# Contents

## Part I  Fundamentals: Definitions, Concepts, Theories, and Principles

1. **Concepts, Principles, and Definitions**
   Gregory A. Elmes, George Roedl, and Jamison Conley
   
2. **Geospatial Technologies in the Courtroom**
   George Roedl, Gregory A. Elmes, and Jamison Conley

## Part II  Case Studies

3. **Spatial Tracking Applications**
   George Roedl, Gregory A. Elmes, and Jamison Conley

4. **Spatial Technology Applications**
   George Roedl, Gregory A. Elmes, and Jamison Conley

5. **Using Near Repeat Analysis for Investigating Mortgage Fraud and Predatory Lending**
   Ronald E. Wilson and Ann D. Fulmer

6. **State Registration of Sex Offenders: Public Notification, Web Mapping, and Spatial Issues**
   Mark R. Leipnik and Xinyue Ye

7. **The SDIK Police Model: How to Make the Invisible Visible**
   Manuel Rodríguez Herrera and Daniel Salafranca Barreda

8. **Spatial Analysis of Fear of Crime and Police Calls for Service: An Example and Implications for Community Policing**
   Jamison Conley and Rachel Stein
9 Using GIS to Monitor and Investigate Police Use of Force: The Spatial Distribution of Force Factors ............................................ 173
Matthew J. Hickman, Loren T. Atherley, and Geoffrey P. Alpert

10 Mapping Spatiotemporal Patterns of Liquor Law Violation Citations During Oktoberfest in College Town of La Crosse, Wisconsin................................................................. 201
Gargi Chaudhuri, Steven Oxley, and Scott Wenzlaff

11 A Web-Based GIS for Crime Mapping and Decision Support .......... 221
Guiyun Zhou, Jiayuan Lin, and Xiujun Ma

12 Use of Geographically Weighted Regression on Ecology of Crime, Response to Hurricane in Miami, Florida....................... 245
William C. Walker, Sunhui Sim, and Lisa Keys-Mathews

13 Delineating Legal Forest Boundaries to Combat Illegal Forest Encroachments: A Case Study in Murree Forest Division, Pakistan ........................................................................ 263
Irfan Ashraf, Urooj Saeed, Naeem Shahzad, Javed Gill, Shahid Parvez, and Akram Raja

Annotated Bibliography of Selected Court Cases Involving Geospatial Technologies............................................................ 287

Index................................................................................................................. 303
Forensic GIS
The Role of Geospatial Technologies for Investigating Crime and Providing Evidence
Elmes, G.A.; Roedl, G.; Conley, J. (Eds.)
2014, X, 310 p. 91 illus., 67 illus. in color., Hardcover
ISBN: 978-94-017-8756-7