

# Index

## Symbols

(EIA)

screening, 601

## A

Abel's inversion, 335

Absolute orientation, 175

Absolute point positioning, 83

Absorption, 119, 120

Acid Mine Drainage (AMD), 592

Adaptive management, 5

Additive weighting, 609

Aerial photographs, 219

Aerial triangulation, 175, 177

Aerosol, 10, 351, 386, 387

Afforestation, 395, 396

Agriculture, 396, 434, 473, 562, 611

Air pollution, 584

Alternatives, 604, 606, 607

Analysis cycle, 378

Animal behaviour, 511

Animal distribution, 511

Animal ecology, 509, 511

Animals, 372, 509

Antarctica, 393

Antenna, 83

Anthropogenic forcing, 386

Antispoofing, 60

Aquaculture, 397

Aquatic, 581, 591

Aquatic ecosystems, 592

Aquatic vegetation, 546

Aquifer-storage, 437

Archaeological sites, 612

Area-based matching, 183

Association, 151

Atmosphere, 324, 326, 334, 372

Atmospheric circulation, 376

Atmospheric errors, 67

hydrostatic part, 68

wet part, 68

Atoms, 67

Attenuation, 140

Automated feature extraction, 189

Automated terrain extraction, 188

Automatic scanning, 223

Autonomous positioning, 83

## B

BACI model, 5, 600

Baseline survey, 76

Beach erosion, 494

BeiDou, 51

Bending angles, 327

Best estimate, 378

Bilinear, 154

Biodiversity, 431, 435, 455, 473, 476, 513,  
524, 527

Biological variables, 75

Bird species, 611, 615

Blue Nile, 439

Broadcast ephemeris, 66, 108

Bundle adjustment, 176

Bushfire, 390

## C

C/A-code, 60, 334

Camera calibration, 172

Carbon dioxide, 372, 386, 395

Carrier-phase, 86, 90, 94, 109, 334

Catchment management, 469

- Central perspective projection, 163
  - CHAMP, 324, 339
  - Change and updating, 228
  - Change detection, 525, 600
  - Chemical variables, 75
  - Climate, 326, 371, 373, 383, 389, 394, 434, 548
  - Climate change, 5, 11, 324, 326, 352, 371, 372, 375, 377, 383–385, 387, 388, 390, 394, 397, 398, 435, 446, 458, 511, 527, 544, 549, 561, 611
  - Climate indicators, 375
  - Climate models, 351
  - Climate variability, 371, 377, 383, 412, 442, 536
  - Climatic changes, 7
  - Climatic conditions, 455
  - Climatic predictions, 8
  - Climatic zone, 68
  - Climatology, 378
  - Clock errors, 66
  - Cloud GIS, 209, 260
  - Clouds, 351, 376, 378
  - Coal, 372
  - Coastal terrestrial, 488
  - Code-pseudorange, 63, 68, 84, 88
  - Cold point, 387
  - Collinearity condition equations, 163
  - Compliance monitoring, 4, 395
  - Conceptual modeling, 233
  - Concordance analysis, 609
  - Conjugate point measurement, 186
  - Connectivity analysis, 241
  - Conservation, 13, 509, 511, 515, 520, 524–526, 602, 618
  - Conservation impacts, 512
  - Contrast enhancement, 155
  - Control segment, 57
  - Conventional Terrestrial Reference System (CTRS), 105
  - Coordinate, 105
  - Coordinate Reference System, 103
  - Coordinate system, 72, 103, 105
  - Coordination, 224
  - Coral reef, 490
  - CORS, 96, 554
    - GEONET, 341
    - NSRS, 98
    - SAPOS, 98
    - stations, 100
    - uses, 100
  - COSMIC, 324, 405
  - COSMIC mission, 339
  - Coverage rebuilding, 239
  - Criteria, 606, 607
  - Crop conditions, 550
  - Cross sections, 177
  - Crustal deformation, 386
  - Crustal motion, 100
  - Cubic convolution, 154
  - Cumulative impacts, 616, 619, 620
  - Cyclones, 534
  - Cyrosphere, 393
- D**
- Data, 20
  - Data assimilation, 378
  - Database management system, 228
  - Data capture, 220
  - Data collection, 76
  - Data link, 88
  - Data management, 227
  - Data mining, 237
  - Datum, 103
  - Decision making, 606, 619
  - Decision support system, 122
  - Deforestation, 76, 380, 395, 396, 524
  - Deformation, 86, 101
  - Deformation monitoring, 383
  - Delay doppler map, 361
  - DEM/DTM, 177
  - Density, 339
  - DGPS, 481
  - Differential positioning, 83
  - Differential rectification, 176, 188
  - Digital earth, 22
  - Digital image analysis, 149
  - Digital rectification, 154
  - Digitization, 221
  - Dipole moment, 330
  - Disaster management, 537
  - Disasters, 100, 535, 548
  - Discharge, 477
  - Displacement, 101
  - DOP, 70
  - Doppler effect, 143
  - Doppler shift, 335
  - Drop bear, 521
  - Drought, 373, 374, 434, 519, 534, 536, 540, 548, 551
    - cycle, 375
    - intensity, 550
    - severity, 551
  - Dry delay, 69
  - Dryland salinisation, 475
  - Dunes, 500

**E**

Early warning system, 324, 550, 551, 566, 598

Earth observation, 115, 122

Earth Observation Satellites (EOS), 9

Earthquake, 13, 100, 325, 343, 347, 534, 537, 540, 554, 555, 566

ECMWF, 372

Ecological system, 434

Ecology, 454, 511

Ecosystem, 8, 435, 455, 474, 476, 587, 611, 613, 617

Effective reflector height, 363

EGNOS, 50, 89

Electromagnetic radiation, 115

Electromagnetic spectrum, 118

Electron, 67, 330

Elevation angle, 69

El Niño Southern Oscillation (ENSO), 373, 405

Emitted or thermal IR, 118

Endangered species, 13, 509, 513, 518, 523, 527

Energy conservation, 586

Energy transport, 397

ENSO, 412, 546

Environmental

- audit, 309
- change, 604, 614, 620
- conditions, 613
- conservation, 433, 435, 456, 480
- decision making, 604, 607
- degradation, 441, 498, 501
- impacts, 96, 481, 482, 509, 607, 612, 614
- management, 471, 493, 498, 621
- monitoring, 352
- promotion, 606
- protection, 435, 456, 480, 606, 612, 622
- quality, 587, 606
- regulation, 471

Environmental audit, 8

Environmental change, 6, 9

Environmental Impact Assessment (EIA), 94, 309, 498, 597, 601, 604, 615

- program, 619
- public participation, 619
- scoping, 602, 615, 620

Environmental impacts

- predictions, 5

Environmental Impact Statements (EIS), 598, 606, 621

Environmental management, 5, 11, 12

Environmental Management Plan (EMP), 621

Environmental planning, 5

Ephemeris, 58

Ephemeris errors, 65

Erosion, 473, 501, 523

Ethiopian highlands, 439

Euclidean geometry, 18

Eustatic, 561

Eutrophication, 469, 473, 581, 582

Evaporation, 376

Evapotranspiration, 437, 551

Evidence, 21

Excess Doppler shift, 335

Excess path length, 327

Exhaust gases, 585

Exterior orientation, 163

External modeling, 233

**F**

Famine, 7

Farming, 374

Fast-static, 90, 91

Fauna, 609, 610, 615–617

Fauna monitoring, 618

Feature-based matching, 184

Feature extraction, 155

Fermat's principle, 335

Fish breeding sites, 591

Flash flood monitoring, 544

Flash floods, 377

Flooding, 7

Floods, 13, 373, 390, 534, 536, 540, 548, 551

- control maps, 309
- detection, 537
- prevention, 537

Flora, 609, 610, 617

Floriculture, 454, 455

Food

- availability, 512
- production, 373, 548
- safety, 537
- security, 373, 536, 549
- supply, 469

Food crises, 277

Food security, 536

Foraging behavior, 511

Foreshortening, 143

Forests, 395, 396, 523

- diseases, 525
- management, 524, 525
- protection, 525

- Forests fires, 540  
 Fossil fuels, 372  
 Frequency, 328  
 Fuel consumption, 586  
 Fuelwood, 523
- G**
- Gauss elimination, 65  
 GDOP, 77  
 Generalization, 239  
 General purpose maps, 309  
 Geocoding, 259  
 Geodata, 21  
 Geodynamic, 101  
 Geographic information science and technology, 203  
 Geographic Information System, 203  
 Geographic Information System (GIS), 10, 122  
 Geoid, 104, 435  
 Geolocating, 259  
 Geometrical delay, 327  
 Geometric distortion, 154  
 GEONET, 100  
 Geophysical, 101  
 Geopotential heights, 327, 384  
 Geo-referencing, 154  
 Geosensor networks, 536  
 Geospatial, 21  
 Geothermal power, 455  
 Giraffe, 454  
 Glacial ice, 432  
 Glaciers, 347, 372, 393, 561  
 Glistening zone, 361  
 Global Circulation Models (GCM), 378  
 Global Differential GPS (GDGPS), 87  
 Global System for Mobile Communication (GSM), 122  
 Global warming, 5, 7, 9, 10, 13, 323, 372, 374, 376, 383, 385, 390, 393, 398, 527, 560, 562, 584, 619  
   related diseases, 372  
 GLONASS, 49  
 GNSS, 97, 122  
 GNSS positioning method, 77  
 GNSS-meteorology, 8, 325, 326, 409  
   EUMETSAT, 326  
   GRAS, 326  
   IPWV, 326  
   NOAA, 388  
   NWP models, 7  
 GNSS-reflection (GNSS-R), 359  
 GNSS-reflectometry, 360  
 Google Earth, 22  
 GPS, 55  
   application to conflict resolution, 450  
   atmospheric errors, 67  
   carrier-phase pseudorange, 63  
   clock errors, 66  
   Ephemeris errors, 65  
   GDOP, 77  
   Measurement errors, 65  
   measuring principle, 62  
   receivers, 324  
 GPS meteorology  
   ECMWF, 69  
   NCEP, 69  
 GPS meteorology METEOSAT, 9  
 GPS meteorology NOAA, 9  
 GPS Remote Sensing, 324  
 GRACE, 323, 324, 352, 360  
 GRACE satellites, 346  
   uses of GNSS, 346  
 Gravitational attraction, 65  
 Gravity, 323, 435, 436  
 Gravity field, 44, 343, 347, 436  
 Greenhouse gas, 7, 372, 376, 385–387, 390, 391, 394, 396, 397, 560, 561, 584  
 Greenland, 393  
 Ground-Based Augmented Systems (GBAS), 89  
 Ground control points, 154  
 Ground survey, 220  
 Ground truth, 157  
 Groundwater, 6, 52, 76, 96, 346–348, 431, 432, 436, 568, 602, 609, 611, 613, 615, 616  
   abstraction, 612  
   allocation, 614  
   aquifer, 476  
   level, 612
- H**
- Habitat, 93, 372, 488, 490, 491, 494, 511, 512, 515, 516, 527, 546, 615  
   conservation, 591  
   management, 591  
 Hazard predictions, 324  
 Hazards, 540, 617  
 Height, 387, 419  
 High Spatial Resolution Image, 220  
 Histogram equalization, 155  
 Horizon, 78  
 Horticulture, 454, 611

Humidity, 69, 376, 537, 550  
 Hurricanes, 374, 376, 492  
 Hydrological cycle, 376, 383, 435, 436  
 Hydrology, 309, 383  
 Hydrostatic, 331  
 Hydrostatic delay, 69  
 Hydrostatic refractivity, 330

**I**

Ice, 347, 348, 375  
 Ice cover, 438  
 Ice-layer, 359  
 Ice sheet, 347, 350, 393, 561  
 IGS, 108  
 Image classification, 156  
 Image correlation, 180, 183  
 Image enhancement, 155  
 Image matching, 180, 183  
 Image pre-processing, 153  
 Imaging, 77  
 Impact monitoring, 4  
 Impacts, 597  
   identification, 614  
   location, 600  
   monitoring, 600  
   parameter, 335  
   prediction, 616, 618  
 Index of refraction, 327  
 Indicators, 607  
 Industries, 562  
 The International Terrestrial Reference  
   Frame (ITRF), 106  
 Inertial mapping units, 122  
 Information, 21  
 Information classes, 156  
 Information system, 21  
 Infrared, 118  
 Input of GIS data, 219  
 Integer ambiguity, 63, 94  
 Integrated monitoring, 4  
 Integrated Precipitate Water Vapor (IPWV),  
   544  
 Integrated water vapour, 377  
 Integrity, 51  
 Interannual variation, 413  
 Interferogram, 145  
 Interferometric SAR, 145  
 Interior orientation, 172  
 Internet, 122  
 Interpretation and analysis, 149  
 Interpretation keys, 151  
 Intersection, 164

IOD, 415  
 Ionosphere, 67, 324, 334  
 Ionosphere-free, 68  
 Ionospheric  
   corrections, 61  
   delays, 51  
   errors, 61, 67, 95  
 Ions, 67

**K**

Kepler's laws, 126  
 Kinematic positioning, 90, 93  
 Knowledge, 21  
 Kyoto protocol, 394

**L**

Lake level, 562  
 Lakes, 473  
 Land  
   subsidence, 97, 434  
   degradation, 473  
   evaluation, 469  
   management, 469, 552  
   resource, 471  
 Landforms, 309  
 Landsat, 395  
 Landscape ecology, 552  
 Landslides, 537  
 Land submergence, 96  
 Land subsidence, 86, 103  
 Land use, 475, 476, 525, 610, 612, 614  
   change, 396  
   patterns, 442  
   planning, 469  
 Land-use/cover change, 395  
 Lapse-rate, 387  
 Laser scanner remote sensing, 121  
 Latent heat, 376  
 Latitude, 47  
 Layover, 143  
 L2C-code, 61  
 L5-code, 62  
 LiDAR, 121  
 Location, 433  
 Logical modeling, 233  
 Long term monitoring, 4  
 Longitude, 47

**M**

Management plans, 8, 457  
 Management policies, 434

Man-made objects, 157  
 Manual digitizing, 222  
 Map projection, 103  
 Marine habitats, 489  
 MBACI model, 600  
 M-code, 62  
 Mean sea level, 104, 560  
 Measurements, 238  
 Medium range forecasts, 378  
 Microwave regions, 119  
 Microwave remote sensing, 121, 138  
 Microwave Sounding Units (MSU), 384, 386, 388  
 Mie scattering, 120  
 Migratory species, 513, 518  
 Mining, 374, 592  
 Mission planning, 78  
 Modeling climatic change, 376  
 Modulation transfer function, 127, 172  
 Moisture, 376  
 Molecules, 67  
 Monitoring, 3, 598  
     parameters, 75  
     pest and diseases, 5  
     techniques, 76  
 Monsoon, 408  
 Monsoon rains, 390  
 Multi-criteria analysis, 243, 604  
 Multipath, 70, 77, 79, 108, 363  
 Multi-sensor, 152  
 Multi-spectral, 152  
 Multi-temporal, 152

## N

Nadir-viewing microwave, 385  
 Native vegetation, 476  
 Natural forcing, 386  
 Nearest neighbor, 154  
 Network analysis, 242  
 Newtonian time, 19  
 Noise pollution, 586  
 Non-Euclidean geometry, 18  
 Non-selective scattering, 120  
 Normalized Difference Vegetation Index (NDVI), 155, 551  
 Normalized height model, 296  
 Numerical Weather Prediction (NWP), 373, 377, 378

## O

Observation principle, 59  
 Ocean

    monitoring, 504  
     bottom, 488  
 Ocean circulation, 343  
 Oil, 372  
 Oil leak, 580  
 On-the-fly, 90  
 Optical delay, 327  
 Orbital errors, 95  
 Orthoimage, 176  
 Orthophoto maps, 177  
 Ozone, 385, 386, 391, 406, 584

## P

Parallax, 151  
 Partition of data, 228  
 Passive and active remote sensing, 121  
 PCA, 413  
 P-code, 60, 334  
 PDOP, 70, 77, 78, 91  
 Phase-pseudorange, 68  
 Photogrammetric restitution, 171  
 Photogrammetry, 121, 161  
 Photographic interpretation, 150  
 Physical modeling, 233  
 Physical variables, 75  
 Plan, 619  
 Plant communities, 592  
 Plants, 372  
 Plate tectonic motion, 96  
 Plate tectonics, 44  
 Platform, 126  
 Poisonous gases, 584  
 Polar ice cap, 374  
 Policy, 619  
 Pollution, 579  
     distribution, 390  
     monitoring, 537  
     non-point sources, 581  
     nutrients, 580  
     point sources, 580  
     transportation sector, 589  
 Positioning modes and accuracies, 109  
 Positions, 75  
 Post-Processed Kinematic (PPK), 108  
 Poverty, 373  
 Precipitable water, 341, 376  
 Precipitation, 375, 376, 378, 379, 387, 389, 437, 458  
 Precipitation forecast, 382  
 Precise ephemeris, 66, 86, 94, 108  
 Precise Point Positioning (PPP), 95  
 Precision farming, 311, 312, 480, 537  
 Prediction of weather, 376

Pressure, 69, 323, 325, 327, 334, 339, 385, 387, 389, 397  
 Principal atmospheric windows, 118  
 Process of remote sensing, 115  
 Profiles, 177  
 Proximity analysis, 241  
 Pseudo Random Noise (PRN), 60  
 Pseudorange, 62

## Q

Quality control, 4  
 Query, 238

## R

Radiation, 386  
 Radiometers, 385  
 Radiometric distortion, 153  
 Radiometric resolution, 129  
 Radiosonde, 7, 372, 376–378, 387, 397  
 Radio waves, 334  
 Rainfall, 436, 475  
 Rainfall anomalies, 550  
 Rainfall pattern, 611  
 Range corrections, 88  
 Ranking, 239  
 Ranking method, 240  
 Rapid-static, 90  
 Rasterization, 224  
 Rayleigh scattering, 120  
 Real-time GNSS, 87  
 Real-Time Kinematic (RTK), 94, 481  
 Reanalyses, 389  
 Reanalysis, 411  
 Recharge, 477  
 Reclassification, 239  
 REDD, 208, 381, 524  
 Reference  
   ellipsoid, 103  
   frame, 105  
   station, 76, 79, 85, 88  
   system, 105  
 Reference site monitoring, 4  
 Reflected IR, 118  
 Reflected signals, 323  
 Reflection, 120  
 Reforestation, 395, 396  
 Refraction angle, 334  
 Refractive index, 335  
 Refractivity, 323, 327, 328, 331  
 Regional warming, 390  
 Relative orientation, 174  
 Relative positioning, 83, 85

Relativity, 18  
 Remnant vegetation, 470, 473  
 Remote sensing, 9, 115  
 Reptiles, 611  
 Re-selection, 239  
 Resource management, 525  
 Resources, 11, 456  
 Rise in sea level, 103, 562  
 Risk zone maps, 545  
 River Nile, 562  
 Rotation sensors, 122  
 Roving receiver, 88

## S

Salinity, 6, 359, 434, 435, 469, 473, 475, 476, 488, 552, 561, 562  
   impacts, 476  
   irrigation, 475  
   primary, 475  
   secondary, 475  
 Sanitation, 588  
 Satellite altimetry, 348  
 Satellite-Based Augmented Systems (SBAS), 50, 89  
 Satellite geometry, 108  
 Satellite imagery, 219  
 Satellite laser ranging, 97  
 Satellite remote sensing, 121  
 Satellites  
   CHAMP, 326  
   COSMIC, 326  
   geostationary, 9  
   GPS, 9  
   GRACE, 326  
   LEO, 334  
   remote sensing, 10  
   velocities, 335  
 Satellites polar, 9  
 Scattering, 119  
 Scheduling, 228  
 Sea level, 13, 51, 100, 375, 562  
 Sea level change, 9, 96, 343, 347, 350, 492, 498, 560  
 Seawater salinity, 359  
 Sea-wind, 359  
 Secondary salinity, 6, 475  
 Security, 228  
 Sensor-platform, 125  
 Sewage, 581  
 Shadow, 143, 151  
 Shape, 151  
 Shoreline, 491–493, 500

progradation, 492  
 retrogradation, 492  
 Shoreline mapping, 495  
 Short range forecasts, 378  
 Signal delay, 324  
 Signals, 60, 77  
 Signal-to-noise ratio SNR, 363  
 Siltation, 103, 473  
 Simple monitoring, 4  
 Size, 150  
 Skeletonization, 224  
 SLAR, 141  
 Snell's law, 335  
 Snow, 347, 432, 437, 438, 540  
 Social impacts, 606, 607  
 Socio-cultural activities, 469  
 Soil, 311, 396  
   analysis, 84  
   erosion, 311, 474, 481, 493, 617  
   landscape, 471  
   maps, 309, 471  
   moisture, 347, 348, 364, 438  
   quality, 469  
   types, 309  
 Soil landscape mapping, 471  
 Solar radiation, 376  
 Solid waste management, 588  
 Space resection, 163, 292  
 Space-time, 19  
 Space utility vehicles, 127  
 Spatial, 76  
 Spatial analysis, 237  
 Spatial database, 227  
 Spatial data infrastructure, 21, 189, 209, 210, 221, 225, 234  
 Spatial enhancement, 155  
 Spatial environmental change, 8  
 Spatially distributed impacts, 616  
 Spatial motion, 97  
 Spatial resolution, 127  
 Spatial variations, 86  
 Special purpose maps, 309  
 Speckle, 144  
 Spectral classes, 156  
 Spectral reflectance curves, 120  
 Spectral resolution, 129  
 Spectral signatures, 120  
 Spectral transformation, 155  
 SQL, 238  
 Standards, 228  
 Static surveying, 83  
 Stereomodel, 151, 174  
 Stereopairs, 164

Stereoscopes, 151  
 Stereoscopic information, 151  
 Stereoscopic parallax, 164  
 Stereoscopic vision, 151  
 Stop-and-go survey, 90, 91  
 Storage media, 228  
 Storms, 374, 390, 492  
 Strain, 101  
 Strategic Environmental Assessment (SEA), 598  
 Stratosphere, 10, 372, 385, 386, 388  
 Submergence, 51  
 Subsidence, 310, 320  
 Supervised classification, 157  
 Surface pollutants, 580  
 Surface scattering, 139  
 Surface temperature, 389  
 Surface water, 347, 348  
 Surrogate monitoring, 4  
 Surveillance, 3, 96  
 Surveying, 3  
 Survey monitoring, 4  
 Sustainability, 12, 587, 619  
 Sustainability assessment, 598, 622  
 Sustainable agriculture, 480  
 Sustainable development, 597  
 Synthetic Aperture Radar (SAR), 141, 383

## T

Temperature, 9, 69, 323, 325, 327, 334, 339, 352, 372, 375, 379, 382, 384, 385, 387–389, 397, 419, 488, 537, 550, 561  
 Temperature anomalies, 415  
 Temporal, 76  
 Temporal resolution, 76, 129  
 Terrestrial water storage, 343  
 Texture, 151  
 Thematic maps, 309  
 Thermal expansion, 375, 562  
 Thermal remote sensing, 121  
 Thunderstorm, 387  
 Tide gauge, 562, 563  
 Tone, 150  
 Topographic maps, 309, 313  
 Topology reconstruction, 224  
 Tornadoes, 534  
 Total Electronic Contents (TEC), 67, 325, 326  
 Tourism, 562  
 Traffic congestion, 586  
 Transformations, 239



- Transmission, 120
- Tropical Rainfall Measuring Mission, 140
- Tropopause, 352, 372, 385–387, 406, 419
  - heights, 323, 386
  - parameters, 389
  - variability, 387
- Troposphere, 68, 372, 385, 386, 388
- Tropospheric, 324
  - error, 68, 95
- Tsunami, 13, 100, 325, 555, 566
- Typhoon, 374, 376, 540
  
- U**
- UAV, 479, 495
- Ultraviolet, 118
- Universal access, 539
- Unsupervised classification, 157
- User segment, 59
  
- V**
- Vector and raster models, 213
- Vector-borne disease, 552
- Vectorization, 224
- Vegetation, 6, 77, 309, 395, 396, 469, 509, 523, 550, 551, 591, 611, 613, 615, 616
  - biomass, 350, 394
  - canopy, 394
  - index, 550
  - maps, 309
- Vegetation fires, 535
- Vertical datum, 103, 104
- Very long baseline interferometry, 97
- Visual image interpretation, 149
- Volcanic eruption, 537, 566, 584
- Volcanoes, 343, 534
- Volume scattering, 140
- Von Gruber locations, 174
  
- W**
- Waste disposal, 587
- Waste generation, 587
- Water, 374, 431, 434, 546
  - quality, 454
  - quantity, 458
  - resource, 433, 434, 439, 454
  - scarcity, 454
  - security, 454
  - supply, 441
  - availability, 454
  - balance, 469
  - conservation, 311, 434
  - discharge, 473
  - hyacinth, 581
  - level, 433, 614, 615
  - management, 433, 434, 545
  - pollution, 580
  - protection, 433
  - quality, 527, 615
  - quantity, 375
  - recharge, 473
  - reservoir, 363
  - resource, 343, 346, 374, 375
  - storage, 438
  - supply, 375
  - table, 611
- Water logging, 473, 482, 552
- Watershed management, 537
- Water vapour, 9, 67–69, 325, 327, 328, 330, 334, 339, 347, 352, 372, 376, 382–384, 387, 388, 397, 406, 436
  - radiometers, 69
  - roles, 376
- Water-logging, 482
- Weather, 7, 326, 371, 373, 383, 394, 548, 550
  - balloons, 372
  - forecast, 324, 373, 376, 377, 383, 397, 544
  - fronts, 69
  - prediction, 540
  - satellites, 378
- Weather forecasting, 4
- Weather impacts, 373
- Weather monitoring, 382
- Weighting point method, 240
- Weights, 608
- Wet delay, 341
- Wetlands, 435, 469, 500, 562, 613–616
  - ecosystem, 434
  - conservation, 526, 527
  - ecology, 613
  - mapping, 546
  - Ramsar Convention, 526
- White Nile, 439
- Wide Area Differential GPS (WADGPS), 89
- Wildlife, 527
- Wind erosion, 473
- Wind speed, 379
- Wireless sensor networks, 122
- Wisdom, 21
- World Geodetic System (WGS-84), 58, 106
  
- Z**
- Zenith wet delay, 69