

CyberGIS: Fostering a New Wave of Geospatial Discovery and Innovation**Editors:** *Shaowen Wang and Michael F. Goodchild*

Geographic information systems (GIS) have undergone rapid growth since their initial development during the mid 1960s. This growing trend seems likely to persist into the foreseeable future driven by numerous diverse applications and enabled by steady progress of related technologies. As a spatial data deluge permeates broad scientific and societal realms, to sustain the trend, however, requires desirable GIS capabilities to be innovated based on synergistic integration of computational and spatial approaches enabled by cyberinfrastructure – an emerging infrastructure of communication, computing, and information technologies. Consequently, CyberGIS has been developed as a fundamentally new cyberinfrastructure and GIS modality comprising a seamless blending of cyberinfrastructure, GIS, and spatial analysis and modeling capabilities and, thus, has begun to empower scientific breakthroughs and show broad societal impacts while contributing to the advancement of cyberinfrastructure. For example, the U.S. National Science Foundation (NSF) has recently funded a major multi-institution initiative on CyberGIS (<http://cybergis.cigi.uiuc.edu/>) – arguably the largest investment by NSF on related subjects during the past several years. Therefore, this book represents a timely effort to inform pertinent communities about opportunities and challenges, roadmaps for research and development, and major progress, trends, and impacts of CyberGIS. The book will serve as an authoritative source of information to fill the void of introducing this new and exciting growing field, and is structured as follows.

Introduction**Part 1: Applications and Science Drivers****Part 2: Theories and Principles****Part 3: Architectures and Frameworks****Part 4: Algorithms and Software****Part 5: Social Dimensions****Reflections and Future Directions**

Important DatesExtended abstract (up to 1000 words) due: **May 7, 2012**Acceptance notification: **June 1, 2012**Final draft due: **August 31, 2012**Publication of the book: **January 2013** (estimated)**Contact Information**

Shaowen Wang, University of Illinois at Urbana-Champaign

Email: shaowen@illinois.edu

Michael F. Goodchild, University of California, Santa Barbara

Email: good@geog.ucsb.edu