

Geotechnology in Transition:

Brief History, Current Practice, Trends and Future Directions



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In a little over three decades, GIS technology has dramatically changed our perspective on both what constitutes a map and the information it contains. Historically, manually drafted maps emphasized the accurate location of physical features. However the journey from the map room to the conference room and a car's dashboard has extended maps from static wall hangings to interactive mapped data. This new perspective marks a turning point in the use of maps— from one emphasizing physical descriptions of geographic space, to one of interacting with maps and successfully visualizing/communicating influences of spatially based factors. This presentation investigates the context, conditions and forces driving the transition from maps to mapped data, to map analysis, to multimedia mapping and beyond. It does so by first establishing Geotechnology's evolution, then describing the duality of current trends of advancing both descriptive mapping and prescriptive analysis, and finally proposing probable future directions that will shake the foundation of spatial data configuration and utility.

Additional Information:

A Brief History and Probable Future of Geotechnology, white paper that distills several keynotes, presentations and papers, BASIS, Fort Collins, Colorado, July, 2006. J.K. Berry.
www.innovativegis.com/basis/Papers/Other/Geotechnology/Geotechnology_history_future.htm

GIS Evolution and Future Trends, online book *Beyond Mapping III*, Topic GIS Evolution and Future Trends, BASIS, Fort Collins, Colorado, October, 2009. J.K. Berry.
www.innovativegis.com/basis/MapAnalysis/Topic27/Topic27.htm



About the Presenter: Dr. Berry is a leading consultant and educator in the application of GIS technology. He is the principal of Berry and Associates // Spatial Information Systems (BASIS), consultants and software developers in geotechnology and the author of the "Beyond Mapping" column for GeoWorld magazine since 1989. He conducted basic research and taught courses in GIS for twelve years at Yale University's Graduate School of Forestry and Environmental Studies, and is currently the W. M. Keck Visiting Scholar in Geosciences at the University of Denver and an Adjunct Faculty member in Natural Resources at Colorado State University.

Dr. Berry has written over two hundred papers on the theory and application of map analysis techniques, and is the author of the popular books *Beyond Mapping* (Wiley, 1993), *Spatial Reasoning* (Wiley 1995), *Map Analysis* (GeoTec Media, 2007) and the online book *Beyond Mapping III* that is a compilation of his GeoWorld columns since 1996. Since 1976, he has presented college courses and professional workshops on geospatial technology to thousands of individuals from a wide variety of disciplines. Dr. Berry's research and consulting emphasizes grid-based map analysis and GIS modeling. Such studies have involved the spatial characterization of timber supply, outdoor recreation opportunity, comprehensive land use plans, wildlife habitat, marine ecosystem populations, haul road networks, surface and ground water hydrology, island resources planning, retail market analysis, in-store movement analysis, hazardous waste siting, air pollution modeling, optimal routing of infrastructure, precision agriculture and site-specific management. Of particular concern, have been applications that fully incorporate map analysis into the decision-making process through spatial consideration of social and economic factors, as well as physical descriptors.

(PowerPoint posted at www.innovativegis.com/basis/Present/SWUG09/SWUG09_keynote.ppt)