

STATEMENT OF WORK

2019 Cochise County Lidar Acquisition

1. Purpose

The USGS and Cochise County, AZ will collaborate to acquire high-resolution digital elevation data developed from airborne lidar (Light Detection and Ranging) for an area of approximately 3,060 square miles in the AOI (see Section 5). The data will be used to generate Digital Elevation Models (DEMs) for use in flood hazard mitigation and preparedness, engineering design and design reviews, conservation planning, floodplain mapping, and hydrologic modeling utilizing lidar technology. The data is to be acquired during fall/winter 2019. The project area will consist of high accuracy classified bare-earth lidar data in LAS format as well as raster DEMs per project requirements.

2. General Terms

USGS will select a qualified contractor to perform the lidar collection and processing via the Bureau's Geospatial Product and Service Contract (GPSC). GPSC task orders are awarded to qualified contractors through federal government solicitation. Qualified contractors are selected for base contract award in accordance with Public Law 92-528 (Brooks Act) and FAR 36.6 - Architect-Engineering Services, which establishes a qualifications-based selection process, in which contracts for Architectural and Engineering services are negotiated based on demonstrated competence and qualification for the type of professional services required.

Contractor selection is based on the following six criteria:

- (1) Professional qualifications necessary for satisfactory performance of required services;
- (2) Specialized experience and technical competence in the type of work required;
- (3) Capacity to accomplish the work in the required time;
- (4) Past performance on contracts with Government agencies and private industry in terms of cost control, quality of work, and compliance with performance schedules;
- (5) Location in the general geographical area of the project and knowledge of the locality of the project and;
- (6) Acceptability under other appropriate evaluation criteria.

Level of effort is negotiated on each task order issued under the base contracts. This process is aligned with the Department's consultant RFP and selection process.

The Task Order issued by USGS to the selected GPSC Contractor provides full details regarding project collection requirements and resulting deliverables. A copy of the Task Order will be provided to Cochise County.

USGS will:

- Execute separate funding agreements with partners shown in Section 2 of the JFA in support of the total project cost.
- Prepare a Task Order for agreed upon products and services.
- Serve as Government Point of Contact during the full period of the agreement.
- Administer data quality assurance and quality control (QA/QC) for standard USGS v1.3 products and deliverables and manage all data deliverables.
- Require that all land surveys conducted in support of this project be performed under the supervision of a qualified professional land surveyor.
- Receive, inspect, and catalog all project deliverables.
- Prepare Quality Assessment Reports for the standard USGS v1.3 products and distribute to relevant project Points of Contact.
- Return data to contractor as needed for error correction/rework.

Partner Will:

- Provide funding for the project as described in Section 2 of the JFA.
- Pay contract project costs plus applicable GPSC assessment fee which is calculated by USGS as 5% of the contracted project cost, not to exceed the amount specified in the JFA.
- Assist the USGS NGTOC in resolving project issues as needed and appropriate.
- Provide available information, including informal observations from interested parties, on ground conditions to facilitate project flight planning.
- Be responsible for reviewing and publishing any additional products and services beyond USGS standard deliverables.

3. Specifications and Deliverables

Unless otherwise stated all specifications and deliverables will meet or exceed the (Quality Level 2) U.S. Geological Survey Lidar Guidelines and Base Specification, v 1.3 (<http://pubs.usgs.gov/tm/11b4/>). To supplement USGS specifications, FEMA-specific requirements such as cross section surveys, treatment of bridges and other features appearing in FEMA Procedure Memorandum No. 61 – Standards for Lidar and Other High Quality Digital Topography, (<http://www.fema.gov/media-library/assets/documents/6998?id=2206>) may be adhered to and reflected in final product delivery as required.

General Requirements

- Data shall be of Quality Level 2 (QL 2), meeting the following accuracy requirements:

Quality Level	Point Density	Vertical Accuracy RMSEz	Aggregate Nominal Pulse Spacing (ANPS)	Aggregate Nominal Pulse Density (ANPD)	DEM Post Spacing
2	2 pts/m ²	10 cm	0.7 m	2 pts/m ²	1 m

- Horizontal Datum: Horizontal NAD83 (2011).
- Vertical Datum: NAVD88 using the most recent approved Geoid model from the National Geodetic Survey (NGS) for purposes of performing conversions from ellipsoidal heights to orthometric heights. Data to be delivered in orthometric heights.
- Coordinate System and Projection: Albers Equal Area, horizontal units in meters and vertical units in meters.
- Tiling Scheme: U.S. National Grid naming convention, 1,000 meters x 1,000 meters, non-overlapping tiles.
- DEM: 1 Meter Cells, individually tiled from bare earth, hydro-flattened, delivered in GeoTIFF format.

The lidar data will be processed to produce a classified point cloud, tile-based bare earth DEMs, and related products. These elevation products will be placed in the public domain and will be made available for viewing and download through the USGS National Map.

Additional Products and Services beyond USGS Standard

- Delivery in County preferred projection and coordinate system. NAD83 State Plane Arizona East (International Feet). Transverse Mercator. Modified parameters to fit County's location:
 - Latitude of grid origin: 31° 19' 00" N
 - Longitude of central meridian: 109° 45' 00" W
 - False Northing at grid origin: 0.000 ift
 - False Easting at central meridian: 240,000.000 ift
 - Central meridian scale factor: 1.000195 (exact)
- 2-ft machine derived contours to be delivered in project corresponding tiling scheme

USGS does not commit to performing Quality Assurance and Quality Control (QA/QC) for these additional products or services. QA/QC of these will be the responsibility of the partner. If any issues with the products or services are found by the partner within one year of data delivery USGS will pursue corrections on behalf of the partner.

USGS reserves the right but does not commit to publishing these additional products and services.

4. Contacts

USGS Administrative Contact		Partner Administrative Contact:
Walter Kloth	Name	Jackie Watkins
GPSC Project Planning		Director, Engineering & Natural Resources
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USGS Financial Contact:		
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Project Manager		Director, Engineering & Natural Resources
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USGS Liaison		
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5. Project Area Map

Map showing lidar AOI over Cochise County, excluding regions already covered by other projects

