

9th ANNUAL



# Oklahoma SCAUG Conference

October 5, 2006

**Moore Norman Technology Center  
13301 S. Penn Avenue  
Oklahoma City, Oklahoma**



**Oklahoma Chapter  
South Central Arc Users Group  
(SCAUG)**



Notes



**Fellow Oklahoma SCAUGers:**

Thank you for attending the Ninth Annual Oklahoma South Central Arc User Conference! The Steering Committee has devoted a lot of time & energy into making this conference one of the best yet with knowledgeable speakers, pertinent information, expert vendors, comfortable surroundings and great food! We strive to make each conference as informative and up-to-date as possible. We welcome comments about how to improve or change next year's conference.

We would also like to thank our vendors for helping support this conference by being exhibitors, advertisers and sponsors. Take time throughout the day to check out the various GIS products and services they offer.

Remember to turn in your Salary Survey and Conference Survey to get your additional SCAUG Gifts at the Registration Table and vote for your favorite Map in the Map Poster Contest! We are also continuing the "Where in Oklahoma Contest" so guess the town represented on the map for a chance to win a great SCAUG prize. Have a wonderful, information-filled day today at the OK SCAUG Conference!

Sincerely,

- The 2006 Oklahoma SCAUG Steering Committee

Clifford Montgomery, City of Broken Arrow  
Shellie Willoughby, Oklahoma Conservation Commission  
Bob Pendergrass, INCOG  
Elizabeth Kruger, Oklahoma Department of Health  
Michelle Matthews, City of Norman  
Sterling Overturf, Meshek & Associates  
Chuck Sloan, Dominion E & P  
Thomas Tollett, Citizen Potawatomi Nation  
Charles Brady III, City of Ardmore (Regional SCAUG Representative)

## *Exhibitor Directory*

### **Applied Geospatial Technology Solutions, LLC**

Applied Geospatial Technology Solutions, LLC (AGTS) provides a full range of mapping and GIS services to the public and private sectors. Our services help government agencies and organizations envision, design, develop, implement, deploy and maintain efficient GIS infrastructures that serve as enterprise geospatial decision support systems.

Since the company's inception in 1989, AGTS has focused solely on providing cost-effective GIS solutions. Today, AGTS has a staff of highly skilled GIS specialists and consultants who are committed to the success of our customers. Because of the firm's experience and knowledge implementing enterprise GIS solutions, we are the preferred service and data provider for organizations needing to integrate multi-platform GIS technologies into open environments on an enterprise scale. This experience and understanding assures our customers that their implementations will be successful in today's complex government and business environments.

AGTS is an ESRI Development Partner, an Intergraph Business Partner, and a Microsoft Business Partner. AGTS, LLC is a wholly subsidiary of EI Technologies, LLC, Parker, Colorado.

Bruce Martin, Applied Geospatial Technology Solutions, 19750 E. Parker Square Dr., Suite 100, Parker, CO 80134

Phone: 972.745.3444 ex 12; email [bmartin@ats-us.com](mailto:bmartin@ats-us.com)

<http://www.ats-us.com>

### **Azteca Systems**

Cityworks® is the only GIS-based Asset and Maintenance Management System available. Created especially for Public Works and Utilities organizations facing the challenge of managing community infrastructure, Cityworks is uniquely designed to fully leverage your investment in GIS without costly duplication of effort or data. Coupled with ESRI's leading GIS software, Cityworks provides a complete solution for asset and maintenance management.

Brent Wilson Cityworks by Azteca Systems GIS-Based Enterprise Asset Management

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# Keynote Speaker

**Damian Spangrud**  
ESRI, Inc.  
380 New York Street  
Redlands, CA 92373



Damian Spangrud is currently the Product Manager for the ArcGIS family of products at ESRI. Over the last 12 years Damian has worked on the ArcView GIS (2 to 3x) and the ArcGIS (8x to 9x) teams as the technical product manager. Damian holds Geography degrees in modeling and cartography, from Montana State University (MS) and the University of Colorado (BS).

## Exhibitor Directory

### Western Data Systems



Western Data Systems is an Authorized Trimble Dealer and our only business is supplying GPS and GPS related products. We do this in several ways.

1. We are a direct seller of Trimble GPS products in Texas, Arkansas and Oklahoma. We can supply the entire Trimble line of GPS Survey, Mapping and Seismic Products, Training, Technical Support and all Accessories your crew might need. With offices in Houston, Dallas and San Antonio and Austin, you have a GPS professional within close proximity to you at all times.
2. We offer fully integrated GPS based Hydrographic systems anywhere in the United States, complete with training and support.
3. We have one of the largest Trimble GPS rental pools in the world. This equipment is available to a worldwide customer base. If your rental needs are for as little as one day or as long as one year, Western Data Systems can meet your needs. There are no other GPS rental companies that can combine the amount of equipment we have available with the technical support we can and do provide our customers.

Contact : Gary Smith, Toll Free (877) 902-8112 1620 N. I 35E STE.310 Carrollton, TX 75006  
[www.westerndatasystems.com](http://www.westerndatasystems.com) [gary@westerndatasystems.com](mailto:gary@westerndatasystems.com)

### PBS&J



PBS&J is an employee-owned, full-service organization. The firm offers four major service areas: transportation engineering and design, environmental sciences, construction management, and land planning/development. The multidisciplinary nature of PBS&J allows the organization to offer the required expertise for any project.

PBS&J's Information Solutions (IS) Division, part of the Environmental Engineering Service Area, was specifically created to address the information management needs of their clients through the innovative use of technology. The IS division provides Geographic Information Systems (GIS), database design and management, and web site development services. PBS&J's GIS services focus on needs analysis, data analysis, and application development.

PBS&J is ranked 21st among Engineering News-Record's list of top 500 engineering design firms in the United States. PBS&J has 60 offices worldwide and over 3,300 employees. Their clients include many cities, counties, federal and state regulatory agencies, airports, and private as well as foreign entities. The firm's history of completing jobs on time, within budget, and in a professional manner accounts for much of PBS&J's repeat business.

PBS&J - Dallas, Kiran Darapureddy, 18383 Preston Road, Suite 500, Dallas, Texas 75252

Phone: (972) 818-7275, Toll-free: (888) 649-7275, Fax: (972) 380-2609, <http://www.pbsj.com>

## Exhibitor Directory

### Pinnacle Mapping Technologies

PINNACLE was formed in 2002 in Indianapolis, Indiana by Brenda King and Robert Armstrong. Brenda formerly served as a Communications and Information officer in the US Air Force and was responsible for upper-level management of large-scale telecommunications projects for the Department of Defense. Bob brings with him over 20 years of experience in the development of digital cartography and mapping, photogrammetric engineering, aerial photography, and survey control.

PINNACLE's staff has over 107 years combined experience in their fields of expertise. All technicians have more than 5 years in the industry, many with related 4-year degrees, and have worked in the mapping operations of such companies as Atlantic Technologies, ASI, MSE, and 3Di.

PINNACLE has invested in state-of-the-art technology (hardware and software) and follows a rigorous quality control process with a thorough review and documentation throughout all stages of projects. Our process incorporates many elements of the ISO 9000 standards, including in-house training, calibration, maintenance, document control, procedure standards, and statistical analysis. Cost control is achieved through a fully automated accounting system.

PINNACLE has the personnel, resources and financial stability to complete your project on time and within budget. Our unique approach is structured to minimize the administrative, supervisory, and financial burden on the client by:

- Providing day-to-day production management, thereby reducing the management resources required by you.
- Providing quality assurance of all data products, thereby ensuring high first-time acceptance rates.
- Providing a single point of contact who has the responsibility and authority to ensure the program's success.

Ryan King, 8021 Knue Road, Suite 113, Indianapolis, IN 46250, Phone: 317-585-2011, Fax: 317-585-2014 <http://www.pinnaclemapping.com/>

### Devon Energy Corporation

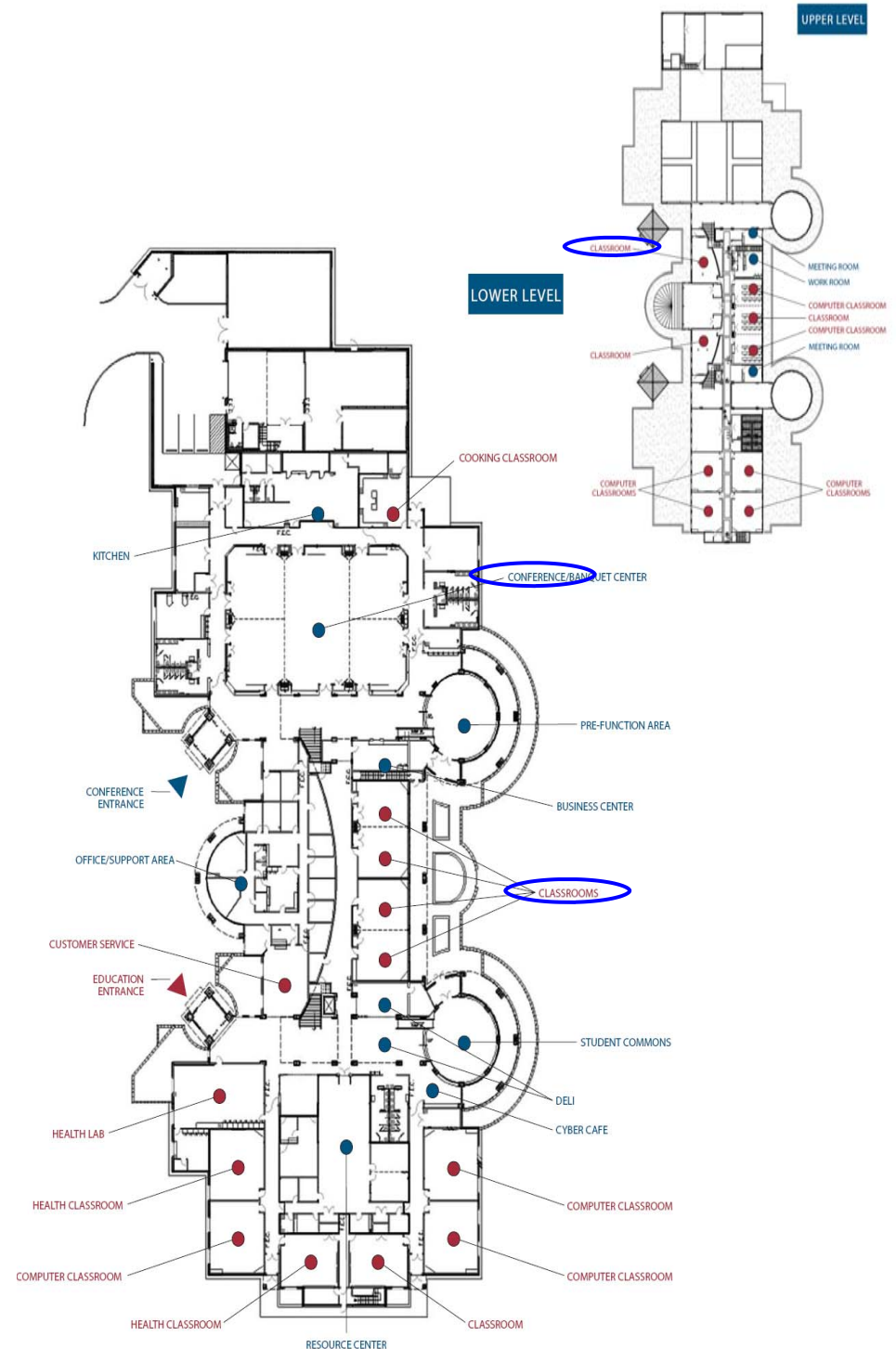
Devon Energy Corporation is one of the larger independent oil and gas producers and independent processors of natural gas and natural gas liquids in North America.

The company's portfolio of oil and gas properties provides stable, environmentally responsible production and a platform for future growth. About 88 percent of Devon's production is from North America. The company also operates in selected international areas, including Brazil, West Africa, the Middle East and China. The company's production mix is about 60 percent natural gas and 40 percent oil and natural gas liquids, such as propane, butane and ethane. Devon produces over 2 billion cubic feet of natural gas each day, about 3 percent of all the gas consumed in North America.

Headquartered in Oklahoma City, Devon has approximately 4,200 employees worldwide. Devon is a Fortune 500 company and is included in the S&P 500 Index. Its common shares trade on the New York Stock Exchange under the ticker symbol DVN.



*devon*





## *User Presentations*

### *Special Breakout Sessions*

**Name:** Brenda Fennel  
**Organization:** Previstar, Inc.  
**Title:** Katrina EOC GIS

**Description:** Since September 27th, 2005, Brenda, A.K.A. “Map Lady” in the City of New Orleans Emergency Operations Center (EOC) has been deployed to the KATRINA EOC as a GIS Analyst. She will give a personal account of her service as ESF 5. She will demonstrate the tools used to assist with Daily Briefs and Practice Exercises, Public Assistance, documentation and storage and lessons learned, working in a multi agency ICS (Incident Command System), will be discussed and a Q & A period.

**Name:** Justin Cure, GISP  
**Organization:** City of Longview, Texas  
**Title:** The GIS Certification Institute’s Certification Program for GIS Professionals

**Description:** The GIS community has a responsibility to ensure a consistent high level of quality in the field. GIS is a functional tool for many professionals in other disciplines but there is a core group of professionals who are advancing the profession using a specific set of skills. Certification provides a means for attaining recognition by one’s colleagues and peers that the GIS professional has demonstrated professional competence and integrity in the field. It will encourage long-term professional development that will help existing professionals maintain currency in GIS technology and methods. Professional certification will assist prospective employers in the assessment and hiring of GIS professionals. Lastly, it will assist aspiring GIS professionals in choosing their educational and professional opportunities wisely.

This session will detail the GIS Certification Institute’s Certification Program for GIS Professionals. Started on January 1, 2004, this is a recognition program for established GIS professionals. It is a non-examination, portfolio-based system. Strategies for filling out the application as well as detailed information about the history of the effort and the Institute will be provided. Information about certification vs. licensure and state endorsements of the program will be offered as well.

## *Exhibitor Directory*

### **SCI (Strategic Consulting International)**



SCI is a full service consulting firm providing services to public and private sector clients in the following areas: Geographic Information Systems (GIS), Information Management, Internet Support, Global Positioning System (GPS), and Program Management. We have a record of completing successful projects in the United States and internationally. As one of the leading providers of GIS in the United States, SCI offers a full range of services, from initial feasibility studies through application and database development to full implementation and systems management. SCI maintains a unique portfolio of qualifications from the Environmental Systems Research Institute, Inc. (ESRI) and Trimble Navigation Limited. These qualifications include ESRI business partner, authorized reseller and certified training statuses. SCI is also an authorized Trimble GPS system reseller and carry the full line of Trimble GPS mapping products.

5829 E. 76th Place, Tulsa, Oklahoma 74136-8407, Phone: (918) 523-1833, Fax: (918) 523-1833

Contact: Eric Jones, Email: sales@scigis.com, URL: www.scigis.com

### **Topographic Mapping Company**



Topographic Mapping Company is one of the four companies under the Topographic, Inc. umbrella. We provide mapping data for your GIS. Culture Data, Digital Land Grid, T.E.S.S. Grid, Contours, USGS Digital Raster Graphics, TexaGraphics, Aerial Photography, and the Oklahoma Digital County Map Book are some of the accurate and affordable data products Topographic Mapping Company provides. GIS and CAD services are also available along with scanning and lamination done on-site. As we approach our 50th anniversary in 2008, we welcome you to find out more about the data and services we offer.

With the objective of providing specialized surveying and mapping services to the oil industry, John F. Keating founded Topographic in Duncan, Oklahoma. The year was 1958, a time when Mr. Keating operated on a shoestring, often using temporary crewmen. He purchased aerial photography of the areas in which he was working to help him in the field as well as provide a background for his survey plats. Soon, oil companies began to expect the aerial photos with their well location plats. That was just the beginning of innovative services and products that have helped Topographic become Oklahoma's leading surveying company for the oil and gas industry.

The years since 1958 have been interesting and challenging for Topographic. Our proud traditions of meeting customer needs, creatively applying new technology and providing quality products and services at a fair price have been firmly established. Due to the efforts, skills and dedication of our employees, Topographic has become an institution rich in knowledge, experience, information and resources. With these strengths, new chapters of Topographic successes will continue to be written.

Contact: Stephen Banks, President, Topographic Mapping Company, 6709 North Classen Blvd., Oklahoma City, OK 73116

405/843-4847, 800/654-3219

## Exhibitor Directory

### IT Nexus, Inc.



IT Nexus, Inc. specializes in enterprise GIS and IT planning, design and implementation. We are committed to providing our clients with the highest quality service and an unparalleled level of support. We assist our clients in responding to today's rapidly changing technology environment by using methodologies that:

1. Bring the communication and experience necessary to meet our client's business needs,
2. Build information systems that respond to long-term needs while delivering immediate and appropriate solutions to the client business environment.

We have built our company on the belief that success relies on facilitating a nexus - a dynamic connection- between our skills, our client's needs and today's technology environment.

Corporate Offices: Kathy H. Spivey, Vice President, 62 Rainy Avenue, San Antonio, TX 78240,  
(210) 256-2095 <http://www.it-nexus.com>

### Stewart Geo Technologies, Inc.



Stewart Geo Technologies, Inc. (SGT) is a professional services organization dedicated to providing geospatial solutions to agencies engaged in the design, construction and management of public infrastructure systems. Structured to accommodate time-critical and technically demanding projects, SGT supports its clientele with a broad range of geospatial technologies encompassing photogrammetry and geographic information systems.

A wholly owned subsidiary of Stewart Title Company, SGT has provided mapping services for almost a half century. SGT offers the following services:

- *Aerial Photography*
- *Aerial Triangulation*
- *AM/FM/GIS*
- *Application Development*
- *Application Service Provider*
- *Digital Orthophotography*
- *Digitizing*
- *Digital Terrain Modeling*
- *GIS Application Development*
- *GIS Consulting*
- *GIS Database Creation*
- *GIS Implementation and Training*
- *GPS Surveys*
- *Image Plots*
- *Parcel Mapping*
- *Remote Sensing*
- *Vector Land Base Mapping*

Roger L. Stack, C.P., 5730 NW Parkway, Ste. 500, San Antonio, Texas 78249  
(210) 684-2147 ex 3104 [www.stewartgeotech.com](http://www.stewartgeotech.com) [rstack@stewart.com](mailto:rstack@stewart.com)

## User Presentations Special Breakout Sessions

**Name:** Sohail Hasanjee  
**Organization:** Oklahoma Department of Commerce  
**Title:** LocateOK—IMS Application for Site Selection and Economic Development in Oklahoma

**Description:** The purpose of developing and implementing a web-based Geographic Information System (GIS) for Oklahoma Department of Commerce (ODOC) is to provide tools to enhance economic development by providing a service to assist businesses in accessing services and resources. Web-based GIS service offers interactive tools and access to detailed level of spatial and tabular data to business service teams as well as other internal and external customers. This system is designed to support developing proposals, preparing research, and making decisions based on sound business intelligence for economic development.

In the first two phases of the project, development of interactive web interface with spatial and non-spatial databases focused on available commercial and industrial buildings and certified sites. All data sets in the database are map-able and are categorized as layers.

Spatial database contains three categories of spatial datasets. These datasets include boundaries, infrastructure, and variable feature layers. Buildings and certified sites are other variable and searchable feature datasets. Non-spatial database is composed of three categories of datasets namely, business directories, business incentives and census data.

Selected datasets are searchable through data filtering process. Buildings, certified sites and census data are searchable datasets.

## User Presentations

**Name:** David Lowther  
**Organization:** Coordinate Solutions, Inc.  
**Title:** Internet GIS throughout the Enterprise

**Description:** Throughout government agencies and private industry, GIS solutions are all too frequently developed within isolated corridors as individual systems. As a result, data and application sharing across the enterprise are difficult and redundancy is commonplace. Conversely, an enterprise approach to GIS is based upon a common infrastructure, consisting of centralized geodatabases and applications, deployed throughout an organization or organizations. We will demonstrate this and discuss several examples of leveraging Internet based GIS systems within external applications via .NET interfaces.

**Name:** Cheryl Dirck  
**Organization:** Oklahoma Department of Environmental Quality  
**Title:** Out of the Dark Ages

**Description:** The Oklahoma Department of Environmental Quality started using GPS and GIS in the dark ages. Atlas GIS was the first program the department used. It was such a great new way to look at information. The problem was there wasn't that much information out there to view.

The advent of the state atlas developed by the USGS and the GIS Council was a major step forward. There was not a lot else available. David Pruitt of the then Environmental Health Services Division of the Oklahoma State Department of Health began using GPS units to gather locational information on facilities we regulated to have the ability to input these locations onto the state atlas maps. Many hours were spent finding all the Public water supply wells, Lake intakes, NPDES discharge pipes, Lagoons, land application sites, landfills, superfund sites, hazardous waste sites, hazardous waste generators, air quality permitted sites and so on and on and on. The Wellhead Protection Program needed this to evaluate the potential threats within capture zones for wells. EPA introduced the Source Water Protection Program that included surface water intakes.

Today we have this website with the ability to display color aerial photos, facility locations, wellhead protection areas, etc.

We use GIS in making decisions: Inspectors can find their way to facilities. If a facility up stream has an overflow into a stream we can determine if it will impact a water supply intake down stream. If a facility has a chosen location we can do site evaluation on it to determine if it is over a major aquifer, if it is in a protected stream or scenic river watershed. We are developing new applications to use in conjunction with our website data. Wellhead protection areas will be updated with new information and re calculated for new wells.

## Exhibitor Directory

### Moore Norman Technology Center



Moore Norman Technology Center has been providing high school students and adults the opportunity to receive quality career and technology education for more than 25 years. Through full-time education and short-term training programs, our goal is to help individuals and businesses succeed. MNTC is one of 29 technology centers in Oklahoma. Established in 1972, MNTC has gained a national reputation as a premiere technology center offering education that meets the needs of career and college bound students. More than 20,000 people attend classes, workshops, seminars and conferences annually. Students choose from 26 long-term career programs and more than 500 short-term class subjects. And through agreements with Oklahoma City Community College, OSU-OKC, Rose State College and Seminole State College, MNTC students are able to learn technical skills while they earn college credit.

Moore Norman Technology Center, 4701 12th Avenue NW, Norman, OK 73069

405.364.5763 phone., 405.360.9989 fax., <http://www.mntechology.com>

### Meshek & Associates, Inc.



Meshek & Associates, Inc. has over 10 years of collective GIS and mapping experience. Our team members have been involved in projects included mapping and monitoring utility systems for local municipalities, various storm water and floodplain projects, impervious urban analysis, database enhancements, custom tool sets and DFIRM Map Production for FEMA. Other staff expertise includes GIS instruction at Tulsa Community College and participation at various association conferences through public presentations .

Our goal is to create functional GIS projects while maintaining reasonable costs. We create projects in a scaleable environment from the perspective of both data and software. We customize our work strategies and finished product to suit our clients' needs.

Our Consulting Services are available for all levels of GIS services. If your department is just beginning to assemble a base map of GIS data or you are involved with a broadly utilized GIS database with a need for highly detailed analysis or customized data, our services can match your needs. We will customize projects to meet your standards and budgets. Some of our services include:

- Customized Data and Tool Development
- Data Collection
- Customized Annotation
- Data Format Conversions
- Digital Terrain & Elevation Modeling
- 3D & Spatial Analysis
- Customized Database and Geodatabase Development
- Map Printing (Large or Small Format)
- Training

Sterling Overturf, Meshek & Associates, Inc. 20 W. 2nd St. Sand Springs, OK 74063  
918.241.2803 [soverturf@meshekengr.com](mailto:soverturf@meshekengr.com) [www.meshekengr.com](http://www.meshekengr.com)



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### Afternoon Break Sponsor:

#### Pinnacle Mapping Technologies



PINNACLE has invested in state-of-the-art technology (hardware and software) and follows a rigorous quality control process with a thorough review and documentation throughout all stages of projects. Our process incorporates many elements of the ISO 9000 standards, including in-house training, calibration, maintenance, document control, procedure standards, and statistical analysis. Cost control is achieved through a fully automated accounting system.

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- Providing quality assurance of all data products, thereby ensuring high first-time acceptance rates.
- Providing a single point of contact who has the responsibility and authority to ensure the program's success.

Ryan King, 8021 Knue Road, Suite 113, Indianapolis, IN 46250, Phone: 317-585-2011, Fax: 317-585-2014  
<http://www.pinnaclemapping.com/>

### Door Prizes:

#### SCI (Strategic Consulting International)



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Contact: Eric Jones, Email: [sales@scigis.com](mailto:sales@scigis.com), URL: [www.scigis.com](http://www.scigis.com)

#### ESRI



With annual sales of more than \$340 million, ESRI remains the world leader in the geographic information system (GIS) software industry for more than 30 years. As the leader in GIS technology, ESRI offers innovative solutions that will help you create, visualize, analyze, and present information better and more clearly. Working with location information, ESRI's GIS software and solutions give you the power to solve problems you encounter every day. Organizations around the world, as well as local, state, and federal government agencies, are using ESRI GIS software to make smart and timely decisions. ESRI provides powerful GIS solutions to more than 300,000 clients in more than 189 countries. In fact, ESRI is leading the industry in providing mapping technology that meets today's global needs. ESRI offers GIS solutions to help you unlock the spatial component of your valuable data and see your organization's information from a new perspective. [www.esri.com](http://www.esri.com)

## User Presentations

**Name:** DeWayne Mitchell  
**Organization:** Weather Decision Technologies, Inc.  
**Title:** Weather Products and Services in a GIS framework

**Description:** Weather Decision Technologies, Inc., a private weather company based in Norman, OK, provides unique weather products and services intended to assist its clients whose operations and assets are directly affected by weather. WDT routinely provides these products and services to such industries as power generation and transmission companies, property and casualty insurance, risk assessment groups, aviation, marine and other weather companies in support of their own forecast services to their end users. Products and services provided by WDT include but are not limited to 1-6 hour automated forecasts of rainfall accumulation, 1 hour and 24 hour accumulation of precipitation (snow and rain), hail verification, lightning verification, severe storm detection and diagnosis (including hail, tornadoes and damaging winds), nationwide radar data /imagery and worldwide satellite data/imagery. However, the increasing use of GIS display and analysis tools by WDT's clients has necessitated the rendering and distributing of its products in GIS formats as well as in the native weather product formats in order to meet client needs. As a result, WDT routinely provides most of its products, for example, in shapefile and/or GeoTIFF formats. In addition, WDT makes extensive use of desktop GIS in support of its weather forensics services and products. For example, WDT uses desktop GIS to create daily renderings of hailswaths for the 48 contiguous states covering a 24 hour period. As a result and of importance to the property and casualty insurance industry, the geographical distribution and impact of hailstorms on the U.S. and its major metropolitan areas are easily assessed. Because of the growing suite of GIS products at WDT and the need for a more robust system to manage these products and better serve its clients, WDT has embarked on a path to install and configure ArcSDE.

WDT's GIS products and how they are used will be discussed as well as WDT's future GIS related activities and plans.

**Name:** Michael Sughru and Ed Eckenstein  
**Organization:** Oklahoma Water Resources Board  
**Title:** OWRB's Water Information Mapping System (WIMS)

**Description:** The OWRB's Water Information Mapping System (WIMS) is an ArcIMS website designed to provide statewide water information for both the public and professional user. WIMS allows the user to create maps and access a wealth of water related information. This presentation will provide an overview of the features and data available from the site. <http://www.owrb.state.ok.us>

## User Presentations

**Name:** Robert Stokes

**Organization:** Cherokee Nation GeoData Center

**Title:** The GCDB in Oklahoma

**Description:** This presentation is an overview of a pilot project conducted in the Cherokee Nation in Northeastern Oklahoma involving the Bureau of Land Management's Geographic Coordinate Database (GCDB) system for updating, managing, and maintaining the digital Public Land Survey System (PLSS) datasets. The process involved incorporating 50+ townships of survey grade data collected from GPS, General Land Office (GLO) survey plats, surveyor's field notes, and any other certifiable land survey that ties into section and ¼ section corners. The data development and data entry processes will be highlighted and typical results will be shown.

**Name:** Sterling Overturf

**Organization:** Meshek & Associates, Inc.

**Title:** How GIS is Helping Achieve FEMA's Map Modernization Vision

**Description:** By 2010, it is envisioned that through the implementation of the Map Modernization program, more accurate digital flood hazard data will be available nationwide. To ensure program-wide consistency and facilitate meeting Map Modernization objectives and its aggressive schedule, it was critical that FEMA develop a streamlined platform that provided processes and practices that were readily understood by the wide variety of partners, stakeholders, and users that may have an occasion to use them.

In order to achieve Map Modernization goals and the development of a seamless nationwide Digital Flood Insurance Rate Map (DFIRM) layer, FEMA is using state-of-the-art technology to increase the quality, reliability, and availability of flood hazard maps and data. This technology is available to stakeholders through the Multi-Hazard Information Platform (MIP), which promotes data sharing and development with all mapping partners. The MIP provides FEMA and stakeholders with program-specific GIS mapping tools to streamline the Flood Insurance Study (FIS) process and enable partners to develop FIRM maps consistent with FEMA defined guidelines.

**Name:** Chuck Sloan

**Organization:** Dominion Exploration & Production

**Title:** ArcGIS 9 in Upstream Land Management (UPS)

**Description:** Upstream Land Management requires extensive spatial data for analysis and decision support. Core data includes company leases, contracts, right-of-ways, prospects, and wells. Reference data includes survey, culture, imagery, and competitor leases. Supporting data includes seismic survey locations, gathering systems, and weather forecasts. The volume and types of data can complicate analysis and lead to incomprehensible hard copy maps. This presentation will discuss simple and effective ways of using ArcGIS 9 in Upstream Land Management and operations. A live demonstration will review some of these scenarios.

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1. We are a direct seller of Trimble GPS products in Texas, Arkansas and Oklahoma. We can supply the entire Trimble line of GPS Survey, Mapping and Seismic Products, Training, Technical Support and all Accessories your crew might need. With offices in Houston, Dallas and San Antonio and Austin, you have a GPS professional within close proximity to you at all times.
2. We offer fully integrated GPS based Hydrographic systems anywhere in the United States, complete with training and support.
3. We have one of the largest Trimble GPS rental pools in the world. This equipment is available to a worldwide customer base. If your rental needs are for as little as one day or as long as one year, Western Data Systems can meet your needs. There are no other GPS rental companies that can combine the amount of equipment we have available with the technical support we can and do provide our customers.

Contact : Gary Smith, Toll Free (877) 902-8112 1620 N. I 35E STE.310 Carrollton, TX 75006  
www.westerndatasystems.com gary@westerndatasystems.com

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## User Presentations

**Name:**

**Katy Rich**

**Organization:**

**Oklahoma State Department of Health**

**Title:**

**A GIS-Based Model for Quantifying the Spatiotemporal Dimensions of Gestational Pesticide Exposure and Their Impacts on Genitourinary Birth Defects: A Case Study of Harris County, Texas**

**Description:** The presentation will describe research completed for a Masters thesis at the University of Oklahoma. The goal of the research was to apply spatial theory and techniques to the development of an automated and replicable GIS-based model that can be used to estimate a pregnant woman's exposure to mosquito-control pesticides and relate this estimate to incidences of genitourinary birth defects.

The developed models were applied to a case study carried out in selected communities in Harris County, Texas. Methods included in the models were chosen to accomplish the three following tasks: (1) estimate individual pesticide exposure in terms of temporal and spatial exposure, (2) assess the distribution of birth defects cases among the study population, and, (3) incorporate exposure data into regression analysis that evaluates the relationship between pesticide exposure and birth defects.

The results of the application of the models demonstrate their usefulness for estimating pesticide exposure by the use of secondary data sources and for utilizing that exposure data to characterize the effects of pesticides on the study population in terms of the outcomes of interest.

The presentation concludes with a discussion of the limitations and significance of the developed GIS-based models and the ways by which they can contribute to the body of public health research and the problem of increasing cases of genitourinary malformations as well as public concern about the safety of pesticide use for mosquito-control.

**Name:**

**Eric Jones**

**Organization:**

**Strategic Consulting International**

**Title:**

**GIS Data Hosting**

**Description:** GIS Data Hosting is a cost effective solution for any company, organization, agency, or tribe trying to make their GSI budget fit their GOS needs. Mr. Jones will discuss the benefits of this solution in detail; highlighting the Return-On-Investment (ROI), through the use of an external company that has experienced staff and abundant resources. He will also discuss the numerous advantages of using an experienced company that has helped develop industry standards and practices. SCI has made an ongoing commitment to the education and development of GIS for future users.



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## Poster Presentations

**Name:** Trung Tran-Vinh & May Yuan  
**Organization:** Center for Spatial Analysis, OU Department of Geography  
**Title:** How Bien Hoa City, Vietnam Grows? A Preliminary Analysis Based on Data from Historical Maps and Contemporary SPOT Images.

**Description:** Located in the west of Dong Nai province, Bien Hoa City (area: 154.73 square kilometer) is an important industrial center as a part of the focused economic area of Hochiminh City – Bien Hoa – Vung Tau in southern Vietnam ([www.dongnai.gov.vn](http://www.dongnai.gov.vn)). The city is growing rapidly with industrial parks including BienHoa1, BienHoa2, Amata, Loteco, HoNai, SongMay, and BauXeo. The rapid economic development has resulted population migration from other areas to Bien Hoa City.

The population of Bien Hoa City has grown about 100,000 in 10 years, from approximately 420,000 in 1995 to over 500,000 in 2003 (Atlas of Dong Nai, 2005). Immigration is estimated to account for over 50 percent of the population growth. There are many pull factors contributing the influxes of population to Bien Hoa City. Of most significance are economic and geographic factors as other fast-growing cities world-wide (Clarke et al., 2006). In order to understand how Bien Hoa City has grown over the years, our analysis takes advantages of existing limited large-scale data to estimate changes in population distributions in the city. Our goal is to detect geographic trends of population growth in the city and project where may be candidates for future growth.

While adequate data representing population distributions are not readily available, we use settlements and buildings as surrogates to estimate development trends. Data used in the analysis include housing vector data collected from the topographic maps in 1994, SPOT 3 multispectral imagery taken in 1996, and SPOT 5 panchromatic imagery taken in 2005. We assume a growth pattern from 1994 to 2005, and therefore, urban areas in 1994 remain as urban areas in 1996 and 2005. We determine spectral signatures of urban areas (houses and buildings) in SPOT 3 image based on footprints identified in the 1994 vector data. The spectral signatures are then extrapolated into other part of SPOT 3 imagery to identify additional urban areas from 1994 to 1995. We apply fuzzy logic to account for uncertainty embedded in the data and analysis in delineating urban boundaries. On the other hand, the aerial photo interpretation technique is used to extract houses in SPOT 5 data. The talk will present our preliminary findings and plan for future research.

**Name:** Michael Couch  
**Organization:** Meshek & Associates, Inc.  
**Title:** Graphical Illustration of Digital Flood Hazards Vs. Effective FIRM Maps

**Description:** This poster depicts revised floodplain modeling and its impacts on properties in National Flood Insurance Program participating communities where floodplain properties are required to purchase Flood Insurance with a federally backed mortgage loan. Structures shown in green were in the effective FIRM flood hazard area and have been removed from the floodplain with the floodplain revision. Structures shown in red do not change floodplain status and remain in the floodplain. Structures shown in blue have been added to the floodplain properties from the revised study and were not originally located in the FIRM flood hazard areas.



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## Poster Presentations

**Name:** Chris Hill  
**Organization:** Meshek and Associates  
**Title:** Channel Management System: Using GIS to Inventory Channel Condition

**Description:** The Channel Management System (CMS) is a comprehensive system for inspecting, quantifying, tabulating, and analyzing the different elements which make up natural and improved channels.

The System provides a methodology for subdividing the open channels into individual reaches with similar properties along with a consistent way of assigning the "condition state" of each element found in each reach. GIS provides the resources for the startup, review, analysis, and visualization of the CMS data. Linking the CMS Microsoft Access database with the GIS channel data, the CMS database has become an interactive maintenance response tool for local municipalities. Municipal governments can use the CMS database to inventory existing channel systems and establish maintenance priority for future funding capital improvement packages.

This poster outlines the procedures in developing the Channel Management System and how GIS facilitates the data acquisition and visualization.

**Name:** Thomas Tollett  
**Organization:** Citizen Potawatomi Nation  
**Title:** Political Atlas of the Citizen Potawatomi Nation

**Description:** Designed to inform and enlighten the user, this poster presentation illustrates the location, shape and size of the Citizen Potawatomi Nation, a Native American Tribe headquartered in Shawnee, Oklahoma in relation to several political and administrative boundaries within the surrounding area and the State of Oklahoma.

**Name:** Elizabeth Kruger  
**Organization:** Oklahoma Department of Health  
**Title:** Linking Oklahoma Congenital Heart Defects (CHD) with Environmental Hazards Data

**Description:** Congenital Heart Defect (CHD) is believed to be caused by both genetic factors and environmental factors. Environmental hazard exposures associated with congenital heart defects include trichloroethylene, tetrachloroethylene, benzene, heavy metals, dioxins, and pesticides. The objective of this work is to determine relationships between congenital heart defects and environmental hazards.

Oklahoma State Department of Health (OSDH) and Department of Environmental Quality (DEQ) data were gathered, organized, and analyzed using a variety of statistical and geospatial software programs. Descriptive analysis was performed. Cases were divided into groups based on defect type and prenatal period of development to calculate the sensitive period of development for each embryological group of defects. CHD cases, CHD county rates, and CHD zip code rates were mapped. Superfund, Voluntary Cleanup/Brownfield, Toxic Release Inventory (TRI), and Air Emission Inventory (AEI) sites were also mapped. Geospatial analysis was conducted and identified some county and zip code rates with high spatial autocorrelation in the East-Central area of Oklahoma. Few of the environmental releases studied were high in the East-Central area of Oklahoma. This shows some association, but there is not enough evidence to show causality.



## A G E N D A

### 9th Annual Oklahoma SCAUG Conference Agenda

7:30	Registration opens with Vendor Exhibits - <i>South Penn Conference Registration Desk</i>		
8:25			
8:30	<b>Welcome</b> - <i>Opening Keynote Breakfast with Damian Spangrud, ESRI - Main Conference Hall</i>		
10:00	ESRI Doctors Office - Rotunda (all Day)		
10:00	Vendor Break - Visit with Vendors & Vendor Bingo		
10:45			
User Presentations			
	Room 109 / 110	Room 111 / 112	Room 210 (Upstairs)
10:45	David Lowther - Coordinate Solutions, Inc. (Internet GIS Throughout the Enterprise)	Cheryl Dirck - Oklahoma Dept. of Environmental Quality (Out of the Dark Ages)	Chuck Sloan - Dominion E & P (ArcGIS 9 in Upstream Land Management (UPS))
11:15			
11:20	Sterling Overturf - Meshek & Associates, Inc. (How GIS is Helping Achieve FEMA's Map Modernization Vision)	Mike Sughru & Ed Eckenstein - Oklahoma Water Resources Board (OWRB's Water Information Mapping System - WIMS)	DeWayne Mitchell - Weather Decisions Technology (Weather Products and Services in a GIS Framework)
11:50			
11:55	Katy Rich - Oklahoma State Dept. of Health (A GIS-Based Model for Pesticide Exposure and Impacts on Birth Defects)	Eric Jones - Strategic Consulting International (GIS Data Hosting)	Robert Stokes - Cherokee Nation GeoData Center (The Geographic Coordinate Database (GCDB) in Oklahoma)
12:25			
12:30	<i>Lunch/ Poster Competition   Main Conference Hall</i>		
1:45			
Break Out Sessions			
	Room 109 / 110	Room 111 / 112	Room 210 (Upstairs)
1:45	Brenda Fennel - Previstar, Inc. (Katrina EOC GIS)	Justin Cure - City of Longview, Texas (GISP Certification)	Sohail Hasanjee - Oklahoma Department of Commerce (ODOC Economic Development & Site Selection IMS)
2:40			
ESRI Technical Sessions			
	Room 109 / 110	Room 111 / 112	Room 210 (Upstairs)
2:45	Geoprocessing with Model Builder	What's New in ArcGIS 9.2	An Introduction to ArcServer and ArcExplorer
3:30			
3:35	Geoprocessing with Model Builder	What's New in ArcGIS 9.2	An Introduction to ArcServer and ArcExplorer
4:20			
4:25	<b>Closing Remarks and Prize Giveaways</b> - <i>Main Conference Hall</i>		
5:00			