Special Session on

Map Analysis and Modeling: Instructor Materials for Labs, Workshops and Courses

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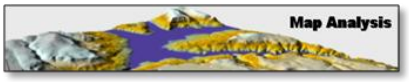


Most Geotechnology teaching materials focus on Geographic Information Systems (GIS) capabilities of computer mapping and spatial database management, while few provide an understanding of its analytical potential and practical realities in a non-technical manner. The unique character of these materials draws from the author's ability to convey seemingly complex concepts of spatial data and map analysis operations in words that resonant with less technically versed audiences. The result is an extensive set of PowerPoint slides, background readings, and hands-on exercises that engage students to "think spatially" and formulate new and innovative solutions to complex spatial problems. Key to this process is a paradigm shift that extends the traditional paper map perspective of "where is what" to the modern perspective of "why and so what." Within this context, maps become data and map analysis becomes the means to derive information about spatial patterns and relationships within and among map layers.

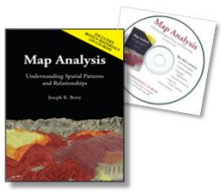
Workbook and PowerPoint posted at ***www.innovativegis.com/basis/Present/GeoTec10/***

Session Description: This 90-minute session describes a comprehensive set of instructional materials providing hands-on exposure to concepts, capabilities and considerations of grid-based map analysis and modeling. Topics covered in the materials include data structure considerations, display types, vector-raster data exchange, analytical operations and GIS modeling. The map analysis operations are divided into logical classes based on similarities in processing and use— 1) **Spatial Analysis** operators of *Reclassify*, *Overlay*, *Distance*, and *Neighbors* that investigate "contextual relationships" within and among mapped data layers, and 2) **Spatial Statistics** operators of *Surface Modeling* and *Spatial Data Mining* that investigate "numerical relationships." Numerous examples of GIS models are included and students are encouraged to edit/modify or formulate their own spatial models.

The session presents a clear outline of instructional framework as well as "arm" instructors with a comprehensive set of instructional materials for infusing grid-based map analysis into their presentations and courses. A short workbook including the **Instructor Materials** two CD set is provided at no cost (**www.innovativegis.com/basis/Books/InstructorCDs/**).

Background References: See online papers on *A Brief History and Probable Future of Geotechnology*, *An Analytical Framework for GIS Modeling* and *Infusing Grid-Based Map Analysis into Introductory Courses* and online book *Beyond Mapping III* posted at **www.innovativegis.com/basis/**.

Instructor Materials: The *Instructor Materials for Grid-based Map Analysis and Modeling* is a two CD set of teaching materials for four levels of presentations—1 hour Overview Lecture, 2 hour Seminar, 8 hour Workshop and 10 week College Course …over 300 slides and hours of hands-on exercises describing the principles, procedures, considerations and practical applications of grid-based map analysis. The College Course materials include laboratory lessons, projects and even exam questions and answers. Royalty free use for educational purposes; US$ 45 plus shipping; **www.innovativegis.com/basis/Books/InstructorCDs/**



A companion textbook, *Map Analysis: Understanding Spatial Patterns and Relationships*, supports the extended Workshop and College Course offerings. The book contains a companion CD with color graphics, further readings, exercises and fully licensed (single seat) software for hands-on experience. US$ 45 plus shipping; **www.innovativegis.com/basis/Books/MapAnalysis/**

Author: *Dr. Berry has presented numerous workshops on grid-based map analysis for professionals and is the author of numerous papers, book chapters and books on map analysis and GIS modeling. He is the Principal of Berry and Associates // Spatial Information Systems, consultants and software developers in Geographic Information Systems (GIS) technology. He has taught courses and workshops in GIS modeling for more than 30 years and serves as the Keck Visiting Scholar in Geosciences at the University of Denver and Adjunct Faculty member at Colorado State University. Prior to these assignments he was an Associate Professor and the Associate Dean at Yale University's School of Forestry and Environmental Science. He has written the "Beyond Mapping" column for GeoWorld for over 20 years and written over two hundred papers on the analytic capabilities of GIS, as well as authoring the popular books Beyond Mapping (Wiley, 1993), Spatial Reasoning (Wiley, 1995) and Map Analysis (GeoTec Media, 2007). Dr. Berry holds a B.S. degree in Forestry, a M.S. degree in business management, and a Ph.D. emphasizing remote sensing and land use planning.*

Website: **www.innovativegis.com/basis/**
Curriculum Vitae: **www.innovativegis.com/basis/basis/cv_berry.htm**