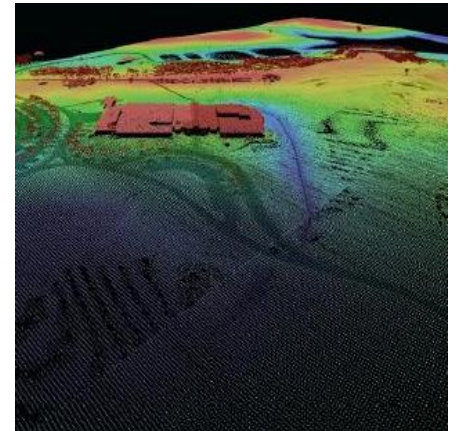
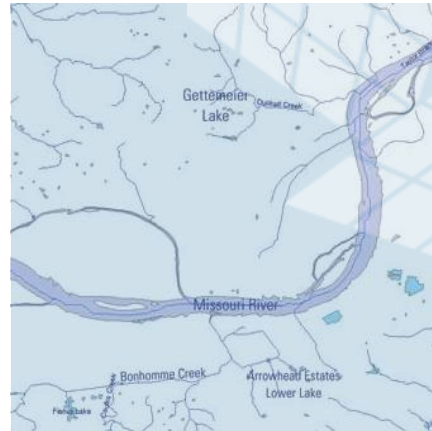
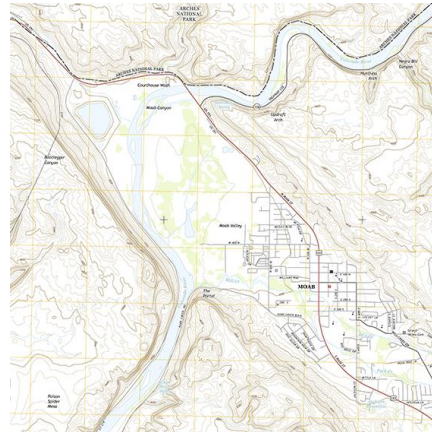


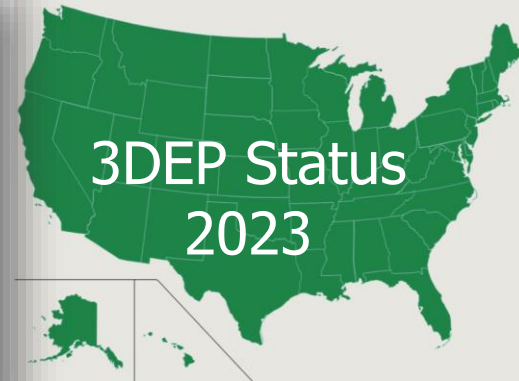
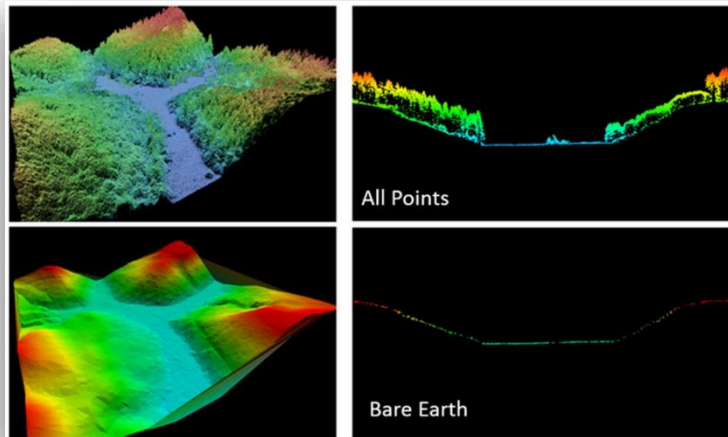
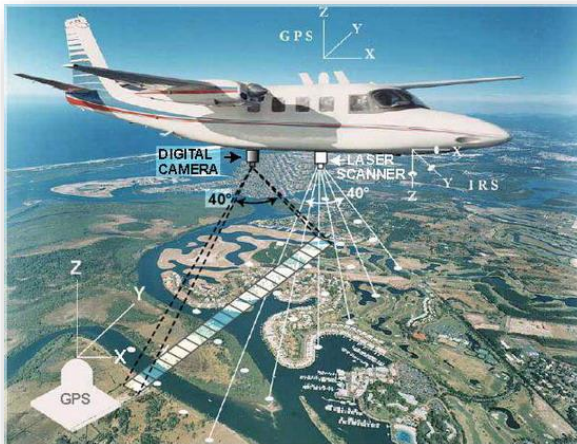
# 3D Elevation Program (3DEP) Roundtable



Kevin T. Gallagher  
Associate Director, Core Science Systems  
November 27, 2018

# 3D Elevation Program (3DEP)

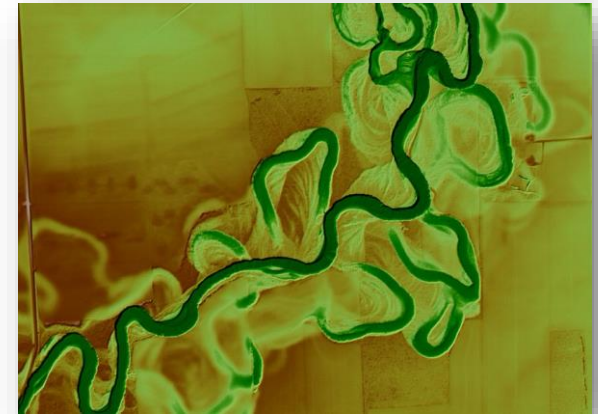
- Apply lidar technology to map bare earth and 3D data of natural and constructed features
- Goal to complete acquisition of national lidar coverage with IfSAR in Alaska in 8 years, by 2023
- Address the mission-critical requirements of 50 states, 34 Federal agencies, and other organizations documented in the National Enhanced Elevation Assessment
- ROI 5:1, conservative benefits of \$690 million/year with potential to generate \$13 billion/year
- Leverage the capability and capacity of private industry mapping firms
- Achieve a 25% cost efficiency gain by collecting data in larger projects
- Completely refresh national elevation data holdings with new products and services
- Plan is available in the Call for Action report



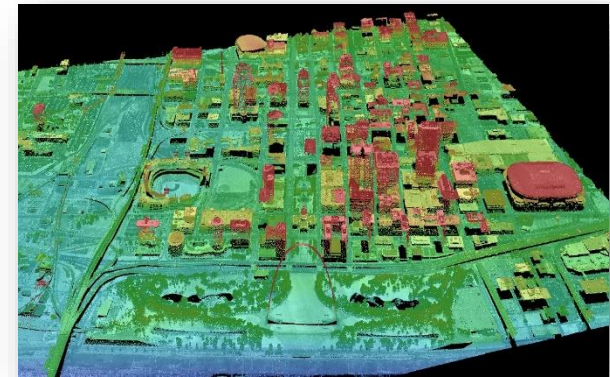


# National Enhanced Elevation Assessment (NEEA)

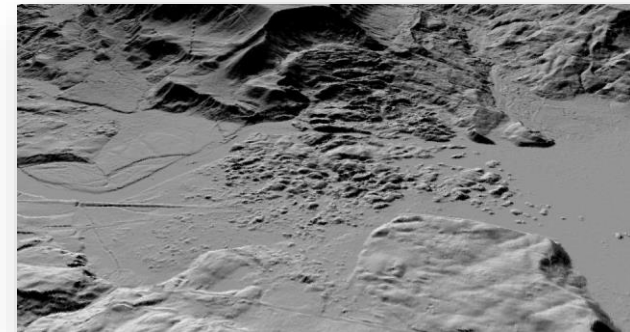
Rank	Business Use	Annual Benefits	
		Conservative	Potential
1	Flood Risk Management	\$295M	\$502M
2	Infrastructure and Construction Management	\$206M	\$942M
3	Natural Resources Conservation	\$159M	\$335M
4	Agriculture and Precision Farming	\$122M	\$2,011M
5	Water Supply and Quality	\$85M	\$156M
6	Wildfire Management, Planning and Response	\$76M	\$159M
7	Geologic Resource Assessment and Hazard Mitigation	\$52M	\$1,067M
8	Forest Resources Management	\$44M	\$62M
9	River and Stream Resource Management	\$38M	\$87M
10	Aviation Navigation and Safety	\$35M	\$56M
:			
20	Land Navigation and Safety	\$0.2M	\$7,125M
Total for all Business Uses (1 – 27)		\$1.2B	\$13B



Flood Risk Management



Infrastructure



Landslides

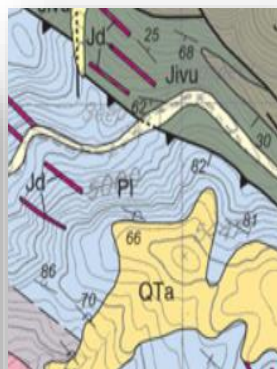


# + 3D Elevation Program (3DEP)

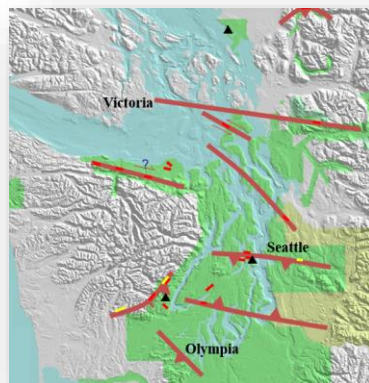
## Applications



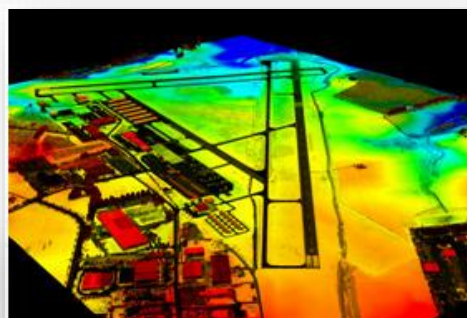
Flood Risk Management



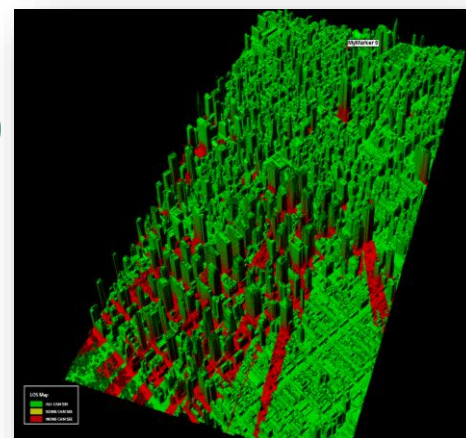
Critical Minerals



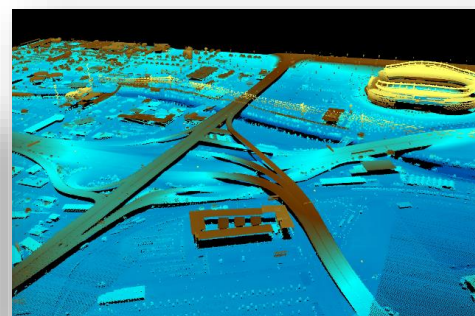
Seismic Hazards



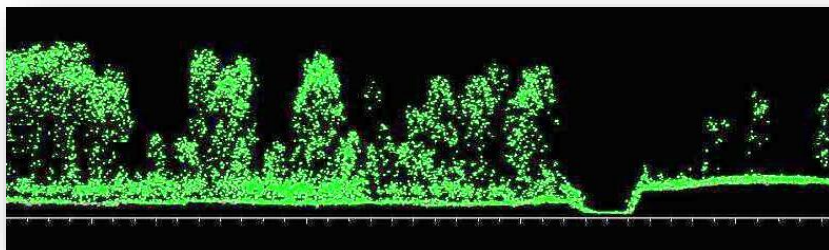
Aviation Safety



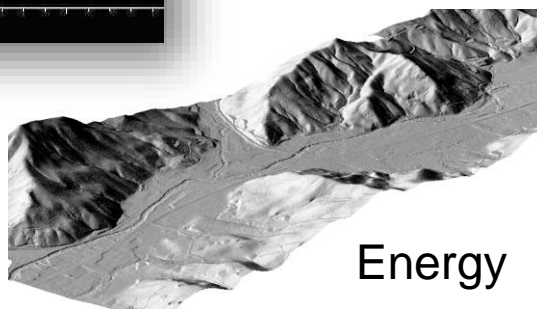
Broadband



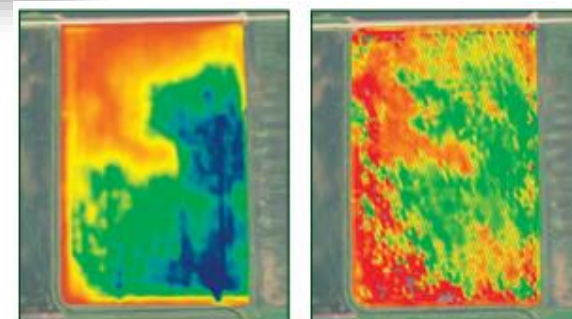
Infrastructure



Forestry



Energy

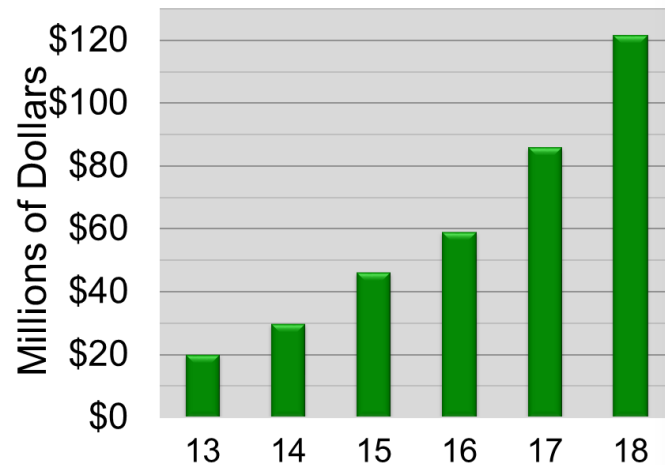


Precision Agriculture

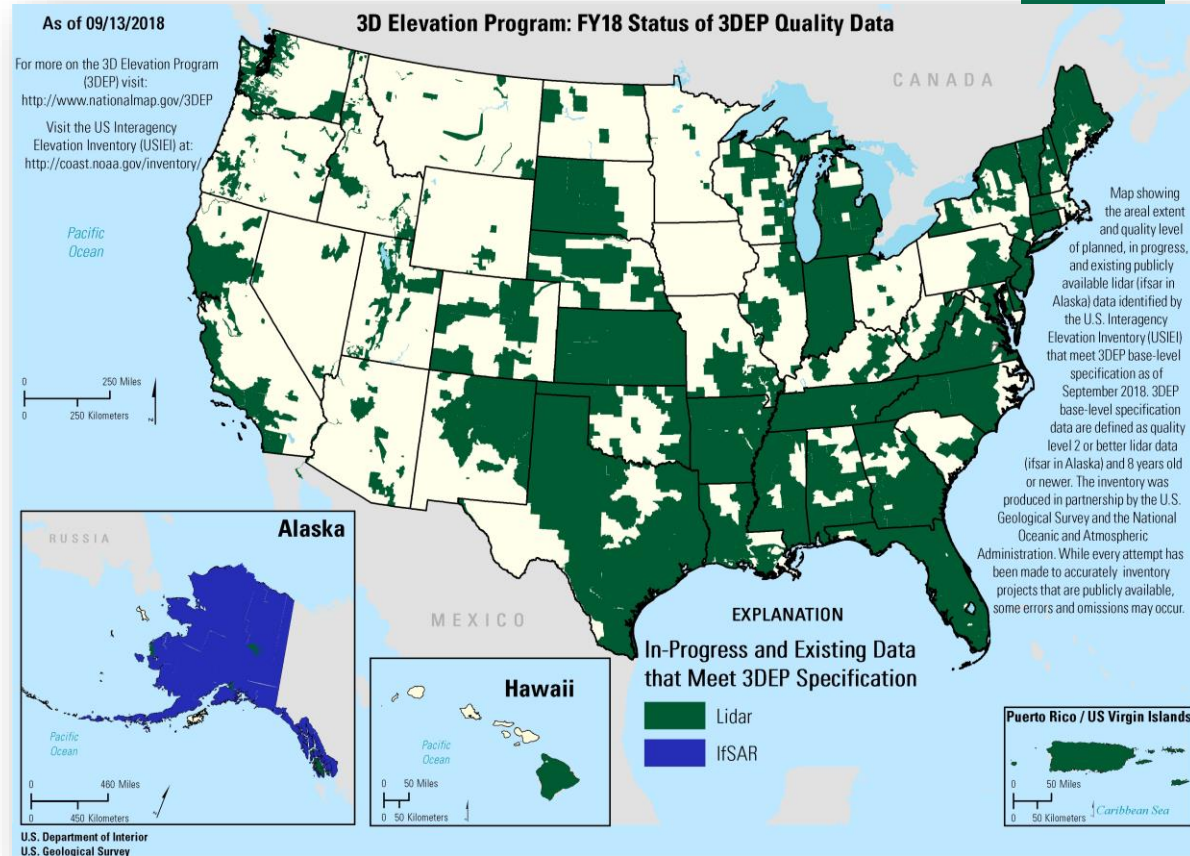
# 3D Elevation Program (3DEP)

Data are available or in progress for approaching 50% of the Nation

\*includes lidar and AK IfSAR



Data acquisition investments by all partners, by fiscal year

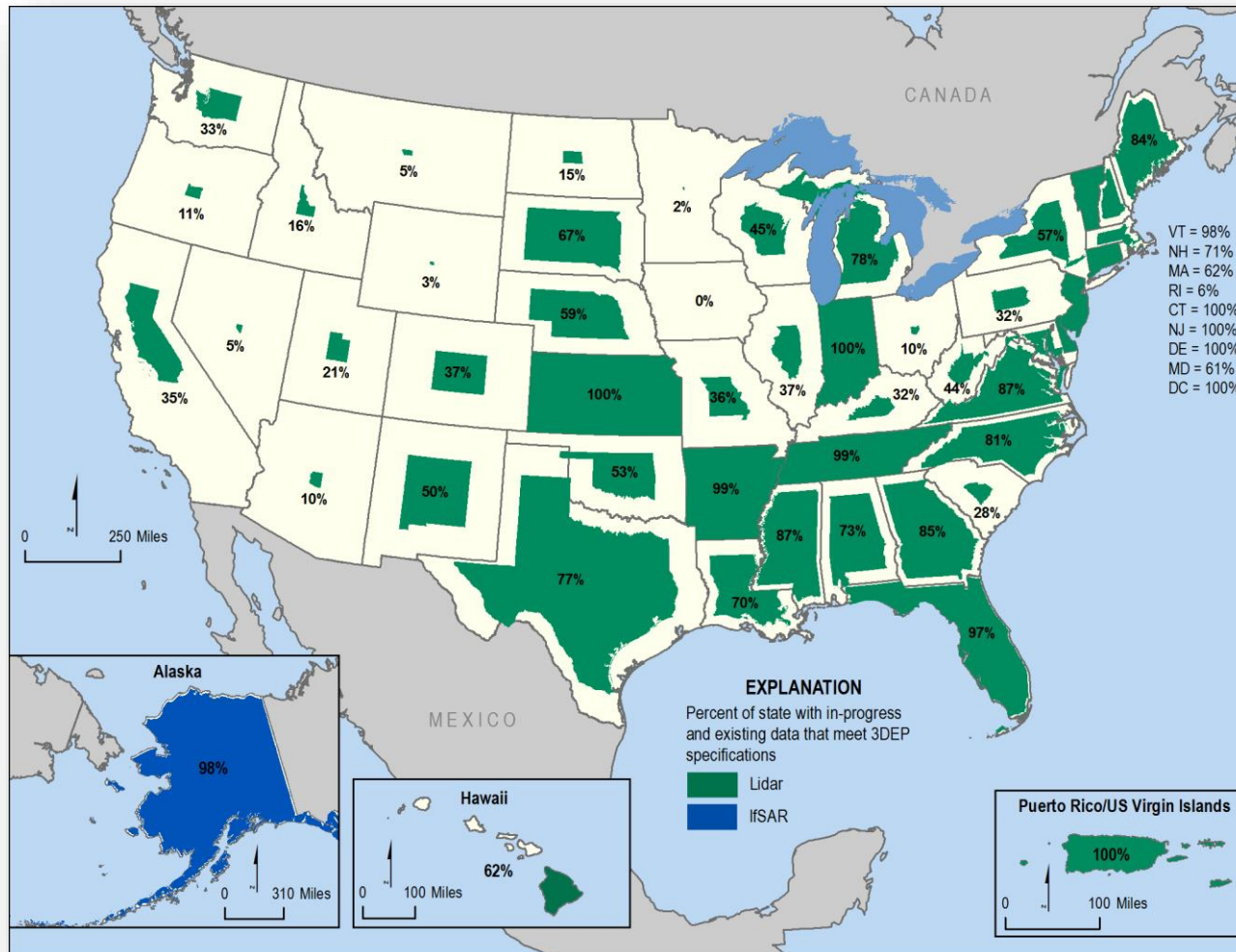




# + 3DEP Coverage by State

## September, 2018

6



# 3DEP Partnerships

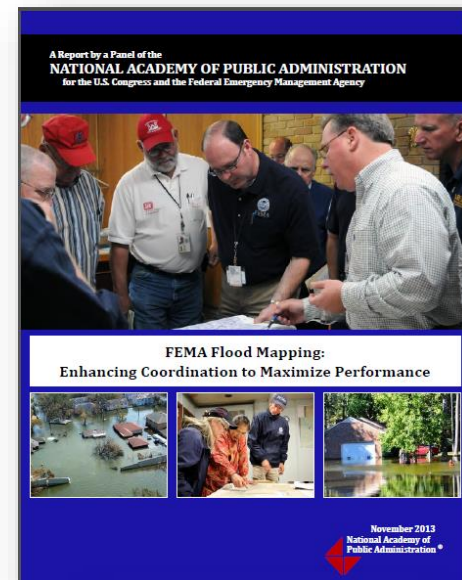
## Taking stock

- 3DEP is managed by USGS on behalf of a broad partner community that includes state, Federal, and local agencies, as well as the private sector and non-profit groups
- Since the beginning of FY15
  - Over 200 partners – including 16 Federal agencies and state and local governments from 44 states and territories – have contributed funding for 3DEP data acquisition across the Nation
  - USGS and partner investments totaling \$299.6M supported acquisition of 1.5 million square miles of data
  - The total coverage of 3DEP data available or in progress is approaching 50% of the Nation
  - Growing demands for higher quality, repeat coverage, new products and services
- Areas lacking coverage include significant areas of Federal and other lands in the West

# + 3D Elevation Program (3DEP)

## Endorsements

- National lidar program is a priority of the National Science and Technology Council's National Plan for Civil Earth Observations
- National Academy of Public Administration report on FEMA Flood Mapping recommended that OMB implement the 3DEP plan for national lidar
- Endorsed by 30 groups
- Outstanding Enterprise Achievement in Lidar Award – International Lidar Mapping Forum and Lidar Magazine



Nathaniel F. Wienecke  
Senior Vice President for Federal Government Relations  
Property Casualty Insurers Association of America



Ellen Bergfeld, PhD  
CEO  
Soil Science Society of America



Curtis W. Sumner, LS (VA)  
Executive Director  
National Society of Professional Surveyors



Molly Schar  
Executive Director  
National States Geographic Information Council



Cindy Chetti  
Senior Vice President, Government Affairs  
National Multifamily Housing Council



NATIONAL GEOSPATIAL ADVISORY COMMITTEE

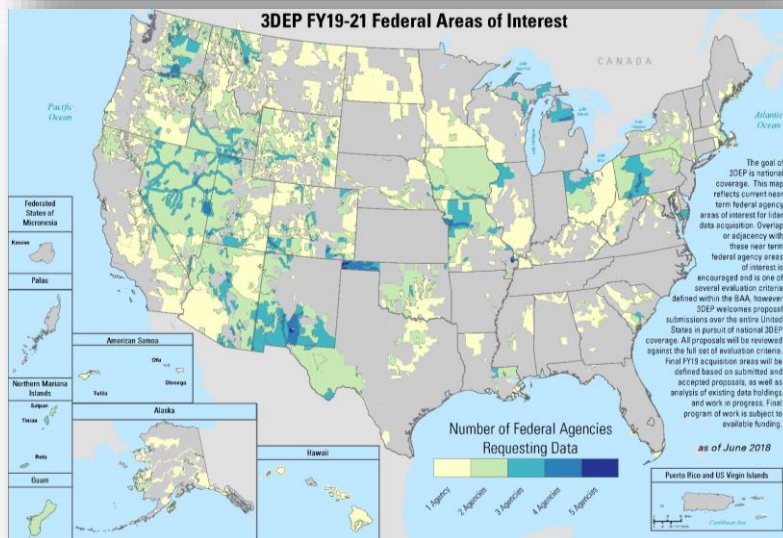
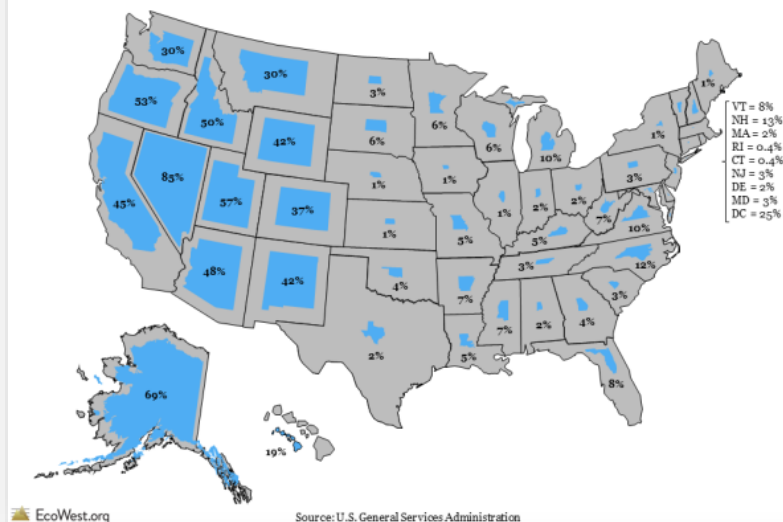


# Completion of 3DEP nationwide coverage

## Challenges and Strategies

- Significant amounts of Federal land in western US
- State and local investments in western states are mostly in urban areas, to support infrastructure development, natural hazards
- What are strategies for increasing Federal investment in the west?
  - New Federal requirements may draw in other partners in the BAA
  - 3DEEP/Critical Minerals initiative
  - Hazards - landslides legislation, supplementals
  - Other western initiatives or groups to reach out to/join?

Portion of each state that is federal land



FY19-21 Federal Areas of Interest



