



Mira Geoscience
20 years of modelling the earth

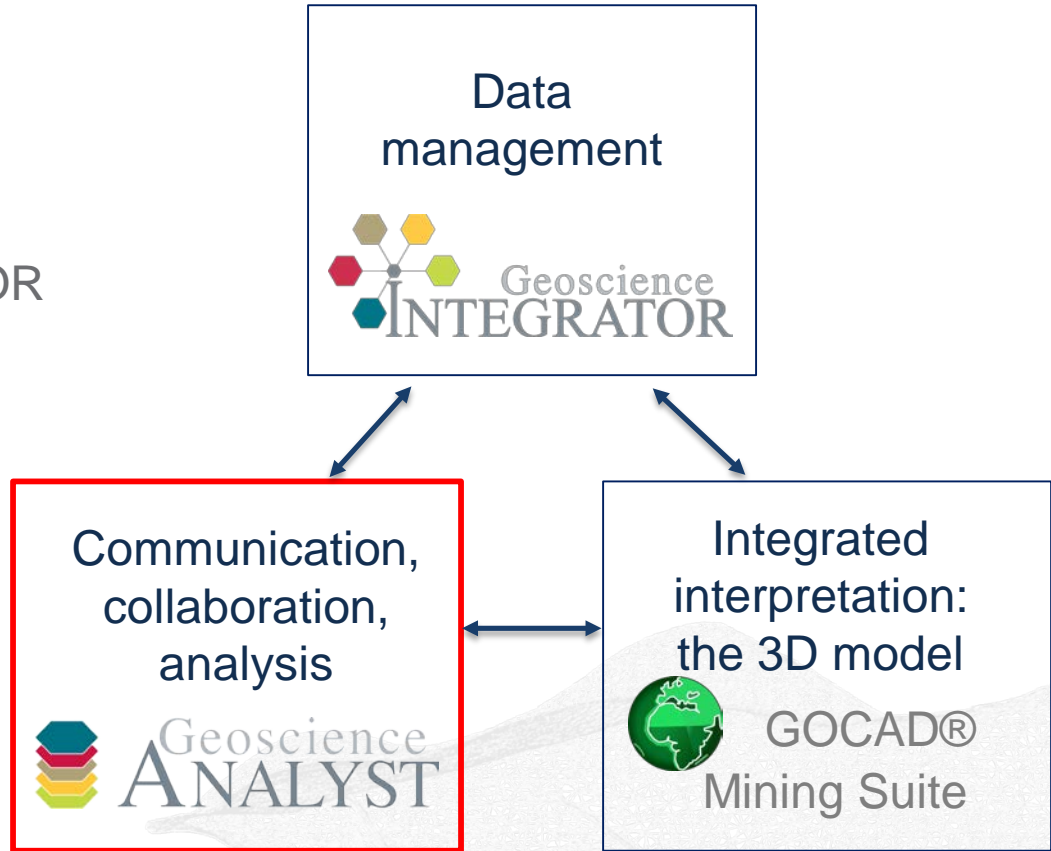
Geoscience ANALYST introduction

Presenter: Glenn Pears

Our products

- GOCAD Mining Suite
- Geoscience INTEGRATOR
- Geoscience ANALYST

- VP Geophysics Suite
- UBC-GIF



Geoscience ANALYST software structure

Free 3D viewer

Import and compile
Visualize and query
Edit and annotate
Save and share

Pro package

ioGAS Link

Drillhole Designer

Maxwell Link

Basic geophysics

(new functionalities next release)

Pro Geophysics package

Front end to UBC-GIF
(codes not included)

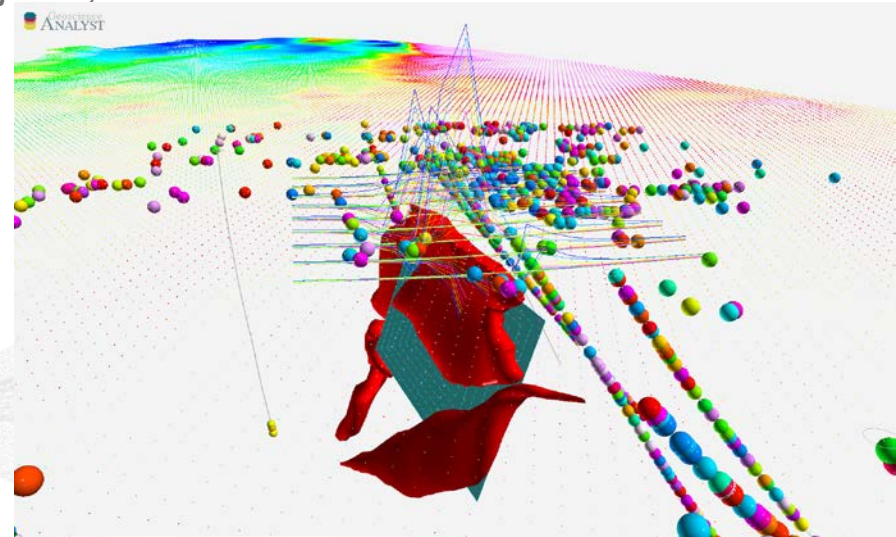
VPmg and VPem1D
(codes included)



Geoscience ANALYST - Free 3D viewer

Key features:

- Standalone application that allows users to import, visualize, annotate, save, and distribute 3D geoscientific data, models, and files.
- Imports ASCII, ESRI, Geosoft, geo-referenced images, DXF, Datamine, Maxwell, UBC-GIF, and GOCAD Mining Suite files/objects, more.
- Export csv, drillholes, points, curves and surfaces in GOCAD format.
- Direct access to data values (not just a viewer).
- Add your own data to existing projects.



Geoscience INTEGRATOR

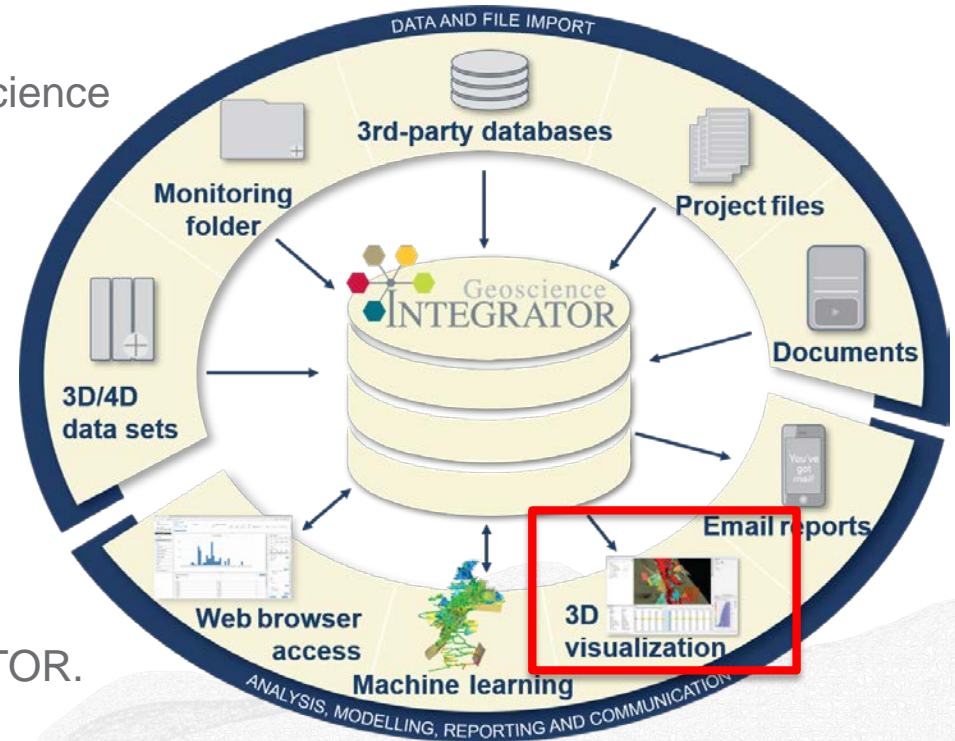
Single repository for 4D mining and geoscience data, metadata, models.

Powerful contextual 4D query capability.

Data integration for machine learning.

Automated import and reporting.

Geoscience ANALYST is the 3D visual query interface to Geoscience INTEGRATOR.



Geoscience ANALYST - Geoscience INTEGRATOR

The screenshot displays the Geoscience ANALYST software interface. The central viewport shows a 3D geological model with a bounding box. The left sidebar lists various objects, with 'Microseismic Data Set group' selected. The right sidebar shows the 'Geoscience INTEGRATOR Query' window, which includes query parameters for objects, date, neighbourhoods, tags, and shifts. The bottom panel shows a summary of the selected object's bounding box and date range.

Geoscience ANALYST

Geoscience INTEGRATOR Query

Query Parameters

Objects

Bounding Box

From: X: 4772.00 Y: 939.00 Z: 1790.00

To: X: 4950.01 Y: 1115.01 Z: 1968.01

X extent Y extent Z extent

Date

From: 2003-01-04 08:26:14 To: 2008-08-04 07:24:23

Neighbourhoods

Check/Uncheck all

Level_1865

Level_1890

FOG-2006-09-11

Tags

Check/Uncheck all

FOG-2006-09-11

FOG-2004-01-04

Shifts

Check/Uncheck all

morning

afternoon

night

Visual Parameters Geoscience INTEGRATOR Query

Data Colours

Summary

Bounding maximum: X: 4950 Y: 1115 Z: 1968

Bounding minimum: X: 4772 Y: 939 Z: 1790

Count: 21229

Maximum Date: 2008-08-04 07:24:23.742

Minimum Date: 2003-01-04 08:26:15.501

StdDev^2 bounding maximum: X: 4931 Y: 1115 Z: 1968

StdDev^2 bounding minimum: X: 4859 Y: 1033 Z: 1843

[Read and stress study - Craig Mine.docx](#)

Files

Controls Objects

X: 4731.785, Y: 1226.797, Z: 2099.238 | Dip: 23.500, DipDir: 23.100

Data Colours: iGAS



Geoscience ANALYST - Pro

Geoscience ANALYST Pro includes...

Geoscience ANALYST free 3D viewer

Additional core functionality

ioGAS Link

Maxwell Link

Drillhole Designer

Geophysics (new
functionality next release)

Additional functionality for low-cost.

Geoscience ANALYST - Pro

Additional core functionality...

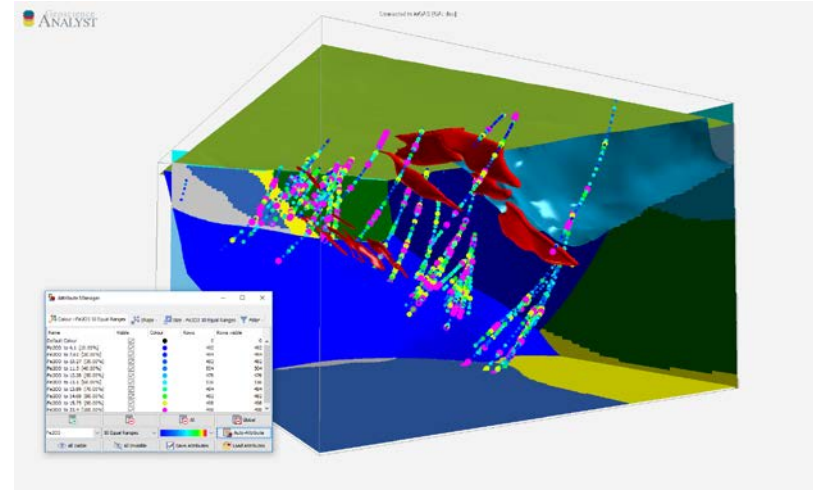
- Digitize new points, curves, and surfaces (snapping functionality).
- Edit points, curves, and surfaces (translate/rotate/scale objects).
- Transfer grid data to points, curves, and surfaces.
- Interpolate point, curve, and surface data to 2D grids.
- Edit data table entries.
- Desurvey drillholes to create points.
- Transfer point data to drillholes.
- Design 2D grids.
- Undo/redo functionality.
- Includes support.



Geoscience ANALYST - Pro

ioGAS Link...

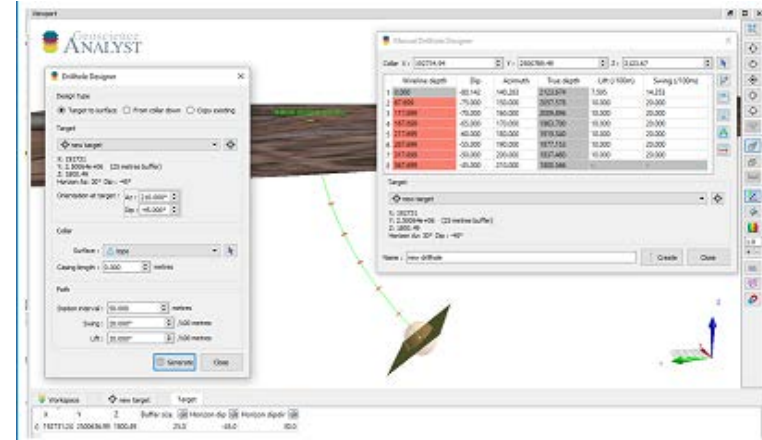
- Live connection to ioGAS.
- View points with ioGAS attributes.
- Real-time attribute updates.
- Real-time ioGAS data addition updates.
- Synchronize utility to push data edits and additions to ioGAS.
- Ability to save linked ioGAS data after disconnecting.
- Ability to use ioGAS's graphs, maps, utilities, stereonet, gridding, and statistical tools.



Geoscience ANALYST - Pro

Drillhole Designer....

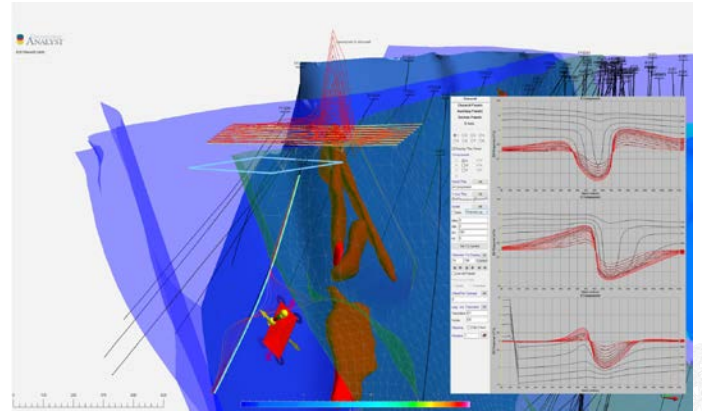
- Design new drillholes from target to surface
 - oriented buffered target creation and edit utility.
- Design new drillholes from collar down
 - Casing length, azimuth, dip, lift, swing, and station interval parameters.
- Design new drillholes from existing ones.
- Design drillholes manually.
- Change collar location, modify deviation station dip, azimuth, lift, and swing parameters.
- Insert and delete deviation stations manually and at surface intersections.



Geoscience ANALYST - Pro

Maxwell Link...

- Live connection to Maxwell EMIT ElectroMagnetic Imaging Technology software.
- Dynamically manipulate plate geometry directly in the viewport.
- Manipulate plate geometry through visual parameters.
- Move plates by dragging in the viewport.
- Broadcast plate geometry, visual parameters, and data updates from and to Maxwell.



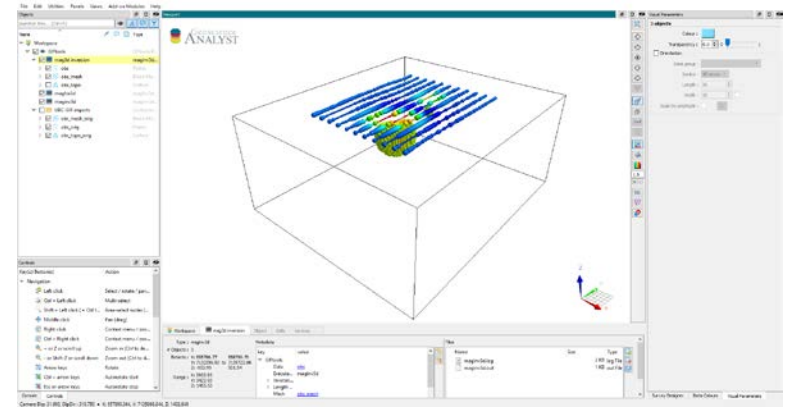
Does not include the Maxwell application developed by the EMIT ElectroMagnetic Imaging Technology team.



Geoscience ANALYST - Pro

Basic geophysics....

- Minimum curvature gridding.
- Geophysical filters.
- Trend removal.
- EM loop modelling.
- Visualization of EM time domain decays.
- Forward modelling and unconstrained inversion (gravity, magnetics, gravity gradiometry) powered by our unique VP geophysical modelling technology that can operate directly on geological models.
- Geophysical survey design – simulation of data acquisition through forward modelling.



Geoscience ANALYST – Pro Geophysics

Geoscience ANALYST Pro Geophysics includes...

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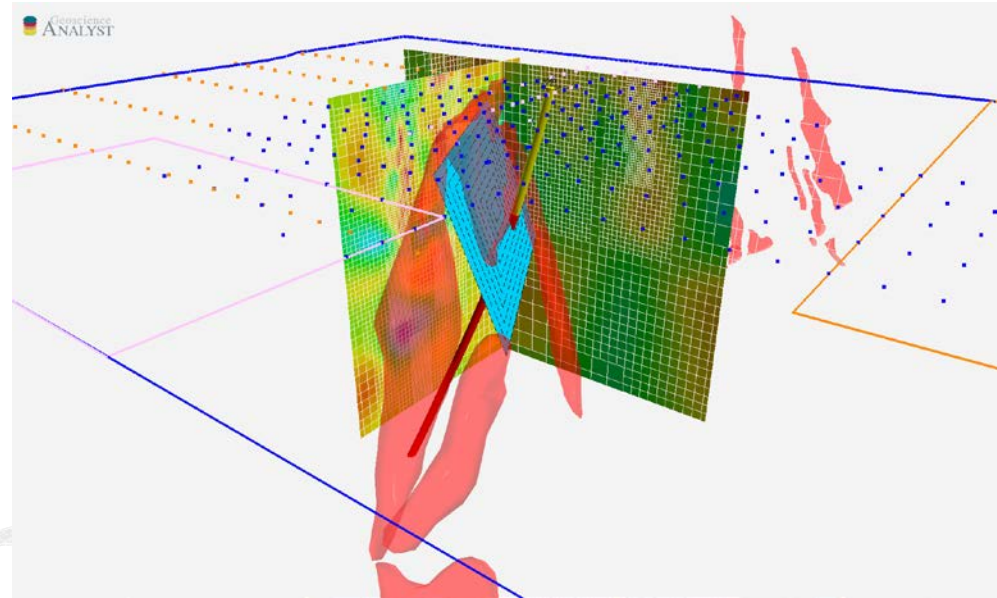
VPmg and
VPem1D

(codes included)

Geoscience ANALYST - Pro Geophysics

Features:

- Constrained and unconstrained inversion of potential fields, resistivity, induced polarization, and electromagnetic data.
- User interface to UBC-GIF codes to prepare data, create meshes, incorporate constraining geologic information, run inversions, and visualize results in an integrated 3D environment.
- Unlimited access to VPmg and VPem1D (standalone software).



Geoscience ANALYST - Pro Geophysics Consortium

Vision:

- Deliver software and methods that make the use of advanced geophysics a day-to-day, practical reality for industry.
- Emphasize the development and use of UBC-GIF, VP Geophysics Suite, and open source initiatives, along with codes from other academic research groups.
- We will not be focused on furthering fundamental research into the computational algorithms themselves.

Deliverables:

- Tiered corporate licensing.
- GIFtools (UBC forward modelling and inversion) and VPmg.exe and VPem1D.exe.
- Annual meeting in Vancouver.
- 50 hours of support or training per year and steering committee*.

