Curtis E. White

President, Global Systems Modeling

Education
BS, Mathematics, Oregon State University

Affiliations
Association for Computing Machinery (ACM)

25 Years GIS Experience

40 Years Programming / Database Experience

40 Years Modeling / Simulation Experience

Mr. White has been a practicing GIS professional for more than 20 years. While at CH2M Hill, he served as Southwest Regional GIS Coordinator and Computing Services Regional Manager and managed IT requirements for two large Superfund projects (GIS, database design, programming). Mr. White founded Global Systems Modeling Ltd. (GSM) in 1988. Concentrating on smaller communities, he contributed to the establishment of GIS in numerous government agencies and private companies, including Cochise, Gila and Santa Cruz Counties, Sedona, Safford (Gila Resources), Prescott Valley, Benson, and Oro Valley; Southwester Field Biologists, Clint Sherrill & Associates (surveyors), and The Planning Center, among others.

GSM has been a business partner with ESRI since the inception of the PC Arc/Info resellers program. At times, he has also been a reseller for PCI, Erdas, Space Imaging, GeoEye, Leica Geosystems, LizardTech and GlobeXplorer, among others, and has sold software and imagery to numerous clients.

Mr. White has been programming since the early 1970s, and has done database design, on a number of platforms, for over 30 years. He has experience implementing ecosystem simulation models, designing databases, performing data "scrubbing" (clean-up), implementing GIS data sets (data conversion), conducting GIS user needs assessments, writing programs, designing user interfaces, creating websites, and conducting training. He has published and presented numerous professional papers, both in referred journals and at a variety of user and technical conferences.

Since 2001, he has been the principal GIS consultant to Santa Cruz County, and has assisted them in creating data sets and implementing GIS solutions for numerous departments, including the Assessor, Recorder, Public Works, Community Development, Emergency Management, Clerk of the Board, Flood Control, Public Health and the Sheriff.

Project Experience

Arizona Broadband Mapping, Analysis and Planning Project. For the last four months, Mr. White has been the principal database and workflow designer for the Project. He has made significant, nationally recognized contributions to the geodatabase design used by all States in making data submittals to the Federal government. He has also made significant contributions to the design of the QA/QC tracking procedures used on the Project which have also received national recognition.

He was primarily responsible for processing provider information submitted to the State into the preliminary data delivery format required by the Federal government, processing almost 3 million records of raw data into the almost 200,000 features submitted to the National Telecommunications and Information Administration (NTIA). This involved data analysis and processing in both SQL Server and ArcGIS; all submitted data was required to be in spatial format (file-based geodatabase).

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Santa Cruz County, Arizona. Mr. White is currently providing technical support to Santa Cruz County, Arizona, for their 2011 Redistricting effort. County Supervisor, Community College and Justice of the Peace districts are the targets of this effort. Goal is to create new precinct boundaries that will meet various legal requirements. Specific assignments include:

- Acquiring and processing Census 2010 PL 94-171 data for the County into GIS (ESRI ArcGIS) format
- Processing County's current (2001) district information into compatible format (2010 geography changed significantly from 2000)
- Assess new population counts for current district boundaries
- Provide GIS analysis, as requested, to determine possible redistricting scenarios for consideration
- Process multiple redistricting scenarios at the County's direction
- Prepare appropriate maps and reports of these scenarios, as well as final maps
- Assist County in submittal of Redistricting Request to the US Dept. of Justice
- Prepare technical documentation of all processing done
- Provide finished precinct boundaries, district boundaries and Census 2010 data in ArcGIS File Geodatabase format for future use with the County's GIS system

All GIS data processing is being done with ESRI's ArcGIS software. As part of this effort, GSM developed numerous Model Builder tools to automate processing scenarios (e.g., generate new district boundaries with population totals by district).

From January 2009 through March 2009, Mr. White continued to provide technical support to Santa Cruz County for the Census 2010 Participant Statistical Areas Program (PSAP) process. All data processing and submitted information to US Census Bureau was per their stated requirements. In consultation with County staff, prepared suggested changes to Census Block Group, Census Tract and Census Designated Places (CDPs) boundaries. This processing required meeting stated population requirements for Block Groups and Census Tracts based on estimated current (2009) population counts. All GIS data processing was done with Census Bureau's MAF/TIGER Partnership Software v4.6, a requirement for this process.

In January 2008 through April 2008, Mr. White provided technical support to Santa Cruz County for the Census 2010 Local Update of Census Addresses (LUCA) process. All data processing and submitted information to US Census Bureau was per their stated requirements. The County elected to use the Address Count List (ACL) option for their submittal. Part of this effort required production of a Census Block map atlas that could be used by field crews in updating household counts by blocks. In addition, submitted numerous suggested revisions to the TIGER data for street segments and address ranges based on the County's GIS road centerline file which supported its' purpose of E911 dispatching. All GIS data processing was done with ESRI's ArcGIS software.

Starting in October 2001, Mr. White provided technical support to Santa Cruz County for their 2001 Redistricting effort. Assistance provided was similar to the current support describe above. Custom tools were developed in Visual FoxPro (current for the time – Model Builder did not exist at the time.) and processing was done using ArcView software. The County's Redistricting Request was approved without change by the US Dept. of Justice.

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Over the past ten years, Mr. White has assisted the County in creating parcel data and linking it to both SQL and Oracle databases (Assessor), implementing document scanning and retrieval, and converting an existing application's database to a new system (Recorder), creating a GIS web-based interface to new flood control (FEMA) data (Flood Control), creating GIS-linked HURF data, street signs and street light data sets (Public Works), and designed various GIS applications, datasets and databases for other County departments.

In 2009, Mr. White directed and assisted in the preparation of datasets for implementing the Sheriff's Spillman E-911 CAD system's GIS interface and updating their Positron CAD system. This has included "scrubbing" the road network and associated addressing to meet the State of Arizona's 9-1-1 Office's data standards.

Maui Water Model, Maui County, Hawaii. Mr. White designed a discrete-time water "accounting" (budget) model for the County, and assisted in implementing it in ArcGIS (raster-based / ArcObjects). He also helped parameterize the model using various GIS-techniques. As part of this effort, he performed data "scrubbing" on existing land use and parcel spatial data sets to clean up errors and align them with the model's requirements. He also developed a non-spatial version of the model in Excel and used it both for parameter estimation and model verification.

Tucson Water, Tucson, Arizona. Mr White provided GIS consulting services to the City of Tucson's water utility for several years. Primary activity involved creation of techniques to link GIS-based data to a water simulation model (EPANET). Other activity involved creation of the relevant GIS datasets and automated procedures to create input data sets based on historical water usage (billing records).

As part of the modeling effort, he developed a hierarchical approach to water distribution modeling. Mr. White presented a paper on this approach at the 26th Annual Water Resources Planning and Management Conference (ASCE) and at the 19th Annual ESRI User Conference.

GIS Software. Programming and Database Experience

ArcGIS/ArcInfo. Twenty-three years of experience applying ESRI GIS technology in a wide variety of applications. Full-time user of ArcInfo, PC ARC/INFO, ArcView and ArcGIS since 1987. Sold and set-up numerous turn-key GIS (PC ARC/INFO) systems, with associated peripherals.

PCI/Erdas. Sold and conducted training for two of the more popular image processing software systems. Created/sold numerous aerial and satellite imagery data sets, including Yavapai County, Arizona, which at the time was Digital Globe's largest satellite imagery sale.

C# / .Net. Developed ArcObjects-based applications. Written numerous custom applications (some web-based). Also experienced in many other programming languages (FORTRAN, SmallTalk, Avenue, Visual Basic, Python, PHP, etc.).

Databases. Worked with numerous relational database systems over 30 years, including Info (for ArcInfo), Microsoft's SQL Server, Oracle, and others. Experienced at database design. Conducted training seminars for ESRI's GIS products as they relate to databases.