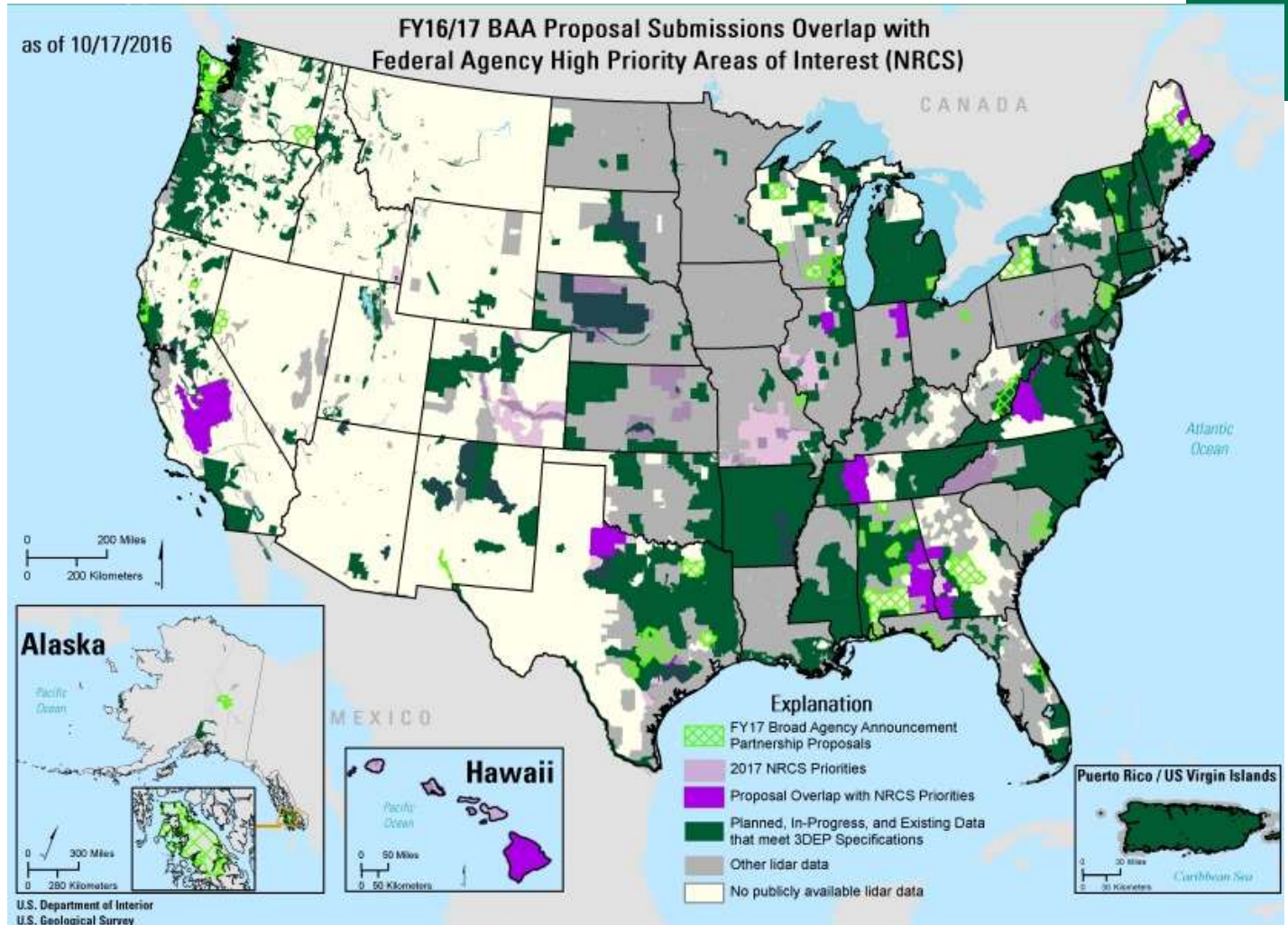


Getting ready to award first round for \$2.8M with \$2.1 through GPSC



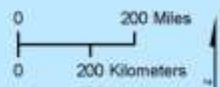
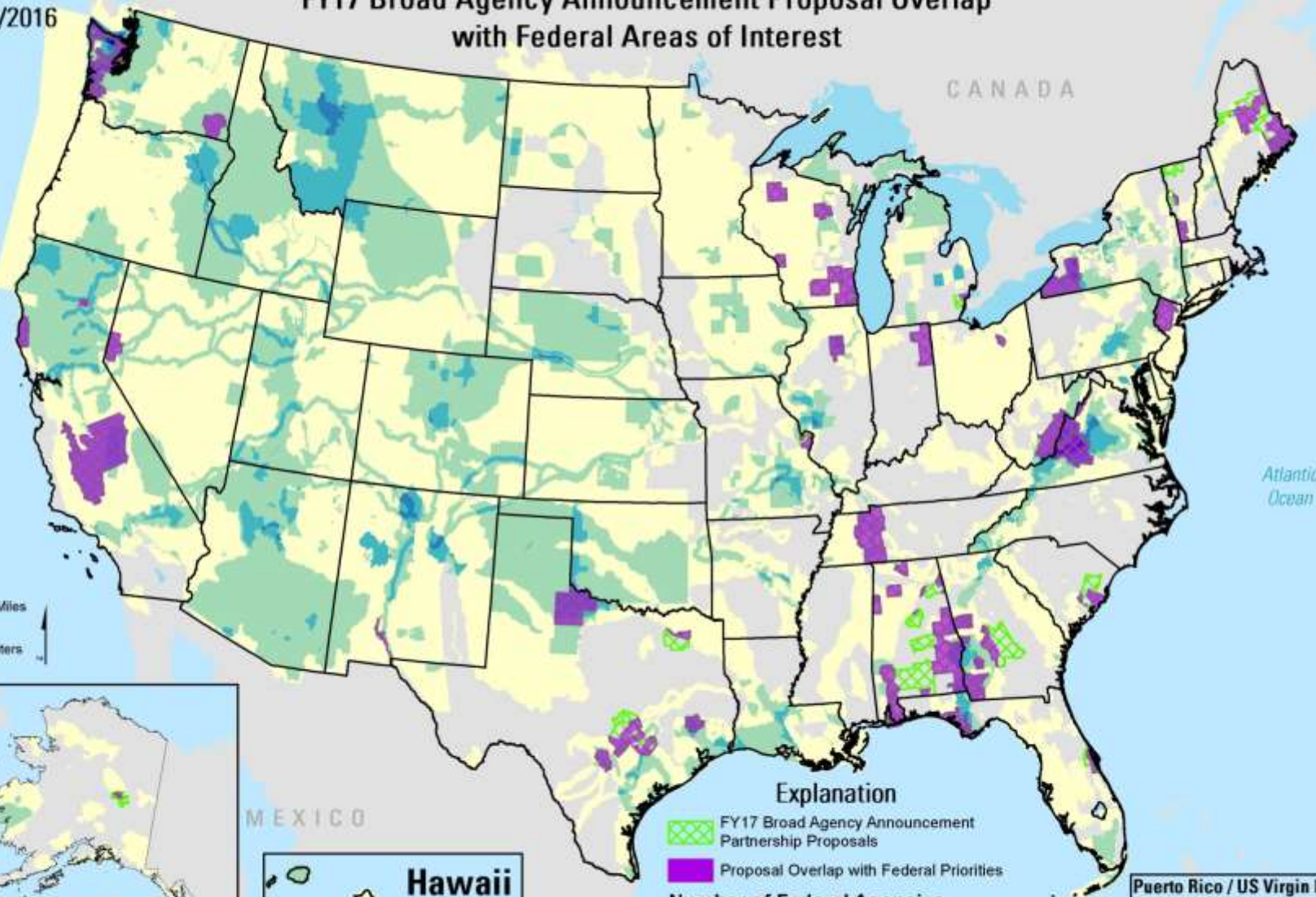
BAA Intersection with Federal AOIs

Example



as of 10/17/2016

FY17 Broad Agency Announcement Proposal Overlap with Federal Areas of Interest



Explanation

- FY17 Broad Agency Announcement Partnership Proposals
- Proposal Overlap with Federal Priorities

Number of Federal Agencies Requesting Data

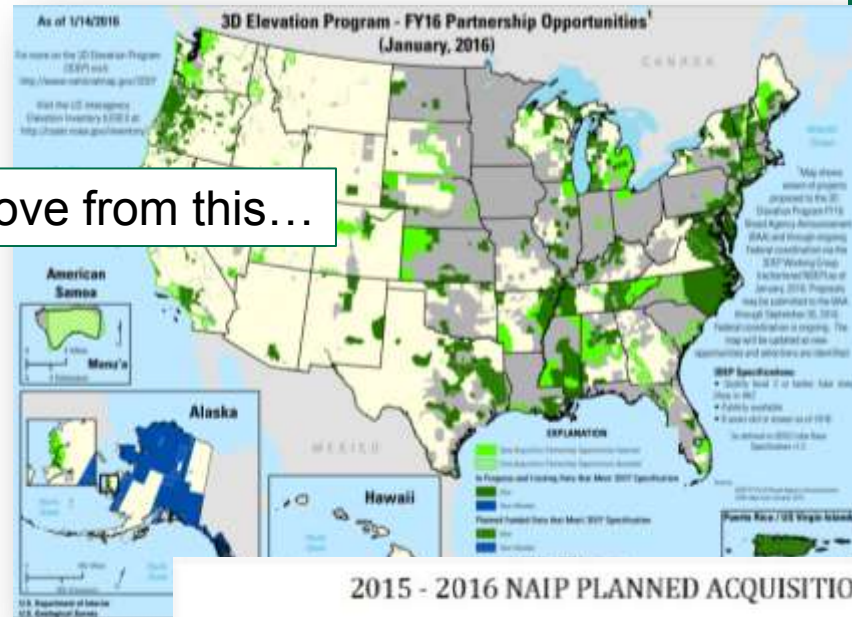


+ Moving to a more systematic approach

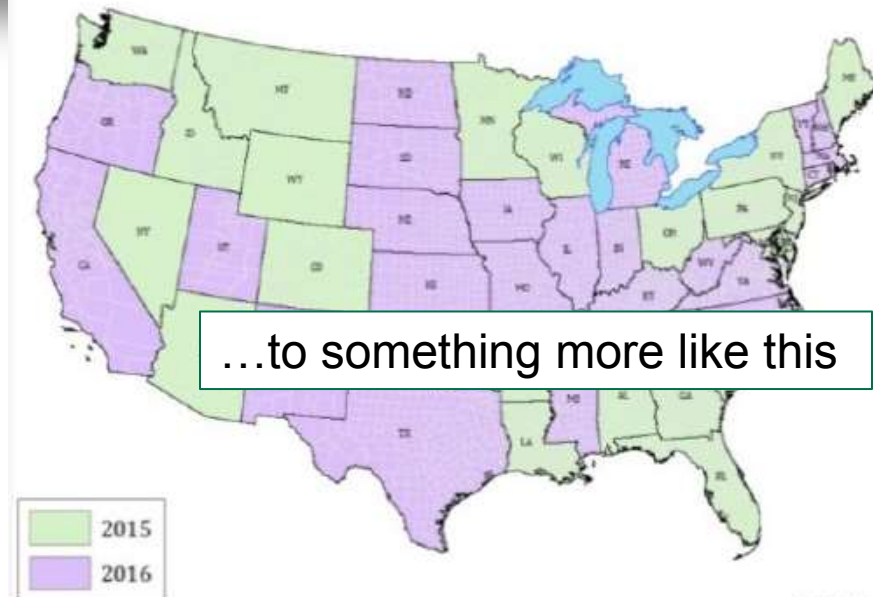
What needs to change?

- Move from an annual, opportunistic process to a unified multi-year plan
- Move from patchwork irregular acquisition footprints to some defined unit (cell-based, watershed, county etc.)
- Capture more non-Federal investments through greater lead times for planning
- Defined units facilitate planning and understanding costs, allow for improved reporting and justification of investments
- Eventually plan nationwide coverage

Move from this...



2015 - 2016 NAIP PLANNED ACQUISITION



...to something more like this

+ Development of a Multi-Year Plan

Tasking from May 2016 3DEP Executive Forum

- 3DEP Working Group tasked to develop a multi-year plan
- Initial progress report at October 20 meeting
- Timeline
 - Recommended standardized /planning delivery unit via national tiling scheme – January, 2017
 - Each agency define planned data acquisition and requirements for minimum next year – March, 2017
 - Development of a Communication Plan / Strategy – March, 2017
 - Present recommendations to Executive Forum – March, 2017
 - Goal to begin implementing in FY18



+ Accelerating the 3DEP Unified Plan

Refining and Strengthening Federal Best Practices

- As a Federal community
 - Implement a Federal-wide multiyear data acquisition plan
 - 3DEP budget initiative

In our agencies

- Participate in 3DEP budget initiative
- Seek non-Federal partners via the BAA for any Federal data investments
- Ensure that investments in data meet 3DEP quality levels
- Implement an agency policy to work within the unified Federal 3DEP plan for data acquisition and sharing
- Coordinate internally to link regional/field offices into 3DEP data acquisition process
- Share 3DEP-quality datasets acquired outside of the data acquisition process to be ingestion into national holdings
- Sign 3DEP governance memorandum of understanding (when available)
- Assign agency representatives to 3DEP Executive Forum and Working Group
- Promote 3DEP to agency constituents to participate in or support the national 3DEP effort
- Encourage or require that Federal grant monies used for elevation data acquisition result in the data being collected to 3DEP standards and contributed to the national holdings

+ Thank you!

