

Open Source/Non-Commercial GIS Products

Product	Supplier
ade4	R Project - Spatial section. See also http://cran.r-project.org/web/views/Spatial.html
Type: Mathematical/Statistical librar	http://cran.r-project.org/web/packages/ade4/index.html
Exploratory and Euclidean methods in the environmental sciences - very large number of features and functions supported	
Agent Analyst	ESRI Inc, Redlands, CA, USA
Type: Geosimulation	http://www.institute.redlands.edu/agentanalyst
Agent Analyst allows users to create, edit, and run Repast models from within the ArcGIS 9 geoprocessing framework. Requires Java. 47Mb download	
ANN	University of Maryland, USA, Dept of Computer Science
Type: Mathematical/Statistical librar	http://www.cs.umd.edu/~mount/ANN/
Approximate NN library. ANN is a library written in C++, which supports data structures and algorithms for both exact and approximate nearest neighbor searching in arbitrarily high dimensions	
ArcExplorer	ESRI Inc, Redlands, CA, USA
Type: Viewer	http://www.esri.com/software/arcexplorer
ArcExplorer--GIS Data Viewer - a lightweight GIS data viewer written in Java that is used to perform basic GIS functions (e.g., view, navigate, and query). It is a downloadable application that operates in a stand-alone environment	
Cartomap	
Type: Viewer	http://www.cartoworld.com/CartoMAP.html
Free map viewer for SHP and MIF files	
CommonGIS	Fraunhofer Institute, Germany
Type: GIS	http://www.commongis.com
Java based GIS package with strong thematic mapping and exploratory data analysis facilities (this is the successor to the Descartes software). New facilities include movement analysis, a range of ESDA and decision support facilities and L.O.G.I.S - a "Library of Optimization Algorithms for Geographical Information Systems" used in the new Districting add-on	
Concorde	Georgia Tech, USA
Type: Optimisation	http://www.tsp.gatech.edu/concorde/index.html
High performance solver for symmetric TSP network problems	
Coordinate Calculator	TatukGIS, Gdynia, Poland
Type: Specialised mapping	http://www.tatukgis.com/Products/calculator/calculator.aspx
Datum/projection converter and viewer	
Crimestat III	National Institute of Justice, USA
Type: Crime analysis	http://www.icpsr.umich.edu/CRIMESTAT/
CrimeStat is a spatial statistics program for the analysis of crime incident locations. Crime event analysis, vector (N Levine). Tools include spatial distribution analysis (basic statistical measures and many distance statistics (e.g. nearest neighbour tools, Ripley K etc); kernel density analysis; hot spot analysis; plus a range of new modelling tools (trip distribution based)	
See also crime analysis toolsets listed at http://www.iaca.net/Software.asp and http://www.ojp.usdoj.gov/nij/maps/software.html (including CASE and DRAGNET)	

Product	Supplier
DEPTHMAP	Space Syntax Laboratory, Bartlett School of Architecture, UCL, London, UK
Type: Telecommunications/visibility	http://www.spacesyntax.org/software/depthmap.asp
Visibility analysis of architectural and urban systems. In addition, the most recent version of Depthmap includes the original visibility analysis, generation and analysis of axial maps as well as segment analysis, and finally agent-based analysis. A related product, CONFEEGO, is also available and runs within the MAPINFO GIS	
ESTAT	Penn State
Type: Exploratory data analysis (EDA/	http://gis.cancer.gov/nci/spatial.html
Exploratory Spatio-Temporal Analysis Toolkit, a Java-based implementation of several of the ESDA tools provided within GeoVista augmented by linked time-series plots	
Farsite	US Fire Service
Type: Emergency and Hazard Assessm	http://www.firemodels.org/index.php/national-systems/farsite
FARSITE is a fire growth simulation model. It uses spatial information on topography and fuels along with weather and wind files. It incorporates the existing models for surface fire, crown fire, spotting, post-frontal combustion, and fire acceleration into a 2-dimensional fire growth model.	
FDO	OpenSource team,/Autodesk
Type: GIS tools	http://fdo.osgeo.org/
FDO (Feature, Data, Object) Data Access Technology is an API for manipulating, defining and analyzing geospatial information regardless of where it is stored. FDO uses a provider-based model for supporting a variety of geospatial data sources, where each provider typically supports a particular data format or data store	
Fragstats	University of Mass., USA
Type: Landscape analysis	http://www.umass.edu/landeco/research/fragstats/fragstats.html
Analysis of ecological raster data. Spatial pattern analysis for categorical maps. V3 is a raster-only program, whereas V2 has support for ArcInfo vector files (coverages)	
GALib	MIT
Type: Genetic algorithms	http://lancet.mit.edu/ga/
Genetic Algorithms - C++ library developed by Matthew Wall whilst at MIT	
GAM/K	University of Leeds, UK, Centre for Computational Geography
Type: Cluster analysis	http://www.ccg.leeds.ac.uk/software/gam/
Geographic Analysis Machine / cluster hunting software	
GDAL	
Type: GIS tools	http://www.gdal.org/
Geospatial Data Abstraction Library (GDAL/OGR) is a cross platform C++ translator library for raster and vector geospatial data formats that is released under an X/MIT style Open Source license by the Open Source Geospatial Foundation. As a library, it presents a single abstract data model to the calling application for all supported formats. It also comes with a variety of useful commandline utilities for data translation and processing. GDAL supports over 50 raster formats, and OGR over 20 vector formats	
GeoDa	Spatial Analysis Laboratory, Univ of Conneticut, USA
Type: Exploratory data analysis (EDA/	http://geodacenter.asu.edu/software
Exploratory spatial data analysis, vector (L Anselin). GeoDa is the latest incarnation of a collection of software tools designed to implement techniques for exploratory spatial data analysis (ESDA) on lattice data.1 It is intended to provide a user friendly and graphical interface to methods of descriptive spatial data analysis, such as global and local (LISA) autocorrelation statistics and indicators of spatial outliers, plus some more advanced regression analysis facilities.	
Geographic Explorer	Blue Marble
Type: Viewer	http://www.bluemarblegeo.com/appexpl.htm
Geographic Explorer--GIS Data Format Translator/Viewer - Supports MIF, SHP, TAB, DWG, DXF, DGN, TIFF, BMP & JPG	

Product	Supplier
Geomatica Freeview	PCI Geomatics Group, Ontario, Canada
Type: Viewer	http://www.pcigeomatics.com/freeware/freeware.html
Free viewer from PCI for Geomatica 10	
Geotools	Collaborative effort
Type: GIS tools	http://geotools.codehaus.org/
Opensource GIS Java toolset providing implementations of many Open Geospatial Consortium (OGC) specifications as they are developed. GeoTools is also associated with the GeoAPI project that creates geospatial, Java interfaces	
GMT	School of Earth Science and technology, Univ of Hawai'I, Manoa
Type: GIS tools	http://gmt.soest.hawaii.edu/
GMT (Generic Mapping Tools) is an open source collection of around 60 tools for manipulating geographic and Cartesian data sets (including filtering, trend fitting, gridding, projecting, etc.) and producing Encapsulated PostScript File (EPS) illustrations ranging from simple x-y plots via contour maps to artificially illuminated surfaces and 3-D perspective views. It is designed as a command line driven suite of programs for Unix environments.	
GRASP	Landcare Research 1999-2004 (A. Lehmann, J.R. Leathwick, J.McC. Overton)
Type: Specialised data analysis	http://www.unine.ch/CSCF/grasp/
Generalized Regression Analysis and Spatial Prediction. GRASP-R is a plugin for R and S-Plus statistical packages that offers an automated way of making spatial predictions from point surveys using Generalized Additive Models. The R version is now managed at: http://sourceforge.net/projects/grasper/ - see also: Lehmann A., Overton J.McC. & Leathwick, J.R. GRASP: Generalized regression analysis and spatial predictions, Ecological Modelling, 157: 189-207	
GRASS	Open source
Type: GIS	http://grass.itc.it/
Geographic Resources Analysis Support System. Open source GIS with both raster and vector support. Geographic Resources Analysis Support System, commonly referred to as GRASS, is a Geographic Information System (GIS) used for geospatial data management and analysis, image processing, graphics/maps production, spatial modeling, and visualization. GRASS is currently used in academic and commercial settings around the world, as well as by many governmental agencies and environmental consulting companies.	
GVSIG	Generalitat Valenciana, Spain
Type: GIS	http://www.gvsig.org
gvSIG is a desktop tool designed to manage geographic information. It is characterized by a user-friendly interface that can easily access the most common raster and vector formats. In a single view, it includes local files as well as remote data through SDI standards, geographic databases, etc. Multiple language support - its interface is in Spanish, Valencian, English, Basque, Gallego, Czech, Chinese, French, German, Italian, Romanian, Polish and Portuguese	
Hawth's Tools	Hawthorne Beyer Spatial Information Systems Consultant hawthorne@spatialecology.co
Type: GIS tools	http://www.spatialecology.com/
ArcGIS extension for spatial analysis, especially ecological applications. Includes tools for animal movement studies and spatial sampling, amongst others. To be updated/replaced by the Spatial Modelling Environment	
ILOG CPLEX	ILOG, Gentilly, France
Type: Optimisation	http://www.ilog.com/products/cplex/
Linear Programming (LP)/Mixed Integer Programming (MIP) solver. Part of the ILOG Optimisation suite (see below). Free student edition	
ILWIS	ITC
Type: GIS	http://www.itc.nl/ilwis
The Integrated Land and Water Information System (ILWIS) is a PC-based GIS & Remote Sensing software, developed by ITC up to its last release (version 3.3) in 2005. ILWIS comprises a complete package of image processing, spatial analysis and digital mapping. It is easy to learn and use; it has full on-line help, extensive tutorials for direct use in courses and 25 case studies of various disciplines	

Product	Supplier
InterPose	
Type: GIS tools	http://www.dottedeyes.com/spatial_data_loading/interpose/digimap.php
Conversion software for MasterMap to ArcGIS format db	
Isovist Analyst	
S Rana, University College, London	
Type: Telecommunications/visibility	http://www.ucl.ac.uk/~ucessan/software/isovist-analyst.htm
An ArcView extension for vector visibility analysis in 2D	
Java Topology Suite	
Vivid Solutions Inc, Victoria, BC, Canada	
Type: GIS tools	http://www.vividsolutions.com/jts/jtshome.htm
An API of 2D spatial predicates and functions conforming to the Simple Features Specification for SQL published by the Open GIS Consortium	
Landfrag	
Univ of Conneticut	
Type: Landscape analysis	http://placeways.com/products/landfragtool.php
The Landscape Fragmentation tool is designed to be used in ESRI's ArcGIS 9.2 geographic information system (GIS) software and allows users to analyze fragmentation using their own raster land cover information. The forest fragmentation model uses the land cover data from Connecticut's Changing Landscape to characterize the degree to which our forests have become carved up by developed landscapes, especially roads.	
Landserf	
Jo Wood, Department of Information Science, City University, London UK	
Type: Terrain analysis	http://www.landserf.org
Surface analysis package, Java based, cross-platform with excellent analysis and visualisation facilities	
LOLA	
University of Kaiserslauten, Germany	
Type: Locational analysis	http://www.mathematik.uni-kl.de/~lola
Locational analysis. A program for free-space and network-based optimum location modelling with many variants of metrics, plus a programming interface to facilitate the solution of specific problems	
LP-Solve	
Open source, developed by Michel Berkelaar at Eindhoven University	
Type: Optimisation	http://lpsolve.sourceforge.net/5.5/
Mixed integer linear programming solver	
Map Comparison Kit	
Research Institute for Knowledge Systems, Maastricht, Netherlands	
Type: Spatio-temporal analysis	http://www.riks.nl/products/Map_Comparison_Kit
Space-time map analysis	
MapGuide	
Type: GIS	http://mapguide.osgeo.org/
MapGuide Open Source is a web-based platform that enables users to quickly develop and deploy web mapping applications and geospatial web services. MapGuide features an interactive viewer that includes support for feature selection, property inspection, map tips, and operations such as buffer, select within, and measure. MapGuide includes an XML database for managing content, and supports most popular geospatial file formats, databases, and standards	
MAPresso	
Type: Specialised mapping	http://www.mapresso.com/
MAPresso is a free Java applet for unclassified choropleth maps and cartograms.	

Product	Supplier
Mapserver	Univ of Minesotta, USA
Type: Specialised mapping	http://mapserver.org/
MapServer is an Open Source development environment for building spatially-enabled internet applications. MapServer is not a full-featured GIS system, nor does it aspire to be. Instead, MapServer excels at rendering spatial data (maps, images, and vector data) for the web. A substantial 'gallery' of applications and sites using Mapserver is accessible via: http://mapserver.gis.umn.edu/gallery	
MAPublisher	Avenza Systems Inc, Toronto, Canada
Type: Specialised mapping	http://www.avenza.com/mapublisher
MAPublisher Software for "final copy" (lite version for free).MAPublisher 7.5 combines the best features of GIS with the powerful design environments of Adobe Illustrator CS2 and CS3 to enable native GIS data files to be used as a base for cartographic production. Designed for use with Adobe Illustrator and some other professional graphics packages	
MASON	Evolutionary Computing Lab, George Mason Univesity, Fairfax, VA, USA
Type: Geosimulation	http://cs.gmu.edu/~eclab/projects/mason/
Multi Agent Simulation Of Neighbourhood. Open source agent-based simulation package, cross-platform	
MATSim	Institute for Transport Planning and Systems (IVT), Swiss Federal Institute of Technology Zurich and Institute for Land and Sea Transport Systems, Technische Universität Berlin
Type: Geosimulation	http://matsim.org/
MATSim is an opensource (Java) toolkit for building multi-agent transport simulations. Code now managed on Sourceforge, see: http://sourceforge.net/projects/matsim	
Mondrian	Martin Theus - see website for details and book
Type: Visualisation (2D and 3D)	http://www.theusrus.de/Mondrian/
A general purpose statistical data-visualization system written in Java. It features outstanding visualization techniques for data of almost any kind, and has its particular strength compared to other tools when working with Categorical Data, Geographical Data and LARGE Data	
NetLab	Neural Computing Research Group, Aston University Birmingham, UK
Type: Neural networks	http://www1.aston.ac.uk/eas/research/groups/ncrg/resources/
Neural network software library for MATLab (Nabney). Requires MATLab	
NetLogo	Northwestern University, USA
Type: Geosimulation	http://ccl.northwestern.edu/netlogo/
Open source multi-agent simulation package, cross-platform (Wilensky). Requires Java 1.4.1 or later	
NuMAP	Image Processing and Neural Networks Lab, Univesity of Texas, Arlington, TX, USA
Type: Neural networks	http://www-ee.uta.edu/EEweb/IP/Software/Software.htm
Neural network software for MLP, SOM and various other models. Comparison with MATLab and SNSS suggest NuMap is faster/better	
Open Layers	
Type: Specialised mapping	http://openlayers.org/
OpenLayers is a pure JavaScript library for displaying map data in most modern web browsers, with no server-side dependencies	
OpenMap	BBN Technologies, Cambridge, MA, USA
Type: GIS tools	http://openmap.bbn.com/
Open source, Java Beans based geospatial mapping toolset	

Product	Supplier
OpenSourceGIS Type: GIS tools http://opensourcegis.org/ Assorted open source GIS software list, including almost 250 sites and software utilities for spatial data processing	OpenSourceGIS
OSSIM Type: Image handling http://www.ossim.org/ Open Source Software Image Map (OSSIM) is a high performance engine for remote sensing, image processing, geographical information systems and photogrammetry	Open Source
PASSaGE Type: Specialised data analysis http://www.passagesoftware.net/ PASSaGE: Pattern Analysis, Spatial Statistics, and Geographic Exegesis, a free, easy-to-use program for general spatial analysis - includes a wide range of analysis functions and supports multiple OS (Win, Mac, Unix)	M Rosenberg, Arizona State University
PCRaster Type: GIS http://pcraster.geo.uu.nl/ Raster-based analysis with strong hydrological modelling, many aspects of which are also derived from Tomlin's map algebra. Hydrology/Soil science. The PCRaster Environmental Modelling language is a computer language for construction of iterative spatio-temporal environmental models. It runs in the PCRaster interactive raster GIS environment that supports immediate pre- or post-modelling visualisation of spatio-temporal data.	Faculty of Geosciences, Utrecht University, Netherlands
PostGIS Type: GIS http://postgis.refractions.net/ PostGIS adds support for geographic objects to the PostgreSQL object-relational database. In effect, PostGIS "spatially enables" the PostgreSQL server, allowing it to be used as a backend spatial database for geographic information systems (GIS)	Refractions research, Victoria, BC, Canada
PySal Type: Mathematical/Statistical librar http://geodacenter.asu.edu/pysal A Python Library for Spatial Analytical Functions (available in Sping 09) - implements spatial statistical methods in general and spatial regression analysis in particular using Python	Univ of Illinois, Spatial Analysis Lab
QGIS Type: GIS http://www.qgis.org/ Quantum GIS (QGIS) is a user friendly Open Source Geographic Information System (GIS) that runs on Linux, Unix, Mac OSX, and Windows. QGIS supports vector, raster, and database formats.	
R Spatial Type: Mathematical/Statistical librar http://cran.r-project.org/web/views/Spatial.html International Opensource project based on the R Project/language. The main areas covered include: Classes for spatial data; Handling spatial data; Reading and writing spatial data; Point pattern analysis;Geostatistics; Disease mapping and areal data analysis; Spatial regression; Ecological analysis. See also spdep and ade4 entries in this listing	
Repast Symphony Type: Geosimulation http://repast.sourceforge.net/ Open source agent-based simulation package, cross-platform (Recursive Porous Agent Simulation Toolkit)	Argonne National Lab, USA
Rookcase Type: Statistical analysis http://www.lpc.uottawa.ca/data/scripts/ Excel add-in for computing simple spatial autocorrelation (M Sawada). Several other GIS utilities are available from the LPC web page	Laboratory for Paleoclimatology and Climatology, Univ of Ottawa, Canada

Product	Supplier
SAGA	Abteilung für Physische Geographie Geographisches Institut Göttingen, Germany
Type: GIS	http://www.saga-gis.org/
Open source GIS designed with geosciences in mind, especially terrain and hydrographic analysis. Powerful raster analysis and programmability	
SAM	Instituto de Ciências Biológicas , Universidade Federal de Goiás, Brazil
Type: Statistical analysis	http://www.ecoevol.ufg.br/sam/
SAM is a compact but robust computer program designed as a package of statistical tools for spatial analysis, mainly for applications in Macroecology, Geographical Ecology and Biogeography. SAM offers a wide spectrum of statistical methods used in Surface Pattern Spatial Analysis, including a range of basic stats, autocorrelation analyses and regression models (GLIM, SAR, CAR, GWR etc)	
SANET	University of Tokyo, Japan
Type: Network analysis	http://sanet.csis.u-tokyo.ac.jp/
Spatial analysis on a network (A Okabe et al.) - an ArcGIS toolbox	
SaTScan	SaTScan/Harvard University, USA
Type: Cluster analysis	http://www.satscan.org/
Spatial, temporal and spatio-temporal analysis of geographic data. Particularly designed for disease pattern analysis and surveillance. SaTScan can be used to: Perform geographical surveillance of disease, to detect spatial or space-time disease clusters, and to see if they are statistically significant; Test whether a disease is randomly distributed over space, over time or over space and time; Evaluate the statistical significance of disease cluster alarms; Perform repeated time-periodic disease surveillance for early detection of disease outbreaks	
S-Distance	Lab for spatial analysis and thematic mapping, Univ of Thessaly, Greece
Type: Locational analysis	http://www.prd.uth.gr/sites/spatial_analysis/software/SdOverview_en.html
Network and locational analysis (S Sirigos) - V1.0 scheduled for Q2/08	
SDM	ESRI Arcscripts - author: Gary Raines, Language: Python
Type: GIS tools	http://arcscripts.esri.com/details.asp?dbid=15341
Spatial Data Modeller, SDM, is a collection of geoprocessing tools for adding categorical maps with interval, ordinal, or ratio scale maps to produce a predictive map of where something of interest is likely to occur. The tools include the data-driven methods of Weights of Evidence, Logistic Regression, and two supervised and one unsupervised neural network methods, and a knowledge-driven method Fuzzy Logic	
SITATION	Mark Daskin, Department of Industrial Engineering and Management Sciences, Northwestern University Evanston, IL, USA
Type: Locational analysis	http://sitemaker.umich.edu/msdaskin/software
Facility location software (M Daskin)	
SOM Toolbox	Helsinki University of Technology Laboratory of Computer and Information Science, FINLAND
Type: Neural networks	http://www.cis.hut.fi/projects/somtoolbox/
Free MATLab Neural Network toolbox primarily for Self Organising Maps (SOMs)	

Product	Supplier
spdep	R Project - Spatial section. See also http://cran.r-project.org/web/views/Spatial.html
Type: Mathematical/Statistical librar	http://cran.r-project.org/web/packages/spdep/index.html
A collection of functions to create spatial weights matrix objects from polygon contiguities, from point patterns by distance and tessellations, for summarising these objects, and for permitting their use in spatial data analysis, including regional aggregation by minimum spanning tree; a collection of tests for spatial autocorrelation, including global Moran's I, APLE, Geary's C, Hubert/Mantel general cross product statistic, Empirical Bayes estimates and Assunção/Reis Index, Getis/Ord G and multicoloured join count statistics, local Moran's I and Getis/Ord G, saddlepoint approximations and exact tests for global and local Moran's I; and functions for estimating spatial simultaneous autoregressive (SAR) lag and error models, weighted and unweighted SAR and CAR spatial regression models, semi-parametric and Moran eigenvector spatial filtering, GM SAR error models, and generalized spatial two stage least squares models.	
SPLANCS - RPLUS	R Plus development team
Type: Statistical analysis	http://rss.acs.unt.edu/Rdoc/library/splancls/html/00Index.html
Spatial analysis of point patterns. (R-Plus version is free)	
SPLANCS - SPLUS	Dept of Mathematics, Univ of Lancaster, UK
Type: Statistical analysis	http://www.maths.lancs.ac.uk/~rowlings/Splancls/
Spatial analysis of point patterns. (S-Plus version). Requires S-plus (see also, RPLUS version)	
StarLogo	MIT, Cambridge, MA, USA
Type: Geosimulation	http://education.mit.edu/starlogo/
Open source agent-based simulation package, cross-platform	
STARS	Regional Analysis Lab, San Diego Univ., CA, USA
Type: Spatio-temporal analysis	http://regionalanalysislab.org/index.php/Main/STARS
Space-time analysis of regional systems. Some techniques mirror those in GeoDa (unrelated to the STARS logistics package). STARS is an open source environment written in Python that supports exploratory dynamic spatial data analysis. Dynamic takes on two meanings in STARS. The first reflects a strong emphasis on the incorporation of time into the exploratory analysis of space-time data. To do so, STARS combines two sets of modules, visualization and computation. The visualization module consists of a family of geographical, temporal and statistical views that are interactive and interdependent. That is, they allow the user to explore patterns through various interfaces and the views are dynamically integrated with one another, giving rise to the second meaning of dynamic spatial data analysis. On the computational front, STARS contains a set of exploratory spatial data analysis modules, together with several newly developed measures for space-time analysis.	
Surfit	M.V. Dmitrievsky & V.N. Kutrunov
Type: Specialised mapping	http://surfit.sourceforge.net/surfit/index.html
Simple gridding and surface fitting program. Implements a functional minimisation algorithm for grid generation.	
SurGe	Miroslav Dressler, Czech Rep
Type: Specialised mapping	http://surgeweb.sweb.cz/
Gridding/surface creation/interpolation and visualisation package, available as shareware	
SWARM	SWARM development group, Albuquerque, NM, USA
Type: Geosimulation	http://www.swarm.org
Open source agent-based simulation package, cross-platform. Swarm is a library of object-oriented classes that implements the Swarm conceptual framework for agent-based models and provides many tools for implementing, observing, and conducting experiments on ABMs	
TAS (Whitebox)	University of Guelph, Canada
Type: Terrain analysis	http://www.uoguelph.ca/~hydrogeo/Whitebox/index.html
Terrain Analysis System - Compact, stand-alone program. provides wide range of terrain analysis/hydrological analysis functions and index computations. Now superseded by WHITEBOX	

Product	Supplier
TatukGIS Viewer	TatukGIS, Gdynia, Poland
Type: Viewer	http://www.tatukgis.com/products/viewer/viewer.aspx
The free TatukGIS Viewer opens most GIS/CAD and raster image file types and most ArcView, ArcExplorer, and MapInfo projects. Besides just opening and viewing files, the Viewer supports an extensive list of features including visual layer properties control, legend control, thematic mapping, spatial and attribute querying, custom labeling, on-map measurements, hyper-linking, PDF export and much more. The user interface is available in 16 languages.	
TAUDEM	D Tarboton, Utah State Univ, UT, USA
Type: Terrain analysis	http://hydrology.usu.edu/taudem/taudem5.0/
Terrain Analysis Using Digital Elevation Models - ArcGIS Add-in/toolbar. Provides wide range of terrain analysis/hydrological analysis functions and index computations	
TNTMips	Microimages, Lincoln, NA, Usa
Type: GIS	http://www.microimages.com/
Commercial generic cross-platform GIS developed from image processing background. Extensive analytics toolset.	
uDig	Refractions Research (http://www.refractions.net/) Victoria, BC, Canada
Type: GIS	http://udig.refractions.net/
User-friendly Desktop Internet GIS (uDig) is both a GeoSpatial application and a platform through which developers can create new, derived applications	
UrbanSim	Univ of Washington, Center for Urban Simulation
Type: Geosimulation	http://www.urbansim.org/
UrbanSim is a software-based simulation model for integrated planning and analysis of urban development, incorporating the interactions between land use, transportation, and public policy. It is intended for use by Metropolitan Planning Organizations and others needing to interface existing travel models with new land use forecasting and analysis capabilities.	
Vincenty	Govt of Australia
Type: GIS tools	http://www.ga.gov.au/earth-monitoring/geodesy/geodetic-techniques/calculation-methods.html
Excel spreadsheet for computing ellipsoidal distances (methods link)	
Virtual Terrain Project	VTP
Type: Visualisation (2D and 3D)	http://vterrain.org
3-D Terrain Modelling/Virtual Reality software. The goal of VTP is to foster the creation of tools for easily constructing any part of the real world in interactive, 3D digital form.	
VisualBots	Mike Waite & family
Type: Genetic algorithms	http://www.visualbots.com
Collection of educational programs (BOTS) implemented in Excel VBA to illustrate a range of optimisation and other procedures, including genetic algorithms, cellular automation etc	
WinBUGS/GeoBUGS	BUGS Project, MRC Biostatistics Unit, Cambridge, UK
Type: Statistical analysis	http://www.mrc-bsu.cam.ac.uk/bugs/winbugs/geobugs.shtml
The BUGS (Bayesian inference Using Gibbs Sampling) project is concerned with flexible software for the Bayesian analysis of complex statistical models using Markov chain Monte Carlo (MCMC) methods, GeoBUGS is an add-on module to WinBUGS which provides an interface for: * producing maps of the output from disease mapping and other spatial models * creating and manipulating adjacency matrices that are required as input for the conditional autoregressive models available in WinBUGS 1.4 for carrying out spatial smoothing.	

Product	Supplier
WindNinja Type: Specialised mapping http://www.firemodels.org/index.php/research-systems/windninja Wind grid modelling accounting for topography	US Fire Service
WindWizard Type: Specialised mapping http://www.firemodels.org/index.php/research-systems/windwizard Wind grid modelling accounting for topography, using Computational fluid dynamics (CFD) modelling - requires FlowWizard which is a commercial product from ANSYS Corp.	US Fire Service
Xpress-MP Type: Optimisation http://www.fico.com/en/Products/DMTools/Pages/FICO-Xpress-Optimization-Suite.aspx A suite of mathematical modeling and optimization tools used to solve linear, integer, quadratic, non-linear, and stochastic programming problems	Dash Optimization, Northants, UK and International offices
ZDES Type: Specialised data analysis http://www.geog.leeds.ac.uk/software/zdes/ Zone design system. University of Leeds, UK	Dept of Geography, University of Leeds, UK