

Contents

Preface.....	vii
Acknowledgments	ix
Introduction	xi
Crime analysis in modern policing.....	xi
Crime and place: The bridge between research and practice	xii
Plan for this book	xiv
Chapter 1: Exploring ArcGIS Pro	1
Overview	1
Exercise 1a: Connect to ArcGIS Online and data portals.....	1
Exercise 1b: Explore the ribbon and project panes	6
Exercise 1c: Use ArcGIS Pro navigation tools	11
Exercise 1d: Symbolize features (part 1)	16
Exercise 1e: Symbolize features (part 2).....	24
Exercise 1f: Link map views	27
Summary	32
Chapter 2: Geoprocessing and selecting data.....	33
Overview	33
Exercise 2a: Use the Buffer tool	34
Exercise 2b: Use the Clip (Analysis) tool.....	40
Exercise 2c: Use the Merge tool	42
Exercise 2d: Select features by location.....	44
Exercise 2e: Select features by attribute	47
Exercise 2f: Select features by day and time	52
Summary	55
Chapter 3: Creating and editing feature layers.....	57
Overview	57
Exercise 3a: Map data with x,y coordinates	58
Exercise 3b: Create address locators and geocode address data	62
Exercise 3c: Edit line and point features	70
Exercise 3d: Create polygon features	81
Exercise 3e: Edit polygon features (part 1).....	85
Exercise 3f: Edit polygon features (part 2).....	89
Summary	93

Chapter 4: Maximizing attribute tables	95
Overview	95
Exercise 4a: Enhance feature attributes.....	96
Exercise 4b: Use spatial joins to summarize numeric attributes.....	99
Exercise 4c: Perform table joins	103
Exercise 4d: Create and calculate fields.....	110
Summary	116
Chapter 5: Identifying crime hot spots and tracking crime in target areas.....	117
Overview	117
Exercise 5a: Create crime density maps and measure density change	118
Exercise 5b: Perform 80-20 analysis	125
Exercise 5c: Create optimized hot spots.....	127
Exercise 5d: Create street intersection points and Thiessen polygons	134
Exercise 5e: Count incidents and measure percentage changes.....	140
Summary	145
Chapter 6: Incorporating time in spatial analysis.....	147
Overview	147
Exercise 6a: Create space-time cubes and identify emerging hot spots	148
Exercise 6b: Map incident sequences	153
Exercise 6c: Create incident paths.....	157
Exercise 6d: Use the time slider to create time animations	161
Summary	165
Chapter 7: Using spatial statistics to identify spatial relationships.....	167
Overview	167
Exercise 7a: Measure colocation of points	168
Exercise 7b: Analyze patterns with density-based clustering	175
Exercise 7c: Measure multivariate clustering	188
Exercise 7d: Perform generalized linear regression analysis.....	197
Exercise 7e: Perform geographically weighted regression.....	200
Summary	207
Chapter 8: Automating crime analysis processes.....	209
Overview	209
Exercise 8a: Create task items and processes	210
Exercise 8b: Explore ModelBuilder.....	218
Exercise 8c: Create a model to map incidents by x,y coordinates and append attributes from polygons.....	220
Exercise 8d: Edit a model to select incidents by location	232
Exercise 8e: Create a model to create and calculate attribute fields.....	239
Summary	248
Chapter 9: Sharing your work	249
Overview	249
Exercise 9a: Create layer packages.....	250
Exercise 9b: Create and export charts.....	255
Exercise 9c: Use the layout view to create and export maps.....	260
Exercise 9d: Export a web map	268
Summary	273
References	275