GDACT: Coordinating Geospatial Data Acquisition Activities Using a Feature Based Web Mapping Application

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Funded By

Gulf of Mexico Alliance

Background

- Funded by Gulf of Mexico Alliance (GOMA), a regional collaboration of Gulf of Mexico states with support from federal agencies
- Ecosystem Integration and Assessment Team saw the need for better coordination/collaboration in geospatial data acquisitions
- GDAPT (GDACT?) Geospatial Data Acquisition Planning(Coordination?) Tool under current development

Benefits of Better Coordination

- Pooling of resources
  - Less duplication of effort
  - Upgrade data quality
  - Acquire more data
- Better integration
  - Set common data standards
  - Common data schemas

Existing Data Acquisition Coordination Examples

- TNRIS HPIDS
  - Top down
  - Opaque

- Geospatial One-Stop Marketplace
  - Bottom up
  - Transparent

About the Marketplace

Search In: Marketplace:

Planned Data Activity Types

Publisher

Sort By

My Geography

Where: (Geographic Footprint, e.g. Harrison, NY)

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Anywhere Overlapping this area Fully within this area

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BROWNSVILLE; TX.

The objective of the Coastal Mapping Program is to provide surveying andmapping information of our nation's coastline. This shoreline mapping effortalso supports the National Spatial Reference System - the framework forlatitude, longitude, height, sc...

Publishing Organization: National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Geodetic Survey (NGS)

Coastal Mapping Program Project LA1101; PORT OF INTERCOASTAL CITY; INTERCOASTAL CITY; LA.

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Publishing Organization: National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Geodetic Survey (NGS)

Coastal Mapping Program Project TX1107; MATAGORDA SHIP CHANNEL; TX.

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Publishing Organization: National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Geodetic Survey (NGS)

Coastal Mapping Program Project TX1106; TEXAS GULF INTRACOASTAL WATERWAY; TEXAS GICW; TX.

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Intermap IFSAR Elevation Data

Intermap Interferometric Synthetic Aperture Radar (IFSAR) data Products: Digital Surface Model (DSM), Digital Terrain Model (DTM) and Ortho-Rectified Radar Imagery (ORI) data for small project areas

grants.gov

MAF/TIGER Accuracy Improvement Program: Fiscal Year 2007 using Enhanced Tribal, State, County and Local Files

Content Citation

Title:MAF/TIGER Accuracy Improvement Program: Fiscal Year 2007 using Enhanced Tribal, State, County and Local Files
Content Type: Geographic Activities: now this is called data request and data acquisition
Publishing Organization:U.S. Department of Commerce, U.S. Census Bureau, Geography Division National Geographic Partnerships Team
Publication Date:20060918

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Content Description

Abstract: The Tribal, State, County, and Local Planned acquisitions files shows Fiscal Year 2007 planned acquisitions by county for road centerline files that have been enhanced to have a horizontal positional accuracy of CE95 7.6 meters or better. These files will be used to realign the features in the TIGER database.
Purpose: To show the counties for which the Census Bureau is planning to improve the horizontal positional accuracy in its TIGER database. Centerline files from state, tribal, county, or local sources that meet the 7.6 meter accuracy requirement have been identified for use to support the Census Bureau's MAF/TIGER Accuracy Improvement Program (MTAIP). This program will improve the horizontal spatial accuracy of road centerlines in the TIGER database to CE95 7.6 meters or better during FY 2007.
Supplemental Information: None

Content Status

Progress: Planned
Update Frequency: Irregular

Content Keywords

Theme Keywords:ISO 19115 Topic Categories, boundaries, None, Political Boundary, County/County Equivalent, Vector, Coordinate, Boundary, Latitude, Longitude, planned, acquisition, MTAIP
Place Keywords: Alabama, 01055, Etowah County, 01109, Pike County, 05027, Columbia County, 05049, Fulton County, 05137, Stone County, California, 06005, Amador County, 06025, Imperial County, 06057, Nevada County, 06105, Trinity County, 06115, Yuba County, Colorado, 08003, Alamosa County, 08021, Conejos County, 08023, Costilla County, 08039, Elbert County, 08049, Grand County, 08077, Mesa County, 08079, Mineral County, 08105, Rio Grande County, 08109, Saguache County, 08117, Summit County, Connecticut, 09005, Litchfield County, 09007, Middlesex County, 09011, New London County, 09013, Tolland County, 09015, Windham County, Florida, 12049, Hardee County, 12063, Jackson County, 12127, Volusia County, Georgia, 13013, Barrow County, 13055, Chattooga County, 13079, Crawford County, 13111, Fannin County, 13129, Gordon County, 13169, Jones County, 13207, Monroe County, 13237, Putnam County, 13319, Wilkinson County, Hawaii, 15003, Honolulu County, 15009, Maui County, Illinois, 17073, Henry County, 17115, Macon County, Kansas, 20073, Greenwood County, 20123, Mitchell County, Kansas, 20123, Mitchell County, Louisiana, 22079, Rapides Parish,

Link

oastal Mapping Program Project TX1104; PORT OF BAY CITY AND COLORADO RIVER; PORT OF BAY CITY; TX.

Content Citation

Title: Coastal Mapping Program Project TX1104; PORT OF BAY CITY AND COLORADO RIVER; PORT OF BAY CITY; TX.
Content Type: Geographic Activities: now this is called data request and data acquisition
Publishing Organization: National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Geodetic Survey (NGS)
Publication Date:20110309

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Content Description

Abstract: The objective of the Coastal Mapping Program is to provide surveying andmapping information of our nation's coastline. This shoreline mapping effortalso supports the National Spatial Reference System - the framework forlatitude, longitude, height, scale, gravity, orientation, and shorelinethroughout the United States. This data is primarily used to support theproduction of the NOAA Office of Coast Survey's Electronic Navigational Charts(ENC), raster, and paper nautical charts.
Purpose:NOAA's responsibility for mapping and charting ocean and coastal waters ofthe U.S. in support of marine navigation originated in 1807 when PresidentThomas Jefferson founded the Survey of the Coast. NOAA's mapping andcharting activities also include habitat, resource, exploration, andcoastal inundation mapping.Project TX1104 intends to acquire Color imagery of the shoreline and nearshore area of PORT OF BAY CITY AND COLORADO RIVER using the Digital Sensor System platforms sometime in 2011. Project TX1104 is in support of Coastal Mapping Program activities.

Content Status

Progress:planned
Update Frequency: Unknown

Content Keywords

Link

Lessons Learned from GOS Evaluation

- Use custom metadata subset
- Keep records updated
- Move completed acquisition records
- Bounding boxes ruin spatial search

Non-Functional Requirements

- Simple and easy to reduce barrier to entry
- Highly focused
- More accurate search

Functional Requirements

- Search existing records
  - Metadata Search
    - Global Text
    - Filtering
  - Spatial Search
- Create new records
  - Create feature representing spatial extents of planned acquisition
  - Create custom metadata record

System Architecture

- Web Application
  - Silverlight
  - ArcGIS API for Silverlight
  - Telerik RadControls for Silverlight
- Web Services
  - ArcGIS Server 10 Map and Feature Services
  - WCF helper services

Data Storage

- Each record is a polygon feature in an ArcSDE Feature Class
- Custom Metadata stored in attribute table
- Keywords stored in Related Tables
- Attachments stored in Related Tables

Metadata Schema

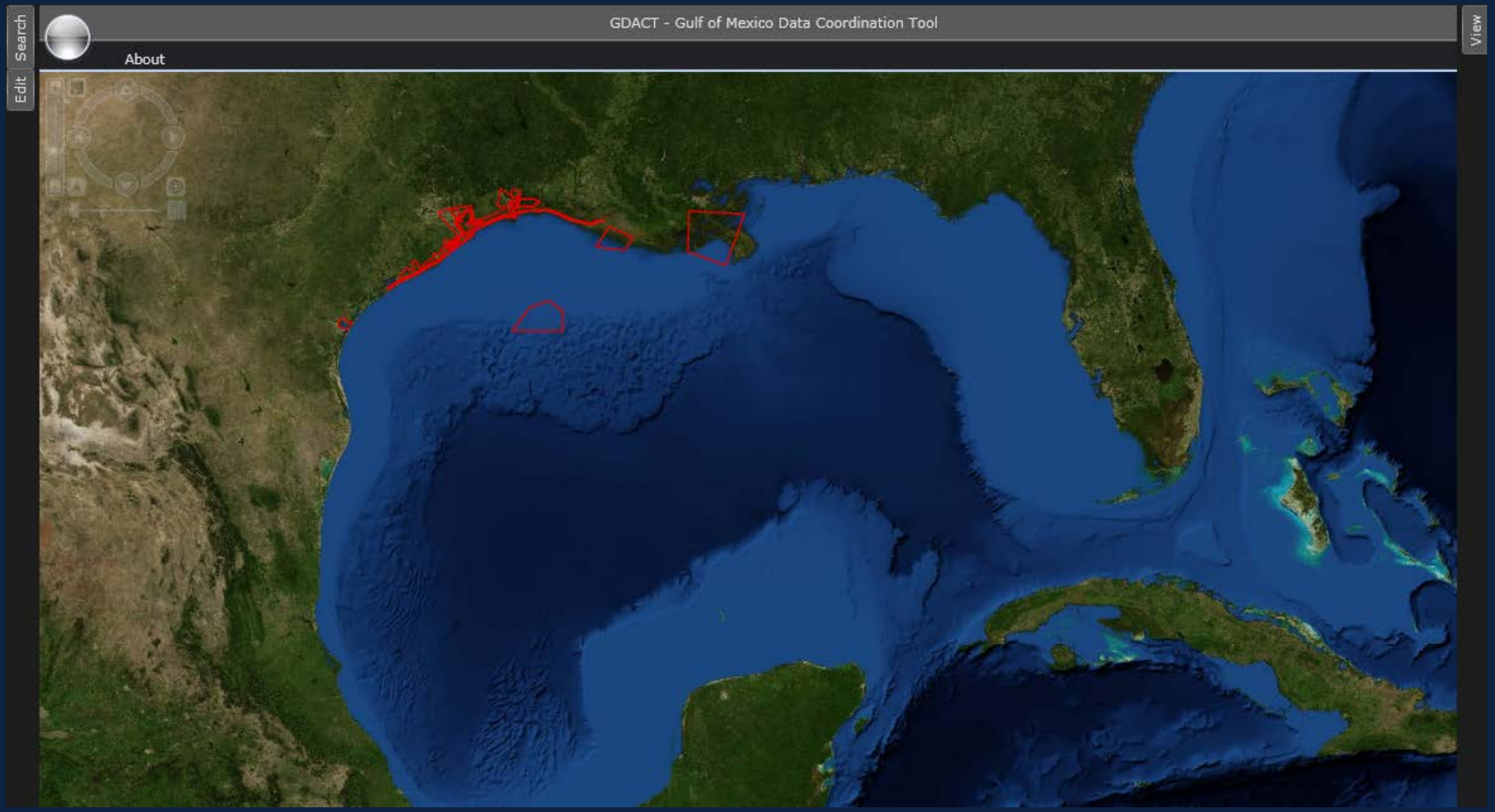
Contact Organization *	Contact Name
Title *	Contact Email
Acquisition Status *	Contact Phone
Planned Start and End Date	Contact Org URL
Purpose	Place Keywords
Abstract	Theme Keywords
Date Added and Last Edit	Attachments

Search Records

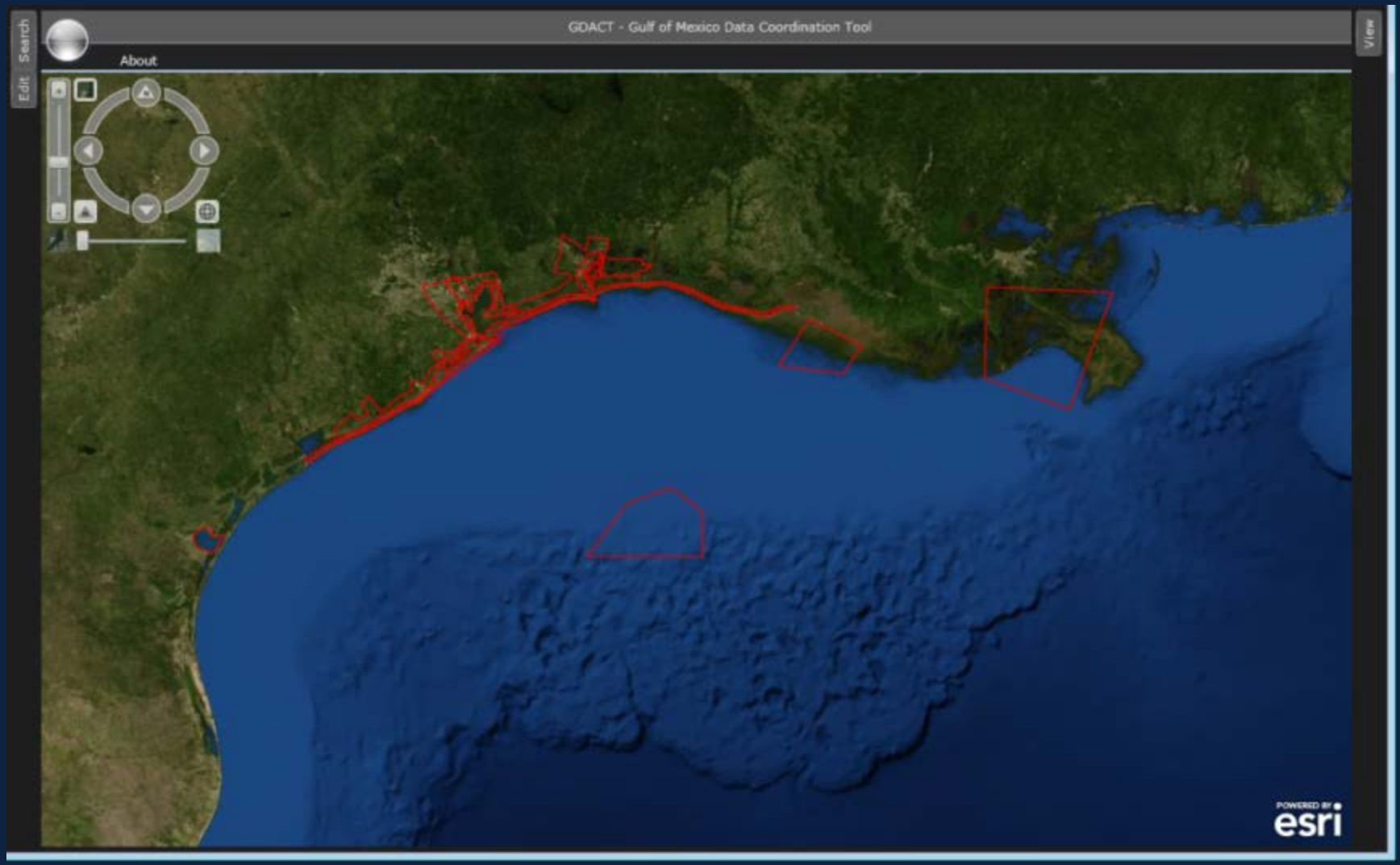
- Text Search
  - Global Text Search
  - Filter by Field
- Spatial Search
  - Intersect with user-drawn graphic

Create Records

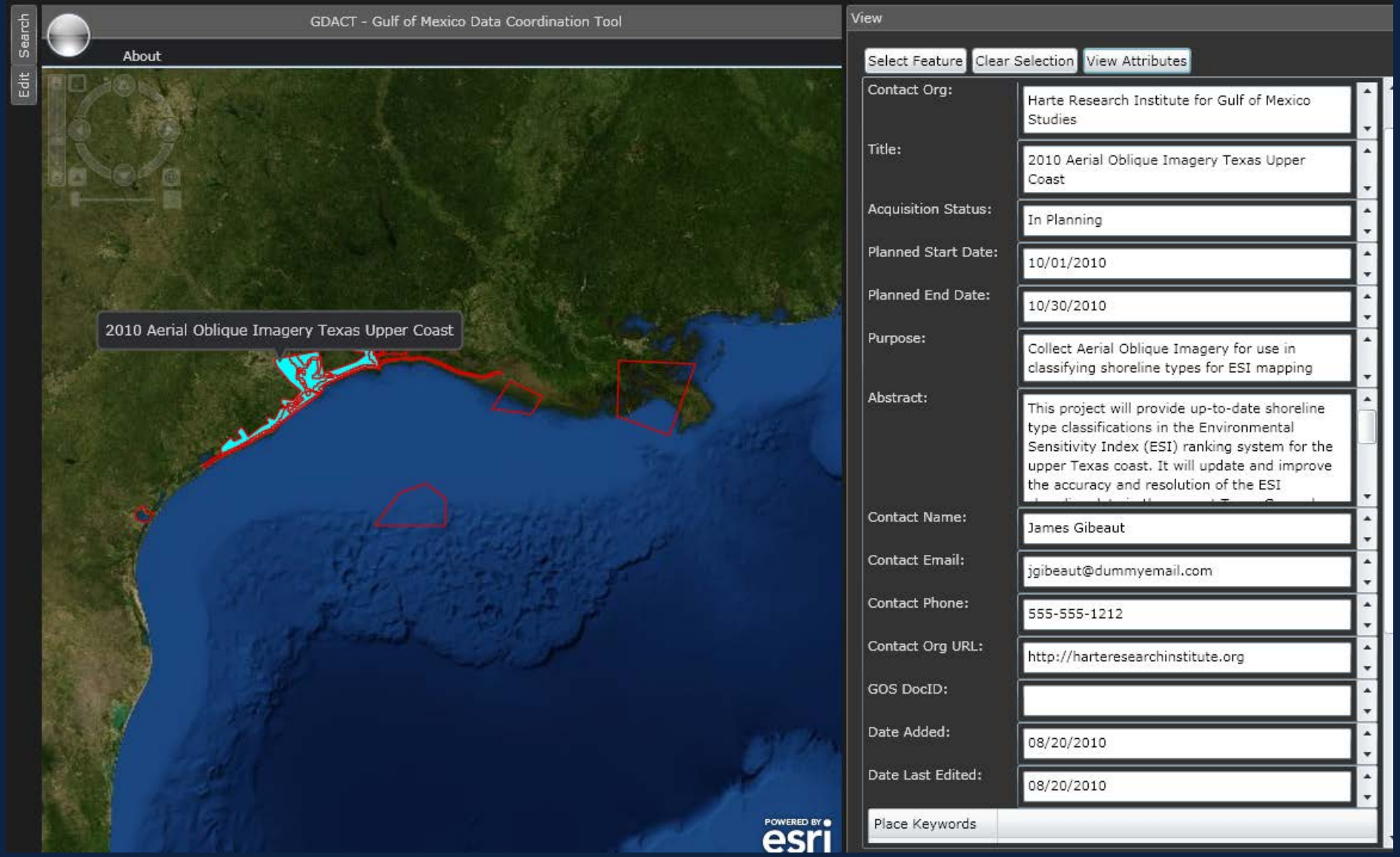
- Create Polygon
  - User drawn
  - Upload shapefile or KML
    - Esrislcontrib by Viswaug on codeplex
- Create Metadata Record Attributes
  - Fill out via form
  - Custom service ingests and transforms GOS metadata
  - Add attachments



- Simple UI
- Pop-out panels for each function



- All common navigation tools in hiding control stack



- Pop-out panels for each function

Still to Add

- Security
  - Secured Feature Service
  - Custom Feature-Level Security
  - Simple Javascript Viewer
  - Manage user accounts
- Update Notification
  - RSS
  - Email

Lessons Learned (Already)

- Get buy in from users early
- Security adds immense development overhead
- Iterate design often
- Simple is hard

Questions?

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