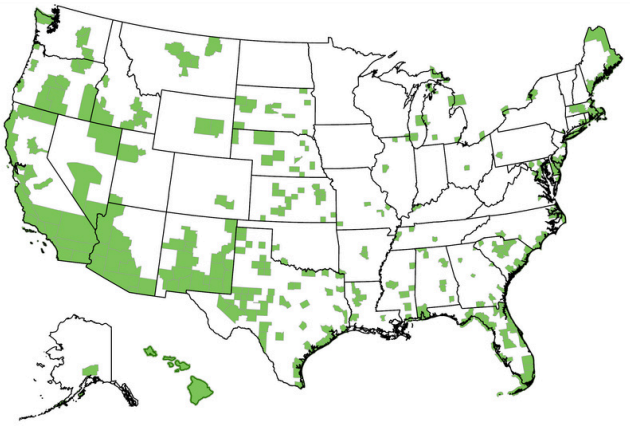


Umyuaq
CONSULTING GROUP, LLC

Geographic Information Systems – Nationwide Parcel Data Aggregation

Background

Umyuaq Consulting Group, LLC (UCG), a premier geospatial firm specializing in data acquisition, management, and analysis for government clients, executed a long-term project with the U.S. Army Corps of Engineers focused on compiling comprehensive parcel boundaries and ownership information for selected areas across the United States. Fragmented data and limited industry standards created significant barriers to the client identifying landowners within areas of interest and performing environmental safety outreach.



Data Aggregation by County

Problem

Land system records are decentralized with each county or local municipality maintaining its own databases for parcel boundaries, ownership information, tax assessment, and zoning information. This creates inconsistent data. For clients in sectors such as environmental remediation and government planning, accessing consistent, reliable data can be a time-consuming process prone to errors. UCG aimed to address this by creating a centralized repository that would allow clients to seamlessly access hundreds of datasets from across the U.S. The project required navigating legal barriers to data access, handling varying levels of digital capabilities of individual governments, and ensuring that acquired data were securely maintained, and in compliance with, Cybersecurity Maturity Model Certification (CMMC) Level 2, a certification that was obtained by UCG in 2025.

Highlights

- Client: U.S. Army Corps of Engineers
- Duration: 2014 to 2026
- Successes:
  - Data aggregated from 350+ locations across 45 states
  - Analysis of 270,000 parcels and more than 200,000 landowners
  - 650+ automated quality control checks
  - Data maintained in compliance with CMMC Level 2
  - Schema adheres to current SDSFIE model
  - Integration with cloud-based management platform
  - Personalized outreach materials mailed to landowners

Contact Us

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Solution

UCG's approach began with data acquisition for more than 350 locations across 45 states. Once collected, the raw data underwent rigorous processing using Esri's suite of GIS software, UCG-developed scripts, and more than 650 customized data reviewer checks.

Key steps included:

- Data Standardization – Converted disparate formats into a unified spatial database adhering to the Spatial Data Standard for Facilities, Infrastructure, and Environment (SDSFIE).
- Parcel Isolation – Identified parcels located within the client's area of interest.
- Ownership Analysis – Analyzed owner names and addresses, classified ownership types, and identified and solved for data gaps.
- Quality Assurance – Addressed more than 650 programmed data reviewer checks focusing on maintaining a relational database, data formatting, and other client-specific requirements.

Results

The project yielded a robust and consistent landowner dataset that was integrated into a UCG designed, hosted, and maintained cloud-based solution. Offered through a standard web browser (i.e. Chrome), the platform utilized role-based access controls (RBAC) that allowed the client to assign levels of access to specific team members based on regional areas of responsibility. UCG worked closely with the client to design and execute site-specific outreach to landowners. More than 200,000 landowners, accounting for approximately 270,000 parcels, were mailed personalized outreach materials notifying them of potential hazards and how to stay safe.

Relevant Info

- UEI: WJRWCEKVMGV6
- DUNS Number: 080230366
- Cage Code: 7LV09
- NAICS Codes:
  - 541620 (Primary)
  - 541330
  - 541360
  - 541370
  - 541661
  - 541820
  - 562910

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