



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.

Internet Site

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

Equipment

- ITT *ENVI* 4.7 image-processing software (3-station floating license)
- *ERDAS* Imagine Professional 9.3 image-processing software with Stereo Analyst module
- ESRI's *ArcGIS* 9.3 with the 3D Analyst & Spatial Analyst Extensions
- TerraGo Technology's *Map2PDF* for converting GIS stacks into GeoPDFs enabled for user annotation & interpretation (GeoMark-enabled)
- Rivex *RiverTools* 3.0 software for drainage modeling of DTMs
- Two custom-built XP workstations with high performance components, removable internal drives, and numerous external drives
- Multi-Terabytes of on-line storage
- Office Support (laptop, scanner, high-speed Internet access)

Clients

- Master Service Agreement with Chevron Energy Technology Company, providing geospatial services and products in support of environmental and geological applications to Chevron's global business units.
- Subcontractor on NOAA IDIQ with Sanborn, providing Pacific Coast hyperspectral services and products.
- Tetra Tech, Groundwater Services Inc., 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, Remote Sensing Enterprise



Insurance

- \$1,000,000 General Liability
- \$1,000,000 Automobile Liability
- \$250,000 Professional Liability

General Qualifications

- Established 2002
- Veteran-Owned (Vietnam Era) Small Business Concern
- State of California Certified Small Business (OSBCR #29164)
- Registered with Federal Online Representations and Certifications Application (ORCA)
- Registered with Central Contractor Registration (CCR)

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

Recent & Ongoing 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 southern California. Provided field support for ground spectra measurements, built ground & airborne spectral library, and processing airborne imagery for environmental applications

- *Airborne Hyperspectral Mapping & GIS* - Project Manager for numerous environmental baseline projects (1997-2009) creating proprietary maps and GIS solutions that detail vegetation, water, soil, and infrastructure status of refineries, oil fields, and wetlands. Integrate high-resolution IKONOS, Quickbird, and SPOT satellite images, DEMs, derived landuse/landcover maps, and interpreted infrastructure maps using GIS. Areas included Niger Delta, Venezuela, China, & USA.

http://www.ellis-geospatial.com/images/World_Petroleum_Conference_Hyperspectral_for_Industry.pdf



Recent & Ongoing Projects (continued)

- *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>
- *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 to evaluate airborne hyperspectral imagery for oil seep detection. Processes developed now used for detecting oil along pipelines, oil fields, and refineries. <http://www.earthsearch.com/pdf/oilseeps.pdf>
- *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 international 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://proceedings.esri.com/library/userconf/pug09/papers/arcgis_3d_simulation.pdf

Training

Diablo Valley College, Pleasant Hill, CA

- GIS-GPS Advisory Committee, Diablo Valley College (2002-present)
GIS/GPS Certificate Program

<http://www.dvc.edu/org/departments/physics/degrees-and-certificates/index.htm>

<http://www.dvc.edu/pdfs/GISGPS-CertPrg.pdf>

- Course Instructor (2002 – present)
Courses provided in advanced computer lab with 30 workstations

Introduction to Remote Sensing

4 Credits semester-length course, Lecture via weekly Internet PodCast with Lab using ERDAS 9.2 software. 26 students Fall 2009 semester.

Maps & Cartography

3 Credits semester-length course, Lecture via weekly Internet PodCast with Lab using ArcGIS 9.3 and 3D Analyst Extension. Being offered Spring 2010 semester.

Workshops

GIS for Exploration Geology, Proprietary In-House Training for Industry using ArcGIS 9.3, 2008, two 3-day workshops

Environmental Applications of Remote Sensing for GIS (GIS-501), Northwest Environmental Training Center, 18-20 Oct 2005 (3 days)

Interactive ArcGIS 9 work session, AEG GIS Workshop for Practicing Geologists, UC Davis, California, 24 May 2005 (1.5 hr session in 1-day workshop)

PC- and Internet-Based Remote Sensing, Fourteenth International Conference and Workshops on Applied Geologic Remote Sensing, Las Vegas, Nevada, 6-8 Nov 2000 (1 day)

Introduction to Geologic Exploration, Thirteenth International Conference and Workshops on Applied Geologic Remote Sensing, Vancouver, Canada, March 1999 (1 day)

Practical Remote Sensing for Geology, National Geological Society of America (GSA) Meeting, Salt Lake City, October 1997 (1 day)