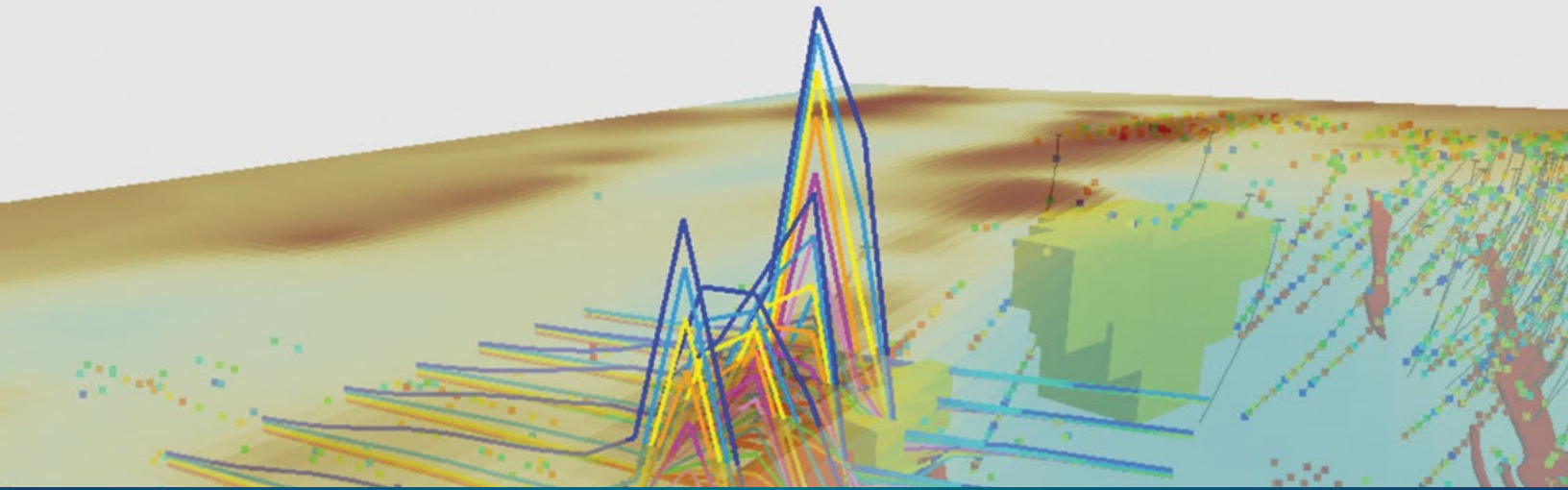




MiraGeoscience
...modelling the earth



**Geoscience
ANALYST 4.8**



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; 2D draped models (topo-draped, crooked-line 2D sections)				
Float, integer, binary, text, datetime and reference (categorical) data on all objects				
Tabular display of data values linked to visualization				
3D viewport, 3D spherical viewport, map viewport, 2D cross plot, 2D profile plot, decay curves plot, and stereonet	✓	✓	✓	✓
Interactive model clipping and slicing				
Drape objects on surfaces and grids				
Texture drape geomages and grids on surfaces; hillshading on 2D grids				
Data blending on 3D block models, 2D draped models, and 2D grids				
Customizable colourmaps				

Product Features				Free Viewer	Pro	Pro Geophysics	Pro Geology
Import	acquire GIM Suite database	Images BMP, JPG, TIF (.w)	OBJ				
	AMIRA TEM	Geosoft XYZ, GRD, GDB	ODBC drillholes (v 2.0)				
	ASCII	GEOVIA ASCII files	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				
	GEOH5 open format	NetCDF					
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, GEOVIA ASCII			✗	✓	✓	✓
	Surfaces to AutoCAD DXF, Datamine, GOCAD ASCII, ESRI SHP, CSV, OMF, GEOVIA ASCII			✗	✓	✓	✓
	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 data types on all object types other than surfaces, 2D draped model, and drillholes			✗	✓	✓	✓
	Create 2D grids, surfaces, 3D block models, octree grids, and VP layered models interactively			✗	✓	✓	✓
	K-means clustering			✗	✓	✓	✓
	Masking data (binary inclusion/exclusion to define object sub-domains)			✗	✓	✓	✓
	Minimum curvature gridding			✗	✓	✓	✓
	Scripting on object properties			✗	✓	✓	✓
	Data transfer between objects			✗	✓	✓	✓
	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			✗	✓	✓	✓
	Create discretized shapes within a 3D block model and 2D draped model			✗	✗	✓	✓
	Drillholes	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				✗	✓	✓	✓

Product Features		Free Viewer	Pro	Pro Geophysics	Pro Geology
Geophysical survey design	Ground and airborne gravity and magnetics	✗	✓	✓	✓
	DC/IP	✗	✓	✓	✓
	Seismic reflection	✗	✓	✓	✓
	Topographic drape with aircraft parameters	✗	✗	✓	✗
Geophysical data processing	Fourier domain filtering, compute IGRF, gravity corrections, trend removal	✗	✓	✓	✓
	Edge detection, trend lines, merge grids	✗	✗	✓	✓
	Bi-directional gridding and multi-trend gridding for 2D grids	✗	✗	✓	✗
	Extract depth slices from 3D models	✗	✗	✓	✗
	1D spatial and FFT filters, and peak finder	✗	✗	✓	✗
	EM mean and percentile uncertainties per line	✗	✗	✓	✗
	Support for all industry standard AEM system waveforms/channels	✗	✗	✓	✗
	Base station/instrument drift and lag correction for receiver position offsets	✗	✗	✓	✗
	Euler deconvolution and 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	✗	✗	✓	✗
	Geological contact and depth to basement inversion	✗	✗	✓	✗
	Geologically-constrained inversion	✗	✗	✓	✗
	Physical property inversion across all non-seismic methods	✗	✗	✓	✗
	Create VP model using an unconstrained model designer or from octree	✗	✗	✓	✗
	Apply drillhole constraints to VP models	✗	✗	✓	✗
	Resample data (points, curves, and 2D grids) to VP model	✗	✗	✓	✗
	Simple plate(s) forward modelling with overburden (all non-seismic methods)	✗	✗	✓	✗
	User interface to UBC-GIF* modelling and inversion	✗	✗	✓	✗
	User interface to Fullagar Geophysics Parametric and VPem3D* inversion	✗	✗	✓	✗
	Create Gaussian blur on block model data	✗	✗	✓	✗
	Transfer and interpolate data from multiple 2D draped models to a block model	✗	✗	✓	✗
	VP Suite integration: VPmg, VPem1D	✗	✗	✓	✗
	SimPEG Suite integration: (all 3D octree unless specified)				
	<ul style="list-style-type: none"> - Apparent conductivity inversion (MobileMT) - MVI: scalar and tensor data, and large scale (PDE solver) - 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, arbitrary receiver orientation 	<ul style="list-style-type: none"> - FEM: airborne and ground 3D or laterally-constrained 1D, arbitrary receiver orientation - 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 - Automated plate modelling 	✗	✗	✓
Prepare data, create 3D grids, incorporate physical property constraints, and run inversions for UBC-GIF* and VP Suite programs		✗	✗	✓	✗

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

Product Features		Free Viewer	Pro	Pro Geophysics	Pro Geology
Geology tools	Download satellite data (XYZ tiled maps only)	✗	✗	✓	✓
	Geological modelling (GemPy implicit modelling)	✗	✗	✓	✓
	Principal component analysis	✗	✗	✓	✓
	Interpolation with RBF and neural kriging	✗	✗	✓	✓
	Surface from single curve, dip, and length	✗	✗	✓	✓
	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	✗	✗	✗	✓
	Centered log ratio normalization	✗	✗	✗	✓
	Density-based spatial clustering (DBSCAN) to reveal natural geological groups	✗	✗	✗	✓
	Self-organizing map clustering to reveal patterns in multivariate data	✗	✗	✗	✓
Closed surface creation from curves and points (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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