

## **Julie Earls**

15815 Country Lake Dr  
Tampa, FL 33624  
(727) 403-2338 (cell/home phone)  
[julie.earls@gmail.com](mailto:julie.earls@gmail.com)

*Geospatial Analyst, Environmental Scientist, Remote Sensing Specialist*

### **SUMMARY OF EXPERTISE**

Since I graduated with my Master's degree in 2001, I have worked in the consulting, research and government sectors and currently hold a Top Secret security clearance. I have extensive experience in the application of Geographic Information Systems (GIS), remote sensing, Global Positioning Systems (GPS), LiDAR processing, geostatistics, and other statistical methods to air and water quantity/quality monitoring and modeling. I have extensive experience with ERDAS Imagine, ESRI's ArcGIS suite (including extensions such as Spatial Analyst, PLTS toolkit, Geostatistical Analyst, etc), SEDAS, Surfer, Soil & Water Assessment Tool (SWAT) and Microsoft Office programs. Further, my technical expertise includes: the application of environmental models to surface and ground water quality and quantity, analyzing Pump/Slug test data, mapping aquifer characteristics, data collection and streamflow analysis as well as soil erosion modeling. I have presented my research at national and international conferences, led tutorials and published in peer-reviewed journals. I am extremely motivated, have excellent problem-solving skills and enjoy learning and utilizing new technologies and scientific concepts.

### **EDUCATION**

- University of South Florida – Tampa, FL. Geographical Information Science – Doctorate of Philosophy. *In Progress, projected graduation Spring 2016.*
- University of South Florida – Tampa, FL. Geographical Information Systems - Graduate Certificate. Dec 2002.
- University of South Florida – Tampa, FL. Environmental Health - Master's of Science. August 2001.
- University of South Florida – Tampa, FL. Environmental Science & Policy – Bachelor's of Science. Dec 1999.

### **SUMMARY OF EMPLOYMENT**

2012 – present, GIS Analyst for DigitalGlobe at MacDill AFB (Special Operations Command-SOCOM), Tampa.

2011 – 2012, Research Scientist and Lab Manager for Geo-Spatial Analytics Lab, University of South Florida, St. Petersburg.

2010-2011, Imagery/Terrain Specialist & GIS Analyst, for Rockwell Collins Defense (contracted through Donatech), Orlando.

2004 – 2010, Research Scientist and Lab Manager for Geo-Spatial Analytics Lab, University of South Florida, St. Petersburg.

2004 – 2005, Research Scientist for Environmental Lab at College of Public Health, University of South Florida, Tampa.

2002 – 2004, Environmental Scientist/GIS Analyst, Schreuder, Inc. Water Resources and Environmental Consulting Firm, Tampa.

### **DETAILED WORK EXPERIENCE**

**Title:** GIS Analyst, DigitalGlobe

601 Bayshore Blvd Suite 825, Tampa, FL 33606

Supervisor: Dr. Steven Ward

**Duties/Accomplishments:** This position includes converting CAD data products into GIS, utilizing batch processing, SQL Server, file geodatabases and attachments as well as investigating technologies for new data collection in GIS for field survey personnel. As a geospatial analyst on this team, work includes handling large databases and attachments and presenting the data in a standardized MXD that can further be disseminated as a web product. Further duties include on-site ad hoc training and presentations to the client and interested parties. This work is performed on a client site at MacDill AFB, in support of the Integrated Survey Program at Special Operation Command (SOCOM). Note: This position started at the Tampa office as part of the HGIS team gathering data of disparate types and sources and standardizing their appearance and usability within the framework of GIS. At times, I still support the Bayshore office doing QA/QC for projects.

**Title:** Research Scientist, Lab Manager

140 7<sup>th</sup> Ave. S. – DAV 209, St. Petersburg, FL 33701

Supervisor: Dr. Barnali Dixon

**Duties/Accomplishments:** I create and edit materials for our GIS Workshops accessed both online and in our offices. I am creating exercises focused on the impacts of spatio-temporal variables such as population, soil, landuse, FAVA (Floridan Aquifer Vulnerability Assessment) and elevation on water quality contaminants as well as the impacts of landuse change on the water budget of two basins (one mined, one agricultural) using satellite imagery and GIS. I also develop GIS workshops for the geospatial industry including military applications and specialized industries. In addition, I execute GIS and remote sensing-based environmental research projects such as the application of ArcHydro with LiDAR DEMs and a specialized redistricting project for local election officials.

**Title:** Imagery/Terrain Specialist, Geospatial Analyst

3501 Quadrangle Blvd #275

Orlando, FL 32817

**Duties/Accomplishments:** I was hired as a contractor to work for Rockwell Collins on a project with CAE and Lockheed Martin for the U.S. Army. In addition to my duties of mosaicking and QA/QC of terrain data as an imagery/terrain specialist, I also performed a lot of GIS vector editing, validation, error checking and digitizing. My position entailed the design, layout, and production of GIS datasets and cartographic outputs for use in 3D simulation environments. I was also responsible for the importation, generation, and manipulation of vector and raster datasets for input to simulation database development as part of the 50 member Production

team. Ultimately, we developed geospatial data content for the production of visual or common environment database products. I was also part of small teams for Process Improvement and testing of new software upgrades as they came out.

Programs used: Fogbugz, ArcSDE, TopScene, PLTS toolkit, many proprietary extensions for ArcGIS.

**Title:** Research Scientist, Lab Manager  
140 7<sup>th</sup> Ave. S. – DAV 209, St. Petersburg, FL 33701  
Supervisor: Dr. Barnali Dixon

**Duties/Accomplishments:** I coordinated the promotion, organization, technical support and creation of materials for our GIS Workshops both online and in our offices. I completed and published several projects that used the SWAT model integrated with GIS to determine the current state of a watershed and develop a baseline for how landuse change impacts the overall hydrology. Other duties include: using fractal dimension theory to determine artificial from natural wetlands, using Remote Sensing to differentiate impervious from vegetated surfaces (and different forms of impervious surfaces from each other), operating the ASD FieldSpec hand-held spectrometer to take water quality measurements in the field and various other applications of GIS and Remote Sensing to determine environmental health, seagrass and watershed management. I also helped oversee the other researchers in the lab and coordination of our annual GIS Day events and GIS workshops of varying levels that we host and substitute for Dr. Dixon when necessary.

Programs used: Soil & Water Assessment Tool (SWAT), JAVA (NetBeans), JMP, MATLAB, Envi, ArcHydro and RS<sup>3</sup>.

**Title:** Research Scientist  
University of South Florida Tampa (College of Public Health)  
4202 E. Fowler Ave., Tampa, FL 33620  
Supervisor: Dr. Noreen Poor

**Duties/Accomplishments:** I was involved in an experimental bench test funded by the Florida Department of Transportation (FDOT) on soil corrosion with galvanized and carbon steel pipes. My contributions to the research included: ion chromatography, testing of metal samples for corrosion via impedance and polarization measurements as well as sand blasting samples and gravimetric analysis to determine physical corrosion taking place, database management and analysis, GIS map creation and analysis as well as report writing.

**Title:** Environmental Scientist, Remote Sensing Specialist, GIS Analyst  
Schreuder, Inc. Water Resources and Environmental Consulting Firm  
110 W. Country Club Dr.  
Tampa, FL 33612  
Supervisor: Peter Schreuder

**Duties/Accomplishments:** I was responsible for Remote Sensing analysis of Landsat imagery, GIS analysis, hydrologic data analysis (statistical & graphical), slug and pump test analysis, report preparation and production, and website design and updating and assisting in water use permit (WUP) information retrieval and analysis as well as WUP report preparation. I joined

Schreuder, Inc. to provide advanced Remote Sensing and GIS expertise needed in a research study for the Florida Institute of Phosphate Research. Also, I have installed piezometers, done field water quality sampling and created and analyzed potentiometric surfaces. Further, I assisted our principal with expert testimony in multiple cases/court hearings.

Programs used: ArcGIS, ERDAS Imagine, TopoQuads, Waypoint, AutoCAD, AQETSOLV and WinSitu.

## **OTHER QUALIFICATIONS:**

### **Specialized College Course Work**

Advanced Hydrogeology, Ecohydrology, Vadose Zone Hydrology (Soil Physics), Graduate Soil Seminar, Analysis of Water & Wastewater, Advanced GIS, Advanced Remote Sensing, Data Analysis and Interpretation, Environmental Applications of GIS, JAVA Programming I, Social & Behavioral Applications of GIS, Advanced Statistical Methods, Spatial Database Development, Wetland Environments and Water Resources Management Principles.

## **SPECIALIZED TRAINING**

- Training with TopScene (Lockheed Martin Proprietary Software) for Histogram Matching, Image Fusion and Image Analysis, Orlando, FL, Summer 2010
- Spatial Modelling & Expert Systems with ERDAS Imagine, Atlanta, GA, Fall 2006.
- VIS/NIR Chemometrics Training for Real World Applications, Boulder, CO, Fall 2006.
- Hyper Spectral Imagery Exploitation & Analysis with ERDAS Imagine, Atlanta, GA, Fall 2006.
- Advanced SWAT Workshop, Texas A&M, TX, Spring 2005.
- Beginner's Soil & Water Assessment Tool (SWAT) Workshop, Texas A&M, TX, Fall 2004.
- Wetland Identification and Mitigation, Brooksville, FL, Summer 2002. Taught by the Department of Forestry.
- Advancing with ERDAS Imagine, Atlanta, GA, Spring 2002.
- Spectral Analysis with ERDAS Imagine, Atlanta, GA, Spring 2002.
- Fundamentals of ERDAS Imagine, Atlanta, GA, Spring 2002.

## **REFERENCES**

Dr. Barnali Dixon, Professor  
Univ. of South Florida St. Petersburg  
140 7th Ave. South – DAV 209  
St. Petersburg, FL 33701  
727-873-4025  
[bdixon@stpt.usf.edu](mailto:bdixon@stpt.usf.edu)

Peter Schreuder  
Schreuder, Inc.  
CEO, Senior Hydrogeologist  
110 W. Country Club Dr.  
Tampa, FL 33612  
(813) 932-8844  
[peter@schreuderwater.us](mailto:peter@schreuderwater.us)

Dr. Andy Casper  
USEPA Environmental Effects Research Lab  
Gulf Ecology Division/ORD  
1 Sabine Island Drive  
Gulf Breeze, FL 32561-5299  
(850) 934-9313  
[casper.andrew@epa.gov](mailto:casper.andrew@epa.gov)

**Note : Publications, presentations and awards available upon request.**