Manual of Geographic Information Systems

The Manual of Geographic Information Systems is the latest addition to the rich collection of manuals published by the American Society for Photogrammetry and Remote Sensing (ASPRS). Edited by Marguerite Madden, PhD, with the Foreword by Jack Dangermond, President, Environmental Systems Research Institute, Inc. (ESRI), this volume is designed to be a comprehensive resource on GIS for students, researchers and practitioners who are interested in asking spatial questions, assessing landscapes, building geodatabases and envisioning a world of integrated geospatial technologies.

The ASPRS GIS Manual facilitates photogrammetry and remote sensing working more closely with GIS; that will inevitably produce important new scientific and technological developments, according to Dangermond in the Foreword.

The book has been organized in eight major sections: Background and Overview; Data Models, Metadata and Ontology; GIS Data Quality and Uncertainty; Spatio-Temporal Aspects of GIS; Analysis and Modeling; Blending GIS with Remote Sensing, GPS and Visualization; GIS and the World Wide Web; and, GIS Applications. Top researchers in GIS from around the world, along with emerging scholars, have told the story of a discipline that originated alongside advances in computer technology and is increasingly incorporated into our daily lives. The wide range of topics covered in the 62 chapters of this volume attest to the role GIS plays in blurring the boundaries between traditional photogrammetry, remote sensing, land surveying, geodesy, cartography, and computer science. The Manual of Geographic Information Systems provides a conceptual framework for data connected to location, the language needed for spatial conversation and analysis tools for discovery of geographic place, proximity, dimensions, trends and correlations.

The DVD that accompanies this book contains more than 300 color figures plus digital content contributed by leading GIS companies, agencies and institutions including, ESRI; ERDAS; SAIC; IVS 3D; NOAA; USGS; San Diego State University; University of California, Santa Barbara; University of Plymouth; Florida State University; University of Georgia; and, State University of New York College of Environmental Science and Forestry.