

# James A. Zack

## President, Xtra-Spatial Productions, LLC

### **Experience Summary**

Mr. Zack has over twenty years of experience in the field of geodata processing. During the past fifteen years, he has concentrated on the application of Geographic Information Systems, Internet/Web, and Landscape Visualization technologies to a wide range of natural/cultural resource and environmental projects. Mr. Zack formed Xtra-Spatial Productions, LLC in July of 2000 and serves as its president and owner. He has worked on GIS Software Development efforts, and has designed and delivered software trainings. Mr. Zack has designed and implemented geodatabases and developed custom applications using GIS technology. He has served as a GIS consultant to various governmental and private enterprises. He has also taught introductory courses in GIS and Remote Sensing at the Boulder campus of the University of Colorado. Mr. Zack is a 3D Nature Certified instructor for World Construction Set. He is also an accomplished digital photographer specializing in panoramas and re-occupation of sites of archived photographs.

### **Credentials**

M.S., Geography -- University of California-Riverside (1989)

B.Sc. Geology -- University of Florida (1979)

### **Professional Affiliations**

Member of the American Planning Association

Member of the Capital District Planning Association

Member of Urban and Regional Information Systems Association

Member of the American Society for Photogrammetry and Remote Sensing

### **Other Affiliations**

Member of the Residents Committee to Protect the Adirondacks

Organizer of Sustainable Saratoga Springs

### **Honors**

American Society for Photogrammetry and Remote Sensing "Best Scientific Paper in GIS" Award 1992

Phi Beta Kappa, 1979

### **Employment History**

2000-present: President, Xtra-Spatial Productions, LLC, Boulder, CO and Saratoga Springs, NY

2000-2003: Research Associate, Natural Resources Ecology Laboratory, Colorado State University, Ft. Collins, CO

1997-2000: Senior GIS Analyst, Geomega, Inc., Boulder, CO

1995-1997: Research Associate, Natural Resources Ecology Laboratory, Colorado State University, Ft. Collins, CO

1990-1994: Research and Teaching Assistant, Department of Geography, University of Colorado, Boulder, CO

1990: Data Modeler/Consultant, Platte River Associates, Denver, CO

1985-1990: GIS Applications Programmer, Environmental Systems Research Institute, Redlands, CA

1980-1984: Geophysicist, Cities Service Oil and Gas Co., Tulsa, OK

1979-1980: Seismic Analyst, Chevron Geosciences Co., Houston, TX

### **Computer Skills**

Mr. Zack is proficient with Wintel-based, Macintosh and Linux/Unix workstations. He has programming experience in C, Java, and Visual Basic. Mr. Zack has extensive experience with ESRI GIS software (ArcGIS, ArcView with Spatial Analyst and 3D Analyst Extensions, ArcInfo, Internet Map Server) and the fourth-generation languages specific to that product line (VBA, Avenue, Arc Macro Language, and Map Objects). He has Internet/Web skills for HTML and JavaScript coding, XML document design, XSL Transformation language, Virtual Reality Modeling Language (VRML), Keyhole Markup Language (KML) and uses Adobe GoLive and LiveMotion software to design pages and sites. Mr. Zack is also proficient in the Adobe line of multimedia products including Premiere, Photoshop, and Encore DVD. He is also proficient in audio editing using Cakewalk Pro Audio. Over the past nine years, Mr. Zack has gained experienced in three-dimensional modeling using AutoDesk's 3D Studio MAX. Also during this time, he has become a master of 3D Nature's World Construction Set and Visual Nature Studio software for 3D landscape visualization, as well as realtime scene generation using Scene Express. Mr. Zack has used a wide range of hardware and OS variants and has performed many system administrative tasks.

### **Key Projects**

**Landscape Visualization (most of the more recent projects can be viewed at Xtra-Spatial Productions, LLC website: <http://www.spatialexperts.com/projects>)**

Trained and assisted the staff of Nicklaus Design, LLC in efforts to visualize proposed golf course design plans.

Created and produced a set of animations showing wetlands rehabilitation and recreation facility improvements for riparian corridor in Springfield, Oregon.

Produced a set of animated flyovers for six eighteen-hole golf courses along the Carolina coast (in collaboration with VR Marketing, Inc., N. Myrtle Beach, SC).

Designed, created, and produced a scientific animation showing the proposed renovation of a golf course green complex (in collaboration with TerraVea, Boulder, CO)

Trained and assisted staff of Envision Utah in efforts to visualize various scenarios related to Transfer of Development Rights for Layton, Utah, and to visualize small community development in Mantua, Utah.

Created photosimulations of a proposed mountaintop Digital TV tower site as part of a qualitative analysis of visual resources on the western edge of the Metropolitan Denver Area.

Created photorealistic "time-lapse" animations of the proposed mining operations expansion/reclamation efforts for a major gold producer in Colorado.

Created photorealistic images of Rocky Mountain National Park under present day conditions and under several scenarios of global climate change to be used in visual quality analysis.

Created photorealistic fly-through animation of a large open pit copper mining operation in Indonesia as part of a promotional campaign.

Created a Web-based interactive experience for visualizing a golf course using linked photorealistic panoramas, fly-overs, and other HTML-based assets.

Created texture maps used in the background of a best-selling snowboarding video game.

Provided technical assistance and guidance for external landscape and urban scene visualizations.

### **Multimedia, GIS, and Internet Mapping**

Conducted Wildlife Impact Assessment Temporal Analysis of the Town of Bolton, NY 1966-2004 for the Residents Committee to Protect the Adirondacks.

Conducting Analysis of Buildout and the spatial distribution of development pressures for the Adirondack State Park, NY for the Residents Committee to Protect the Adirondacks.

Produced high-quality large-format maps for assisting in Open Space acquisitions in the Adirondack State Park, NY for the Residents Committee to Protect the Adirondacks.

Produced instructional 3D, animated video for public education at a Superfund site in Georgia.

Co-designed, developed, and implemented SCoP, a Web-based Mapping System for presenting multiscale biological resource data for the state of Colorado (<http://ndis.nrel.colostate.edu/>).

Designed and conducted spatially discrete analysis of perceived Digital TV tower sizes to census blocks along the western edge of the Metropolitan Denver Area.

Developed and implemented methodology for predicting probabilities of finding archaeological sites based on environmental variable for an Air Force base in Montana.

Mapped multiple soil characteristics across a 5000-acre site to examine correlations with vegetation abundance.

Provided spatial modeling support for regression-based analysis of revegetation potential for a Nevada Copper mine.

### **Publications/Presentations/Achievements**

Interpretive Poster of "The Great Carry," a perspective view of the Old Military Road between Fort Edward and Fort William Henry used by the British Army during the French and Indian War. In progress with anticipated release to commemorate the 250<sup>th</sup> anniversary of the 1755 Battle of Lake George.

([www.spatialexperts.com/Interpretive\\_frame.html](http://www.spatialexperts.com/Interpretive_frame.html))

Winner of the 2001 Poster Contest ESRI-Denver Regional Office for "A Quantitative Comparison of the Visual Intrusion of Proposed Digital TV Towers at Two Sites." September 2001.

Theobald, D., and **J. Zack**, Presentation of "Disseminating Natural Diversity Information Using ArcView IMS: Design Issues and Technical Considerations," Eighteenth Annual ESRI User Conference, San Diego, CA, July 1998.

Product/Project Engineering of "ClimateData and HydroData ArcData products (alpha and beta versions)," with Hydrosphere Data Products, Inc., April, 1993.

Cartographic production for "Natural Hazards in Puerto Rico: Attitudes, Experience, and Behavior of Homeowners" by Dr. Risa Palm and Dr. Michael E. Hodgson, 1993.

Presentation of "Summary of GIS Database Operations to Support the RSS/MODM Project," Twelfth Annual ESRI User Conference, Palm Springs, CA, June 1992.

Participant in City and County of Boulder Wildland Fire Symposium, Boulder, CO, May 1992.

**Zack, J.**, "Hurricane Hazard Mitigation in Puerto Rico: A Quantitative Approach," paper presented for Quantitative Methods in Geography, Dr. Andrei Rogers, University of Colorado at Boulder, 1992. **Zack, J.**, and R. Minnich, "Integration of a Geographic Information Systems with a Diagnostic Wind Field Model in Complex Terrain for Fire Management," *Forest Science*, June 1991.

Palm, R., J. Molinelli, D. Lyons, D. Blanchard, and **J. Zack**, "Multi-hazard Risk Perception in Puerto Rico after Hurricane Hugo," presentation at First Conference on Natural Hazards, Boulder, Colorado, June 1991.

Marozas, B., and **J. Zack**, "GIS and archaeological site location," in *Interpreting Space*, Allen, Green and Zubrow, eds., Taylor and Francis: London. 1990.

**Zack, J.**, "Assessing the Effects of Terrain on a Multispectral Classification of Fuel Models as Part of a Wildfire Management Decision Support System," paper presented for Remote Sensing of the Environment, Dr. Alexander F.H. Goetz, University of Colorado at Boulder, 1990.

Presentation of "Integration of a Geographic Information Systems with a Diagnostic Wind Field Model in Complex Terrain for Fire Management," Annual Meeting of the Great Plains and Rocky Mountain Division of the American Association of Geographers, Kearney, Nebraska, October, 1990.

Presentation of "Calculation and Cartographic Display of Spatial Statistics in the ARC/INFO Environment," Tenth Annual International ARC/INFO Users' Conference, Palm Springs, CA, May 1990.

Presentation of "TIN Tricks and Shortcuts," in *Proceedings Ninth Annual International ARC/INFO Users' Conference, Technical Sessions*, Palm Springs, CA, May 1989.

Primary designer of two-day "Applications Programming" course presented by Environmental Systems Research Institute to corporate/governmental clients, 1988-9.

**Zack, J.**, "Integration of a Geographic Information Systems with a Diagnostic Wind Field Model in Complex Terrain for Fire Management," Master's Thesis, UC-Riverside, 1989.

Marozas, B., and **J. Zack**, "The Use of Geographic Information to Measure Independent Variables for Archaeological Site Location Studies," Paper presented at the 53<sup>rd</sup> Annual Meeting for American Archaeology, Phoenix, Arizona, 1988.