Index

Symbols

1:100,000 and 1:250,000 Scanned Topographic Maps 33 1:24,000 Scanned Topographic Maps (DRGs) 33 4 P's Plus 147

A

A Civil Action 17, 103
absolute clusters 180
absolute hot spot 180
abuse 9, 273
access to medical care 275
accessibility 289
activity space 271
adaptive bandwidth 187
adaptive kernel estimation 186
address matching 24
aerial photo 33
African Americans 5, 40, 85, 245, 273
age-appropriate immunizations 253

aggregating into spatial units 37 aggregation effects 153 agricultural structure 288 agristructure 288, 294 air photos 54 air pollution 82 Air Quality Index in 2003 107 airborne exposures 104 alcohol 82 alcohol use 276 alcohol-related birth defects (ARBD) 86 alcohol-related neurodevelopmental disorders (ARND) 86 all-hazards preparedness 269 American College of Obstetricians and Gynecologists 44 American Heart Association 104 American Hollow 96 analysis of variance (ANOVA) 64, 193 analyze 21, 52 anencephaly 294 anthrax 269

Copyright © 2006, Idea Group Inc. Copying or distributing in print or electronic forms without written permission of Idea Group Inc. is prohibited.

anxiety 86, 274 boll weevil 273 Boolean expression 41 APB Neighborhood Crime Check ratings 252 Breadline Britain poverty index 43 applied geography 246 break point 67 area analysis 38 breaks chosen 53 area association techniques 225 Broad Street Pump 55 area samples 150 buffers 37 areal symbolization scheme 57 busy road 11 areas 21 \mathbf{C} aspatial queries 42, 248 Assessment System for Population CADGIS lab 35, 262 Exposure Nationwide (ASPEN) 105 cadmium 106 asthma 9, 69, 80, 104 **CAL 68** asthma levels 97 Calculating Deprivation Indexes 42 at-risk population 180, 187 cancer alley 17 atherosclerosis 80 cancer morbidity rate 110 attribute confidentiality 226 cancer mortality 107 attribute data 238 CAP Index 252 audience 54 carbon monoxide (CO) 106 Carcinogenic Potency Database (CPDB) B bacterial vaginosis (BV) 85 Carstairs Deprivation Index 43 bandwidth 184 Cartesian coordinate 151 basic summary statistics 63 cartography 52 Baton Rouge 272 caseworker 54, 83, 216, 279 Baton Rouge Healthy Start CDC 45 83, 149, 182, 203, 209, 245, 278 census block 25, 182 Baton Rouge Healthy Start GIS 28, 117 census block group 182 Census Bureau 229 Baton Rouge Healthy Start Region 53 behavioral characteristics 69 census tract 25, 182, 225 behavioral risks 9, 80, 82 census tract boundaries 258 behavioral traits 5 census tracts 57, 153, 179, 296 bias 149, 277 centroid (center of gravity) 30, 240 binary contiguity 175 centroid method 183 binary contiguity matrix 175 Chechnya 152 chemical applications 294 binary logit regression 194 biological pathway 80 chemicals 288, 294 biological risks 9 Chernobyl 103 biophysical risk 271 child care 257 bioterrorism 224 child development problems 102 bioterrorist (BT) 268 childhood leukemia 108 birth certificate 25, 53 children hit by automobiles 102 birth certificate data 203, 248 cholera 15, 154 birth residence 25 choropleth 182 births to teenagers 56 choropleth map 37, 52, 57, 225 black lung 103 chronic pollution exposure 104

chronic stresses 97 crime hot spots 80 city infrastructure 104 crime rates 66 CityMatCH 45, 246 CrimeStat® 64 classification 39 cross-tabs 64 classification scheme 182 crowded central city areas 272 "click" boxes 263 crowding 98 client 263 cultural risks 9 clumping techniques 181 culturally sensitive delivery 274 cluster 26, 153, 179, 226, 231, 260 Cumulative Exposure Project 105 cluster analysis methods 180 cluster techniques 184 clustered pattern 226 dasymetric map 58 clustering 174 data 21 Coastwide 2001 Scanned Images 33 data analysis 153 cockroach allergens 115 data classification 53 cockroach excretia 102 data forms 263 cohort or social risks 82 data reduction 41 cold spots 174, 178 data suppression 239 colloquial names 55 database 256 colors 53 date stamps 263 Committee to Study the Prevention of Low death certificate 25, 53 Birth 84 death certificate data 203, 248 common dot map 60 degree of poverty 42 community advisory boards (CAB) 95 demographic information 248 community alert system 68 demographic vulnerability data 278 community facilities 103 denominator 7, 153 community health 21 density 154 community voices 281 density analysis 67, 157 complete spatial random distribution 183 density techniques 181 complete spatial randomness (CSR) 175 Department of Geography and Anthropolcomplex physical processes 210 ogy at LSU 110, 248 complex social processes 210 departments of geography 281 confidentiality 27 depression 273 confirmatory analyses 66 descriptive statistics 63 confounders 71 diet 82 confounding by indication 86 difference of proportions t-test 211 congenital malformations 2, 103 difference of proportions test 107, 154, contaminated groundwater 103 contextual modeling 38 different patterns 153 contextual or multilevel models 71 Digital Orthophoto Quarter Quadrangles contiguity 175 (DOQQs) 33, 151, 299 contiguity-based matrices 175 diphenyl-trichloroethane (DDT) 106 contours 38 disaster 268 coordinates 154 disclosure limitation 229 coping mechanism 9, 80 disease ecology 9 crime 10, 105, 252 disease ecology approach 81

disparity 5	environmental risks 9, 80, 82
dispersion models 112	environmental tobacco smoke 80
disproportional stratified sample 152	environmental toxins 275
distance decay 159	environmental traits 5
distance-based matrices 175	EOC Enterprise GIS 280
distance-based spatial weights matrices	EPA's toxic release inventory 105
175	equal steps 59
DMAP 183, 257	Erin Brockovich 17, 103
DMAP program 111	ethics 282
domestic risks 83	European Commission (EC) 33
domestic violence 89, 251	evacuation planning 271
dot map 15, 38	evaluation 41, 255
"dread risk" 270	evaluation meetings 245
drug offences 80	exploratory analyses 66, 146
dual kernel density estimates 185	exploratory spatial analysis 55
dual kernel density method 181	exploratory spatial analysis maps 14
	exploratory spatial data analysis 194
E	exposure to toxins 103
Early Head Start Centers 216, 266	extreme outlier 191
East Baton Rouge Parish	
58, 206, 241, 248	F
East Baton Rouge Parish Office of Home-	facial anomalies 86
land Security 68	Family Planning, Access, Care, Treatment
ecological fallacy 39, 58	(Family PACT) 93
ecological studies 38, 71, 82, 99	Family Readiness Guide for Bioterrorism
economic conditions 271	Preparedness and Emergency
	Response 275
economic disparity 97 Economic Research Service (ERS) 296	<u> </u>
economic risks 9	Family Road 33, 247 Family Road of Greater Roton Rouge 253
economic traits 5	Family Road of Greater Baton Rouge 253 farm structure 294
	farm workers 294
Edinburgh Depression 117 education 66	Farrell Jones 262
eliminating disparities in perinatal health 56	farthest neighbor 183
Eliminating Disparities in Perinatal Health	fatherhood program 41 federal intervention 269
program 247	
eliminating racial disparities 96	Federal Poverty Level 251
Emergency Operation Center (EOC) 269 Emergency Planning and Community Right	feeling abandoned 276
Emergency Planning and Community Right- to-Know Act 107	feeling overwhelmed 276 FEMA 272
	female as head of household 44
enterprise GIS 68	
enumeration units 32 environmental factors 294	fertilizer 290 Fetal Algebal Syndrome (FAS) 86
	Fetal Alcohol Syndrome (FAS) 86
environmental hazards 85	fetal and infant mortality review (FIMR) 27,
environmental injustice 85	113, 245
environmental justice 106	fetal and infant mortality review board
environmental pollution 103	meetings 210

fetal-infant mortality 45	GWR model 194
fewer retail choices 101	GWR software 197
first-order clusters 181, 183	
fixed bandwidth 187	Н
flagging datasheets 263	hazardaya wasta sita 104
Four and 4P's Plus 92	hazardous waste site 104 hazards 268
fragmented city of social classes 279	
Freedom of Information Act 229	heads-up digitizing 23, 154
G	Health Insurance Portability and Accountability Act of 1996 (HIPAA) 55, 227
	Health Resources and Services Administra
Geary's C 175	tion (HRSA) 247
generational "stress" cycles 95	Healthy People 2010 18, 28, 278
geocode 53	Healthy Start 7, 189, 289
geocoding 18, 24, 258	Healthy Start GIS 277
GeoDa [™] 65	herbicide 290
geographic aggregation 53	hereditary 96
Geographic Analysis Machine (GAM) 66,	HHS Privacy Rule 238
109	hierarchical techniques 181
geographic inequality 292	high-resolution air photography 58
geographic information science (GISc) 17	"hillbilly" communities in Appalachian
geographic information systems (GIS) 18	Eastern Kentucky 95
geographic masking strategies 230	HIPPA requirements 281
geographic scales 2	HIV/AIDS 17, 252
geographic techniques 1	HIV/AIDS screening/counseling 257
geographically masking 230	hoaxes 270
geographically weighted regression (GWR)	holistic neighborhood investigations 72
65, 148, 193	home 273
geography 1	Homeland Security 28, 268
georegistered 154	homelessness 251
Germ Theory 14	hot spots 9, 23, 53, 103, 148,
GIS 248	174, 178, 231, 257
GIS analysis 203, 246	Hugh-Jones, Martin 247
GIS environment 287	hurricane 272
GIS/spatial analysis interface 63	hypothesis 41
global geographic masking 230	hypothesis testing 146
global masking methods 232	T
global Moran's I 178	I
global OLS regression 195	ICD 250
global positioning system (GPS) 18, 24	inadequate intrauterine growth 84
global spatial autocorrelation 175	inadequate prenatal care 147, 250
global spatial regression model 194	index of local deprivation 43
globally masked point patterns 232	index of social deprivation 33
Goldschmidt 294	indigent and/or minority populations 68,
graduated colors 52	98
ground truth 299	indigent pregnant women 271
group averages 183	- 6 r6 3 2.1

Copyright © 2006, Idea Group Inc. Copying or distributing in print or electronic forms without written permission of Idea Group Inc. is prohibited.

individual confidentiality 224	L
individual privacy 225	LACHIP 253
individual risk 271	lack of community spaces 102
individual's "place" 69	lack of transport 272
industrial emissions 104	Lalee's Kin: The Legacy of Cotton 96
industrial plant 11	land fills 82, 103
industrial polluters 12 infant death 82	laptop 264
infant death 82	latitude 25, 29
infant mortality 23, 52, 147, 205, 257, 276	law of small numbers 6, 204
infant mortality clusters 66	lead exposure 11, 69, 97, 104
infant mortality rate 1, 249	legend 55
infant mortality surfaces 258	life stress hypothesis 114
infantile colic 88	limited access 290
influenza 278	limited distance functions 187
information system 54, 260	line samples 150
infrastructure deficiencies 100	linear buffer 107
inner city 5	linear regression analysis 193
inner-city neighborhoods 101	lines 21
"insults" 2	"linked" 26
International Cartographic Association	liquor availability 66
(ICA) 57	LISA map 178
Internet mapping engine 30	little family support 272 lives with a smoker 118
interpolation 174, 182	
interpolation technique 184	local geographic masking 230 local geographic masking methods 232
inverse distance weights 175	local geographic masking methods 232 local indicators of spatial association
isarithmic (isoline) Map 60 ISCST3 (Industrial Source Complex Model)	(LISA) 178
113	local measures of spatial autocorrelation
isolines 206	181
Isolines 200	local Moran's statistic 178
J	local regression coefficients 194
Jamia Paguas 247	local regression model 193
Jamie Roques 247 John Snow 15, 54, 147, 154	local SA 175
John Show 13, 34, 147, 134	local spatial autocorrelation 178
K	local spatial regression model 194
77	locally masked maps 234
K-means partitioning technique 181	location allocation routines 67
kernel dansity 66	locational confidentiality 238
kernel density 66 kernel density analysis 103, 149	logistic regression 194 longitude 25, 29
kernel density estimates 185	longitudinal analysis 73
kernel density interpolation 174	longitudinal birth data 109
kernel function 184	Louisiana State University 245
Kessner Index 44	Love Canal 103
Kotelchuck Index 44	low birth weight 2, 39, 56, 66,
	147, 155, 250

low maternal weight gain 84 Monte Carlo approach 66 low prepregnancy weight 84 Monte Carlo simulation 111, 182 low-birth-weight babies 82 month prenatal care began 214 low-birth-weight deliveries 176, 276 Moran's I 175 lower educational attainment 272 Moran's I statistic 176 lymphoid leukemia 108 Morrison, Dena 247 mortality rate 110 M mother medical risk factors 257 mother mobility 205 macro (city) 271 Mr. Willis of Ohio 149 management information system 68 multilevel modeling 38, 91 map classification 2 multiple linear regression model 192 Mapping and Analysis for Public Safety multiple regression 66 (MAPS) 229 multiple regression analysis 192 mapping of vulnerable populations 268 multivariate logistic GWR model 194 masked point pattern 232 Maternal and Child Health Bureau Division N maternal care 45 National Ambient Air Quality Standards Maternal Health and Prematurity Group 45 (NAAQS) 107 maternal nutrition 88 national conferences 54 maximum 63 National Healthy Start Association 247 mean 63 National Institutes of Health (NIH) 294 mechanization 294 National Priorities List (NPL) site 104 median clusters 183 natural breaks 59 mediators 71 nearest neighbor hierarchical clustering Medicaid 8, 99, 245 174, 183 Medicaid eligibility 253 nearest neighbor method 183 medical geography 147 near real time GIS 28 medical risks 82 negative birth outcomes 271 meningitis 272 negative exponential 185 mental health 252 negative global SA 178 negative SA 175 mental retardation 86 Methyl Parathion (MP) 109, 273 neighborhood 52, 268, 271 Metropolitan Area (MA) 296 neighborhood categorization 209 metropolitan areas 32 neighborhood comparisons 71 micro (neighborhood and individual) 271 neighborhood effects 69 microcephaly 86 neighborhood profiling 71, 260 midpoint (center of gravity/center of largest neighborhood risks 2, 79, 80, 82, 99 city) 61 neighborhood stressors 262 mild outliers 191 neighborhood support structure 273 minimum 63 neurotoxicity hypothesis 105 minimum error 183 New Orleans 272 missing address range fields 299 newborn care 45 mitigation 269 NGO 152 mobile population 205 **NHSA 247** Modifiable Area Unit Problem (MAUP) 39, nitrogen dioxide (NO2) 106

Copyright © 2006, Idea Group Inc. Copying or distributing in print or electronic forms without written permission of Idea Group Inc. is prohibited.

67, 153, 297

NNHC method 184	point pattern map 55
no prenatal care (NPC) 208	point pattern techniques 66, 225
"no prenatal" information system 254	point samples 150
no prenatal visit 92	point source of pollution 205
nonrandom spatial distributions 107	point-in-polygon 58
nonspatial outliers 192	points 21
normal kernel function 185	police discrimination 101
normality 193	political conditions 271
north arrow 55	political economy approach 79
nuclear facilities 108	political fabric 271
numerators 153	political neighborhood 9
nutrition 10	political voice 103, 106
	•
nutrition counseling 257	polluted water 104
nutritious food 84	pollution emitters 97
0	poor 245
	population density 297
obesity 10, 69	positive global SA 178
Office of Public Health (OPH) 224, 248	positive global SA 178 positive SA 175
office-based intervention 88	1
Oklahoma City 269	poverty 7, 70, 245, 251, 290 poverty trap 106, 273
one-sample Kolmogorov-Smirnov test 193	PRAMS 22
Openshaw 108	pre- and post-growth retardation 86
ordinary least squares (OLS) regression	pregnancy histories 203
194	pregnancy-related risks 79
outbreak 270	prenatal care 8
outliers 66, 191	prenatal risk hot spots 80
outreach teams 254	prenatal visits 69
overcrowding 98	Presidential directive #8 269
overhead power lines 104	preterm delivery 82, 155
overlays 14, 154	Privacy Rule 227
P	profile 256
1	profiling 208
P.O. boxes 300	program participant 263, 278
particulate pollution 108	program participant mobility 73
partitioning techniques 181	programming 95
paternal influence 97	project area 248
patient confidentiality 224, 281	project area committee meetings 245
PDAs 28, 264	proportional (graduated) point symbol map
pediatric accident rates 103	61
percentages 58	proportionally stratified samples 151
perinatal health care delivery system 253	proximity analysis 68
perinatal mortality 2	proximity to toxic locations 271
perinatal periods of risk (PPOR) 45	psychological distresses 97
pesticide 290	psychological impact 270
pin map 55	psychosocial services 257
point locations 180	

Q	rook contiguity 175
	rural 287
qualitative approaches 80	rural Delta 95
qualitative data 55	rural ghettoes 288, 292
quantiles 59	rural health 289
quantitative approaches 80	rural infant mortality 292
quantitative data 55	rural routes 29
quarantine 270	rural-based clinics 91
quartic 185	"rurality" 296
queen contiguity 175	S
query 41	3
R	Salmonellosis 269
02	sample 42
race 82	sample strategy 148
racial conditions 271	SARS 269
racial disparities 249	SaTScan [™] 65
racial problems 5	scale 22, 55, 153, 260, 294
racial residential segregation 98	scanned in 154
racial segregation 70	school districts 32
racism 97	screening 112
range 63, 67 Raster GIS 21	Seascale 108
	second trimester 8, 155
rate surface 153	second-order clusters 181, 183
rates 58	secondhand smoke 9, 275
recovery 269	secondhand smoking 80
redlining 11	secure Web site 256
reductionism 94	secure wireless uploads 264
regional patterns 2	Sellafield 108
regression model 192 relative clusters 180	separation 273
relocation 270	September 11th 268
	service areas 67
remotely sensed images 58	sexual predators 102
reports 262 residence 204	short gestation 250
residuals 66	short gestation births 2, 216
	short periods between pregnancy 88
resource deprivation index 43	significance map 178
respiratory problems 9 response 269	single kernel density estimation 187
1	single kernel density map 187
response and recovery strategies 273 risk 245	single kernel density method 181
risk factors 79	smallpox 270
	smoking 9, 42, 80
risk for future pregnancies 86	smoking cessation programs 80
risk-adjusted nearest neighbor hierarchical clustering 181	"smoothed" out 4
	smoothed surface 38
risk-based techniques 181	social conditions 271
risk-mapping 98	social deprivation 10, 84

social environment 79 spatially precise targeting 208 spatially specific credo 115 social fragmentation 205 social justice 85, 106 spatially systematic 151 social pathway 80 Special Supplemental Nutrition Program for social relevance of actions 79 Women, 90 social risk 9, 80, 271 spheres-of-influence 163 social variables 69 spina bifida 294 socially defined neighborhood 205 standard deviation 39, 63, 153 socially hereditary 96 standard deviational ellipses 184 socioeconomic status 82 standardized clusters 180 socioeconomic data 251 Standards for Privacy of Individually socioeconomic information 25 Identifiable Health Information socioeconomic status of women 88 (Privacy Rule) 228 statistical (attribute) confidentiality 226 South Carolina Community Assessment Network 22 statistical confidentiality 226 Southern Mississippi 109, 273 statistical data 238 Southern Regional Climate Center 113 STD 118 spatial (locational) confidentiality 227 stepwise multiple regression 192 spatial aggregations 57 stillbirths 88 spatial analysis 62, 146, 248, 256, 294 stress 11, 66, 80, 274 spatial analyst 64 strong family and religious influence 89 spatial association 174, 175, 188 structural functionalism 9, 79 spatial association techniques 180 substance abuse 82, 87, 252 spatial autocorrelation (SA) 174, 193 substance abuse treatment and counseling spatial cluster 279 spatial cohort 98 sudden infant death syndrome (SIDS) 2, spatial data 21 56, 210, 250 spatial decision support system 279 sum 63 spatial dependency 175 Summary Files (SF) numbers 1 and 2 31 spatial design 148 Summary Files 3 and 4 31 spatial filter 55, 66, 154, 174, 182, 225 Super Size Me 90 spatial filter analysis 206, 241, 248, 257 support network 98 spatial filtering (DMAP) 182 suppression 239 spatial fuzzy mode 180 surveillance data 25 spatial inequality 292 symbol form 61 spatial join 38 symmetrical kernel function 184 spatial mode 180 syndromic surveillance 268, 277 spatial or locational confidentiality 227, T 237 spatial outliers 178, 188 t-test 160 spatial pattern 82, 154, 257 teenage pregnancies 215 spatial queries 42, 248 temporal patterns 82 spatial regression analysis 174, 188, 193 temporal stability 73, 208 spatial regression model 193 thematic maps 57 spatial sampling 148 theoretical research 246 spatial science 70 Thiessen polygons 240 spatial stability 204

third-order clusters 183 validation 279 Three Mile Island 103 validation checks 263 variance 63, 204 threshold 67 TIGER 29, 296, 299 vector GIS 21 tobacco use 276 very low birth weight 45 Tobler's First Law of Geography 174 very low-birth-weight babies 191 Tobler's Laws of Geography 15, 67 very preterm delivery 155 traffic accidents 12 violent crime 80 traffic analysis zones 32 visualization 153 visualization of disease 14 transect 151 transport 10, 246 visualize 21, 52 vital statistics data 25, 53 transport-related emissions 104 vulnerability 101 transportation 257 transportation planning of hazardous vulnerability analysis 271 material 271 W traverse 151 triangular 185 walk-in pregnancy testing 253 typhoid epidemic 15 weaponized 270 weighted 159 West Wing 149 U.S. Census 57, 228, 229, 296 window 158 U.S. Census Bureau 31 Woburn, Massachusetts 108 U.S. Department of Agriculture 296 Women Infant and Children (WIC) 253 U.S. Department of Health and Human World Health Organization 110, 247 Services 227, 247, 276 World Trade Center 268 U.S. Department of Justice 228, 229 worry 276 U.S. Office of Management and Budget www.census.gov 248 (OMB) 295 www.geographynetwork.com 35, 248 UK Index of Multiple Deprivation 43 Y under-18 pregnancies 169 uniform 185 young maternal age 88 universal transverse mercator (UTM) **YWCA 265** 34, 151 unlimited distance function 185 Z unmasked point patterns 232 zip code 24, 53, 153, 182, 189, 203, 228, unmatched addresses 29 248, 258 unsafe neighborhoods 97 zip code area 149, 188 urban area (UA) 296 zone 39 urban cluster (UC) 296 "urbanness" 296 \mathbf{V}

Copyright © 2006, Idea Group Inc. Copying or distributing in print or electronic forms without written permission of Idea Group Inc. is prohibited.

vaccination 278 vaccines 276