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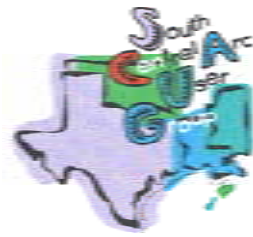
## 7th ANNUAL OK SCAUG Conference



*October 7, 2004*

*Moore Norman Technology Center  
Norman, Oklahoma*





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



Fellow Oklahoma SCAUGers:

Thank you for attending the Seventh Annual Oklahoma South Central Arc User Conference! We feel it is the best one yet with knowledgeable speakers, pertinent information, fourteen vendors with a variety of expertise, a very attentive steering committee, 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 to get your SCAUG Pint Glass and your Conference Survey to get your SCAUG Pen at the Registration Table! And vote for your favorite Map in the Map Poster Contest! Have a wonderful, information-filled day today at the OK SCAUG Conference!

Sincerely,

The 2004 Oklahoma SCAUG Steering Committee

Charles Brady, City of Ardmore  
Kate Burch, Topographic Mapping Company  
Kevin Koon, Devon Energy Corporation  
Julie Parker, The Benham Companies  
Mike Sughru, Oklahoma Water Resources Board  
Shellie Willoughby, Oklahoma Conservation Commission  
Scott Woodruff, City of Norman

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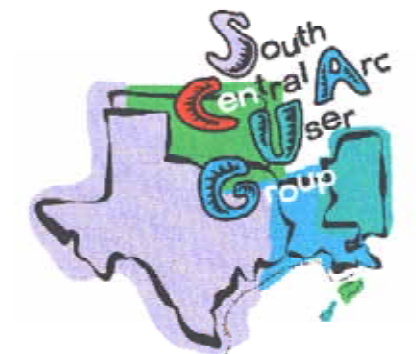


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# Agenda

- 7:30 - 8:25 AM**      **Registration** opens with Vendor Exhibits
- 8:30 - 10:00 AM**    **Welcome - Opening Breakfast with Clint Brown, Keynote Speaker**
- ESRI Doctors Office** *Dining Area (all Day)*
- 10:00 - 10:45 AM**    **Vendor Break (Visit with Vendors and Vendor Bingo)**

## **User Presentations**

### **Will Rogers Room**

**10:45- 11:15 AM**  
Mike Sexton, Oklahoma Department  
of Commerce

**11:20 - 11:50 AM**  
Laura Harjo, Cherokee Nation

**11:55 - 12:25 PM**  
Jean Vieux, Vieux & Associates

### **Wiley Post Room**

**10:45- 11:15 AM**  
Brent Wilson, Azteca Systems

**11:20 - 11:50 AM**  
David Lowther , Strategic  
Consulting International

**11:55 - 12:25 PM**  
Ray Fox, USGS-Mid Continent  
Mapping Center

### **Dewey Bartlett Room**

**10:45- 11:15 AM**  
Brian Mayfield, Pinnacle  
Mapping Technologies, Inc.

**11:20 - 11:50 AM**  
Melinda Polley, Trinity  
Analytical Services, LLC.

**11:55 - 12:25 PM**  
Ryan Abbott - The Benham  
Companies, Inc.

- 12:30 - 1:45 PM**      **Lunch/ Poster Competition** *North Dining Area*

### **Will Rogers Room**

**1:45- 2:15 PM**  
Priscila Zardo, PBS&J

### **Wiley Post Room**

**1:45- 2:15 PM**  
Katy Rich, OU Center  
for Spatial Analysis

### **Dewey Bartlett Room**

**1:45- 2:15 PM**  
Craig Best, US Census Bureau

## **Panel Discussions**

### **Will Rogers Room**

**2:20 - 3:30 PM**  
Implementing A GIS

### **Wiley Post Room**

**2:20 - 3:30 PM**  
Transition between  
ArcGIS 8 and ArcGIS 9

### **Dewey Bartlett Room**

**2:20 - 3:30 PM**  
Publishing Data to the Web

- 3:30 - 3:50 PM**      **Break** *Dining Area*
- 3:55 - 4:30 PM**      **Closing Remarks - Seminar Room**

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Quality Control/Quality Assurance



## **Pinnacle Mapping Technologies, Inc.**

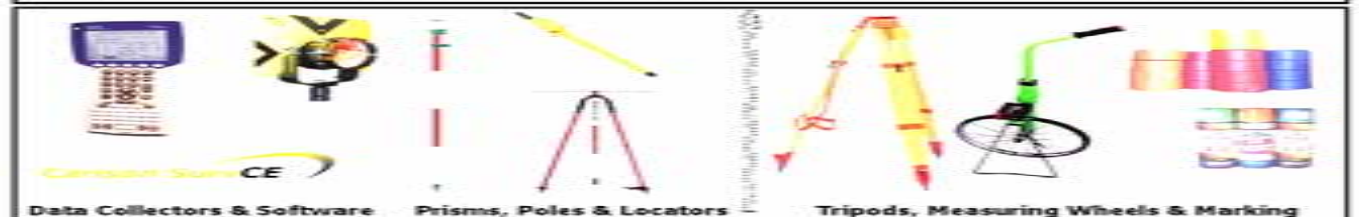
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## Afternoon Break Sponsor:

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Visual Lease Services, Inc. (VLS) is a South-Central United States company based in Holdenville, Oklahoma. Developed in 1996 to aid local government in the discovery of oil & gas related properties for the purpose of tax administration. VLS has evolved through the use of technology into the nation’s premier oil & gas property discovery firm.

Global Positioning Systems (GPS) and Geographic Information Systems (GIS) are at the heart of the VLS property discovery process. Utilizing GPS and GIS technology throughout the onsite visual inspection process, VLS has discovered more than 3.5 billion dollars in unreported or undervalued assets in Oklahoma and Kansas. Incorporating current technology with the knowledge of experienced oilfield professionals, VLS has proven itself second to none in the accuracy of the discovery process.

Contact : Chris Mask, Cartography Dept., P.O. Box 1040, Holdenville , Oklahoma 74848  
Phone: (405) 379-5280, Fax: (405) 379-2889

## Door Prizes:

### 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.

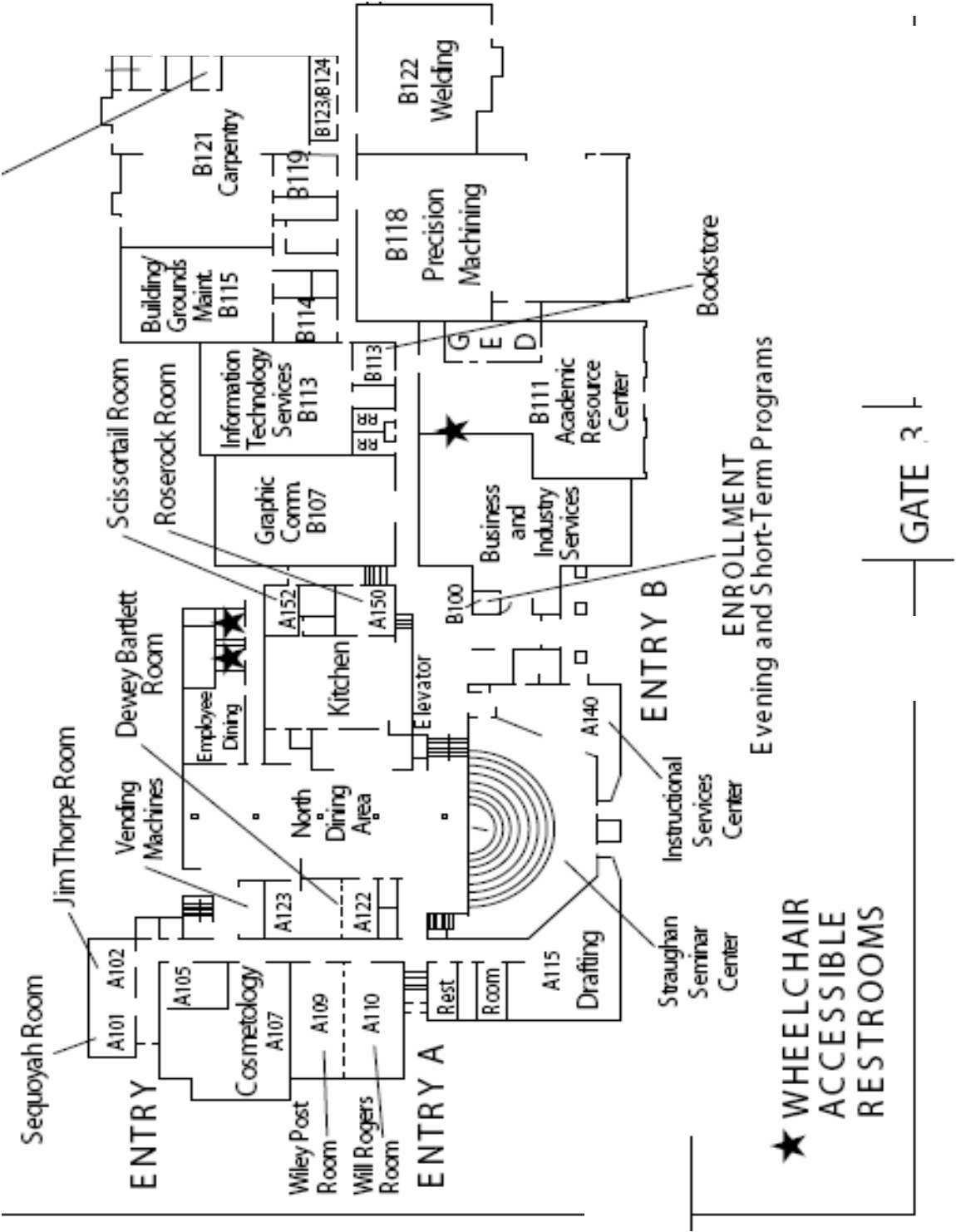
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### ESRI

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)

# Conference Hall Map





# Keynote Speaker



**Clint Brown**  
**Director, Software Products**  
**Environmental Systems Research Institute, Inc. (ESRI)**

## Specific Responsibilities

Joined ESRI in 1983. Responsible for managing all ESRI product releases since 1983, including ArcInfo, PC ArcInfo, ArcView, ArcSDE, ArcCAD, MapObjects, ArcGIS, ArcIMS, ArcPad, and other ESRI software. Also responsible for product design, development and release of quality products. Manages a division of GIS analysts, programmers, writers, and test analysts who design, build, document, release, and maintain ESRI software. Clint's teams work closely with Software Development teams managed by Scott Morehouse, ESRI's Chief Software Architect and Visionary, in this work.

Speaks on GIS implementation and concepts at numerous conferences and meetings annually. Also has authored several books, white papers, and presentations on GIS, including significant contributions on many ESRI Press books, ArcNews, ESRI Training, and software user guides.

## Keynote Address

GIS continues to grow in significance and is evolving into an essential, widely adopted discipline for understanding, managing, and improving most human activity. GIS now impacts our daily lives in numerous ways and will continue to become more significant.

In his talk, Clint will cover some of the key trends underway and how computing technology is influencing the adoption, use, and deployment of GIS. Some of these trends include

- Scientific & GIS computing
- Growing sensor networks and information management
- Computing technology trends
- Evolving roles of GIS professionals
- Interoperability
- Collaboration frameworks and information flow
- Growth in analysis and modeling
- New visualization and analytical frameworks

He will also present an overview of ESRI's latest software release, ArcGIS 9.0, as well as plans for upcoming software releases.

## Past Experience

1981 to 1983. Before coming to ESRI, served as IT coordinator and biostatistician for National Wildlife Refuge planning for the U.S. Fish and Wildlife Service in Anchorage, Alaska. Work there included coordinating the development of GIS methods and databases for planning of the sixteen national wildlife refuges in Alaska. Among other duties were training, coordination with federal and state agencies, land use planning, and implementing GIS technology for refuge planning.

1978 to 1981. Served as a biostatistician with the U.S. Fish and Wildlife Service in Fort Collins, Colorado, working on procedures for the estimation of environmental impacts on fish and wildlife resources. Helped to develop the Habitat Evaluation Procedures (HEP) used throughout the Service. Worked with scientists on development of habitat suitability and economic / human use models for fish and wildlife species.

# Sponsors

## Breakfast Sponsor:



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www.westerndatasystems.com gary@westerndatasystems.com

## Lunch Sponsor:

## Devon Energy



Devon Energy Corporation is the largest U.S.-based independent oil and gas producer and one of the largest 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 85 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 nearly 2.5 billion cubic feet of natural gas each day, about 4 percent of all the gas consumed in North America.

Headquartered in Oklahoma City, Devon has approximately 4,000 employees worldwide. Devon is a Fortune 500 company and is included in the S&P 500 index. Its common shares trade on the American Stock Exchange under the ticker symbol DVN.

# Exhibitor Directory



## 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.

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# User Presentations

**Name:** Mike Sexton  
**Organization:** Oklahoma Department of Commerce  
**Title:** Capital Improvement Planning  
**Description:**

In recent years, considerable attention has been focused on the increasing inadequacies & deterioration of federal, state & locally held capital assets. As state & federal governments address their own concerns, more of the responsibility for financing & managing local capital assets is being diverted to local governments. Therefore, it is essential that a program for the planned repair & replacement of publicly owned assets be implemented locally in order to maximize the impact of the dollars spent on a community's infrastructure. The Capital Improvement Planning (CIP) program developed by the Office of Community Development (OCD) addresses these issues.

---

**Name:** Brent Wilson  
**Organization:** Azteca Systems, Inc.  
**Title:** Reasons to migrate from a legacy work order system to a CMMS  
(Computerized Maintenance Management System)  
**Description:**

This paper illustrates the use of GIS in the public works process. GIS processes includes asset inventory which public works can benefit from if done correctly. The GIS approach presented in this paper illustrates the long-term benefits of an on-going GIS-based work order maintenance management program. A PowerPoint along with an actual demonstration of Work Order Management using GIS will be given.

---

**Name:** Brian Mayfield  
**Organization:** Pinnacle Mapping Technologies, Inc.  
**Title:** Do you want fries with your GIS?  
**Description:**

Many communities fail to recognize the full potential of their GIS because far too many GIS professionals spend the majority of their time as an order taker. Being an order taker is valuable in the beginning stages of GIS implementation because it helps others get interested in GIS and use it as a tool, both of which are critical to growth. The focus of this presentation is helping those communities take the next step. It will share ideas and tools aimed at helping the GIS professional move from order taker to GIS manager. Audience: This presentation is geared for anyone (beginners to advanced users).

# User Presentations

**Name:** Laura Harjo  
**Organization:** Cherokee Nation  
**Title:** Cherokee Nation GIS: Meeting the Desired Outcomes for the Tribe  
**Description:**

Cherokee Nation uses GIS to assist with various facets of the Tribal government. Ensuring the survival and advancement of tribal citizens is the underlying philosophy of all work performed. GIS efforts are aligned with five desired outcomes for the Tribe: Encourage Tribal Members, Exercise Sovereignty, Achieve Operational Performance, Build Cherokee Nation Employees, and Use Culture/Knowledge. The presentation will explore the ways in which Cherokee Nation GeoData Center addresses the desired outcomes through it's application of GIS.

---

**Name:** Craig Best  
**Organization:** US Census Bureau  
**Title:** MAF/TIGER Accuracy Improvement  
**Description:**

In 1980's, the Census Bureau developed the Topologically Integrated Geographic Encoding and Referencing system (TIGER) to support our mapping needs for the 1990 Census. In the 1990's, we developed the Master Address File (MAF) as a complete and current list of all addresses and locations where people live or work, covering an estimated 115 million residences, as well as 60 million businesses and other structures in the U.S. The 2000's will be the decade of the MAF/TIGER Accuracy Improvement. We plan to improve the coordinate accuracy of TIGER to at least 7.6 meters CE95 for every county in the U.S. In this session, we will discuss the methodology for MAF/TIGER Accuracy Improvement, the expansion of partnership programs, and our testing of mobile computing devices with GPS for Census 2010.

---

**Name:** David Lowther  
**Organization:** SCI  
**Title:** 911 in Rural Oklahoma  
**Description:**

Implementing 911 in rural Oklahoma is a challenging endeavor. While the hardware and software pieces of the 911 puzzle are readily available, the base data needed to implement the system is not. This presentation explores 911 from the assignment of addresses to the generation of a street centerline suitable for routing emergency response vehicles. Particular attention is paid to the County Addressing System.

# 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:

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- Providing a single point of contact who has the responsibility and authority to ensure the program's success.

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# Exhibitor Directory



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



## **Western Air Maps**

Western Air Maps is one of many mapping companies. We know that. What sets us apart is our vision to give more than is expected—in everything we do. Effective management and experienced judgment combined with flexible, innovative solutions contributes to over forty years of success. During that time we have earned the respect of our clients, evidenced by our significant referral, repeat, and new business and the millions of acres mapped each year. Give us the opportunity. We'll earn your respect.

Contact : Scott Perkins, Western Air Maps, Inc. 1-800-643-5177, 9401 Reeds Road, Overland Park, KS 66207  
tel. (913)652-9911, fax (913)652-9933, western@westernair.com, http://www.westernair.com



## **Topographic Mapping Company**

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

# User Presentations

**Name:** Jean Vieux  
**Organization:** Vieux and Associates  
**Title:** Vflo™ for ArcGIS: Real Hydrologic Modeling using GIS  
**Description:**

Vflo™ for ArcGIS is an ArcGIS 9.0 extension that that allows for both data preparation and advanced hydrologic modeling using the same interface. The Vflo™ model applies worldwide and can enhance information on both gauged and ungauged basins. Watershed model creation, simulation and verification are done in a controlled desktop environment. Existing geospatial data are leveraged in a unified data management system. Systematic model calibration is simplified with slider bar adjustments of parameter maps. Channel routing uses a finite-element solution to the kinematic wave equations. Green and Ampt soil physics, channel cross-sectional data and other features support modeling tasks of complex terrain and climatic conditions. Flow rates are simulated at any location, providing advanced capabilities for water resources management, flood risk mapping, and water quality modeling. The same watershed model development can be implemented on the desktop or in web-based real-time systems. Specific applications in water management will be presented.

---

**Name:** Ryan Abbott  
**Organization:** The Benham Companies, Inc.  
**Title:** GIS and Hazard Mitigation Risk Analysis  
**Description:**

Benham will provide a presentation discussing the use of GIS in the development of a Hazard Mitigation Plan. These Plans are required by the State of Oklahoma Emergency Management Recovery Office (SRO) and the Federal Environment Management Agency (FEMA) in order for local jurisdictions to remain qualified for Hazard Mitigation funds.

GIS was used to assist in the analyses of natural hazards that either could or do affect citizens and property within the City of Oklahoma City's limits and to determine associated impacts of such hazards. This presentation will discuss some of the processes involved for assessing floods and earthquakes as well as the use of FEMA's HAZUS-MH model that integrates with ArcGIS.

In addition, FEMA's plan development process directed the identification of mitigation measures that could reduce or eliminate the loss of life and/or property through their implementation. As part of the professional and public development of these mitigation measures, solutions implementing or using GIS will be discussed briefly.

# User Presentations

**Name:** Katy Rich  
**Organization:** University of Oklahoma, Center for Spatial Analysis  
**Title:** Characterization of Fitness Bicycling Routes in Central Oklahoma Using a Geographic Information System  
**Description:**

In this project a geographic information system was used to compile a database of information about bicycle routes that can be made available to cyclists to choose routes appropriate to their fitness or recreation needs. It is based on the idea that a person will evaluate routes according to several specific characteristics and use this evaluation to vary his or her workout routine periodically. This serves to prevent monotony and boredom that can come with a fitness plan that lacks variety – often causing a person to give up a sport, and often exercise altogether. The characterization of bicycle routes for this project focused on Cleveland County in central Oklahoma, which is a hot spot for bicycling activity with many active cycling clubs and teams. Initial route selection drew upon present resources developed by those cycling clubs and other organizations. The project was divided into eight specific tasks that assessed the characteristics of each of the bicycle routes involved in the project. The results of this research can contribute to the success of bicycling as a fitness activity by adding to the current resources available to new and seasoned road cyclists. A cyclist is able to evaluate his riding goals for a particular day, and then access the database of route information to search for a route to match those goals. This may prove to bolster interest in cycling as a fitness or recreation activity. Ideally, with this route information available to them, cyclists will be able to vary their routes from time to time and avoid failing in their fitness goals because of boring and monotonous routines. The techniques in this project are applicable to other geographic areas as well as other types of fitness activities and, therefore, are available to help improve fitness throughout the United States.

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**Name:** Ray Fox  
**Organization:** USGS, Mid Continent Mapping Center  
**Title:** The National Map  
**Description:**

The U.S. Geological Survey (USGS) has the responsibility for ensuring the availability of base geo-spatial data for the nation. *The National Map* utilizes web-mapping technology, along with partnerships in a continuing attempt to achieve current, seamless, consistent base geo-spatial data for the Nation. Through *The National Map* Catalog, any provider of geo-spatial data can enter into a partnership with USGS, allowing their data to be easily viewed and possibly retrieved by anyone using *The National Map*. Partners in *The National Map* are required to serve up base geo-spatial data through an Open GIS Consortium compliant web mapping service, maintain FGDC compliant metadata, and a sign a Memorandum of Understanding with USGS. Currently in Oklahoma the Geo Information Systems at the University of Oklahoma serves as the State partner. Efforts are underway to develop partnerships with cities and counties in the state that meet the criteria above.

# 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:

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

## 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.mntechnology.com>

## The Benham Companies, Inc.



Benham ranks 106th in Engineering News Record's 2004 list of the Top 500 Design Firms in the United States, and is the fourth largest architectural and engineering firm in the Southwest.

Benham founded in 1909, in Oklahoma City by Webster Lance Benham, employs 750 professionals who staff 14 offices in 10 states. Benham is a solutions-based company that provides a comprehensive array of professional services, either collectively or individually, to its clients. The company's diverse service offerings include architecture/engineering design, environmental consulting and infrastructure design, interior design, systems engineering and integration, advanced communications systems design and integration, DesignBuild project delivery and a variety of specialized consulting services including Geospatial Technologies.

Julie A. Parker, GIS Coordinator, The Benham Companies, Inc., 3700 W. Robinson, Suite 200, Norman, OK 73072-3639  
405.701.3125 (office), 405.627.6158 (mobile), 405.364.1708 (fax), [Julie.Parker@benham.com](mailto:Julie.Parker@benham.com) <http://www.benham.com>



# Exhibitor Directory

## Aerial Data Service, Inc.



Aerial Data Service, Inc. is one of the largest full-service photogrammetric firms in the Midwest. With offices in Tulsa, Oklahoma, and Austin, Texas, ADS provides photogrammetric mapping services to hundreds of engineering firms and governmental agencies across the country.

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## ICM of Oklahoma



We've been servicing contractors and municipalities since 1970. Improved Construction Methods, Inc. is the name of our company and that name suggest our main objective, which is to provide the construction contractor or municipality with innovative and productive construction tools , equipment and methods of construction. We are pioneers , always on the leading edge of Construction Technology, Always ! Not only are we committed to offering the latest and best construction methods and equipment, we are also committed to giving the best quality and service good people can give.

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Pat White of ICM Oklahoma City Branch, Phone: 1-405-235-2609, Fax: 1-405-235-2610,  
<http://www.improvedconstructionmethods.com>

# User Presentations

**Name:** Karl McArthur and Priscila Zardo  
**Organization:** PBS&J  
**Title:** Hydrologic Information Systems as Applied to the San Antonio River Basin  
**Description:**

The use of a Geographic Information System to manage and interface watershed data with hydrologic and hydraulic models leads to the concept of a hydrologic information system (HIS). Only with the advent of recent data management technology has it become practical to develop watershed modeling systems that are fully integrated with GIS for data management, modeling and visualization. ESRI technology and Arc Hydro data model provide the framework and appropriate tools to implement an end to end solution of this kind. Although the development of such HIS systems is still a work in progress, the technology now exists to effectively bring watershed data and models into a single GIS data management system. Such a system has been master planned and developed to the proof of concept level for the San Antonio River Basin (SARB).

The San Antonio River Authority in cooperation with the City of San Antonio and Bexar County has funded the development of the HIS for the River Basin. The Interlocal Agreement between these three entities has made possible the level of cooperation required to bring together the components of the system and to implement it in a comprehensive fashion. The HIS under development for the basin is a comprehensive watershed management tool that will provide the ability effectively manage and distribute models and data, efficiently update models to remain current with land use changes, facilitate regional planning and prioritization of projects and facilitate floodplain updates in the form of DFIRMs. Additionally, the HIS will provide the necessary groundwork for near real time flood forecasting and facilitate automated floodplain mapping.

The HIS data management approach is built on the concept of Arc Hydro compliant data models that are used to store all of the relevant the information about the watershed and associated modeling parameters. For example, basic watershed information such as catchment delineations, stream networks, cross sections and hydraulic structure (i.e. culverts and dams) is included in the Arc Hydro geodatabase. Model specific information is stored in Arc Hydro compliant geodatabases such as the HMS Interface Data Model and the RAS Interface Data Model developed by the Center for Research in Water Resources at the University of Texas at Austin (CRWR) and ESRI. These data models are then made to interface directly with the modeling engine (HEC-HMS or HEC-RAS in this case) through a set of interface tools. This high level of integration between models and GIS will allow all of the modeling data for the River Basin to be stored within a single set of geodatabases that can then be used to generate model input files for any portion of the basin. Since this data will be stored in and distributed from a single location, each end user of the system will be working from the same version of the data rather than experiencing the uncertainty associated with multiple copies of models kept by multiple entities.

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**Name:** Melinda Polley  
**Organization:** Trinity Analytical Services, LLS  
**Title:** Getting your GIS Program to the Top and Keeping it There.  
**Description:**

This talk with discuss the details in pushing your GIS project to a city-wide or enterprise-wide full-scale GIS program. How to get "buy-in" from the top executives or city management. How to establish program ownership and acquire a GIS champion for your organization. How to "master plan" your GIS program with continued support and involvement from senior level management and finally, how important internal marketing is to your GIS program.

# Poster Presentations

**Name:** Mang Lung Cheuk  
**Organization:** The University of Oklahoma  
**Title:** Develop a 3D model of Downtown Oklahoma City using LiDAR Data  
**Description:**

The Oklahoma Biological Survey (OBS) is a research unit of the College of Arts and Sciences at the University of Oklahoma, as well as a state office. The purpose of the OBS is to collect, analyze, and disseminate information related to the biota and ecology of the state of Oklahoma and associated geographical areas. In this poster, we showcase a sampling of the research conducted by the Plant Ecology Field Laboratory at the OBS, the purpose thereof to demonstrate how geographic information systems technologies may be utilized to enrich our understanding of Oklahoma's biological and ecological diversity.

**Name:** David Wheelock  
**Organization:** Oklahoma Department of Agriculture, Food, and Forestry  
**Title:** ODAFF Fire Dispatch Map  
**Description:**

ODAFF Forestry Services Division requested a large multi-county map of their Southeastern Oklahoma Fire Protection Area to be used by dispatchers and field crews. This replaces their old maps, some of which were drawn more than 30 years ago. The emphasis on this map was for all data to be as complete and current as possible, with all roads and streams labelled, along with ODAFF watch towers, National Forest land, towns, parks, conservation areas, power lines and other features.

**Name:** David Lowther  
**Organization:** SCI  
**Title:** Using GIS to Integrate RBDMS, Source Water and Class V Data  
**Description:**

The Ground Water Protection Council's (GWPC) Risk Based Data Management System (RBDMS) has long existed as a solely tabular database. RBDMS's primary purpose is management of Underground Injection Control (UIC) Wells. Moving the spatial portion of the tabular database to GIS opens a world of possibilities. Users of the RBDMS GIS are able to interact with UIC Wells in the context of other GIS data such as Source Water, Topographic Maps, Digital Elevation Models, Hydrology, and more. This poster demonstrates some of the potential of integrating RBDMS with GIS.

# Panel Discussions

## Implementing A GIS : Will Rogers Room

Be honest. How's your GIS program really doing? Is it producing the results you (and management) had hoped for? Perhaps your program got off to a great start, but now seems to have lost its momentum? Or, maybe, you're pleased with your program's performance, but feel it could be doing more for your organization?

Successful GIS implementation and use requires more than just technical solutions. Those that have implemented GIS systems will agree that installation of appropriate hardware and software are only small part of a much larger solution. Most often, financial, organizational, planning, and human resource issues are at the root of implementations that stall or never achieve their full potential. Join this panel for a discussion of factors affecting the successful outcome of your GIS program.

### Panel Members

Julie Parker	The Benham Companies, Inc.
Anna Waggoner	City of Yukon
Steve Banks	Topographic Mapping Company

## Transition between ArcGIS 8 and ArcGIS 9: Wiley Post Room

With ever new software release there are issues that need to be considered before transitioning to the latest and greatest version.. Topics that will be addressed in the panel discussion are the major differences between the two versions, tricks and tips of running ArcGIS 9 as well as the steps for loading the software and transitioning the data. Audience participation will be encouraged.

### Panel Members

Sara Cobb	City of Edmond
Scott Brown	Moore Norman Technology Center
Scott LoBue	ESRI

## Publishing Data to the Web: Dewey Bartlett Room

This panel discussion will focus on publishing GIS data to the web. There will be several different applications & methods ranging from basic internet mapping features to specialty data deployments. Some examples of the topics that will be addressed are ArcIMS applications, downloadable pdf maps, data security, & request volume. There will be live demonstrations of several functional GIS websites along with a question & answer portion for audience participation.

### Panel Members

Chris Mask	VLS
Eric Jones	SCI
Jim Baker	City of Ardmore
Charles Brady III	City of Ardmore





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## Poster Presentations

**Name:** Chris Hill

**Organization:** Meshek and Associates

**Title:** Applications of GIS and Water Resource Engineering

**Description:**

Engineering and GIS have historically existed as two distinct genres. For years, engineering methods and scientific approaches have been the standard for the development of our cities and our lifestyles. GIS has come along recently as a tool for managing spatial data and has found applications in almost any working environment. Evolutions of current technology and age-old practices have developed a niche for today's GIS user and the modern engineer. One of the particular fields of engineering that has benefited from this relationship is that of water resource or stormwater engineering.

Of the many problems that exist for city engineers, managing flood control issues and drainage problems is a water resource issue that should be of high priority. Progressive communities develop a master drainage plan or MDP to discuss existing drainage problems and discuss future mitigation measures. GIS provides an excellent tool for managing and showcasing results from these types of engineering studies. Everything ranging from accurate floodplain mapping to the cataloging of drainage structures can be used to animate the engineering work behind the scenes. Using GIS, any engineering study becomes a living document that can be updated and used by other municipal departments outside of engineering. This poster is intended to illustrate the marriage of GIS and engineering, and how the data that is generated cooperatively is an important part of any city's success.

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**Name:** Todd Fagin and Bruce Hoagland

**Organization:** Oklahoma Biological Survey and University of Oklahoma Department of Geography

**Title:** Historical Landscape Mapping: An ArcGIS Approach

**Description:**

The contemporary landscape of a region is the culmination of a suite of interacting factors, among them biotic, physical and anthropogenic. Researchers wishing to understand current biogeographic patterns must, therefore, consider not only the current environmental factors that influence species distributions, but historical factors as well. Among the methods available to biogeographers, landscape ecologists, and others to this end is historical landscape mapping. In this poster, we discuss an ongoing historical landscape mapping project being conducted at the Oklahoma Biological Survey. Data sources, methodology, and preliminary results are presented.

# Poster Presentations

**Name:** Amy Thomas  
**Organization:** Tulsa Health Department  
**Title:** West Nile Virus: Tulsa County, Oklahoma 2004 Season  
**Description:**

West Nile virus (WNV) entered the United States in 1999 on the east coast. Mosquitoes, carriers of the disease, initially infected horses. WNV has caused many equine deaths; however, there is now a vaccine for all equine species. Birds, especially crows, blue jays, hawks, and owls are all susceptible to WNV. They become hosts of the virus until it kills them. The mosquitoes bite the bird and carry WNV from the host (bird) to other animals, even humans. If we disrupt the mosquito's life cycle, we may disrupt the spread of WNV. The heart of the GIS WNV Project is to geographically represent the locations of the most problematic mosquito and diseased bird areas. These geographic factors are the basis for effective remediation.

One click on a "Mosquito Icon" from my desktop downloads three reports to my hard drive: a mosquito complaint report, a retrieved dead bird report, and an adulticide report, all from the Tulsa County Environmental Health Services (EHS). Each week I download and enter this data into the map.

Mosquito complaints, retrieved dead birds, and WNV positive birds build spatial information which determines where remediation will be most effective. As mosquito season peaks, we strive to cover problematic areas. ArcMap allows us to view the mosquito complaints and retrieved birds through transparent adulticide application layers.

Tulsa County has a square mile grid. Adulticide is applied to grids in problematic areas. It is used when wind speed is low, and mosquito activity is high, which is usually dusk. Adulticide application data creates one of the reports in the desktop download. A duplication query counts applications on each grid. This process maintains a constant status of remediation efforts countywide.

Mosquito Boxes are placed within the County to catch mosquitoes for WNV testing. The boxes have a strong mosquito attractant with a sticky inside surface. Trapped mosquitoes are tested for WNV. It may be helpful to increase adulticide applications in areas where positive mosquitoes exist.

Throughout the 2004 season we have included statistics from the 2003 season on our maps for comparison. The ZIP Codes with 2004 WNV positive birds are emphasized for the public's safety. The affected ZIP Codes should instill a heightened awareness of WNV so citizens may practice prevention on a personal level.

The map spatially represents all elements of WNV within Tulsa County. Citizens play an important role in tracking WNV, as the hotline calls build the database used to map and track mosquitoes in Tulsa County. This is a good example of the Tulsa Health Department working together with the community to prevent the spread of disease.

# Poster Presentations

**Name:** Scott Woodruff  
**Organization:** City of Norman  
**Title:** City of Norman Storm Shelter Registry  
**Description:**

After the May 3, 1999 tornadoes, the City of Norman noted an increase in the construction and use of indoor storm shelters (i.e., safe rooms and in-ground garage shelters). There was a concern among Norman residents that they could be trapped in their shelters by tornado debris. The City of Norman GIS Department was asked to provide assistance to emergency responders in their task of searching for those who may be trapped in their shelters after a future tornado. An initial database of storm shelters within the city limits was created using existing storm shelter permits dating back to 1995. Additional storm shelters were added to the registry using new storm shelter permits, a website registration form, and phone calls from residents to a city information hotline. The shelter addresses were geocoded and a Fire Department district number was assigned to each shelter. A Tornado Shelter Atlas was created containing maps of shelter locations as well as sorted lists of shelter addresses and contact information. The atlas can be periodically updated, reprinted and distributed as needed. In the event of a tornado, emergency responders can quickly search the registered storm shelters in affected areas for those in need of assistance.

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