

Open Source/Non-Commercial GIS Products

Product	Supplier
Agent Analyst Type: Geosimulation Agent Analyst allows users to create, edit, and run Repast models from within the ArcGIS 9 geoprocessing framework. Requires Java. 47Mb download	ESRI Inc, Redlands, CA, USA http://www.institute.redlands.edu/agentanalyst
ANN Type: Mathematical/Statistical librar 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	University of Maryland, USA, Dept of Computer Science http://www.cs.umd.edu/~mount/ANN/
ArcExplorer Type: Viewer 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	ESRI Inc, Redlands, CA, USA http://www.esri.com/software/arcexplorer
AutoCAD Viewer Type: Viewer Viewer for AutoCAD DWG/DXF files	Autodesk Inc http://usa.autodesk.com/adsk/servlet/index?id=6703438&siteID=123112
Cartomap Type: Viewer Free map viewer for SHP and MIF files	http://www.cartoworld.com/products/cartomap.htm
CASE Type: Crime analysis Crime Analysis Spatial Extension (an ArcGIS extension for ArcGIS 9.1, including the former Animal Movements Extension for ArcView developed by the USGS) - see also, Hawth's tools	National Institute of Justice, USA http://www.crimeanalysts.net/case.htm
CCMaps Type: Specialised mapping Conditioned choropleth mapping. Java-based interactive mapping/visualisation tool, developed for health (cancer) studies and related analyses, environmental and education studies	George Mason University (GMU) http://www.galaxy.gmu.edu/~dcarr/ccmaps/
CMAP Type: Crime analysis Crime mapping and analysis program (CMAP) software toolkits and documentation (includes numerous programs, datasets, training materials, and documentation sets) - 370Mb download	National Institute of Justice, USA http://www.crimeanalysts.net/caudk.htm
CommonGIS Type: GIS 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	Fraunhofer Institute, Germany http://www.commongis.com
Concorde Type: Optimisation High performance solver for symmetric TSP network problems	Georgia Tech, USA http://www.tsp.gatech.edu/concorde/index.html

Product	Supplier
---------	----------

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)	

ESTAT	Penn State
Type:	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/content/view/112/143/
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	

FlamMap	US Fire Service
Type: Emergency and Hazard Assessm	http://www.firemodels.org/content/view/14/28/
A fire behavior mapping and analysis program that computes potential fire behavior characteristics (spread rate, flame length, fireline intensity, etc.) over an entire FARSITE landscape for constant weather and fuel moisture conditions	

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	

Product

Supplier

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 Connecticut, USA

Type: Exploratory data analysis (EDA/ <http://www.sal.uiuc.edu/>

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

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.

Product

Supplier

GVSIG

Generalitat Valenciana, Spain

Type: GIS

<http://www.gvsig.gva.es/>

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

HealthMapper

World Health Organization (WHO)

Type: Specialised mapping

http://www.who.int/health_mapping/tools/healthmapper/en/

a surveillance and mapping application, developed by WHO, that aims to address critical surveillance information needs across infectious disease programmes at national and global levels

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

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

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

Product

Supplier

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 unclassed choropleth maps and cartograms.

Mapserver

Univ of Minesotta, USA

Type: Specialised mapping <http://mapserver.gis.umn.edu/>

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/products.mapub.html>

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>

NetLab

Neural Computing Research Group, Aston University
Birmingham, UK

Type: Neural networks <http://www.ncrg.aston.ac.uk/netlab/index.php>

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

Product	Supplier
---------	----------

OBEUS	Environmental Simulation Lab, Tel Aviv University, Israel
Type: Geosimulation	http://eslab.tau.ac.il/Research/OBEUS/default.aspx
.NET agent-based simulation package, aimed at urban modelling. See also, http://www.geosimulationbook.com/ for related information. Large (250Mb) download (includes Microsoft and Borland components)	

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	

OpenSourceGIS	OpenSourceGIS
Type: GIS tools	http://opensourcegis.org/
Assorted open source GIS software list, including almost 250 sites and software utilities for spatial data processing	

OSSIM	Open Source
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	

PASSaGE	M Rosenberg, Arizona State University
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)	

PCRaster	Faculty of Geosciences, Utrecht University, Netherlands
Type: GIS	http://pcraster.geog.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.	

PostGIS	Refractions research, Victoria, BC, Canada
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)	

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.	

Repast Simphony	Argonne National Lab, USA
Type: Geosimulation	http://repast.sourceforge.net/
Open source agent-based simulation package, cross-platform (Recursive Porous Agent Simulation Toolkit)	

Rookcase	Laboratory for Paleoclimatology and Climatology, Univ of Ottawa, Canada
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	

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://okabe.t.u-tokyo.ac.jp/okabelab/atsu/sanet/sanet-index3.html
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/res_labs/spatial_analysis/software/SdHome_en.asp
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://users.iems.northwestern.edu/~msdaskin/Mark_S._Daskin_Software.html
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)	
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)	

Product	Supplier
---------	----------

SPLANCS - SPLUS	Dept of Mathematics, Univ of Lancaster, UK
Type: Statistical analysis	http://www.maths.lancs.ac.uk/~rowlings/Splancs/
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://www.geocities.com/miroslavdressler/surgemain.htm
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	University of Guelph, Canada
Type: Terrain analysis	http://www.uoguelph.ca/~hydrogeo/TAS/
Terrain Analysis System - Compact, stand-alone program. provides wide range of terrain analysis/hydrological analysis functions and index computations	

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.neng.usu.edu/taudem/
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.	

Product	Supplier
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	
Variowin	Yvan Pannatier
Type: Directional analysis	http://www-sst.unil.ch/research/variowin/index.html
Interactive variography software	
Vincenty	Govt of Australia
Type: GIS tools	http://www.ga.gov.au/geodesy/datums/vincenty.xls
Excel spreadsheet for computing ellipsoidal distances (download 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.	
WindNinja	US Fire Service
Type: Specialised mapping	http://www.firemodels.org/content/view/132/169/
Wind grid modelling accounting for topography	
WindWizard	US Fire Service
Type: Specialised mapping	http://www.firemodels.org/content/view/82/106/
Wind grid modelling accounting for topography, using Computational fluid dynamics (CFD) modelling - requires FlowWizard which is a commercial product from ANSYS Corp.	
Xpress-MP	Dash Optimization, Northants, UK and International offices
Type: Optimisation	http://www.dashoptimization.com/
A suite of mathematical modeling and optimization tools used to solve linear, integer, quadratic, non-linear, and stochastic programming problems	
ZDES	Dept of Geography, University of Leeds, UK
Type: Specialised data analysis	http://www.geog.leeds.ac.uk/software/zdes/
Zone design system. University of Leeds, UK	