

# Index

- Address cleaning 55, 56, 59, 64
- ADDRESS-POINT 46, 47, 49
- Aggregate criminal spatial behaviour 86
- Alley-gating 28
- Analysis, *see* Geographic profiling
  - aoristic analysis 251
  - case study, Glendale, Arizona 406
  - cost benefit 30
  - of crime, *see* Crime analyst
  - criticisms 401
  - definition 399
  - Hierarchical Linear Modelling 344–5
  - management of 405, 411
  - operational, *see* Operational analysis
  - problem-solving 27
  - SARA 71, 291, 331
  - spatial, *see* Spatial analysis
  - see also* Crime analyst; Spatial analysis; Time
- Anchor points 301
- Anti-Social Behaviour Act 50
- Areal interpolation 216
  - areal units 340, 343
  - see also* Modifiable Areal Unit Problem (MAUP)
- Australia, coordinate system 46
- Boundaries
  - cartography 360
  - Great Britain 22
- British Crime Survey 28, 65
- British National Grid 45
- British Youth Lifestyles Survey 295
- Burglary
  - distraction 27
  - prevention 28
  - residential 291
  - spatial patterns 122, 335
  - temporal patterns 87, 293
- Cartographic school, *see* Criminology
- Cartography
  - and aims of crime mapping 354
  - choropleth mapping 233, 244, 373
  - font styles 362
  - human perception of 354, 369, 371
  - internet 355, 361, 382
  - legends 364, 376–8
  - map layout 356
  - map scales 359
  - north arrows 358
  - patterns 367
  - point maps 380
  - for PowerPoint 355, 359–60, 383–5
  - selecting features 354
  - shading 368
  - symbol options 363
  - text options 361
  - visual hierarchy 357
  - see also* Colour
- Census
  - UK geography 341
  - US geography 342

## Index

- CHEERS 73
- Chicago School, *see* Criminology
- Choropleth maps 233, 244, 373
- Closed Circuit Television 68, 88
- Colour
- associations 371
  - hue 367
  - human perception of 371
  - rods and cones 369
  - rule of thumb 370
  - schemes 371–2
  - simultaneous contrast 366
  - wavelengths 370
- Community safety, definition of 17
- CompStat 26, 259–71, 407
- Coordinate systems 45–6
- CRAVED 73, 90, 295
- Crime
- attractors 106
  - audits 26
  - crime reduction 19
  - diffusion of benefits 19, 28
  - displacement 19, 28, 130, 224
  - environmental 50
  - fear of 19
  - four dimensions of 79
  - generators 106
  - graffiti 50
  - hotspots 146, 147–8, 263, 278
  - journey to 100, 103, 296–7, 301
  - juvenile delinquency 83
  - offender behaviour 102
  - perception of 187
  - rate 173–6, 190, 213, 364, 374–5, 378
  - reasons for not reporting 66
  - reporting rate 66
  - robbery 27, 122
  - street crime risk, *see* Crime, rate
  - triangle 89
  - unreported 65
  - vehicle crime 122, 266
  - see also* Burglary
- Crime analyst
- forum 417
  - and policing 403
  - role of 400, 402
- Crime and Disorder Act 17, 185
- Crime and Disorder Reduction Partnerships (CDRP)
- benefits of mapping 186–7
  - data 189–95
  - data sharing 200–3, 332
  - data sharing guidelines 203
  - management 415–18
  - organisational culture 390
  - purpose 185, 330
  - web solution 211
- Crime awareness newsletters 31
- Crime mapping
- administrative 25
  - as evidence 309
  - as image files 242
  - definition 2–4
  - forecasting, *see* Predictive
  - in Glendale, Arizona 406
  - graduated symbol maps 149
  - history of 2–3
  - implementation evaluation 397–9
  - implementation issues 390, 413
  - implementation process 393–7
  - integration with analysis 409
  - in Lincoln, Nebraska 7, 125, 268
  - point maps 146, 380
  - predictive 177, 408
  - Research Centre, Crime Mapping, *see* MAPS (Mapping and Analysis for Public Safety) program
  - tactical applications 288–9, 407
  - thematic mapping 150, 153, 233, 367, 371, 378–80
  - see also* CompStat; CrimeStat; Kernel density
- Crime Mapping Research Centre, *see* MAPS (Mapping and Analysis for Public Safety) program
- Crime Pattern Theory 116
- awareness spaces 97
  - cognitive maps 97
  - crime attractors 106
  - crime generators 106
  - definition 96
  - nodes, pathways and edges 105, 117
  - templates 99, 101
  - see also* Distance decay effect

- Crime prevention
  - and crime reduction 19
  - definition 15
  - primary prevention 16
  - secondary prevention 16
  - tertiary prevention 17
  - see also* Crime Prevention Through Environmental Design
- Crime Prevention Through Environmental Design 85, 96
- Crime reduction
  - alley-gating 28
  - crime prevention and 19
  - policing for 325
  - see also* Crime and Disorder Reduction Partnerships (CDRP)
- CrimeStat 124, 128–9, 131–2, 157, 175
- Criminology
  - cartographic school 81
  - and cartography 354
  - Chicago School 1, 82, 101, 107, 335, 344
  - circle theory 102, 308
  - collective efficacy 336
  - commuter hypothesis 102, 308
  - crime chemistry 88
  - environmental 80–1
  - GIS School 85
  - Guerry, Andre-Michel 81
  - marauder hypothesis 102, 308
  - Quetelet, Adolphe 81
  - rational choice 91–2, 304
  - routine activity theory 87, 304, 334
  - social capital 337
  - social disorganisation 335
  - strain theory 80
  - zonal (concentric) model 82
  - zone in transition 83
  - see also* Crime pattern theory
- Data
  - combining 213
  - privacy 206, 209
  - quality 404
  - requirements, *see* Geographical Information System(s) (GIS)
  - sharing 403–4
  - structures, *see* Geographical Information System(s) (GIS)
- Defensible Space 85, 94
- Department of Homeland Security 363
- Distance
  - as time 298
  - decay effect 104, 296, 305
  - Euclidean 298
  - Manhattan 298
  - street route 298
  - see also* Crime, journey to
- Distance decay effect 104, 296, 305
- Downgrading 84
- Dragnet 308
- Drug Abuse Resistance Education (DARE) 326
- Ecological correlation 153, 218
- Ecological fallacy 101, 152
- Environmental backcloth 105
- Environmental criminology 80–1
- Epidemiology 3
- Federal Emergency Management Agency 363
- First Law of Geography, Tobler's 117
- Gang members 8
- Gentrification 84
- Geocoding
  - accuracy 60–3, 395
  - address cleaning 56, 64
  - ADDRESS-POINT 46
  - address reference files 56–7
  - completeness 61
  - consistency 61
  - gazetteer 47, 58, 173
  - precision 60–1
  - problems 52–5, 64
  - reliability 60
  - scrubbing, *see* Address cleaning
  - TIGER 48, 63
- Geographic profiling
  - buffered distance decay 306
  - criminal geographic targeting 306
  - Dragnet software 308
  - jeopardy surface 307
  - least effort principle 100
  - Operation Lynx 305
  - origins 27, 103, 303

## Index

- Geographic profiling (*Continued*)
  - quantitative and qualitative components 303
  - Rigel software 306–9
- Geographical information science (GISc), origins of 2
- Geographical Information System(s) (GIS) 3
  - base maps 38
  - coordinate systems 44
  - data requirements 395
  - data structures 41–3
  - definition 38
  - hardware 40
  - implementation 392
  - layers 38–9
  - projections 44
  - in public housing 93
  - querying 69
  - raster 43
  - school, *see* Criminology
  - software 40, 392
  - training 41, 392
- Global Positioning System (GPS) 2, 25
  - handheld 50–1
- Heterogeneity 338–9
- Hierarchical Linear Modelling 344–5
- Home Office Research, Development and Statistics Directorate 20
- Hotspot matrix 277, 281
- Hue, *see* Colour
- Hypothesis setting 72
- In-filling 84
- Intelligence
  - cycle 391, 405
  - intelligence-led policing 271, 327
  - and the 3i model 267, 410
  - see also* National Criminal Intelligence Service; National Intelligence Model
- Internet mapping 9–10, 31, 195, 211, 382–3
  - case study, Cornwall, England 211
  - case study, Sussex, England 195
  - ethical issues 326
  - Scaleable Vector Graphics 383
- Intranet mapping
  - case study, Cornwall, England 211
  - case study, Incident Management And General Enquiry system (IMAGE) 58
  - case study, Lincoln, Nebraska 7–10
  - case study, Sussex, England 195
- Jenks Optimisation 376
- Kernel density
  - bandwidths 157
  - case study, Camden, London 162–3
  - cell size 159
  - dual 176
  - methods 155–6, 229
  - problems 161
  - statistical significance 169
  - underlying population 172, 175
- Lateral inhibition 366
- Latitude 44
- Law enforcement
  - definition of 18
  - see also* Police; Policing
- Least effort principle 100
- Local Indicators of Spatial Association (LISA)
  - Bonferonni test 168
  - Getis and Ord  $G_i^*$  164
  - $G_i^*$  example 168
  - overview 164
  - Rook's Case 166
- Longitude 44
- MAPS (Mapping and Analysis for Public Safety) program 3, 121, 383
- Mental Map 305
- Merseyside 29
- Modifiable Areal Unit Problem (MAUP) 146, 151, 154, 173, 340
- Modus operandi 9
- National Criminal Intelligence Service 22
  - National Threat Assessment 22
- National Institute of Justice 20

- National Intelligence Model  
 and hotspot matrix 283  
 levels 21  
 National Threat Assessment 22  
 products 271  
*see also* Policing
- Nearest Neighbour Index 126
- Neighbourhood change 84
- Neighbourhood studies 342
- Neighbourhood Watch 326
- Neural networks 179
- North London Strategic Alliance 50
- Offender  
 aggregate criminal spatial behaviour 86  
 anchor points 301  
 behaviour 102  
 profiling 26, 273, 290  
 risks 295  
 self-selection 312  
 sex offenders 8, 102  
 typology 305
- Operation Lynx 305
- Operation Safe Streets 345
- Operational analysis 25, 26
- Ordnance Survey 46  
*see also* ADDRESS-POINT
- Parolees 8
- Pedestrian counts 174
- Philadelphia 24, 137, 139, 231,  
 259–60, 264, 345
- Pin maps 8, 148
- Police  
 American 18  
 basic command unit 21  
 British police services 18  
 City of London 22, 82  
 command and control unit 25  
 and community safety 19  
 crime control 18  
 definition of 18  
 Dumfries and Galloway 58  
 Greater Manchester 415  
 Metropolitan 22, 82, 174  
 Pennsylvania 24  
 Philadelphia 24, 137, 139, 231,  
 259–60, 264, 345  
 Police Foundation 390  
 private 18  
 West Midlands 412  
*see also* Law enforcement; Policing
- Policing 20  
 community policing 325, 328  
 federal 20, 373  
 intelligence-led 271, 327  
 municipal 20  
 partnerships 184  
 problem oriented 27, 328  
 problem-solving 27  
 Project Spectrom 412–14  
 SARA process 71, 291, 331  
 state 20  
 3i model 267, 410  
*see also* Law enforcement; Police
- PowerPoint 355, 359–60, 383–5
- Predictive 177–9
- Privacy, data 206, 209
- Problem-oriented policing, *see* Policing,  
 problem-oriented
- Profiling  
 offender 291  
 offending 291–2  
*see also* Geographic profiling
- Redistricting 9
- Rehabilitation 84
- Repeat victimisation 273, 313
- Rigel 306, 308
- Rookeries 81, 82, 106
- Routine activity  
 handlers 88  
 place manager 89  
 theory 87, 116, 304, 334
- SARA, *see* Analysis
- Scalable Vector Graphics 383
- Self-containment index 302
- Sex offenders 8, 102
- Simultaneous contrast 366
- Situational crime prevention 15, 92
- SMART 394
- Spatial analysis  
 buffers 29–30  
 centrography 101, 119, 245  
 coefficient of Areal correspondence 247

## Index

- Spatial analysis (*Continued*)  
distance measurement 298  
edge effects 129  
Geographical Analysis Machine  
175, 177  
K-order distances 159  
mean centre 120  
Moran's *I* 130, 132, 157  
nearest neighbour analysis 126–30, 157  
regression, geographically  
weighted 138  
regression, ordinary least squares 134  
spatial error models 136  
spatial joins 70  
spatial lag models 135  
spatial scan statistic 175  
STAC 161  
standard deviational ellipse 102,  
123–6, 247  
standard distance 102, 122, 246  
weighted displacement quotients 247–50  
*see also* Ecological fallacy; Kernel  
density; Local Indicators of  
Spatial Association (LISA);  
Modifiable Areal Unit  
Problem (MAUP)  
Spatial distributions 126  
Spatial hierarchy 19–21  
Spatial patterns, types of 126  
Spatial processes  
autocorrelation 118, 165  
dependency 117, 126  
heterogeneity 117  
*see also* Modifiable Areal Unit Problem  
(MAUP); Spatial analysis  
STAC 161  
Strategic crime control 324, 332  
Temporal analysis, *see* Time  
Territoriality 94–5  
Theory, *see* Crime pattern theory;  
Criminology  
Thiessen polygons 346  
Thinning out 84  
3i model 267, 410  
TIGER, *see* Geocoding  
Time  
animation 240  
aoristic analysis 251  
aoristic example 253  
burglary patterns 87  
distance as 298  
formats 68  
histograms 235–40  
hotspot matrix categories 279  
mapping change 231–49  
notation 224–7  
querying 229, 231  
rape patterns 102  
temporal relationships 230  
temporal resolution 224, 228  
time line 225  
time span 227, 251  
vehicle crime patterns 91  
Tobler's First Law of Geography 117  
Urbanisation 84  
Visual hierarchy 357  
Weighted displacement quotients 247–50  
Yorkshire Ripper 302  
Zodiac Killer 303











