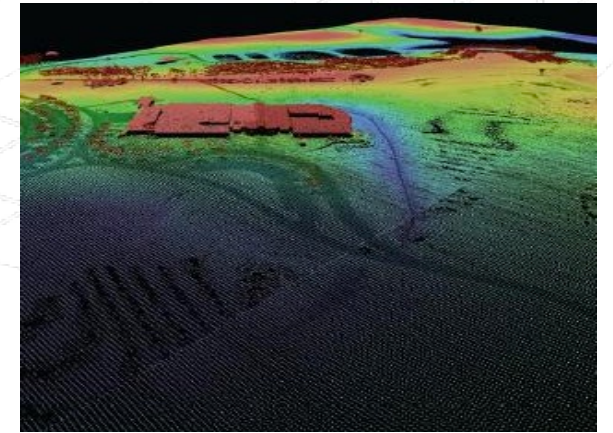
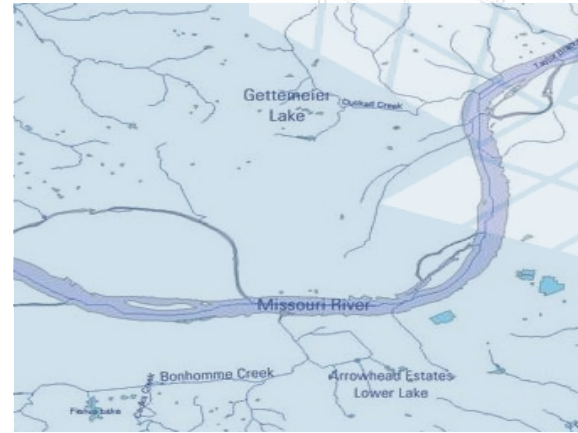
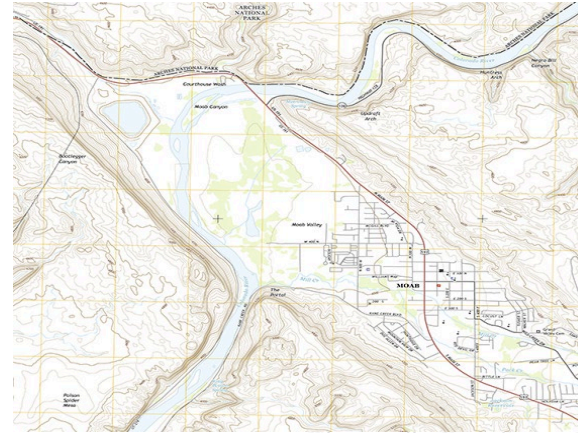




3DEP Update for NGAC



Vicki Lukas
April 11, 2023



3DEP Data Acquisition Status

FY23 To Date

Broad Agency Announcement (BAA)

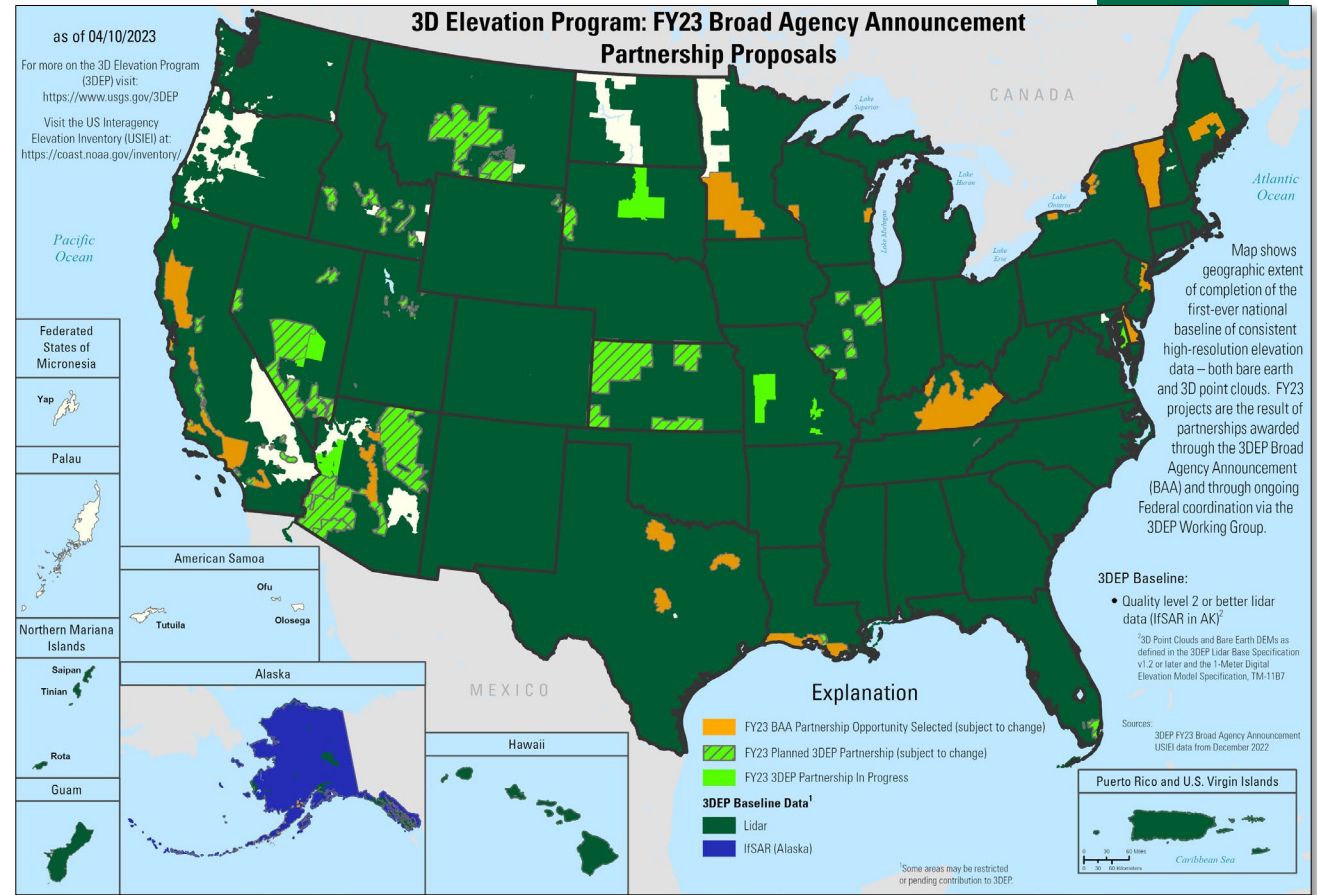
- Approved 20 proposals in 13 states for ~ 88k sq mi

Federal Partnerships

- Awarded 5 projects in 5 states for ~ 21k sq mi
- Additional planned FY23 projects to include:
 - ~ 17k sq mi in Montana
 - ~ 7k sq mi in Idaho
 - ~ 26k sq mi in Kansas

Highlights

- USGS and FEMA Region 9 to partner on ~ 16k sq mi 3DEP project that covers large portions of Navajo Nation and Hopi Tribal Lands in northeast Arizona
- \$3M in USGS Earth MRI Bipartisan Infrastructure Law funds to support completion of baseline 3DEP coverage for Nevada
- \$6M in USGS Inflation Reduction Act funds to support more than 30 FY23 projects
- Agreement with FEMA in progress to support FY24 acquisition in CA and AZ





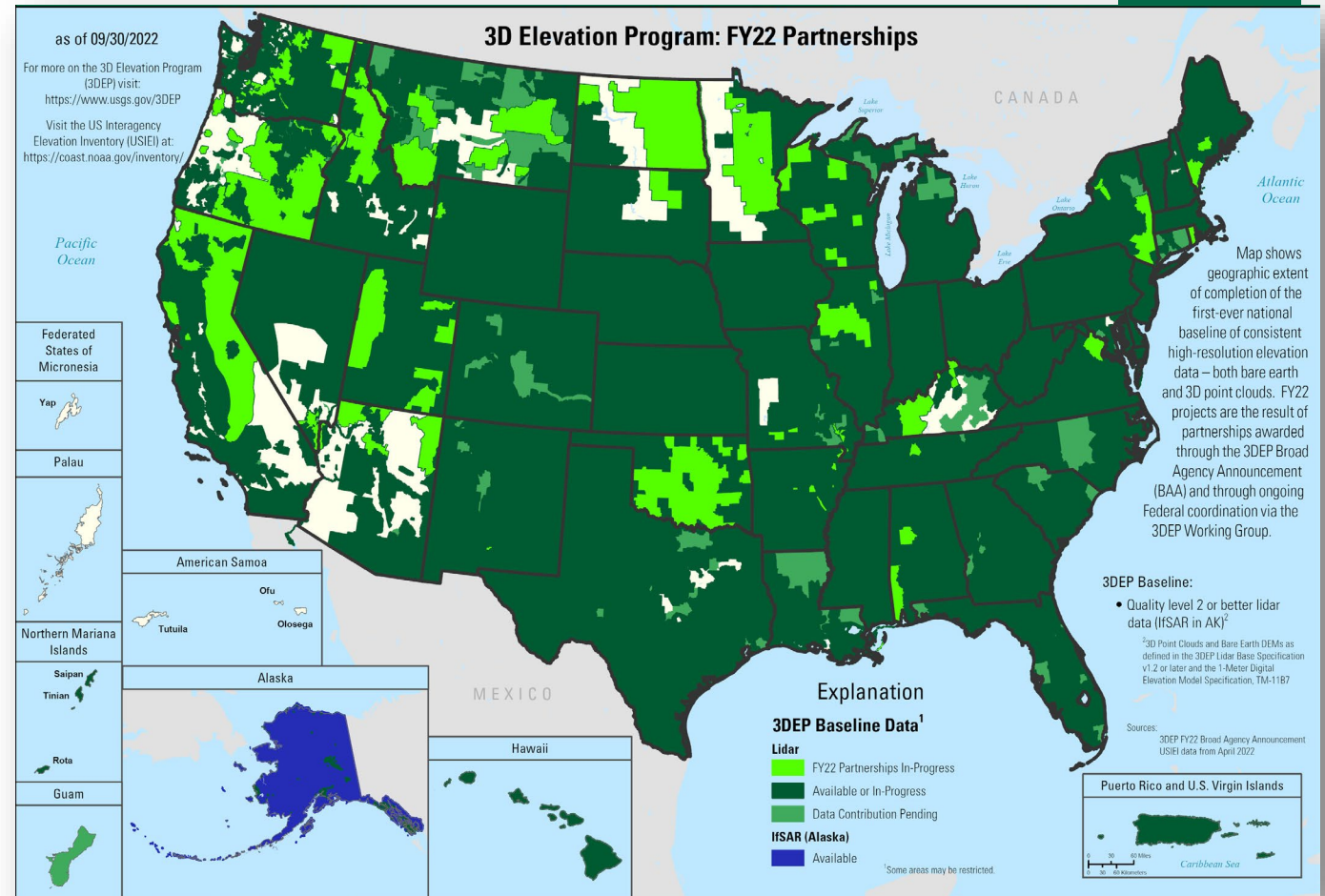
FY22 3DEP National Baseline Status

FY22 Partnerships Totals

- Broad Agency Announcement - Approved 23 proposals in 14 states for ~ 180k sq mi
- Federal partnerships - Awarded 13 projects in 13 states for ~ 163k sq mi

Highlights

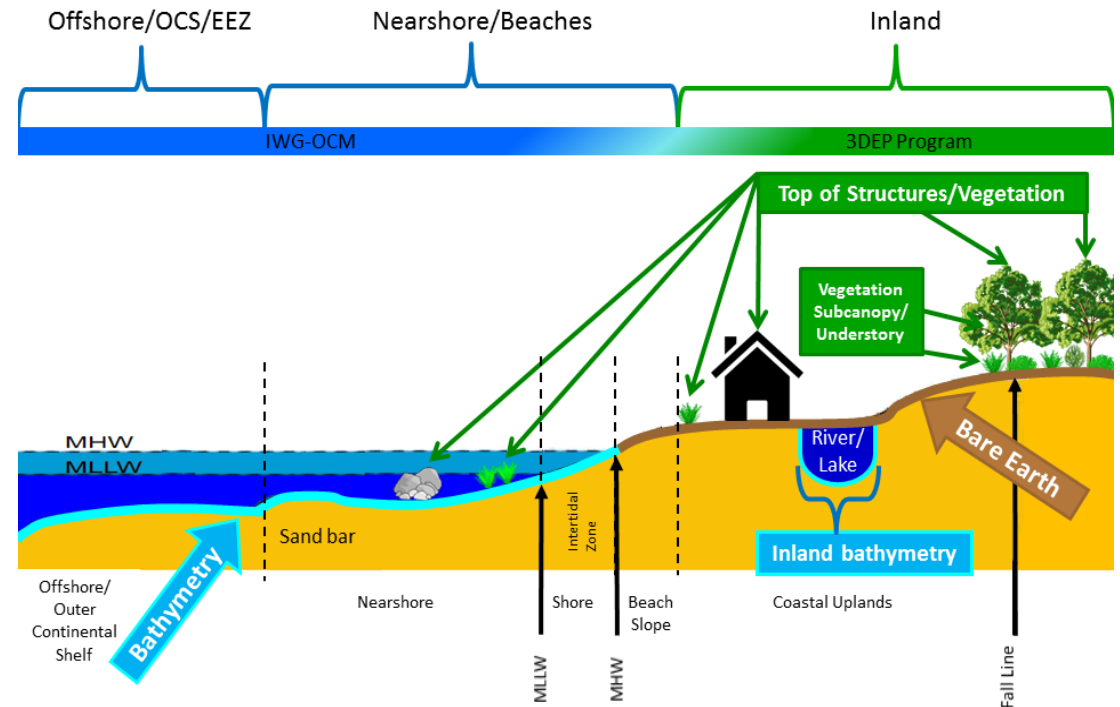
- Earth MRI contributed \$7.8M
- \$5.5M supplemental funding for lidar for Washington wildfire impact areas; leveraging with partner funding
- USGS and NRCS/FPAC-BC partnered on a project that covers a significant portion of Navajo Nation in NE AZ
- NRCS/FPAC-BC added ~ \$30M to agreement with USGS to support 3DEP data acquisition in FY23
- New agreement with BLM to support the FY23 acquisition of \$2M of 3DEP data for BLM managed lands
- At the end of FY22 **85.9%** of the Nation had 3DEP baseline data available or in progress



3D Nation Elevation Requirements and Benefits Study

COMPLETED!

- Commissioned by NOAA and USGS as Elevation Theme Leads to understand inland, nearshore, and offshore bathymetric data requirements and benefits
- Use results to guide planning for the next generation of 3DEP and Ocean and Coastal Mapping
- Study by the numbers
 - \$13.5 billion annual benefits documented
 - 1,352 mission critical requirements
 - 14,000+ pages
 - 45 Federal agencies, 56 State, 99 Local, 8 Tribal gov'ts, 34 Private companies, 24 others
 - 5 years in the making



+ What the Study asked about

3D Elevation Data Needs

- Requirements for 3D elevation data
 - **Topographic** – precise 3D measurements of the terrestrial terrain
 - **Bathymetric** – 3D measurements of underwater depths and topography
- Geographic extents of mission critical activities (MCAs)
- Characteristics of 3D elevation data needed to perform the MCA
 - Quality Level/IHO Order
 - Update frequency
 - Acceptable error (Horizontal & Vertical)
 - Beach profile
 - Cross sections/ transects
 - Hydrologic processing
 - Tide correction
 - Seamlessness
 - Data products
 - Integration with other datasets
- Currently used data & benefits
- Future benefits
 - Operational Benefits - time or cost savings, mission compliance
 - Customer Service Benefits - products or services, response or timeliness, customer experience
 - Societal Benefits (not quantified) - education or outreach, environmental, public safety, including lives and property

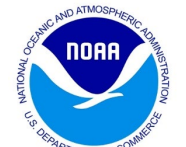
+ Future Annual Benefits

Total Reported Benefits - All Geographies

Geography Type	Future Annual Benefits
Inland topography	\$9.99B
Inland bathymetry	\$0.86B
Nearshore bathymetry	\$2.55B
Offshore bathymetry	\$0.16B
Total	\$13.56B

\$10.85B

Results not Final - subject to change in final report





3DEP News

Inflation Reduction Act of 2022 - \$23.5M for 3DEP

- “TITLE VI—COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS, Subtitle B—Natural Resources, PART 7—UNITED STATES GEOLOGICAL SURVEY , SEC. 50271. UNITED STATES GEOLOGICAL SURVEY 3D ELEVATION PROGRAM: “In addition to amounts otherwise available, there is appropriated to the Secretary, acting through the Director of the United States Geological Survey, for fiscal year 2022, out of any money in the Treasury not otherwise appropriated, **\$23,500,000, to remain available through September 30, 2031, to produce, collect, disseminate, and use 3D elevation data.**”
- Because the uses of lidar data are very broad, the ROI from national coverage is high (estimated in 2012 at \$690M per/year with the potential to grow to \$13B/year)
 - The benefits accrue to applications that need accurate and high-resolution elevation and topography data
 - The funding provided to 3DEP by this Act will help Federal agencies tasked with implementing programs that require precision elevation data
- This “shot in the arm” for 3DEP will accelerate our planned completion of National coverage, particularly if we can leverage it with partners
 - Designed as a partner-driven program: from 2015-2021, over 300 Federal, State and Local partners have provided \$485M or about 65% of the total project cost



Potential Uses

Inflation Reduction Act of 2022 - \$23.5M for 3DEP

- Funding towards completion of the national 3DEP baseline – particularly to leverage other Federal agency IRA funding to help complete Federal lands
- Expand inland bathymetry acquisition
- Operations funding to ensure efficient processing of incoming data, improve workflow tracking to support communications on status
- Development of 1m seamless DEM to support deriving hydrography from lidar for 3D Hydrography Program and to improve a broad range of other applications
- Research for next generation 3DEP

THANK YOU!

