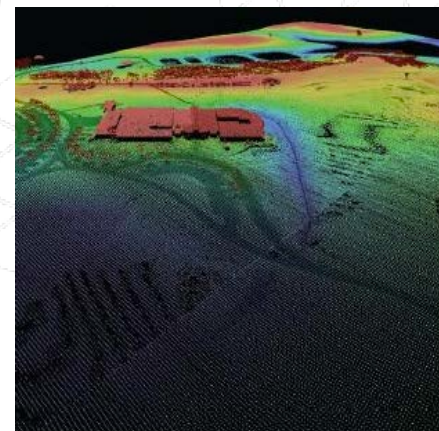
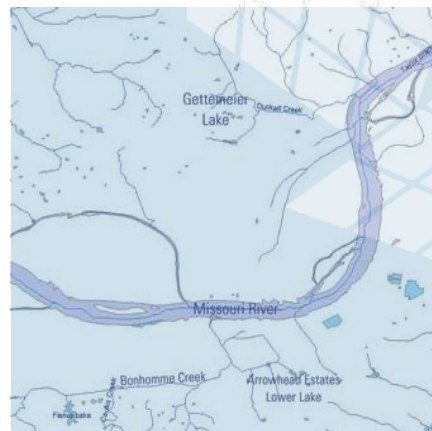
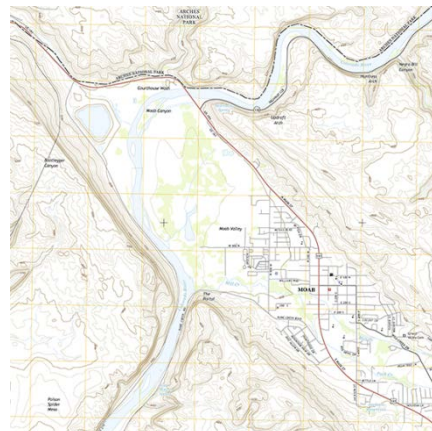




Partnerships to support the USGS 3D Elevation Program



February 2019
Darcee Killpack
Walter Kloth

National Geospatial Technical Operations Center

+ Overview

2

- National Geospatial Technical Operations Center
- 3D Elevation Program (3DEP)
- BAA Process
 - Geospatial Product and Service Contract (GPSC)
 - Cooperative Acquisitions (COOPs)
- Partnerships
- Project Examples



+ National Geospatial Technical Operations Center

- Operational component of the USGS National Geospatial Program
- Provides geospatial products and services supporting key priorities
- The National Map
 - Base Data
 - Map Products
 - Geospatial Web Services

National Level Datasets

Elevation
Hydrography
Boundaries
Man-made Structures
Transportation
Geographic Names

Products

US Topo
Seamless DEMs
Lidar Point Cloud
Base Maps
and much more....



The National Map

Your Source for Topographic Information

+ 3D Elevation Program (3DEP)

4

- Systematically collect enhanced elevation data for the U.S.
 - Lidar in lower 48: QL2 (1 m DEMs)
 - IfSAR in Alaska: QL5 (5 m DEMs)
- Addressing mission-critical requirements for high-quality topographic data
- Leveraging capability & capacity of private industry mapping firms
- Achieve a 25% cost efficiency gain by collecting data in larger projects
- Refresh national elevation data holdings with new products and services

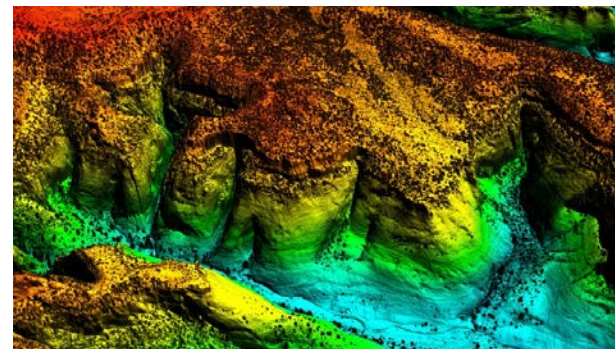
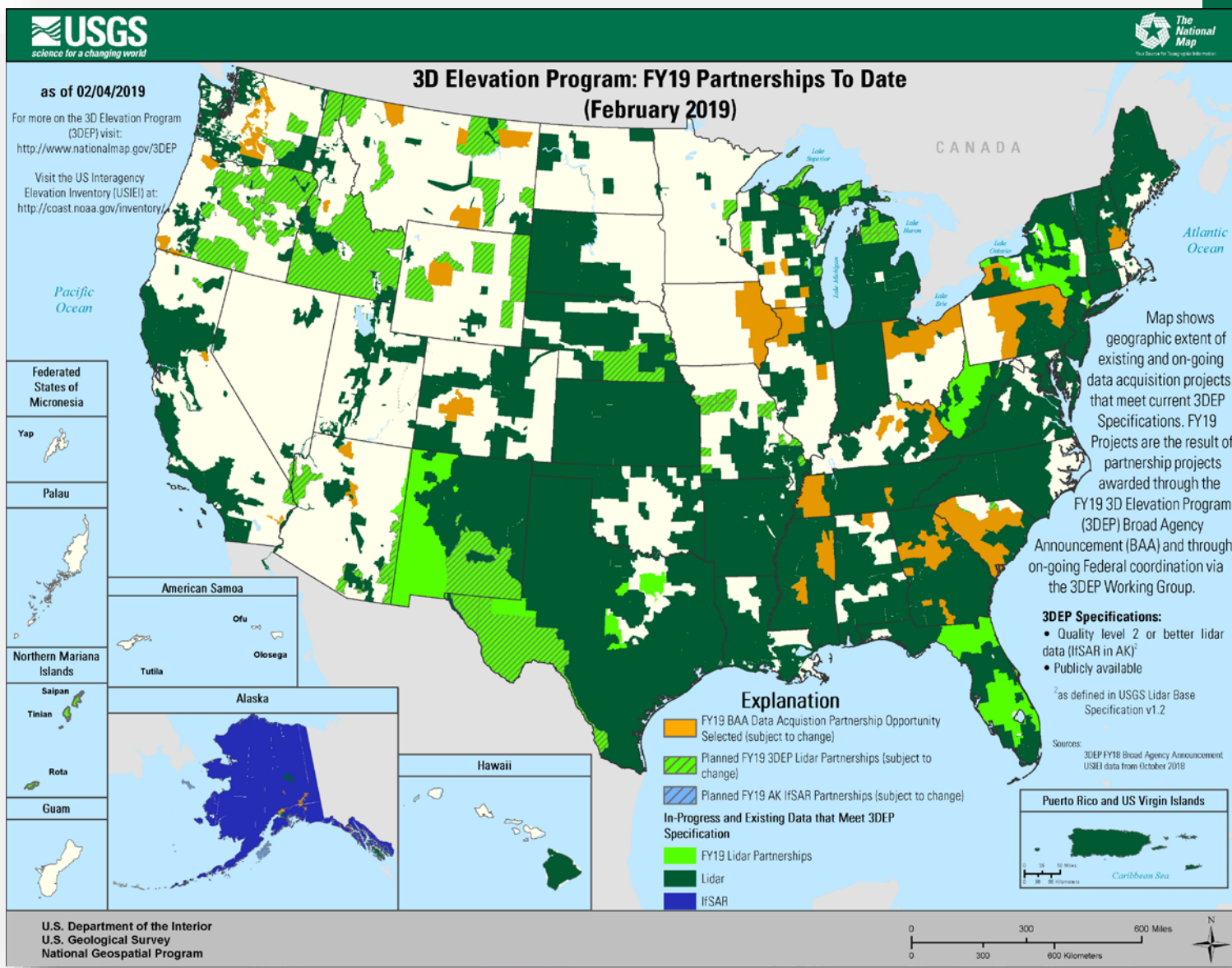


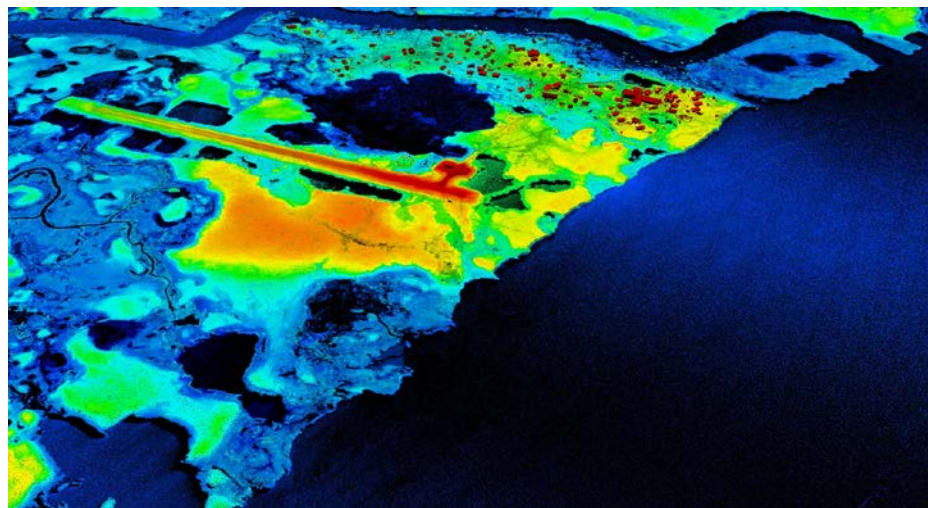
Image courtesy of Woolpert, Inc.



+ How USGS Partners for Lidar

6

- Broad Agency Announcement (BAA)
 - Geospatial Product and Service Contract (GPSC)
 - Cooperative Agreements (COOP)
- Direct Support
 - Funding partnerships with Federal agencies
 - State and local non-financial support



+ Broad Agency Announcement (BAA)

7

- Provides opportunities for the broadest stakeholder community through FedBizOpps.gov and grants.gov
- Federal, state and local governments, tribes, academic institutions, and private sector are eligible
- Partners may propose to use the USGS GPSC or their own contracting vehicles
- National Map Liaisons can assist partners with the process and coordinating partnerships

<https://www.usgs.gov/core-science-systems/ngp/3dep/broad-agency-announcements>

The screenshot shows the USGS website header with the logo and navigation links: SCIENCE, PRODUCTS, NEWS, CONNECT, ABOUT. A search bar and a share icon are also present. Below the header, the page title is "3D Elevation Program". The main content area is titled "Broad Agency Announcements" and includes the text: "Each Broad Agency Announcement (BAA) provides detailed information on how to partner with the USGS and other Federal agencies to acquire high-quality 3D Elevation data." A sidebar on the left contains links: HOME, WHAT IS 3DEP, GOVERNANCE, COLLABORATION AND PARTNERSHIPS (highlighted), Broad Agency Announcements, Contribute Data, Collaborate with Others, and Geospatial. The main content area also includes a link to submit questions to gs_baa@usgs.gov, the current BAA release date (September 17, 2018), and a list of previous BAAs.

USGS
science for a changing world

SCIENCE PRODUCTS NEWS CONNECT ABOUT

Search

3D Elevation Program

Broad Agency Announcements

Each Broad Agency Announcement (BAA) provides detailed information on how to partner with the USGS and other Federal agencies to acquire high-quality 3D Elevation data.

Questions on the BAA can be submitted to gs_baa@usgs.gov.

Current Broad Agency Announcement (BAA)- released September 17, 2018

The FY18/FY19 Broad Agency Announcement (BAA) for 3D Elevation Program (3DEP) was released on September 17, 2018. The BAA provides detailed information on how to partner with the USGS and other Federal agencies to acquire high-quality 3D Elevation data.

- FY18/FY19 BAA

Previous BAAs

Each year's 3DEP Broad Agency Announcement (BAA) solicitation has its own set of information that is unique to that BAA. Expired information from previous BAA solicitations can be found below:

+ GPSC

8

- Architecture and Engineering (A&E) Indefinite Delivery/Indefinite Quantity (IDIQ) Contract
- \$750 Million delegated procurement authority for 5 years
- Focus on professional mapping services
- Competitive qualification based selection process for contractors
- GPSC is not a public contract vehicle
 - Must enter into an agreement w with USGS



- 10 prime contracts
- Over 200 subcontractors

Large Business Firms

- ❑ Dewberry
- ❑ Fugro Earthdata
- ❑ Merrick-Surdex JV
- ❑ Quantum Spatial
- ❑ Sanborn
- ❑ Woolpert

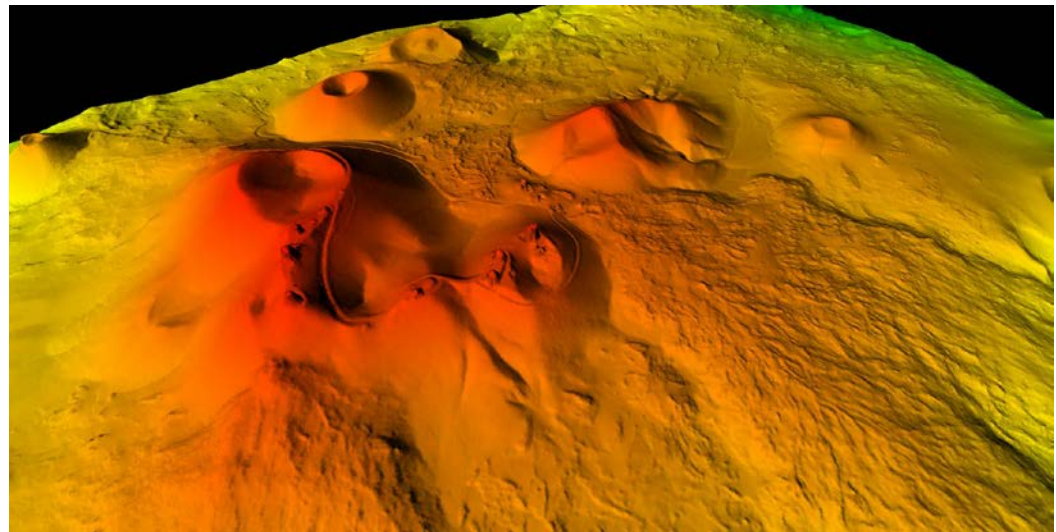
Small Business Firms

- ❑ Aerial Services
- ❑ Atlantic
- ❑ Digital Aerial Solutions
- ❑ Precision Aerial Reconnaissance

+ COOPs

10

- BAA applicants execute the USGS Cooperative Agreement through their own contracting mechanism
- USGS becomes a funding partner of the COOP acquisition
- COOPs are managed by the USGS National Geospatial Program (NGP) office through the Office of Acquisitions and Grants (OAG)



+ Direct Support

11

■ Federal Agencies

- USGS may partner and cost share directly with Federal agencies to obtain lidar without requiring the use of the BAA process
- No non-federal partners may participate in the project
- Federal agencies can still apply for a BAA

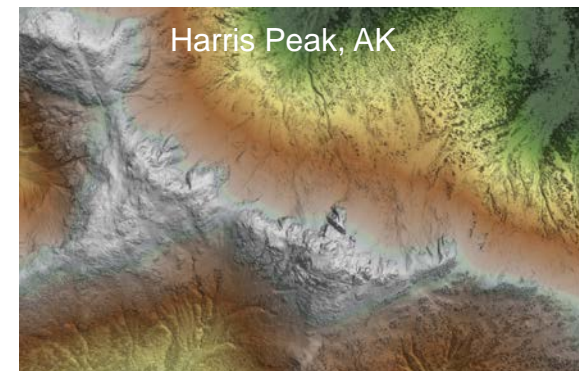
■ State and Local

- USGS may not provide direct cost share funds to non-federal agencies without the BAA process
- But the GPSC contract and staff expertise may still be utilized to manage the acquisition
- USGS QC expertise may also be used for certain projects

+ NOAA as 3DEP Partner

12

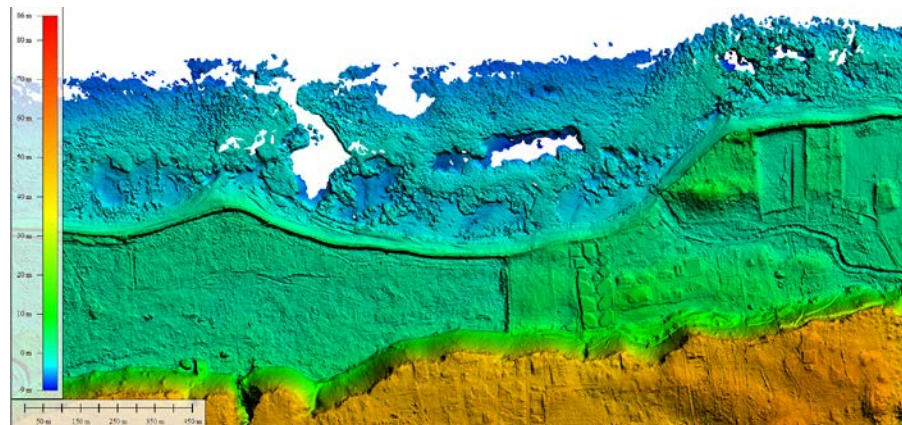
- NOAA is a major leader in the 3DEP program and advocate for lidar acquisition
- USGS and NOAA frequently collaborate on various projects
- Acquisitions with coastal and inland areas are coordinated to ensure seamless coverage and core data products
- NOAA and USGS have created a formal relationship to reallocate funding directly between agencies when needed



+ USGS in the Coastal Region

13

- USGS and NOAA have overlapping requirements for lidar in the coastal zone
- Developed a complimentary relationship through the 3DEP program
 - Direct and indirect support provided on various projects
- Partners can ask for additional specifications outside the USGS Lidar Base Specification
 - Additional requirements can be added to the acquisition to meet partner needs
 - Tide Controlled
 - Topo/Bathy collections



+ Additional Requirements

14

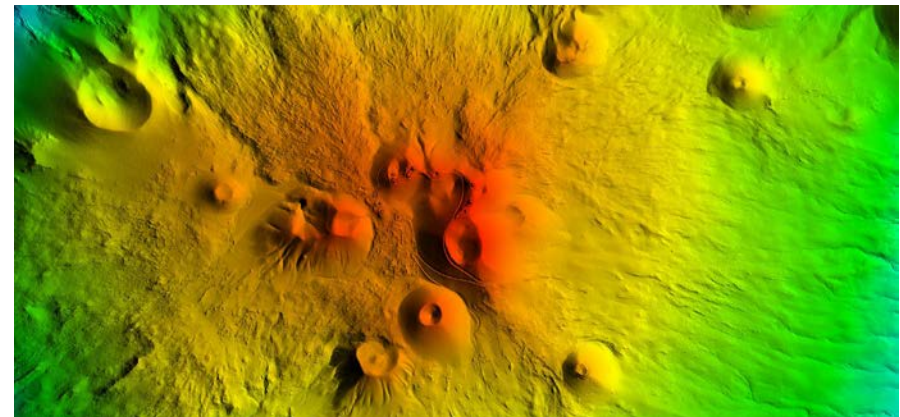
- Tidal Coordination is not required by USGS, but it can be added at the request of partners
- Recent examples include:
 - 2018 Georgia Statewide BAA Lidar Acquisition, coastal counties not acquired by NOAA
 - 2018 Southern New Jersey BAA Lidar, collaboration with FEMA along the southern New Jersey coastline
 - Upcoming 2019 Massachusetts Statewide Orthoimagery project

+ Developing a Partnership

- USGS BAA process
 - U.S. Federal Mapping Coordination Site
 - U.S. Interagency Elevation Inventory
- USGS National Map Liaisons
- State lidar acquisition plans
- Working with another existing partner
- Working with USGS NGTOC directly

<https://coast.noaa.gov/inventory/>

<https://www.seasketch.org/#projecthomepage/5272840f6ec5f42d210016e4>





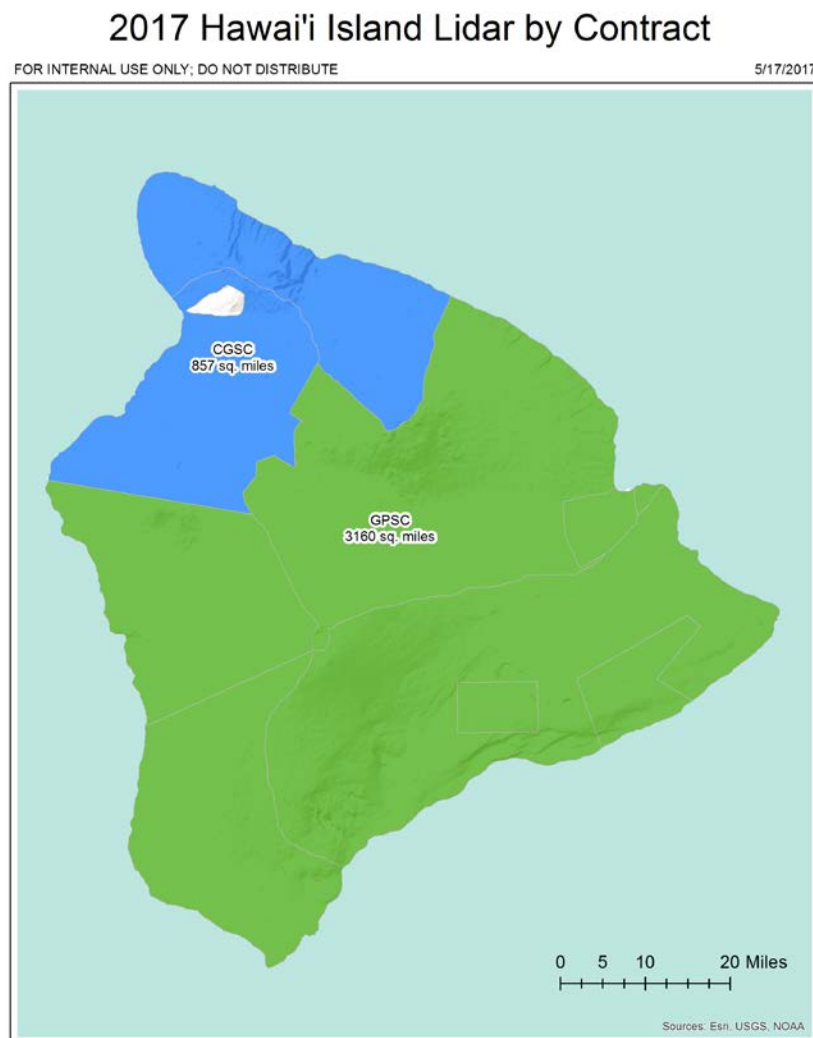
Project Showcase



+ Hawaii Big Island Lidar Project

17

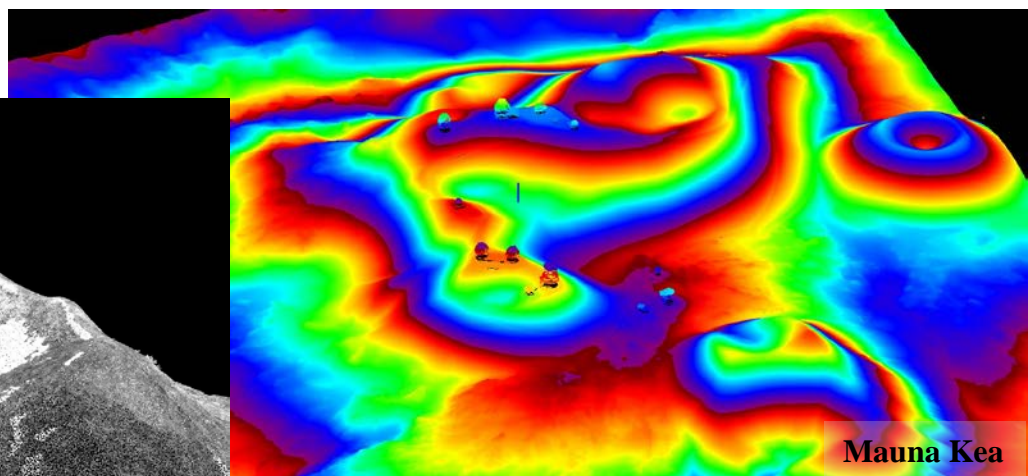
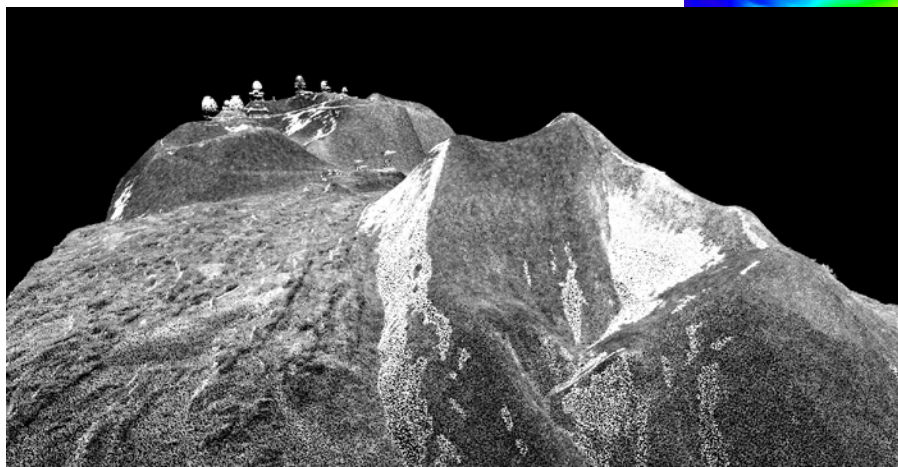
- Coordination with NOAA
- Contractor: Woolpert
- Quality Level = 0 to 1
 - 8 points per sq meter (ppsm) - 16ppsm
- Project delayed
 - Change flight plans to fit into short and infrequent weather windows in 2018
 - Waiting for next weather window



+ Hawaii Big Island Lidar Project

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- Funding partners include: USGS National Geospatial Program and Volcano Hazards Program; FEMA National Office and Region 9; and NRCS National Geospatial Center of Excellence
- Remaining tasks
 - Recollection of areas to fill in clouds
 - Collect the remaining area (~2000 sq miles)

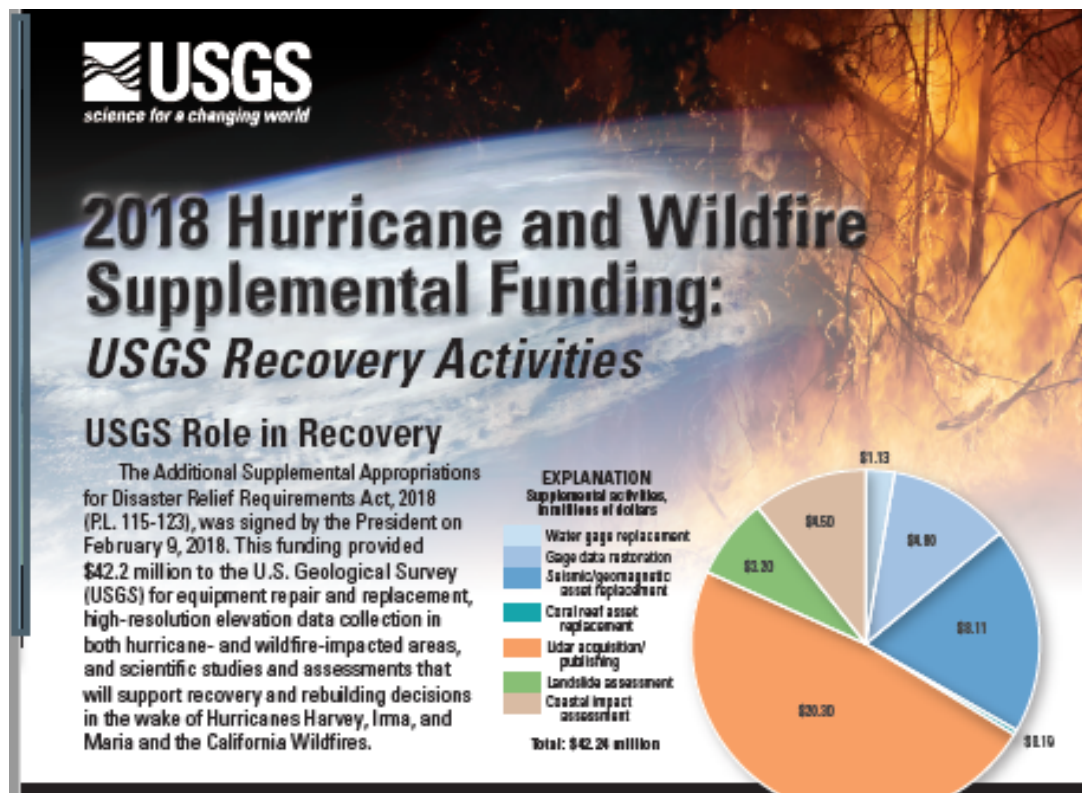


Mauna Kea

+ 2018 Disaster Supplemental Acquisitions

19

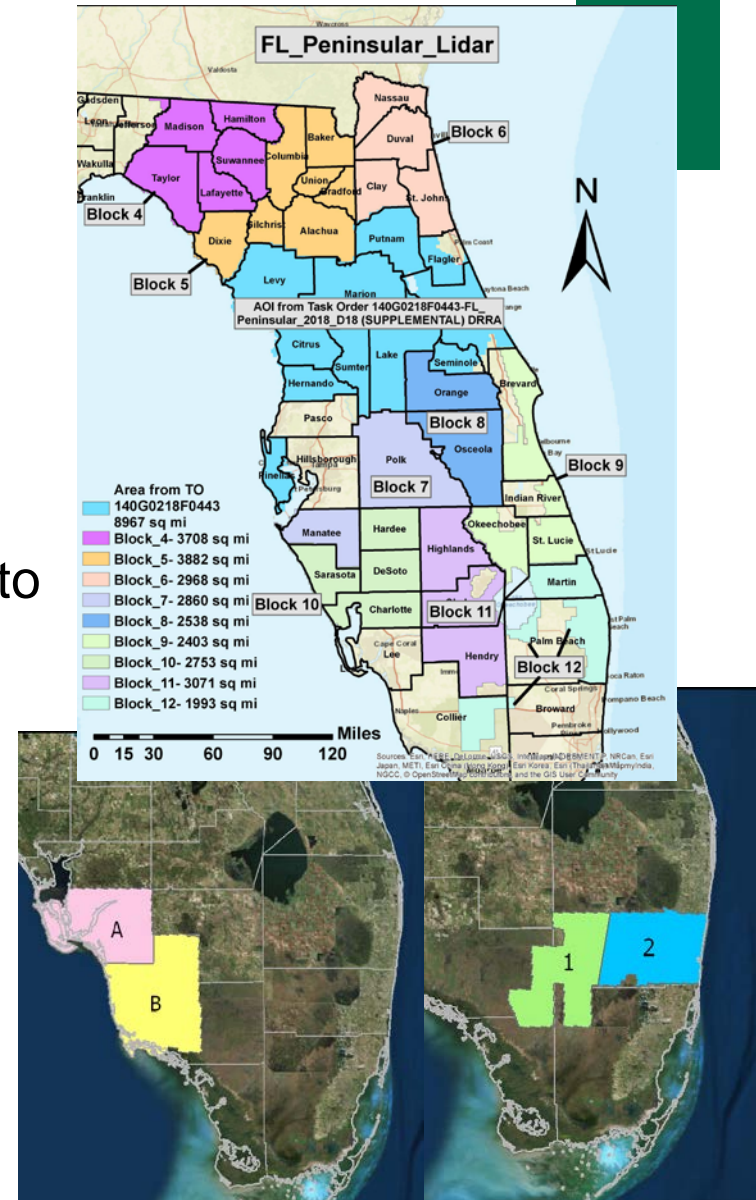
- March 2018, Congress authorized disaster supplemental funds for Hurricanes Harvey, Irma and Maria
- ~\$20M went to USGS 3DEP for post-event lidar 3DEP acquisition and publication
- Florida
- Puerto Rico/
US Virgin Islands
- Texas
- Georgia/
South Carolina



+ Florida

20

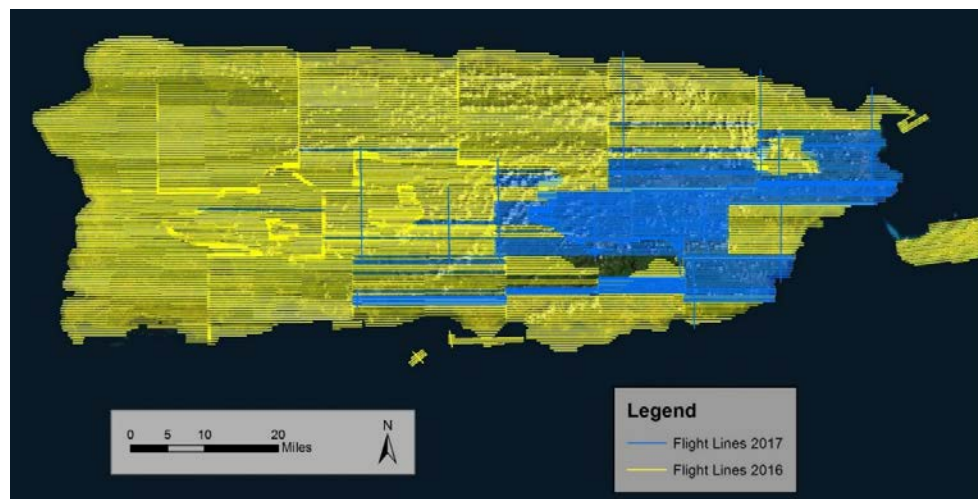
- Partnership with State of FL
- Sq Miles: ~40,000 sq miles
- Contractor: Dewberry, with many subcontractors
- Acquisition Status: ~20% of state
 - State divided into different areas due to funding and partnerships
 - On hold due to high water levels
- Data to USGS QC: April – December 2019
- Data publication: April 2020



+ Puerto Rico 2016/2017 Project

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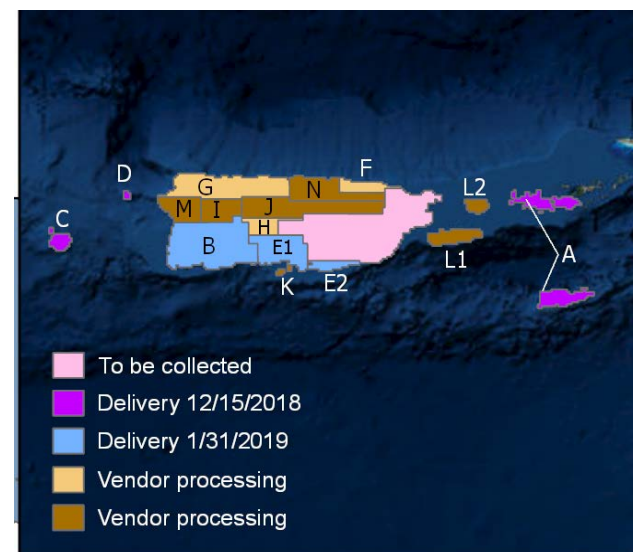
- Partnership with NOAA
- Topographic and bathymetric Lidar collected by Dewberry
 - Products included seamless data products incorporating 2014-2016 NOAA data
 - Collection between Jan 16–May 15, 2016 and Dec 8–March 9, 2017
 - 220 total days but 136 where “weather days” with no flights
- Project was nearing publication when Maria hit
- **Provided preliminary data to first responders and critical agencies**



+ Puerto Rico/USVI Recollection

22

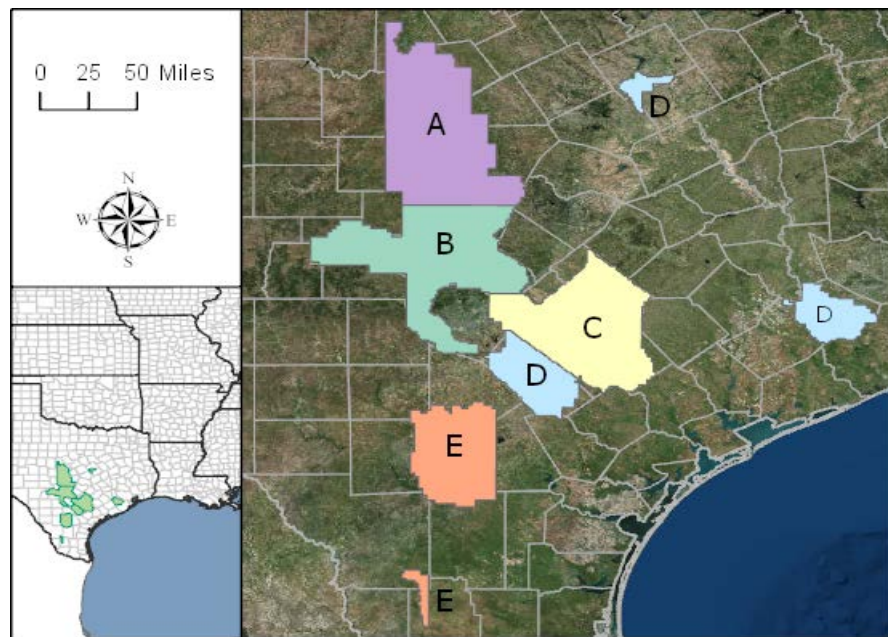
- Sq Miles: 3,590
- Contractor: Dewberry
- Acquisition Status: 83%
 - Started in 2018; flight plans modified to get under persistent cloud cover in the remaining area
- Data to USGS for QC: February – Summer 2019
- Data publication: February 2020
- Provided initial non-QC 2018 data to key agencies for recovery
- Both datasets will allow for high accuracy landform change detection



+ Texas

23

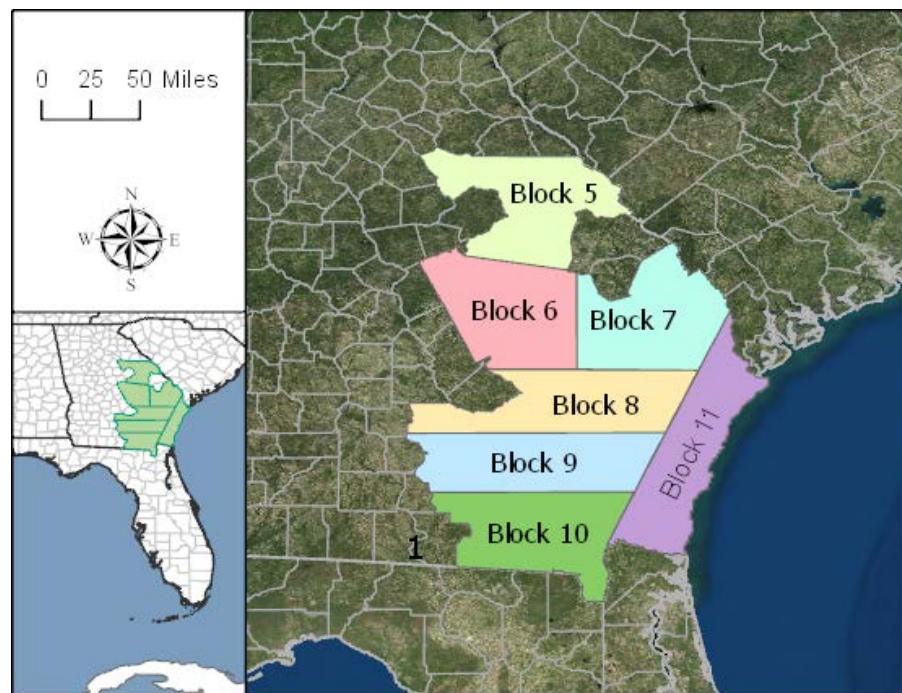
- Sq Miles: 15,305
- Contractor: Fugro
- Acquisition Status: Complete as of February 2019
- Data to USGS for QC: Fall 2019
- Data publication: Spring 2020
- Data will be made available to critical agencies as needed



+ Georgia and South Carolina

24

- Sq Miles: 21, 240 total
- Contractor: Atlantic
- Acquisition Status: 24%
- Data to USGS for QC : Fall 2019
- Data publication: 2020
- Rest of GA will be collected in late 2019 or early 2020



+ References

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National Map Viewer

<https://viewer.nationalmap.gov/basic/>

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