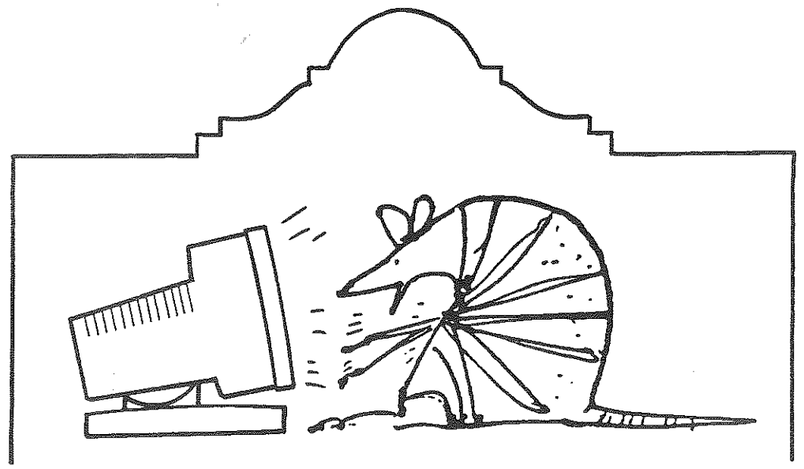
Texas ARC/INFO User Group



Third Annual Conference
October 20-21, 1992

The Emily Morgan Hotel
At Alamo Plaza
San Antonio, Texas

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ESRI

380 New York Street

Redlands, California 92373

714-793-2853

FAX 714-793-5953

Dear ARC/INFO User:

Welcome to the 1992 Texas User's Conference. We are excited that you have made the trip to be with us in San Antonio. This is a time when budgets are slim and the opportunity to attend this conference is simply not an option for many users. We understand the sacrifice you have made to be here this week. Therefore, we want to ensure that you have a rewarding and educational experience.

In addition to the conference sessions you will attend, one of the most significant activities in which you will be involved over the next few days will be the interaction you will have with other users. You will make new friends, share a lot of ideas about how you do your work, and also receive a lot of ideas about how to do your job better based upon other's experiences. This opportunity to network and build new relationships will be one of the most significant events of your conference experience. We strongly encourage you to take advantage of this opportunity to create new relationships.

There are a number of ESRI staff who will be attending this conference. Our job is to share ESRI's plans as well as to listen attentively to how we can better serve you. You may have special requests for enhancing the software, have a particular problem that you need help solving, or have an issue with our services. Please talk to us so that we can respond to your needs.

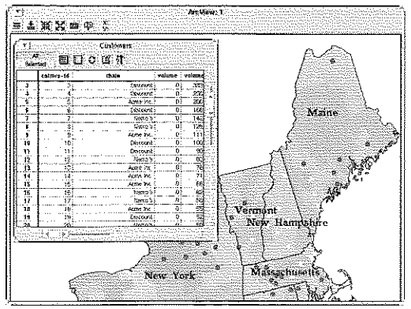
As ESRI's representative from Redlands, my job is particularly important for gathering your longer term ideas about what you need in future versions of ARC/INFO, ArcCAD, ArcView, and ArcData. This conference represents a rare and special opportunity for us to learn how to make our GIS software better for you. We really want to hear your ideas and feedback.

I know we will all work very hard this week, but we'll also have fun. I look forward to meeting you.

Warm regards,

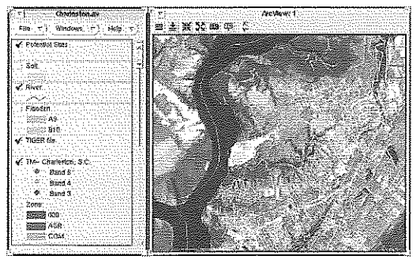
Clint Brown

Clint Brown
ESRI
Redlands, California



EXPLORING YOUR WORLD JUST GOT A WHOLE LOT EASIER

ArcView™ is a powerful new software tool that brings geographic information to your desktop. It gives you the power to visualize your data together with existing geographic databases and explore it in new ways. Built on the foundations of ARC/INFO®, the world's leading geographic information system software, ArcView provides a creative environment with which to explore your world.



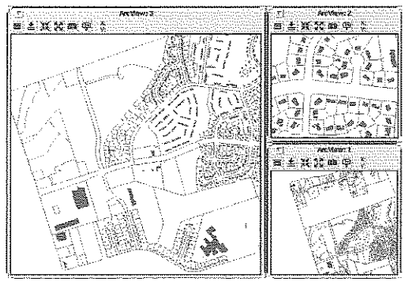
ArcView opens up the world of geographic information to everyone through a simple and intuitive user interface. Powerful tools let you perform sophisticated queries; explore extensive areas of geography; merge PC and workstation geographic databases; and produce high quality, full color maps at the touch of a button.

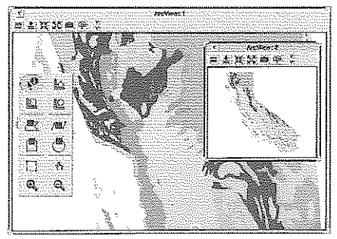
ArcView lets you explore the many existing geographic databases already created in ARC/INFO format. Thousands of cities, counties, states, national agencies, and private organizations maintain large inventories of map and tabular information in this format. ArcView can also directly use raster image data in a variety of formats.

ArcView™

ArcView runs on workstations, PCs, and Macintosh® computers.

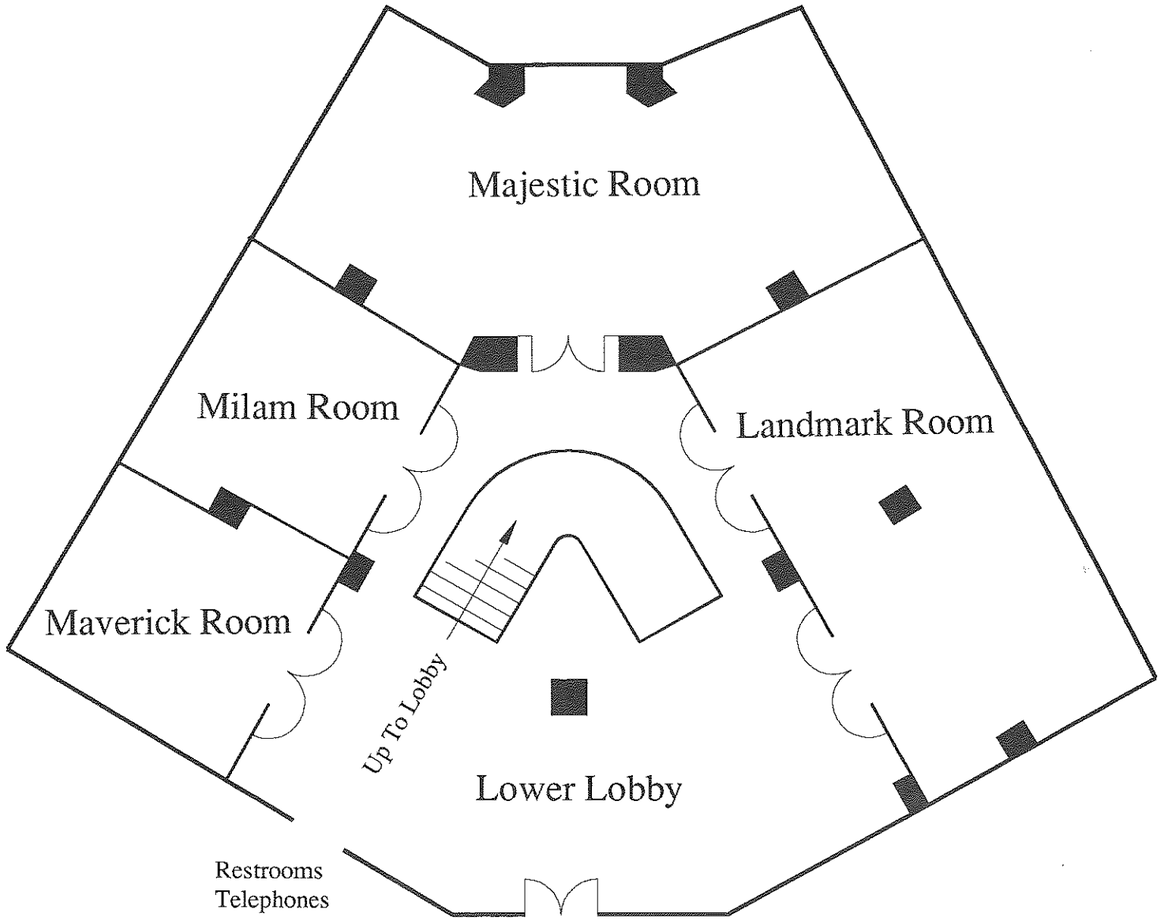
To find out more about ArcView, contact ESRI®'s marketing department. Brochures and videos available.





Environmental Systems Research Institute, Inc.
380 New York Street, Redlands, CA 92373 • TEL 714-793-2853 / FAX 714-793-5953**

* Effective Nov.14 - (909) area code replaces (714) area code



Conference Facilities

TAIUG 1991-1992 Executive Committee Members

President: David Dignum
Jefferson County Appraisal District

Vice President: Leann Gilley
The University of Texas at Tyler

Secretary: Sheryl J. Hunt
Exxon Production Research, Houston

Treasurer: Roger Rose
City of Denton

Conference Coordinator: J. Scott Sires
Texas State Comptroller's Office

Newsletter Coordinator: Homer Riley
Tracor Applied Sciences, Inc.

Membership Coordinator: Tony Smith
City of Denton

ARCMail Coordinator: Jim Hoffman
Database Systems International

ESRI Liaison: Devon Humphrey
Texas General Land Office

Conference Committee

Conference Coordinator: J. Scott Sires
Homer Riley David Dignum Leann Gilley

Special Thanks To The Following Organizations

Texas State Comptroller's Office
Environmental Systems Research Institute
City of Denton
San Antonio Chamber Of Commerce
Bexar County Appraisal District
Alamo Council Of Governments
Tracor Applied Sciences, Inc.
The University Of Texas At Tyler
Jefferson County Appraisal District
Cartotech
United Aerial Mapping

Conference Theme

Our theme for this year's conference is "Charting New Courses — Discovering Texas". The theme is in part a tribute to the 500th anniversary of Christopher Columbus' discovery of the New World.

The voyages of Columbus sparked the great voyages of discovery in the 16th Century that led to the colonization of the Americas in the subsequent centuries. Texas was explored, charted, and settled by many Spaniards that built missions, houses, and fortresses throughout much of Texas. In San Antonio, a picturesque and colorful multi-cultural city, there many examples of the buildings constructed during those times by the men and women that first discovered and charted Texas.

Today, we, as users of modern computer and software technology, are able to go on voyages of exploration using GIS. Whether we work in government, institutions of higher learning, or industry, we use GIS as a tool for discovery and chart new courses for ourselves and those whose lives are touched by our work.

At this conference we have the opportunity to meet fellow voyagers. We can find out what courses they are charting with GIS and what discoveries they have made. We can share with them our voyages of discovery and our charted courses.

The conference committee of the Texas ARC/INFO User Group is pleased that you have come to the conference. We hope that you enjoy this Third Annual Conference and are enriched by the things you see and the people that you meet.

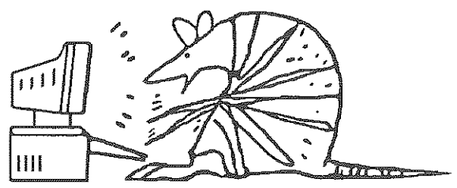
New Attendee Orientation

This will be the first time for many of us to attend a Texas ARC/INFO User Group conference. We invite you to make full use of the conference and attend as many of the presentations as possible. Please attend the conference business meeting if you can as there will be an election for certain offices of the executive committee.

We urge you to take full advantage of the facilities offered by the many vendors who are exhibiting at this conference. The second floor of the hotel is reserved for the vendors and they will have trained personnel in their exhibit rooms to answer your questions about the products and services that they offer.

Please plan to attend the poster and AML/SML exhibit on Tuesday night. Each person will be given a ballot to vote on the various entry categories. Your votes will determine the prize winners for the exhibit.

If you have questions or need any assistance please feel free to contact one of the conference staff or TAIUG officers. We will also have a Communications central area in the lower lobby adjacent to the meeting rooms. This area will have a message board, announcement board, needs box, and suggestion box. The needs box will offer you an opportunity to express concerns and ask questions about ESRI products. The forms in this box will be gathered and reviewed by ESRI staff and responses will be made to you during the general session meeting on Wednesday afternoon.



San Antonio/ Riverwalk/ Alamo

The lobby of the hotel has many brochures available about the activities and sights to see in San Antonio. The hotel is located across the street from the Riverwalk and the many restaurants and shops that line it. Across the street from the hotel is the historic Alamo, a historic site that every Texan, native or adopted, should visit at least once.

Conference Meals and Snacks

Those people taking part in the GIS facilities tour on Monday will receive lunch at Finkels. On Tuesday and Wednesday a box lunch will be provided. Snacks and beverages will be available during breaks at the conference and during the poster exhibit on Tuesday evening. Other meals are your responsibility and are available at the hotel or in the many restaurants in the area.

Vendor Open House and Poster Exhibit

On Tuesday Evening all the posters and macros bought to the conference will be displayed in the downstairs meeting rooms of the hotel. You are urged to attend and vote for the posters and macros you like the best. Awards will be made to the authors of these works based on your votes. During the same time the vendors will be hosting an open house on the second floor of the hotel. The vendor open house will allow you to see the exhibited hardware and software at a little more leisurely pace then during the breaks between conference presentations.

Tour Vendor Areas/ User Community Get Together (UCGT)

In your agenda you will notice several references to "Tour Vendor Areas" and UCGT. These are your opportunities during the day's scheduled activities to network with other users and to visit the vendor area on the second floor of the hotel. Of course you are also encouraged to get together with your colleagues outside the scheduled times. The opportunity to meet and share experiences and information with other GIS users is one of the prime benefits of the conference. You may also wish to use the information board in the Communications Central Area in the Lower Lobby to communicate specific needs or advertise for other users with your interests.

Public Service Day

This year the TAIUG is inaugurating a public service day in conjunction with the conference. On Thursday morning, students from two area high schools will be invited to the conference hotel for briefings and orientation on GIS. Students from Northside ISD and Harlandale ISD will visit the conference site in separate groups. These high school students will be the top vocational students in their schools and will be accompanied by their instructors. With support from employees of the ESRI regional office, the TAIUG will introduce and demonstrate GIS to these students and teachers. There will be a discussion of GIS uses and applications as well as a discussion of future job opportunities within the industry.

The Maverick Loft

The Maverick Loft at 515 E. Houston, 1 block from the hotel, will be used for the general assembly meetings at the conference. The first meeting is at 8:00 a.m. on Tuesday and the second meeting is at 4:00 p.m. on Wednesday. Directions to the Maverick Loft will be posted in the lobby of the hotel.

Daily Events Preview

Monday, October 19

Conference Registration	8:00 a.m. — 6:00 p.m.	1st Floor Lobby
Tour Bus Loads	8:45 a.m. — 9:00 a.m.	Curbside at Hotel
Bus departs from hotel	9:00 a.m.	
Visit Bexar Appraisal District	9:15 a.m. — 10:15 a.m.	
Visit Cartotech	10:30 a.m. — 11:30 a.m.	
Visit United Aerial Mapping	11:45 a.m. — 12:45 p.m.	
Eat Lunch at Finkels	1:00 p.m. — 2:15 p.m.	
Visit ESRI Regional Office	2:30 p.m. — 3:30 p.m.	
Visit Alamo Council Of Governments	3:45 p.m. — 4:45 p.m.	
Return to Emily Morgan Hotel	5:00 p.m.	Curbside at Hotel

Tuesday, October 20

Conference registration	7:00 a.m.	—	10:30 a.m.	1st floor lobby
Opening General Session Keynote speaker — Clint Brown of ESRI Redlands	8:00 a.m.	—	10:00 a.m.	Maverick Loft
Break, UCGT, Tour vendor area	10:00 a.m.	—	10:30 a.m.	Ground floor lobby 2nd floor of hotel
Presentations, Session 1	10:30 a.m.	—	12:00 noon	Meeting rooms
Lunch — Pick up box lunch in hotel diining room and find a place to eat. We suggest the courtyard of the Alamo, the Riverwalk, the hotel swimming pool, or any of the lobbies. UCGT and tour vendor floor	12:00 noon	—	1:00 p.m.	Your Choice
Presentations, Session 2	1:00 p.m.	—	2:30 p.m.	Meeting rooms
Break , UCGT, Tour vendor area	2:30 p.m.	—	3:00 p.m.	Ground floor lobby 2nd floor of hotel
Presentations, Session 3	3:00 p.m.	—	4:30 p.m.	Meeting rooms
UCGT and tour vendor area. Time to be on your own.	4:30 p.m.	—	7:00 p.m.	Ground floor lobby 2nd floor of hotel
Poster and AML/SML contest and vendor open house	7:00 p.m.	—	9:00 p.m.	Meeting rooms 2nd floor of hotel
THE DAY IS DONE	9:00 p.m.			

Wednesday, October 21

Refreshments and UCGT	7:30 a.m.	—	8:00 a.m.	Ground floor lobby
Presentations, Session 1	8:00 a.m.	—	9:30 a.m.	Meeting rooms
Break - UCGT and tour vendor floor	9:30 a.m.	—	10:00 a.m.	
Presentations, Session 2	10:00 a.m.	—	11:30 a.m.	
Lunch - Pick up box lunch in the hotel dining room and then find a place to eat. We suggest the courtyard of the Alamo, Riverwalk, the hotel swiming pool area, or any of the lobbies. UCGT and tour vendor floor.	11:30 a.m.	—	12:30 p.m	Your choice
Presentations, Session 3	12:30 p.m.	—	2:00 p.m.	Meeting rooms
Refreshments, UCGT and tour vendor floor	2:00 p.m.	—	2:15 p.m.	Ground floor lobby
Round Table Discussions	2:15 p.m.	—	3:45 p.m.	Maverick Loft
Break and UCGT	3:45 p.m.	—	4:00 p.m.	Maverick Loft
General assembly session, business meeting and planning session.	4:00 p.m.	—	7:00 p.m.	Maverick Loft
UCGT and attitude adjustment session.	7:00 p.m.	—	??:??	DICKS LAST RESORT on the Riverwalk

The TAIUG would like to extend a special thank you to the vendors who have supported this conference. Their efforts on our behalf are sincerely appreciated.

ESRI - San Antonio
Xerox Engineering Systems
Merrick & Co.
Hewlett - Packard
Magellan Systems Corporation
William - Stackhouse

Tuesday Session 1 10:30 a.m. - 12:00 Noon

Feature-Oriented VS Georelational Data Models

Kim K. Anderson

Majestic Room

Given the rapid increase in GIS sales and use, understanding the differences between various data structures is very important in order to make an informed purchase. What are the differences between the feature-oriented approach and the more conventional georelational structure and for what purposes is each best suited?

The feature-oriented approach treats a map as a series of interrelated "features", which are organized by the user into a network-like structure. It emphasizes encoding of parent: child relationships among all features on a map. It requires pre-defining explicit relationships among components. It has been used most effectively in the CADD world where these relationships are well-defined.

The georelational approach involves abstracting geographic information into a series of independent layers, each representing a selected set of closely associated features. Each feature has three types of data: geometric, topologic, and attribute. The software manages the relationships between these data types, giving the user tools that allow integration and recombination between layers. This provides exceptional flexibility, because the relationships that may prove to be important do not have to be defined in advanced. It is a dynamic structure. Layers can be added and overlaid "on the fly", without disrupting existing relationships. This data structure is better suited to general purpose GIS.

For certain types of organizations, it will make sense to have both types of data structures and be able to transfer data rapidly between the two. The more sophisticated products will provide integration of the two within one product.

Kim Anderson earned a B.S. in Zoology from the University of Michigan in 1969. She has over 4 years experience as Technical Support Manager and over 8 years of computer services experience.

She joined ESRI in 1988 as Technical Support Manager and is currently the manager of the ESRI-San Antonio Regional Office which she opened in January of 1991.

Kim is responsible for supporting local users and for providing marketing services to potential clients in Texas and Oklahoma. She performs software demos and supports GIS efforts for the region. She is tasked with guiding the growth of the Regional Office into a full service ESRI office, including such functions as training, applications programming, consulting and support.

Tuesday Session 1 10:30 a.m. - 12:00 Noon

Utilizing GIS to Mobilize the "People First" Dimension of Health and Human Services in Texas

Larry Juergens
Coley Day
Deborah Salazar

Milam Room

The Texas Rehabilitation Commission has been using GIS technology for approximately two years beginning with PC-based packages and expanding to our present configuration of Unix workstations. During this short time we have developed GIS projects focusing on demographic analysis, statistical analyses of program success, analysis of service delivery to minority populations, redefinition of regional operations boundaries based on demographic distributions, and we are experimenting with the use of GIS to assist in matching rehabilitated clients to job opportunities.

TRC has recently begun the implementation of a large scale project to distribute GIS software and data to regional offices where it will be more accessible to those staff who make decisions on a daily basis regarding service delivery. ArcView offers the potential for cost-effective and attractive access to data in a spatial format. Our home office develops data for use in the field using ARC/INFO on the Unix workstation and can customize data sets to reflect the special needs of that region. This PC software will revolutionize the rapidity and the efficient use of spatial data in problem solving for our agency.

We plan to expand the use of ArcView to be accessible to individual counselors and to assist in every facet of service delivery ranging from vocational training to disability determination. Our clients are promised the best service we can provide. GIS is enhancing our ability to deliver on that promise.

The authors are all with the Texas Rehabilitation Commission. No detailed biographies were available.

Presentation Schedule

Tuesday Session 1 10:30 a.m. - 12:00 Noon

Address Geocoding For Rural 9-1-1 In Collin County

Tim Nolan

Landmark Room

Collin County covers 889 square miles of land adjacent to and north of Dallas. Within our boundaries are the cities of McKinney, the County Seat, Allen, Frisco and Plano,with its ever growing tax-base. Most of our population resides in the southwestern portion of the county. Many of our efforts in Collin County focus on the remaining three-fourths of the unincorporated land.

The Data Processing Department of Collin County has established a working Geographic Information System (GIS) to solve many locational and database problems. Addressing structures in the County's rural areas for 9-1-1 emergency services is the first problem to be dealt with by GIS. The system will have a database that couples a telephone numbers with a geographical points in Collin County.

Geocoding allows us to "addressmatch" this information to real-world coordinates based on address ranges. This presentation will outline a pilot project using geocoding. We will discuss the technical, statistical and emotional aspects 9-1-1 rural addressing with geocoding and discuss its practicality.

Tim Nolan has a bachelor's degree in Geography from the University of North Texas. He has four years of experience working with the GIS environment. Tim joined Collin County this year as a GIS Database Administrator.

John Cantrell

John Cantrell, a native of North Texas, has an extensive land surveying background in the Houston area. He joined Collin County as 9-1-1 coordinator in August of 1991.

The ARC/INFO Task Function

Reginald Warren

Maverick Room

The ARC/INFO task function allows users to run an executable system program, such as those written in FORTRAN or C, from within ARC/INFO. During this session a demonstration will be given on how the task function is used and how it can help you make ARC/INFO a more efficient environment for your particular needs.

Reginald Warren graduated from Southwest Texas State University with a BS in Geography, minoring in Computer Science. He is currently working on a Master's degree with a concentration in GIS

Reginald has been employed at ESRI-San Antonio since March of 1992. Although his main focus is applications programming, he is also involved in technical support and marketing

Reginald has worked with GIS software for the past 6 years. Employed at the Texas Legislative Council prior to ESRI, he was instrumental in the development of the state redistricting application, using AML and C. He was previously employed as a teaching assistant for GIS and cartographic classes at Southwest Texas State University.

Presentation Schedule

Tuesday Session 2 1:00 p.m. - 2:30 p.m.

GIS Implementation: The Process and the Pitfalls

Sheila Sullivan-Weems

Landmark Room

Every GIS is composed of five elements: computer hardware, computer software, data, people, and processes put into place to support the other components. Each of these elements present challenges that must be handled right in order to avoid the many expensive and resource-consuming pitfalls that can so easily overtake the organization.

Choosing the right hardware and software, although there are several considerations which this presentation will discuss briefly, poses fewer problems than the three other elements. Data acquisition is the most costly part of any GIS system. A decision needs to be made whether to gather data in-house or through an outside service provider. In either case, accuracy and quality control need to be considered. Issues such as sharing data with and acquiring data from other organizations are becoming more important as more entities are implementing GIS.

This presentation will include discussions of user needs studies, data analysis, benchmark testing, pilot studies, implementation planning, project tracking, and job costing. It will also deal with how to bring GIS into the organization without intimidating the new user or alienating the long-time manual cartographer. The steps in the process and the pitfalls to avoid at each step will be presented.

Sheila Sullivan-Weems is a certified ARC/INFO instructor. She specializes in customizing ESRI's standard courses to address the client's specific applications interest. She has taught on all levels from beginning PC users to a class of University Geography professors.

Sheila has worked as ESRI since December of 1991. Her prior experience includes two years at Landata, ESRI's most successful PC ARC/INFO distributor. Her initiation into the world of GIS was at a small Texas appraisal district where she was involved in every aspect of the implementation and maintenance of an ARC/INFO system.

Tuesday Session 2 1:00 p.m. - 2:30 p.m.

Standards and Guidelines for Geographic Information Systems in the State of Texas

Chitra Subramaniam-Bryson — Majestic Room

This presentation will detail the Standards and Guidelines for Geographic Information Systems in the State of Texas manual which was adopted as a Statewide Information Resources Standard for Geographic Information Systems (GIS) on September 18, 1992. This manual was developed by the interagency Texas Geographic Information Systems Standards Committee. It provides standardized procedures for gathering, documenting, and exchanging digital spatial data among agencies, regardless of hardware or software. This presentation will detail the contents of the manual which includes technical standards and guidelines about data layer classification, formats for data interchange, and cartographic standards, including data output, data capture, and locational accuracy.

Chitra Subramaniam-Bryson received a BBA in Computer Information Systems and a Master of Applied Geography concentrating on GIS from Southwest Texas State University.

She has been employed at the Department of Information Resources (DIR) since December 2, 1991 as a GIS analyst. She chairs the Texas GIS Standards Committee; and is responsible for coordinating the GIS standards effort for the State of Texas including the development of the Standards and Guidelines for Geographic Information Systems in the State of Texas manual.

Prior to joining DIR, Chitra worked as a Research Specialist for Hays County involved in the development of the Hays County Emergency 911 System. Her work there included updating, editing, generating detailed maps of Hays County for the Hays County Mapping Project and building the database for the Hays County Emergency 911 System.

&

Map Projections and Coordinate Systems For Mapping Texas

Stephen W. Shackelford

The primary focus of this presentation will be the map projections and coordinate systems that are most commonly used in Texas. Latitude-Longitude, which will be discussed first, is not a map projection but rather a mathematical system for the input, storage, and exchange of map data. While it can also be used in presentations, it is not sturcturally suited for that purpose. The State Plane and the Universal Transverse Mercator (UTM) coordinate systems have long been recognized as standards for large-scale mapping, but their zonal formats have prevented them from being effectively used for uninterrupted statewide mapping. A number of statewide projections have been devised for that purpose, however, but the newly created Texas Statewide Mapping System is the only one to have been adopted by an interagency group as a standard for statewide mapping.

Steve Shackelford received a Bachelor of Science in Secondary Education degree, with a teaching major in geography, from Texas A&I University in Kingsville. In 1974 he joined the Texas Department of Transportation, where for the next 13 years he took a leading part in the development and production of automated county and city maps. Since 1987 his cartographic research and development work has led, in part, to the creation of the Texas Statewide Mapping System, which was incorporated into the GIS Standards what were recently adopted by the Department of Information Resources.

At the present time, while continuing to serve as the chairman of the interagency working group that drafted the Cartography and Data Capture sections of the GIS standards, Steve is also doing preliminary research in the fields of remote sensing and image processing , automated map publishing, and GIS. Future areas of research may also include Global Positioning System (GPS) and three-dimensional mapping.

Tuesday Session 2 1:00 p.m. - 2:30 p.m.

Setting Up and Maintaining a Parcel Based GIS

David W. Allen — Milam Room

As more municipalities are becoming interested in GIS, a need for a proven implementation strategy is being sought to aid in the initial installation. An effort should be made to learn from cities that have already completed and tested such a plan, with the expectation that following a tested plan will yield a useable result. Presemted is the City of Euless' GIS implementation and maintenance plan, with both the good and bad of our efforts. We want to share our experiences with other cities or agencies about to face the same situation. This same plan will be used by the City of Plano in implementing their GIS, with some minor changes to accommodate the use of AutoCAD for base map updates.

David Allen graduated in 1983 from the University of Texas in Arlington with a B.S. in Architecture. He spent five years with a drafting service bureau in Arlington completing various architectural and mapping projects.

In March 1989, David joined the staff of the City of Euless to implement a GIS using ESRI's ARC/INFO software running on a Sun Microsystems workstation. Full functionality of the system, encompassing an area of 15 square miles and a population over 40,000, was achieved in a four month period. His GIS facility, recognized by ESRI as a model site, has become a mapping service department producting maps of various descripitons for almost every department in the City.

The ARC/INFO Librarian

Dan Stone — Maverick Room

This presentation will discuss the ARC/INFO Librarian to include what tasks it can accomplish, what tasks it can not accomplish, and guidelines for what circumstances indicate that it should be used in a system. The Librarian of Version 5.0.1 and Version 6.1 will be discussed and contrasted.

The Bexar County Appraisal District's experiences in using both versions of Librarian will be discussed including problems found and workarounds used in each version. The presentation will discuss the details of BCADs use of Librarian to include the design and size of storage, tile design, transaction control, and library maintenance. Also discussed will be annual map set production, Locmap, a cross-reference product created from Librarian, as well as a customer query application and plans for future applications.

The author is with the Bexar County Appraisal District. No detailed biography was available.

Presentation Schedule

Tuesday Session 3 3:00 p.m. - 4:30 p.m.

GIS And Landscape Ecology: A Powerful Tool For Analyzing The Fragmented Forest

John R. Thomlinson

Maverick Room

This paper considers the application of geographic information systems to the emerging science of landscape ecology, the branch of ecology that studies patterns across the landscape. The author compares the types of analyses that can be conducted with and without GIS software, illustrating the presentation with material from a study on the habitat of an endangered bird species in the Sam Houston National Forest.

The conclusions drawn from the ideas presented here are that landscape ecological analyses are made considerably easier, and the results produced are more readily understood, by using GIS in place of traditional spatial analyses. The quality and comprehensibility of data products created by ARC/INFO will also enhance the conclusions of ecological studies, strengthening their chances of being considered by decision makers.

John Thomlinson is a doctoral candidate in Biology in the Institute of Applied Sciences, University of North Texas. His specialties include using GIS and remotely-sensed data for ecological applications. Prior to returning to the university for his Ph.D. studies, John spent 13 years as a petroleum consultant, conducting and directing oil and gas field development projects. He now combines a quantitative background with his ecological studies. He finds it ironic that to pursue his dream of being an environmental educator he spends his days in front of a display screen in a windowless office.

John earned his B.A. and M.A. in Natural Sciences from the University of Cambridge, and his M.S. in Petroleum Engineering from the University of London. Professional affiliations include the American Geophysical Union, the American Water Resources Association and the Oklahoma Ornithological Society. In addition, he belongs to numerous environmental organizations.

ArcCAD: Integrating CAD and GIS

Robert Burke

Landmark Room

ArcCAD is an integration of CAD and GIS. Both have different backgrounds and were developed for different purposes. CAD software is used for creating digital models of objects. GIS software was developed to model an object, but that object was specifically the earth. GIS software also performs spatial analysis on the earth model. CAD and GIS software use different storage formats for geographic data or features. Each software product usually has a different data model which presents problems for those interested in sharing data. ArcCAD is a combination of CAD and GIS software, so both functions can be performed without jumping between CAD and GIS. This presentation will give a brief overview of the ArcCAD product. Discussions will include CAD and GIS tools, editing, data display, and analysis.

Rob Burke graduated in 1989 from the University of Wisconsin at Eau Claire with a BS degree in geography. He received a Masters degree in Applied Geography in 1992 from Southwest Texas State University. His major study at SWTSU was "Predicting The Diffusion of the Africanized Honey Bees", and he developed a diffusion model to predict the spread of the Africanized honey bee. Rob has been with ESRI in Redlands since June of 1991. He is an Educational Services Instructor and his duties include teaching training courses and developing training course materials. Prior to joining ESRI Rob worked as a teaching assistant at SWTSU and was an intern at the Texas Rehabilitation Commission. In Wisconsin he worked as a research assistant in the geography department of UWEC. He also worked as a project manager for GeoCode Computer Mapping of Eau Claire.

Presentation Schedule

Tuesday Session 3 3:00 p.m. - 4:30 p.m.

Integration Of Remote Near Real Time Data Into A GIS: The Texas Coastal Ocean Observation Network

Donald Waechter

Majestic Room

This paper outlines the development of the Texas Coastal Ocean Observation Network (TCOON), the collection of real time remote data by a central base station, and the integration of that data into an ARC/INFO session running on a remote computer installation in real time.

A pilot project is currently underway which supplies, via the Internet, The Texas General Land Office (TGLO) in Austin with water-level and meteorological data collected by the Conrad Blucher Institute in Corpus Christi. The near real time data is received at the TGLO offices and graphically displayed by ARC/INFO software for use in oil spill management and modeling.

Donald Waechter is currently a Masters candidate in Computer Science at Corpus Christi State University. He will graduate in May of 1993 with a degree in Systems Software. During the last year and a half he has been a graduate research assistant at the Conrad Blucher Institute, a division of the College of Science and Technology at CCSU. He has worked on projects dealing with database management, voice digitizing, and Geographic Information Systems. He has been involved in ARC Macro Language program development since 1991 and is currently working on a project for the Texas General Land Office with Dr. Gary Jeffress of the Blucher Institute.

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Oil Spill Prevention and Response Application

Devon K. Humphrey

This is an inter-agency project designed to prepare for, respond to and assess the damage caused by oil spills along the Texas coast. Data from a variety of both static and dynamic sources will be integrated in the response application. The data include satellite imagery, aerial photos, tidal gauges, wind and current vectors, trajectory models, USGS DLGs and other coverages which will be analyzed in ARC/INFO. This project will also include the merging of image processing (ERDAS) and scanning technology (Intergraph) inside ARC/INFO.

Devon Humphrey is a graduate of Texas A&M University with a degree in Geography. He has served on both the Texas GIS Planning Council and the Department of Information Resources GIS Advisory Committee for the development of Standards and Guidelines for GIS in the State of Texas. Devon also serves as the TAIUG liaison with ESRI for product enhancements and fixes. He has worked with ARC/INFO while at Lee County Appraisal District and currently at the Texas General Land Office GIS Division.

Standards and Guidelines for GIS in the State of Texas

Chitra Subramaniam-Bryson

Milam Room

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Map Projections and Coordinate Systems

Stephen W. Shackelford

Repeat: See Session 2 for abstracts.

See Session 2 for biographies.

Presentation Schedule

Wednesday Session 1 8:00 a.m. - 9:30 a.m.

1992 Palm Springs 1993

Leann Gilley

Maverick Room

This presentation is intended for those who could not attend the 1992 ESRI User Conference in Palm Springs, California, and those interested in attending the 1993 conference. Included in the session will be an overview of events of the 1992 Palm Springs Conference. There will also be a discussion about the importance of attending the 1993 conference. Included in this discussion will be hints on how to cut costs and tools to promote user attendance.

Leann Gilley is a graduate of the University of Texas at Tyler and has an Associate degree in Surveying and a Bachelors in Technology. She has attended several ARC/INFO schools including Database Automation, Database Design, and COGO. Leann has recently joined the University of Texas at Tyler as a Data Systems Coordinator.

She had previously worked at the Smith County Appraisal District. for two years as the Director of Mapping and Records. She was elected in 1991 to a two year term as TAIUG vice president.

Creating An Ownership Database

Bobby Boykin

Majestic Room

This presentation will cover the effor to produce a GIS ownership database for the Washington County Appraisal District using PC ARC/INFO. Base Mapping methodology, data layers, data capture methods, database considerations, transfer of attribute database, current status, and future ambitions for the project will be covered. The development of a key map book for rural addressing which will be used in conjunction with a 9-1-1 system will be discussed.

Bobby Boykin is a GIS technician and GIS Coordinator for the Washington County Appraisal District. Bobby has been with the WCAD since 1986. The GIS system was installed there in 1989. Bobby has an RPA from the board of Tax Professional Examiners. Currently he is an undergraduate at Blinn College majoring in computer science.

Feature-Oriented vs Georelational Data Models

Kim K. Anderson

Milam Room

Repeat: See Tuesday Session 1 for abstract.

See Tuesday Session 1 for biography.

Presentation Schedule

Wednesday Session 1 8:00 a.m. - 9:30 a.m.

A Cell-Based Approach to GIS

Allen Rodgers

Landmark Room

Traditionally, GIS modeling was accomplished by using a vector-based or cell-system. This was an either/or decision and rarely were the two used in conjunction. Today, as GIS technology evolves, both the cell-based and vector-based approach to GIS are being recognized for their unique advantages and capabilities. In many cases the two technologies are being combined to solve complex modeling scenarios.

This presemtation will explore the advantages and disadvantages of using a cell-based approach for modeling. It will answer questions such as: what is a cell-based GIS; how does it differ from a vector-based GIS; when is it appropriate to use; and can it be incorporated with a vector system.

Allen Rodgers earned his bachelor's degree in Geography at Southwest Texas State University in 1988. He is currently working on a Master's degree with a concentration in GIS. Allen began working at ESRI-San Antonio in September, 1991. His duties include applications programming, technical support, system support and marketing.

Allen's prior employment was as an applications developer for the Texas Attorney General's office using ARC/INFO software on an HP 400. He also has experience as a teaching assistant in GIS for the Geography and Planning departments at Southwest Texas State University. He previously has worked as System Support Specialist for the Defense Mapping Agency, which included such additional duties as cartography and image processing.

Wednesday Session 2 10:00 a.m. - 11:30 a.m.

Cartography and Geographic Information Systems

Dennis Fitzsimmons

Landmark Room

With rapid technological advances in hardware and software for geographic information systems, there is an increasing awareness of the importance of a cartographic background to effectively communicate spatial data. However with a trend toward increasing technical specialization, GIS practitioners often neglect the basics of cartography for competency in such diverse, but highly marketable subjects such as: statistics, computer science, database design, programming languages, remote sensing and photogrammetry. What are the important cartographic principles needed by GIS specialists? Why are they needed and how can they be integrated into modern GIS applications?

Dennis Fitzsimmons has a Ph.D. from Kansas and is an Associate Professor in the Department of Geography and Planning at Southwest Texas State University in San Marcos, Texas.

He has 25 years of professional experience as a cartographer and mapping consultant and 16 years of full-time university teaching. His research interests include the graphic display of spatial data, cartographic education, map design, and geographic information systems. Dr. Fitzsimmons has published on the topics in numerous cartographic and geographic journals and has presented papers and workshops at regional, national, and international meetings.

His professional activities include: twenty years of active participation in national and international organizations such as the Association of American Geographers; the Cartography Specialty Group of the AAG, in which he served as National Chairman (1986-1987) and Board Member (1983-1988); American Congress on Surveying and Mapping; and the North American Cartographic Information Society.

The ARC/INFO Librarian

Dan Stone

Majestic Room

Repeat: See Tuesday Session 2 for abstract

See Tuesday Session 2 for biography.

Wednesday Session 2 10:00 a.m. - 11:30 a.m.

TIGER In The Texas Legislature

Todd Giberson

Maverick Room

This presentation will look at some of the ways TIGER data is beginning used in the Texas Legislature. The topics to be covered include TIGER data use in redistricting and in school finance issues. The future uses of GIS in the Texas Legislative Council will also be discussed.

Todd Giberson received his BA degree in geography from Southwest Texas State University in 1989. At that time he went to work for the Texas Legislative Council's Data Processing Division. He is now a Lead Programmer/Analyst for the Council's GIS Division. He co-authored the Council's interactive redistricting application.

The Global Positioning System And Its Control Survey Applications for Geographic Information Systems

Stephen W. Swarts

Milam Room

The Global Positioning System (GPS) has become the choice for a myriad of positioning requirements due to its speed accuracy and economic savings. GPS has found especially wide acceptance as the foundation upon which to base control networks for Geographic Informations Systems.

The material presented will illustrate current GPS control survey applications for emerging GIS programs at the state-wide, regional, county, city, and local levels. Also provided will be a brief overview of the GPS system, its history, present status, planned final configuration and future applications.

Steve Swarts is manager of GPS Survey Service Sales for Western Geophysical Company in Houston. Western is a pioneer in GPS survey operations, performing GPS control surveys continuously since 1984, longer than any other presently operating service company.

Steve majored in Business Administration at William & Mary in Williamsburg, Virginia, and is a licensed Land Surveyor in 10 states.

Presentation Schedule

Wednesday Session 3 12:30 p.m. - 2:00 p.m.

Regional Data Sharing

Paul Waddell

Landmark Room

This presentation will discuss organizational and technical issues involved in sharing GIS data within and between organizations. A North Texas GIS Consortium has been established in the Dallas-Fort Worth area to facilitate GIS development and data exchange.

The session will discuss the development of the consortium and report on the progress of a pilot study conducted over the past few months. In particular, opportunities for joint database development in areas such as digital orthophotography and multi-purpose cadastre will be explored.

Paul Waddell is the Executive Director of the Bruton Center for Development Studies at the University of Texas at Dallas, which was established in 1989 to study issues related to urban and regional development.

Dr. Waddell is also a professor of Political Economy and Geographic Information Systems, and has established a substantial GIS facility at Bruton Center to carry out applied research and to train graduate students. He has published articles and conducted research on the residential and commercial real estate markets, on factors influencing business location, and on residential location and land use patterns.

Dr. Waddell was previously Director of the Regional Services Department at the North Central Texas Council of Governments, where he was responsible for land use, population, and employment forecasting, and where he implemented a GIS for regional planning applications. He has served in the past as President of the Texas Chapter of the Urban and Regional Information Systems Association, and President of the Dallas-Fort Worth Chapter of the Texas Economic and Demographic Association.

The ARC/INFO Task Function

Reginald Warren

Majestic Room

Repeat: See Tuesday Session 1 for abstract.

See Tuesday Session 1 for biography.

Presentation Schedule

Wednesday Session 3 12:30 p.m. - 2:00 p.m.

GPS and GIS: The Link Between Our Data And The Field Reality

Joel Gillet

Maverick Room

One of the major problems of GIS implementation today is the discrepancy observed between the maps we create on our screens or plotters and combining a patchwork of legal documents of various age, origin, and accuracy and the field reality. For example, we are told there are 3 lots, with a width of 350 feet each, between 2 roads. When we measure the distance between the 2 roads on our map, we find a distance of 1000 feet. It doesn't add up.

This kind of observation, repeated all over the nation, could translate into a gigantic resurveying effort in the coming years. If there was a new survey system available, faster, more accurate and less dependent on local controls than traditional surveying, it would be very welcome. Such a system does exist - GPS. The only limit to the precision of GPS, and to the number of applications is imagination. The positioning system of the year 2000 is already here with us and ready.

Joel Gillet was born in French North Africa in 1956. He passed the French Baccalaureat exam in mathematics in 1974. He subsequently studied land surveying at a survey school in Meaux, France and obtained a survey certificate in 1978. He then joined CGG, an international oil exploration company. While at CGG, Joel became a navigation and then a surveying specialist. He worked in many countries in Europe, South America, and Africa. From 1985-1987, Joel worked as a survey supervisor in China and Indonesia.

He married an American lady in 1986 and in 1988, at his request, was transferred to CGG American Services in Houston as North American Survey Supervisor. He subsequently was involved in many precise "3D" seismic surveys for major oil companies such as Chevron, Shell, ARCO, and Texaco. In 1990 he started using GPS positioning equipment and positioned 3000 seismic points.

Joel left CGG in 1991, and worked with a company that specialized in setting private geodetic control markers, in particular for the oil and gas industy. During this time he set many control markers in Texas and Louisiana.

In mid-1991 Joel joined Magellan Systems Corporation of San Dimas, CA, as their Southwest Regional Manager for sales and technical support. He is based in Houston.

GIS Implementation

Sheila Sullivan-Weems

Milam Room

Repeat: See Tuesday Session 2 for abstract.

See Tuesday Session 2 for biography.

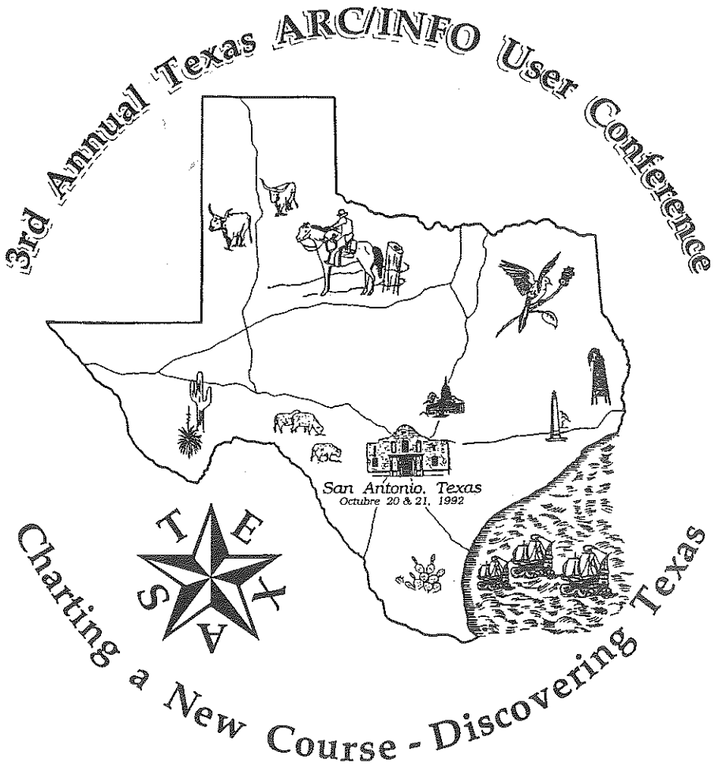
Round Table Discussions

Wednesday Session 4 14:15 p.m. - 15:45 p.m.

Location	Topic	Host
Table 1	COGO	David Dignum
Table 2	Appraisal	Bobby Boykin
Table 3	GIS Education	Leann Gilley
Table 4	Infrastructure	David Allen
Table 5	Librarian	Dan Stone
Table 6	ARC/INFO 6.0 & 6.1	Clint Brown
Table 7	AML	Greg Sampson
Table 8	SML	Allen Rodgers
Table 9	Data Conversion	Sheila Weems
Table 10	TIN	Reginald Warren
Table 11	GPS	To be announced

Maverick Loft

Conference Notes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