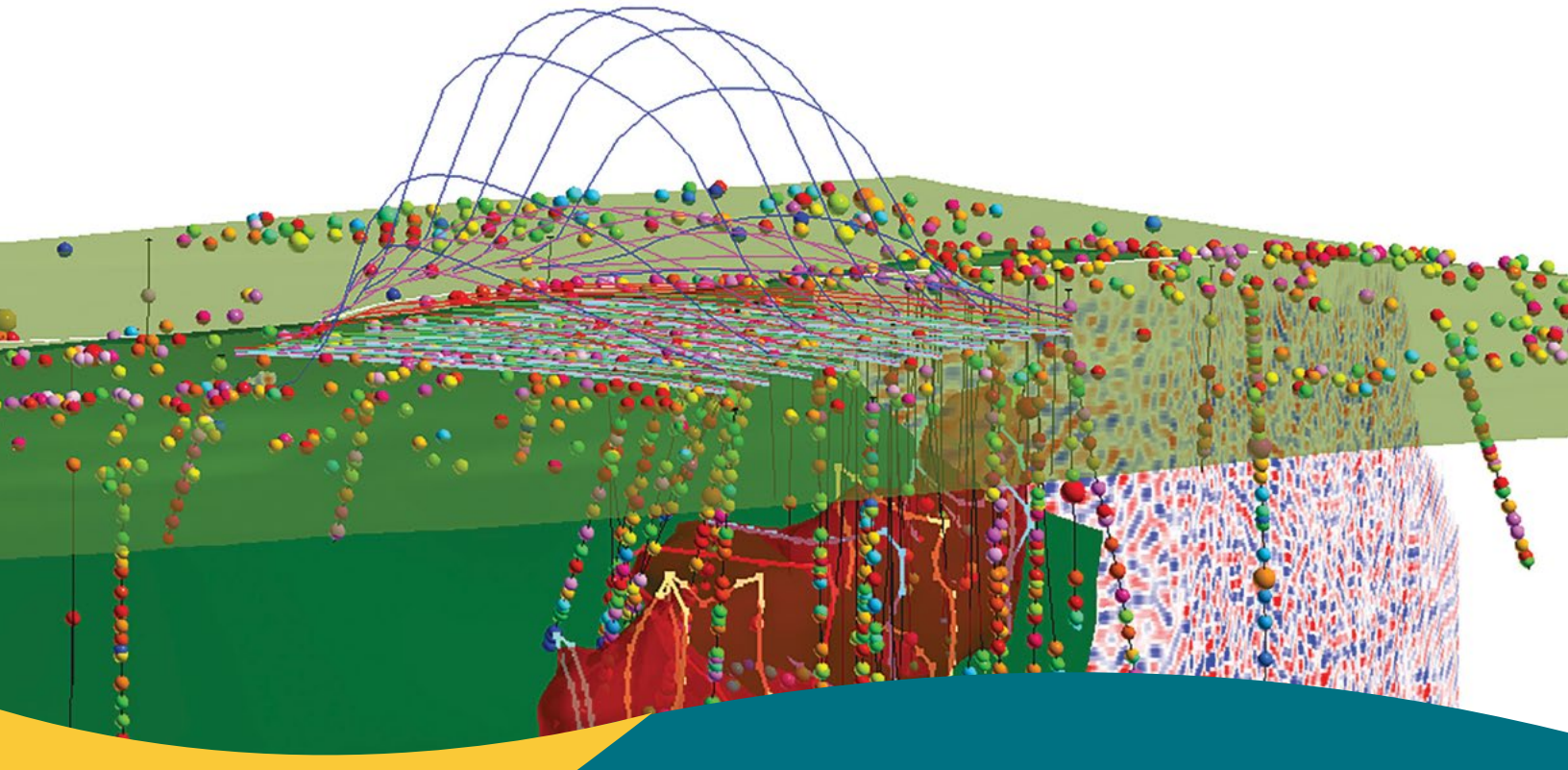
MiraGeoscience

...modelling the earth

Geoscience ANALYST 4.7

Compare Product Features



Product Features				Free Viewer	Pro	Pro Geophysics	Pro Geology
Visualization	Import, visualize, annotate, save, and distribute 3D geoscientific and mining data, models, and embedded documents/files			✓	✓	✓	✓
	GEOH5 open format with fast saving to disk (saves only new/changed data)						
	Object types: drillholes/wells; points, curves/polylines; wireframe surfaces; 2D grids; 3D block models; regular, tensor, and octree 3D grids; topo-draped, crooked-line 2D sections						
	Float, integer, binary, text, datetime, and reference (categorical) properties on all objects						
	Tabular display of data values linked to visualization						
	3D viewport, 3D spherical viewport, map viewport, 2D cross plot, 2D profile plot, and decay curves plot						
	Advanced interactive model clipping and slicing						
	Drape points, curves, and surfaces on surfaces						
	Texture drape geoimages and grids on surfaces, hillshading on 2D grids						
	Property blending on 3D block models, 2D draped models, and 2D grids						
	Easily customizable colourmaps						
Import	acQuire GIM Suite database	GEOH5 open format	NetCDF	✓	✓	✓	✓
	AMIRA TEM	Images BMP, JPG, TIF (.w)	ODBC drillholes (v 2.0)				
	ASCII	Geosoft XYZ, GRD, GDB	Open Mining Format (OMF)				
	AutoCAD DXF, DWG	GOCAD objects	Raster GeoTIFF, ERS, GRD				
	Datamine	ioGAS	SEG-Y 2D / 3D				
	EDI, Parametric	LAS drillhole files (v 2.0)	UBC-GIF				
	ESRI SHP	Maxwell plates	VP models				
Export	All objects to the GEOH5 open format			✓	✓	✓	✓
	All data tables to CSV			✗	✓	✓	✓
	3D viewport and map viewport to GeoTIFF			✗	✓	✓	✓
	Points to AutoCAD DXF, Datamine, GOCAD ASCII, ESRI SHP, CSV, OMF			✗	✓	✓	✓
	Curves to AutoCAD DXF, Datamine, GOCAD ASCII, ESRI SHP, CSV, OMF, Geosoft GDB			✗	✓	✓	✓
	Surfaces to AutoCAD DXF, Datamine, GOCAD ASCII, ESRI SHP, CSV, OMF			✗	✓	✓	✓
	Drillhole collar, survey, interval, and point logs to CSV			✗	✓	✓	✓
	Drillholes to LAS files (v 2.0)			✗	✓	✓	✓
	Drillhole path to Datamine string file			✗	✓	✓	✓
	2D draped models to CSV and UBC 2D mesh			✗	✓	✓	✓
	2D grids to TIFF, CSV, OMF, ERS			✗	✓	✓	✓
	VP models to VP ASCII file formats and CSV			✗	✓	✓	✓
	UBC-GIF observation, mesh, and model files to UBC-GIF ASCII file formats			✗	✓	✓	✓
	UBC-GIF TEM/FEM files (1D, 3D, 3D "v2") to UBC-GIF ASCII file formats			✗	✗	✓	✗
Utilities and data editing	Create ternary colour data from 3 user-specified properties on all object types other than surfaces, 2D draped mesh, and drillholes			✗	✓	✓	✓
	Create 2D grids, surfaces, 3D block models, octree grids, and VP layered models interactively			✗	✓	✓	✓
	Create discretized shapes within a 3D block model and 2D draped model			✗	✓	✓	✓
	K-means clustering			✗	✓	✓	✓
	Masking properties (binary inclusion/exclusion to define object sub-domains)			✗	✓	✓	✓
	Minimum curvature gridding			✗	✓	✓	✓
	Scripting on object properties			✗	✓	✓	✓
	Transfer/interpolate data between objects using inverse distance or nearest neighbour			✗	✓	✓	✓

(The table continues on the next page)

Product Features		Free Viewer	Pro	Pro Geophysics	Pro Geology
Utilities and data editing (continued)	Coordinate system transformation	✗	✓	✓	✓
	Animation of time-dependent objects and data	✗	✓	✓	✓
	Translate / rotate / scale objects	✗	✓	✓	✓
	Densify wireframe surfaces and curves to add more triangles or segments	✗	✓	✓	✓
	Reclassify reference data and classify numeric (float or integer) data	✗	✓	✓	✓
	Transfer DC/IP data from mask	✗	✓	✓	✓
Drillholes	Advanced drillhole analysis, design, and monitoring	✗	✓	✓	✓
	Calculate distance to drillholes and visualize on geological model	✗	✓	✓	✓
	Create points from drillhole collars	✗	✓	✓	✓
	Create composite interval logs	✗	✓	✓	✓
	Desurvey drillholes	✗	✓	✓	✓
	Calculate drillhole statistics	✗	✓	✓	✓
	Transfer point data to drillholes	✗	✓	✓	✓
Geophysical survey design	Ground and airborne gravity and magnetics	✗	✓	✓	✓
	DC/IP	✗	✓	✓	✓
	Seismic reflection	✗	✓	✓	✓
Geophysical data processing	Fourier domain filtering, compute IGRF, gravity corrections, trend removal	✗	✓	✓	✓
	Edge detection, trend lines, merge grids	✗	✗	✓	✓
	Extract depth slices from 3D models	✗	✗	✓	✗
	Line filters, Euler deconvolution, base station/instrument drift, peak finder	✗	✗	✓	✗
	EM mean and percentile uncertainties per line	✗	✗	✓	✗
	Support for all industry standard AEM system waveforms/channels	✗	✗	✓	✗
	Lag correction for receiver position offsets	✗	✗	✓	✗
	Automatic gain control on 2D grids	✗	✗	✓	✗
Geophysical modelling and inversion	Create 3D grid/block model with padding and increasing cell size with depth	✗	✓	✓	✓
	Unlimited gravity, magnetic (TMI), and gravity gradient forward modelling	✗	✓	✓	✓
	Unlimited gravity, magnetic (TMI), and gravity gradient unconstrained inversion	✗	✓	✓	✓
	Assign 3D grid/block model cells to geological units	✗	✓	✓	✓
	EM loop modelling	✗	✓	✓	✓
	Magnetic component and remanent magnetization modelling and inversion	✗	✗	✓	✗
	Geologically-constrained inversion	✗	✗	✓	✗
	Resample data (points, curves, and 2D grids) to VP model	✗	✗	✓	✗
	Simple plate(s) forward modelling with overburden (all methods)	✗	✗	✓	✗
	Geological contact and depth to basement inversion	✗	✗	✓	✗
	User interface to UBC-GIF* modelling and inversion	✗	✗	✓	✗
	User interface to Fullagar Geophysics Parametric* inversion	✗	✗	✓	✗
	Physical property inversion across all (non-seismic) methods	✗	✗	✓	✗
	Create Gaussian blurred property on block models	✗	✗	✓	✗
	Transfer and interpolate data from multiple draped models to a block model	✗	✗	✓	✗
	Bi-directional gridding	✗	✗	✓	✗

(The table continues on the next page)

* UBC-GIF, Fullagar Geophysics Parametric, and VPem3D codes are sold separately. Available UBC-GIF codes include: GRAV3D, GG3D, MAG3D, MVI, DCIP2D, DCIP3D, MVI, OCTGRAVDE, OCTMADGE DCIPoctree, E3DMT (MT/ZTEM), and TDoctree (TEM).

Contact us for more information: sales@mirageoscience.com

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Geophysical modelling and inversion (continued)	VP Suite integration: VPmg, VPem1D	×	×	✓	×
	SimPEG Suite integration: (all 3D octree unless specified) – MVI: scalar and tensor data – Gravity: scalar and tensor data – DC Resistivity and IP: 2D and 3D – Natural Sources: magnetotelluric, tipper – TEM: airborne and ground 3D or laterally constrained 1D – FEM: airborne and ground 3D or laterally constrained 1D – Joint Surveys: multi-systems, single physical property – Joint Cross-Gradients: up to three physical properties – Petrophysical Guided Inversion (PGI) – Block model to octree model conversion	×	×	✓	×
	Prepare data, create 3D grids, incorporate physical property constraints, and run inversions for UBC-GIF* and VP Suite programs	×	×	✓	×
Geology tools	Download satellite data (XYZ tiled maps only)	×	×	✓	✓
	Geological modelling (GemPy implicit modelling)	×	×	✓	✓
	Principal component analysis	×	×	✓	✓
	Interpolation with RBF and neural kriging	×	×	✓	✓
	Section interpretation	×	×	×	✓
	Connection to Large Language Models (LLM): – Relogging drillholes by mapping text fields to new classification – Language translation of drillhole records – Summarize text data on objects with optional user context – Includes models with Zero Data Retention (ZDR) – Ability to use your own API key and to use local Ollama model	×	×	×	✓
	Prospectivity mapping (2D and 3D) with 'Targeting Workflow'	×	×	×	✓
	Domain mapping with Simple Linear Iterative Clustering (SLIC) segmentation	×	×	×	✓
	Centred log ratio normalization	×	×	×	✓
	Density-based spatial clustering (DBSCAN) to reveal natural geological groups	×	×	×	✓
	Self-organizing map clustering to reveal patterns in multivariate data	×	×	×	✓
	Surface creation from curves (explicit wireframing)	×	×	×	✓
	Repair closed surfaces (solids), e.g. hole filling, surface reconstruction	×	×	×	✓
	Block model geological classification by cell from closed surfaces (solids)	×	×	×	✓
Connectivity	Python API	✓	✓	✓	✓
	Live connection to Geoscience INTEGRATOR data management system	✓	✓	✓	✓
	Live connection to Python, including geoapps and Python UI creation tools	×	✓	✓	✓
	Live connection to ioGAS and Maxwell	×	✓	✓	✓
	API for running inversions on cloud-hosted or on-premise HPC environments	×	×	✓	×

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