

Contents

List of Contributors	viii
PART I INTRODUCTION	1
1 Geographic Information Systems and Society: A Twenty Year Research Perspective <i>Timothy L. Nyerges, Robert McMaster, and Helen Couclelis</i>	3
PART II GIS AND SOCIETY RESEARCH	23
SECTION 1 FOUNDATIONS OF GIS AND SOCIETY RESEARCH	25
2 Concepts, Principles, Tools, and Challenges in Spatially Integrated Social Science <i>Donald G. Janelle and Michael F. Goodchild</i>	27
3 Geographic Ontologies and Society <i>Marinos Kavouras and Margarita Kokla</i>	46
4 The Social Potential of GIS <i>Stacy Warren</i>	67
5 Critical GIS <i>Sarah Elwood, Nadine Schuurman, and Matthew W. Wilson</i>	87
SECTION 2 GIS AND MODERN LIFE	107
6 Connecting Geospatial Information to Society Through Cyberinfrastructure <i>Marc P. Armstrong, Timothy L. Nyerges, Shaowen Wang, and Dawn Wright</i>	109

7	Environmental Sustainability: The Role of Geographic Information Science and Spatial Data Infrastructures in the Integration of People and Nature	123
	<i>Clodoveu A. Davis, Jr., Frederico T. Fonseca, and Gilberto Camara</i>	
8	GIS and Population Health: An Overview	138
	<i>Nadine Schuurman and Nathaniel Bell</i>	
9	Cogito Ergo Mobilis Sum: The Impact of Location-based Services on Our Mobile Lives	159
	<i>Martin Raubal</i>	
SECTION 3 ALTERNATIVE REPRESENTATIONS IN GIS AND SOCIETY RESEARCH		175
10	Human-scaled Visualizations and Society	177
	<i>Dimitris Ballas and Danny Dorling</i>	
11	Indigenous Peoples' Issues and Indigenous Uses of GIS	202
	<i>Melinda Laituri</i>	
12	Spatial Modeling of Social Networks	222
	<i>Carter T. Butts and Ryan M. Acton</i>	
13	GIS Designs for Studying Human Activities in a Space-Time Context	251
	<i>Hongbo Yu and Shih-Lung Shaw</i>	
SECTION 4 GIS IN ORGANISATIONS AND INSTITUTIONS		269
14	Emerging Frameworks in the Information Age: The Spatial Data Infrastructure (SDI) Phenomenon	271
	<i>Ian Masser</i>	
15	Spatial Data Infrastructure for Cadastres: Foundations and Challenges	287
	<i>Francis Harvey</i>	
16	A GIS-based Computer-supported Collaborative Work Flow System in Urban Planning	304
	<i>Anthony G.O. Yeh and Kenneth S.S. Tang</i>	
17	GIS and Emergency Management	321
	<i>Christopher T. Emrich, Susan L. Cutter and Paul J. Weschler</i>	

SECTION 5 GIS IN PUBLIC PARTICIPATION AND COMMUNITY DEVELOPMENT		345
18	Designing Public Participation Geographic Information Systems <i>Piotr Jankowski</i>	347
19	Online Public Participation GIS for Spatial Planning <i>Richard Kingston</i>	361
20	Participatory Approaches in GIS and Society Research: Foundations, Practices, and Future Directions <i>Sarah Elwood</i>	381
21	PPGIS Implementation and the Transformation of US Planning Practice <i>Laxmi Ramasubramanian</i>	400
22	Politics and Power in Participation and GIS Use for Community Decision Making <i>Rina Ghose</i>	423
SECTION 6 VALUE, FAIRNESS AND PRIVACY IN A GIS CONTEXT		439
23	Geographic Information Value Assessment <i>Roger Longhorn</i>	441
24	Geovisualization of Spatial Equity <i>Emily Talen</i>	458
25	Natural Resource Conflicts, Their Management, and GIS Applications <i>Peter A. Kwaku Kyem</i>	480
26	Legal and Ethical Issues of Using Geospatial Technologies in Society <i>Daniel Z. Sui</i>	504
PART III CONCLUSION		529
27	GIS and Society Research: Reflections and Emerging Themes <i>Helen Couclelis, Timothy L. Nyerges, and Robert McMaster</i>	531
	<i>Index</i>	542