



Company Profile

Mission Statement

A remote sensing and GIS company founded in 2002 by James Ellis, Ph.D., providing timely geospatial products and services for industry and government. Specializing in ***environmental baselines and geologic mapping*** using satellite and airborne multispectral and hyperspectral imagery, DEMs, client-provided data, and field data. Recent & ongoing projects in Africa, South America, Asia, and U.S.A. Deliver comprehensive GIS databases with imagery, maps, attributes, and metadata.

WebSite with downloadable publications

www.ellis-geospatial.com

ftp Site

[ftp.ellis-geospatial.com](ftp://ftp.ellis-geospatial.com)

Each project has its own User ID- and Password-protected secure folder

Software & Hardware

- Harris *ENVI* 5.3 image-processing software (3-station floating license)
- *ERDAS* Imagine Professional 2014 image-processing software with Stereo Analyst module
- ESRI's *ArcGIS* 10.2.1 with the 3D Analyst & Spatial Analyst Extensions
- Global Mapper v15
- TerraGo Technology's Publisher (*Map2PDF*) for converting GIS stacks into GeoPDFs enabled for user annotation & interpretation (GeoMark-enabled)
- Rivex *RiverTools* 3.0 software for drainage modeling of DTMs
- PC-based computers
- Office Support (laptop, scanner, high-speed Internet access)

Clients

- Chevron Energy Technology Company and global business units, Image Interpretation Technologies Inc., Subvenio Consulting, MDA, Tetra Tech, Groundwater Services Inc., Remote Sensing Enterprises, GeoMatrix, Clean Lakes, Aquatic Nuisance Plant Control, Economic and Planning Systems, Tengizchevroil (Kazakhstan), Battelle (Pacific Northwest National Laboratory), Boeing/Resource21, Earth Search Sciences, Mactec, Castleworth Exploration



General Qualifications

- Established 2002
- Veteran-Owned (Vietnam Era) Small Business Concern
- Registered with Federal Systems for Award Management (SAM)
DUNS Number 109508239 CAGE Code: 1YEL7

Firm's Experience for Last 5 Years (using SSF-330 Profile Code)

- Code 49: Remote Sensing Scientist
- Code R07: Hyperspectral & multispectral
- Code A02: Airborne digital; airborne & satellite multispectral & hyperspectral
- Code E10: Thematic mapping, land characterization, aerial photo & digital image interpretation
- Code D05: DEMs for environment & geology
- Code E11: Wetlands
- Code G04: Spatial analysis, 3D models, GIS services
- Code E12: Oil Spills & disturbed soils
- Code P01: Geologic remote sensing & interpretation
- Code G05: Metadata creation, conversion of maps, attributes creation

Company Federal NAICS Codes

- 541620: Environmental Consulting Services
- 213112: Support activities for oil and gas operations
- 518210: Data processing
- 541370: Surveying and mapping (except geophysical) services
- 611420: Computer Training

PROJECTS

Airborne Hyperspectral Mapping & GIS – Remote sensing scientist for March-April 2009 ground & airborne hyperspectral data acquisition of 420 km² of a military base in S. California. Provided field support for ground spectra measurements, built ground & airborne spectral library, and processed imagery for environmental applications. http://www.ellis-geospatial.com/images/Application_of_Hyperspectral_Remote_Sensing_at_Edwards_Air.pdf

Airborne Hyperspectral Mapping & GIS - Project Manager for numerous environmental baseline projects (1997-2004) creating proprietary maps and GIS solutions that detail vegetation, water, soil, and infrastructure status of refineries, oil fields, and wetlands. Developed land cover maps from satellite images and DEMs, and interpreted infrastructure using GIS. Areas included Niger Delta, Venezuela, China, & USA. http://www.ellis-geospatial.com/images/World_Petroleum_Conference_Hyperspectral_for_Industry.pdf

Mineral Exploration in Afghanistan – Remote sensing & GIS support for geologic mapping of thirteen outcrop areas of interest and numerous dry lakes – resulting in 17 reports with images, maps, and target tables for the DOD's TFBSO (2010-2013). Coordinated with USGS. Landsat, ASTER thermal, airborne hyperspectral HyMap, WV-2, and IKONOS imagery involved in the mapping effort. F.F. Sabins (Remote Sensing Enterprises) coordinated the exploration effort. Early work reported by TFBSO below: https://000d41a.netsolhost.com/images/USGS_Afghan_OFR_2011-1204_Chapters_1_4A.pdf



Satellite Remote Sensing & GIS - Acquired 20 NASA experimental hyperspectral and multispectral imagery (Hyperion and ALI) over 4000 km² in western Kazakhstan. Processed and interpreted imagery for land use/land cover, offshore, change detection, and infrastructure. Integrated GIS maps with interpretation of high-value assets derived from 1- and 2.6-m satellite imagery.

Bathymetry and Visualization – Processing Landsat, ASTER, and Quickbird imagery to support change-detection and characterize nearshore and wetlands environments of carbonate reefs and islands, Bahamas. Generating new offshore bathymetry maps by integrating published soundings with spectral brightness – water depth data. Merging offshore and onshore digital elevation models to support visualization and reservoir modeling. <http://www.searchanddiscovery.net/documents/2009/50200harris/images/harris.pdf>
http://www.ellis-geospatial.com/images/EllisGeoSpatial-Chevron_2010_PUG_Bahamas_Gallery_Poster.pdf

GIS for Critical Habitat Analysis – Design GIS, integrate multiple GIS layers, generate maps, and develop spatial statistics with HJW GeoSpatial (H. Dodd) in support of economic modeling of proposed critical habitat areas. Projects completed for several threatened and endangered species, including Southwestern Arroyo Toad, San Diego Fairy Shrimp, Munz's Onion, California Gnatcatcher, and Tiger Salamander. Results have been published in the Federal Register.

Hyperspectral Group Shoot - Designed and managed 1999-2000 R&D projects sponsored by 9 petroleum companies through GeoSat to evaluate airborne hyperspectral imagery for oil seep detection. Processes developed now used for detecting oil along pipelines, oil fields, and refineries.

Invasive Aquatic Plants – Annually acquire/process high-resolution satellite imagery (2003-2005) for locating and monitoring invasive plants in North Carolina reservoir.

Airborne Hyperspectral Imaging -Teamed with Harrods Mineral Exploration Company to develop acquisition specifications and complete first airborne hyperspectral survey in Mongolia (4000 km²).

Satellite Remote Sensing & GIS – Processed and interpreted over 800 km² of high-resolution Quickbird satellite imagery across South American oil field to establish baseline for supporting change detection and documenting interrelationship of local population expansion, petroleum infrastructure, and environmental conditions along pipeline corridors, pumping stations, wells, and other petroleum infrastructure. Detailed land use/land cover GIS layer developed.

GIS Database - Designed and developed a GIS database to support Chevron's Subsea Field Development and Planning Tool utilizing ArcGIS, ArcScene, and ROV simulation. The database supported a web-based GIS using ArcGIS Server and SQL Server 2008. 3D models of subsea equipment, pipelines rising through the water column, geohazards, and integration with wells enabled visualization of offshore assets before they were installed, reducing risk and minimizing cost. Presented in Feb 2009 at the ESRI Petroleum User's Group (PUG) meeting in Houston, Texas.
http://www.ellis-geospatial.com/images/CVX_ESRI_PUG_Information_Sheet.pdf