1. Spatial point patterns of crime events
   1. Mapping crime intensity with isarithmic maps
   2. Burglaries in NYC: introducing `crimedata`
   3. Getting the data into `spatstat`: creating `ppp` objects
   4. Homogeneous or spatially varying intensity?
   5. Mapping intensity estimates with `spatstat`
      1. Basics of kernel density estimation (KDE)
      2. Selecting the appropriate bandwith for KDE
      3. Selecting the smoothing kernel
      4. Weighted kernel density estimates
      5. Better KDE maps using `leaflet`
      6. Problems with KDE
      7. Other packages for KDE
   6. Summary and further reading
2. Crime along spatial networks
   1. Introduction
   2. Spatial point patterns along networks
      1. Selecting relevant crimes for micro-places
      2. Assigning (joining) crimes to micro-places
      3. Calculating a crime rate
   3. Hot Routes
   4. Quantifying crime concentration at micro-places
      1. Concentration of crime at micro places
      2. Lorenz Curve
      3. Gini Index
   5. Street Profile Analysis
      1. Linking data to nodes
      2. Calculating a rate for nodes
      3. Visualising crime with Street Profile Analysis
   6. Summary and further reading
3. Spatial dependence and autocorrelation
   1. Introduction
   2. Exploring spatial dependence in point pattern data
      1. The empirical K function
      2. Homicide in Buenos Aires
      3. Estimating and plotting the K-function
   3. Exploring spatial autocorrelation in lattice data
      1. Burglary in Manchester
      2. What is a neighbour?
      3. Creating a list of neighbours based on contiguity
      4. Generating the weight matrix
      5. Spatial weight matrix based on distance
         1. Defining neighbours based on a critical threshold of distance
         2. Using the inverse distance weights
         3. Spatial weight matrix based on k-neighbors
      6. Choosing the correct matrix
      7. Measuring global autocorrelation
         1. Moran's I
         2. Geary´s C
      8. The `rgeoda` package
   4. Further Reading
4. Detecting hot spots and repeats
   1. Introduction
      1. Clusters, hot spots of crime, and repeat victimisation
      2. Burglaries in Manchester
   2. Using `raster` micro grid cells to spot hot spots
   3. Local Getis-Ord
   4. Local Moran´s I and Moran scatterplot
      1. Computing the local Moran´s I
      2. Creating a LISA map
   5. Local spatial heterokedasticity
   6. Oppenshaw´s GAM and Kulldorf´s Scan Statistic
   7. Assessing clusters with point pattern data
   8. Exploring repeat victimisation
   9. Further reading
5. Spatial regression models
   1. Introduction
   2. Challenges for regression with spatial data
   3. Fitting a standard regression model with R
   4. Looking at the residuals and testing for spatial autocorrelation in regression
   5. Lagrange multipliers
   6. Fitting and interpreting a spatially lagged model
   7. Fitting an interpreting a spatial error model
   8. The Bayesian alternative
   9. Further reading
6. Modelling spatial heterogeneity
   1. Introduction: think of it as interactions
   2. Spatial regimes and data partition
   3. Geographically weighted regression