

Contents

Preface **vii**

Acknowledgments **ix**

Part 1: Using, making, and sharing maps 1

Chapter 1: The ArcGIS platform **3**

Chapter 2: Map design **43**

Chapter 3: Map outputs for GIS projects **75**

Part 2: Working with spatial data 111

Chapter 4: File geodatabases **113**

Chapter 5: Spatial data **147**

Chapter 6: Geoprocessing **177**

Chapter 7: Digitizing **209**

Chapter 8: Geocoding **239**

Part 3: Applying advanced GIS technologies 257

Chapter 9: Spatial analysis **259**

Chapter 10: Raster GIS **293**

Chapter 11: 3D GIS **325**

Part 4: Managing operational systems with GIS 369

Chapter 12: Operations management with GIS: Graffiti Mapping System **371**

Chapter 13: Operations management with GIS: Graffiti Removal System **401**

Data source credits **431**