

A Comparison of Visualization Software							
3D Software	Version	Category	Real Time	Image draping	Textures	Animation	Ease of Use
CAD- Based							
SketchUp	7	CAD-Based	maybe	yes	yes	Pro version only	Easy
Terravista Base	6.1	CAD-Based	yes	yes / tiled	yes	Pro version only	Hard
Microstation	V8i	CAD-Based	maybe	no	yes	Keyframes, time-based	Medium/Hard
Autodesk 3ds Max	12	CAD-Based	maybe	no	yes	Object animation, Keyframes, path-controlled	Hard
GIS-Based							
ArcGIS 3d Analyst ArcScene	9.3.1	GIS-Based	yes	yes	no	Time based, fly throughs, object oriented	Easy
ArcGIS 3d Analyst ArcGlobe	9.3.1	GIS-Based	yes	yes	yes	Time based, fly throughs, walk throughs	Easy
IMAGINE VirtualGIS	10.1	GIS-Based	yes	yes / tiled	yes	Object animations, some flight, time based	Medium/Hard
GeoViz Toolkit	0.8.5	GIS-Based	no	no	no	None	Medium
Landscape Modelling							
World Construction Set (WCS)	6	Landscape Modelling	wireframe	yes	yes	Flight, time based	Hard
Visual Nature Studio (VNS)	3	Landscape Modelling	yes	yes	yes	Flight, time based	Hard
3dNature Scene Express	2	Landscape Modelling	no	yes	yes	Optional add-on for flight and driving	Easy/Medium
3dNature Nature View Express	2	Landscape Modelling	yes	yes	yes	Animated cameras	Easy/Medium
Environmental Visualization System (EVS Standard)	9.3	Landscape Modelling	?	no	no	Pro version only	Hard
Surfer	9	Landscape Modelling	?	yes	no	none	Easy/Medium
Voxler	2	Landscape Modelling	yes	yes	no	Video capture	Medium
Photo Manipulation							
CanVis	1	Photo Manipulation	no	yes	yes	none	Easy
Canvas	11	Photo Manipulation	no	no	yes	none	Hard
PTgui	8.3	Photo Manipulation	no	no	no	none	Easy/Medium
GigaPan Stitch	1	Photo Manipulation	no	no	no	none	Easy
Photosynth	1	Photo Manipulation	no	no	no	Photo immersion/navigation	Easy/Medium
Adobe Photoshop	5	Photo Manipulation	no	no	yes	yes (Quicktime plugin)	Easy/Medium
Paint Shop Photo Pro	3	Photo Manipulation	no	no	yes	none	Easy/Medium
Planning Support							
Community Viz Scenario 3D	4.0	Planning Support	yes	yes	yes	Flight/Walk-through	Medium
Community Viz Scenario 360	4.0	Planning Support	no	yes	no	Time based (Timescope)	Medium
Virtual Globe							
ArcGIS Explorer	1200	Virtual Globe	yes	yes	no	Time based for kml or kmz only	Easy
Google Earth	5.1	Virtual Globe	yes	yes	yes - through Sketchup	Time based for kml, flight simulator	Easy
Nasa Worldwind	1.4	Virtual Globe	yes	yes	no	Flight/Walk-through, movie recorder plugin	Easy

Completed by Tom McClintock, Land Information and Computer Graphics Facility, University of Wisconsin-Madison; Robbie Greene, University of Wisconsin-Madison; and David Hart, University of Wisconsin Sea Grant Institute.

A Comparison of Visualization Software				
3D Software	Specialty	Company	contact info	Cost
CAD- Based				
SketchUp	Easy CAD, textured models, Google Earth support, Online 3D Model Warehouse	Google	http://sketchup.google.com/	Free
Terravista Base	Large areas, multiple images, textured models	Presagis	www.presagis.com	ask Presagis
Microstation	Architectural rendering	Bentley	www.bentley.com	ask Bentley
Autodesk 3ds Max	Good animation, textured models, character creation	Autodesk	www.usa.autodesk.com	\$3,495
GIS-Based				
ArcGIS 3d Analyst ArcScene	Easy 3d views, no textures, some flight	ESRI	www.esri.com	ask ESRI
ArcGIS 3d Analyst ArcGlobe	Easy 3d views, some texture	ESRI	www.esri.com	ask ESRI
IMAGINE VirtualGIS	Large areas, multiple images, textured models, 3D views	Erdas	www.erdas.com	\$2,500
GeoViz Toolkit	Geospatial analysis, multi-variate display and graphing	GeoVista Center	www.geovista.psu.edu/	Free
Landscape Modelling				
World Construction Set (WCS)	Ecosystems. Change over time, great animation	3DNature Studio	www.3dnature.com	\$500
Visual Nature Studio (VNS)	Ecosystems. Change over time, great animation, advanced textures, Google Earth support	3DNature Studio	www.3dnature.com	\$2,475
3dNature Scene Express	Multiple Export functions, NASA World Wind and Google Earth support	3DNature Studio	www.3dnature.com	\$399(WCS) / \$699(VNS)
3dNature Nature View Express	3D Views, Animated cameras. Free viewer for exported WCS and VNS scenes.	3DNature Studio	www.3dnature.com	Free
Environmental Visualization System (EVS Standard)	Geological and chemical modelling, hazard assessment	C Tech	www.ctech.com	\$4,995
Surfer	Gridding, Interpolation and contouring, elevation data manipulation	Golden	www.goldensoftware.com	\$699
Voxler	Interactive 3D data display, great file format compatibility	Golden	www.goldensoftware.com	\$359
Photo Manipulation				
CanVis	Simulation of environmental impacts, visual impact assessment	NOAA, USDA	www.csc.noaa.gov/canvis	Free
Canvas	Multiple imports, CAD compatability, advanced editing and image analysis	ACD Systems	www.acdsee.com	\$350
PTgui	Panorama photo stitching	PTgui	www.Ptgui.com	\$104/\$196(Pro)
GigaPan Stitch	Panorama photo stitching, projected panoramas	GigaPan Systems	www.GigaPansystems.com	Free with purchase of GigaPan product (hardware)
Photosynth	3D photo scenes, immersive views, limited input/export	Microsoft	www.photosynth.net	Free
Adobe Photoshop	Photo manipulation and editing, graphic design	Adobe	www.adobe.com	\$699
Paint Shop Photo Pro	Advanced photo editing, RAW file format editing	Corel	www.corel.com	\$39.99
Planning Support				
Community Viz Scenario 3D	Interactive 3D views, textured models	Orton Family Foundation	placeways.com	\$350/\$850(Pro)
Community Viz Scenario 360	Impact assesment, links with Scenario 3D, ArcScene and GoogleEarth	Orton Family Foundation	placeways.com	\$350/\$850(Pro)
Virtual Globe				
ArcGIS Explorer	Easy navigation, Access to GIS servers, Integrate local content (documents, photos, videos), presentation tools	ESRI	www.esri.com/software/arcgis/explorer	Free
Google Earth	Pre-packaged layers, easy navigation, access to user kml content through online community	Google	earth.google.com	Free
Nasa Worldwind	Layered imagery and terrain, easy navigation, geo-science focus. Lots of applets and applications available.	Nasa	worldwind.arc.nasa.gov	Free
Completed by Tom McClintock, Land Information and ComputJuly 12, 2011.				

A Comparison of Visualization Software		
3D Software	Training	Input File formats
CAD- Based		
SketchUp	Authorized Training Center/Demo and Speaker by request	Sketchup model (.skp), DEM, 3DS, Google Earth files (.dae, .kmz), 2D Images (jpg, tif, bmp, png), Photoshop (.psd)
Terravista Base	vendor	P3D, DLG-O, DFAD, DTED, Shapefiles, DEM
Microstation	vendor	DWG, DXF, PDF, U3D, 3DS, ACIS SAT, CGM, OBJ, VRML, Collada, Sketchup (skp), ESRI shapefiles, KML, Images
Autodesk 3ds Max	vendor	FBX, OBJ, SGI, DWG, DEM, XML, AI, PRJ, VRML, IGES, MPEG, OpenEXR
GIS-Based		
ArcGIS 3d Analyst ArcScene	vendor / LICGF	Images, Tins, Grids, Shapefiles, Coverages, Geodatabases, DXF, ArcScene Animations
ArcGIS 3d Analyst ArcGlobe	vendor	Images, Tins, Grids, Shapefiles, Coverages, Geodatabases, KML, KMZ, ArcGlobe Animations
IMAGINE VirtualGIS	vendor / LICGF?	Images, Grids, Shapefiles, Coverages, DXF
GeoViz Toolkit	Penn State GeoVista Center	Predefined U.S. and South Carolina data/shapefile
Landscape Modelling		
World Construction Set (WCS)	vendor (3D Nature Academy)	3D Objects, DXF, DEM, Shapefiles, GPS points, JPEG, PNG, TIFF
Visual Nature Studio (VNS)	vendor (3D Nature Academy)	PRJ, 3D Objects, DXF, DEM, Shapefiles (with "island topology"), GPS points, JPEG, PNG, TIFF/GeoTIFF
3dNature Scene Express	vendor (3D Nature Academy)	Host Software Inputs (WCS / VNS)
3dNature Nature View Express	vendor (3D Nature Academy)	Host Software Inputs (WCS / VNS)
Environmental Visualization System (EVS Standard)	vendor	netCDF, DWG, DXF, Images, SDTS, DEM, Shapefiles, 4DIM
Surfer	vendor/video and online guide	Base maps (BLN, BMP, BNA, DCM, DLG, DDF, DXF, EMF, JPEG, RGB, SHP, SID, TIFF), ASCII, DBF, XLS, Grids (ADF,RAW, TGA, DAT, GRD, ZMAP)
Voxler	Vendor video tutorials, phone tech support	GeoTiff, DXF, BLN, DDF, DLG, SDTS, ESRI Shapefiles, ADF, TXT, DAT, VDAT, RAS, RAW, RGB, RGBA, XLS, XLSX, XYZ, and many more.
Photo Manipulation		
CanVis	WebEx virtual workshops/training through NOAA Coastal Services Center	Graphic file formats (JPEG, TIF, GIF, PNG, BMP, WMF/EMF, TGA)
Canvas	Tutorials	RAW, MS Office 2007 (docx, pptx, xlsx), PNG, AutoCAD (DXF/DWG), TIFF, AI, (over 80 formats)
PTgui	Online Tutorial	Images (jpeg, jpe, tiff, png), Ptgui projects (.pts), templates
GigaPan Stitch	Online Support	JPEG, TIFF, PNG
Photosynth	Online Support/Discussion	JPG, TIFF
Adobe Photoshop	Product tutorials, free tech support, books, professional workshops	RAW imports, graphic files (JPEG, TIF, PNG, BMP, GIF, HD Photo, PSD, PCX, OpenEXR), 3D Studio Max files, Adobe Illustrator files, Collada (.dae), Targa (.tga)
Paint Shop Photo Pro	Written and video tutorials	Images: BMP, JPEG, PNG, TIF, GIF, RAW, PSPImage, AFX, BRK, CAL, CDR, CGM, CLP, CMX, CUR, CUT, DCX, DGN, DIB, DRW, DXF, EMF, EPS, GEM, HPGL, IFF, IMG, JP2, JPG/JPEG/JPE/JFIF, KFX, LBM, LV, MAC, MSP, NCR, PBM, PCD, PCT, PCX, PDF, PGM, PIC, PPM, PSD, RAS, RLE, SCT, SGI/RGB, SVG, TGA, WBMP, WMF, XBM, XPM, XWD, WPG, RW, CR2, DNG, NEF. Raw: RAW, BAY, RAF, DCR, MRW, ORF, PEF, X3F, SRF, ERF, KDC, K25, SR2, ARW, NRW, MOS, FFF.
Planning Support		
Community Viz Scenario 3D	vendor/LICGF	KMZ, 3DS, COLLADA (DAE), Sketchup (.skp), DEM, Ogre 3D
Community Viz Scenario 360	vendor / LICGF	ESRI files (vector shapefiles, raster images), ArcMap documents (.mxd)
Virtual Globe		
ArcGIS Explorer	Online Seminar	Images, Tins, Grids, Shapefiles, Coverages, Geodatabases, DXF, KML, KMZ, tasks
Google Earth	Online Tutorial	Images, KML, KMZ, GPS (.gpx, .loc, .mps), COLLADA Models(.dae), Sketchup Model (.skp)
Nasa Worldwind	Online Tutorial	KML/KMZ, Shapefiles, WMS
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