Contents

ix xv xvii	Accompanying practical Appendix 2.1 Examples of data resources References	34 34 34
1	 Comparison of the sector of the line of the sector of the sector s	5-5 -5-5
	Introduction	36
3	Geographic and associated tabular/	
3	attribute data	38
5	Mapping location: reference maps	39
8	Thematic maps	42
9	Cartography and human-scaled	
12	geovisualisations	54
	Concluding comments	66
15		67
17	References	67
19		
19		•
19		69
19	-	71
		72
20		74
20	-	79
21		79
	*	8 0
23	Reference	80
27	PART II APPLICATIONS	81
33	5 GIS and the classification of people	
	and areas	83
33	Introduction	83
34	Composite indicators	85
	xv xvii 1 3 3 5 8 9 12 15 17 19 19 19 19 19 19 19 20 20 21 20 21 23 27 33 33	IXAppendix 2.1 Examples of data resourcesxvReferencesxviiCase of the education of based1Case of the education of based1Case of the education of based1Case of the education3Geographic and associated tabular/3attribute data5Mapping location: reference maps8Thematic maps9Cartography and human-scaled12geovisualisationsConcluding comments15Accompanying practicals17References19Introduction19When a network can help Networks: the basics20Concluding comments21Accompanying practical Further reading23Reference27PART II APPLICATIONS33533Introduction

S

v

	Geodemographic classifications	100
	Concluding comments	109
	Accompanying practical	111
	Further reading	111
	Appendix 5.1 Dan Vickers' Open	
	Geodemographic Classification develope	ed
	for the UK Office for National Statistics	112
	Appendix 5.2 The 2001 ONS Census	
	Output Area Classification groups	114
	References	115
6	GIS and small-area estimation of	
	income, well-being and happiness	118
	Introduction	118
	Combining small-area with national social	
	survey data	119
	Generating indirect non-survey designed	
	estimates	123
	Statistical model-based estimates	124
	Geosimulation and spatial microsimulation	131
	Using GIS and spatial microsimulation for	
	public policy analysis	137
	Concluding comments	143
	Accompanying practical	143
	Further reading	143
	Appendix 6.1 Details of the core, rotating	
	core and variable component question	
	subject areas from the BHPS Individual	
	Questionnaire	144
	Appendix 6.2 Details of the core question	
	subject areas from the BHPS Household	
	Questionnaire	146
	Appendix 6.3 A selection of policies that	
	were evaluated in SimBritain	146
	References	147
7	GIS and crime pattern analysis	151
	Introduction	151
	Crime data	151
	GIS for the allocation of funding	153
	GIS for mapping and analysing crime	
	patterns	153
	Crime profiling	159
	Estimating expected versus actual crime	
	rates	160

	GIS and arson mapping	161
	Concluding comments	163
	Accompanying practical	164
	Further reading	164
	References	164
8	GIS for retail network planning and	
	analysis	166
	Introduction	166
	The building blocks for analysis	168
	GIS for retail analysis and planning	170
	Adding a modelling capability to the GIS	178
	GIS for public sector retail planning	181
	Concluding comments	187
	Accompanying practicals	187
	References	187
9	GIS and health care planning and	
	analysis	190
	Introduction	190
	Geographical components of health and	
	health care policy	191
	Using GIS to analyse health care provision	197
	Concluding comments	204
	Accompanying practical	205
	References	205
10	GIS for emergency planning	207
	Introduction	207
	What is an emergency?	209
	Data requirements	211
	Examples: GIS for emergency planning	213
	GIS for vulnerability assessment	217
	GIS and social media and crowd-sourced data	218
	Concluding comments	218
	Accompanying practical	218
	References	218
	Activities (1997)	219
11	GIS and education planning	220
	Introduction	220
	Demography and pupil forecasting	221
	School catchment areas and the dynamics	
	of provision	223
	Educational performance in market systems	227

vi

CONTENTS

:	GIS in higher education	230	What do we study when we study GIS and	
	Concluding comments	231	environmental justice?	254
	Accompanying practical	231	Common GIS methods employed in	
	References	232	environmental justice and policy	
· .	,		research	256
- 12	GIS and transport analysis and		Applications of GIS in environmental	
	planning	234	justice	259
	Introduction	234	Concluding comments	268
	Flows on networks	235	Accompanying practical	268
:	Networks and examples of GIS in use	239	References	268
1	GIS and models for transport-based			
-	location analysis	248	14 Conclusions: GIS, social media and the	
-	Concluding comments	249		270
	Accompanying practical	250	References	273
	References	250		
-				
13	GIS for environmental justice and		Index	275
1	policy evaluation	252		
	Introduction	252	· .	
	Data and conceptual challenges	253		

į.

vii