Geovariances
Where no one has gone before

Isatis, Geostatistics Software for Improved Mining Resource Estimation

Flexible

Access all the Geostatistics in one comprehensive package

- Because your data is issued from various software packages or databases, Isatis offers a **wealth of interfaces** to load them all.
- Deposits are all different. You find in Isatis an **exhaustive range of proven methodologies** providing you with the best expected results.
- Your time is priority. **Automatic procedures** make daily update simple, easily reproducing complex workflows.

Accurate

Take back control on your resource estimates

- Because you have to be confident in the representativity and accuracy of your data, Isatis allows in-depth data analysis and quality control. Your **data is fully validated**.
- You need a transparent tool to control your project at each stage. Isatis allows an **accurate checking** of all the key parameters involved in the estimation process.
- In the context of international rules regulation, you have to report to investors the **quality of your resource estimates**. To assess it, you need reliable information. Using Isatis, you keep track of your entire process for **full auditing**.

Reliable

Benefit from the Reference in Geostatistics

- Our R&D focus, in partnership with the Centre of Geosciences (Geostatistics Group) of the French School Mines ParisTech, ensures that Isatis remains at **the cutting edge of technology**.
- As the **world-famous international mining companies**, you rely on our leading technology for your decision process.
- Because your needs and expectations continuously evolve, we make the software **maintenance and development our priority**.
- You need to be sure your project goes smoothly. We deliver **on-line fast, efficient and personalized technical support**.

isatis

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Isatis Overview

Data Integration and communication with other software packages

- Import and export functionalities with usual formats (ASCII files, Excel, ODBC – SQL, NetCDF, image) and professional packages (acQuire, CAE Studio, Vulcan, Whittle).
- Direct link in Gems® (Geovia), acQuire® and Gocad® (Paradigm).

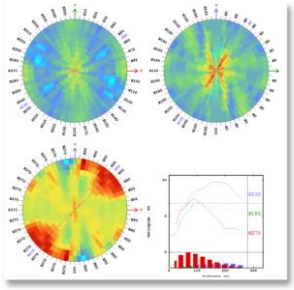
Data Quality Control and Spatial Analysis

- Unique ability of interactive and dynamically linked basemaps, histograms, scatter diagrams, QQ-plots, PP-plots, variogram clouds, experimental variograms and related functions in any direction of space. Box plots, swath plots. Experimental variograms on large grids.
- Variogram regularization. Modeling of distributions (histogram), gaussian anamorphosis function modeling, change of support, information effect, global grade-tonnage curves. Truncated gaussian variogram modelling.
- Domaining from wireframes. Analysis of domain boundaries through Border Effect and Contact Analysis tools.
- Unfolding/Folding.

Faults Management

Handling of 2D or 3D faults in variogram calculations and search neighbourhood.

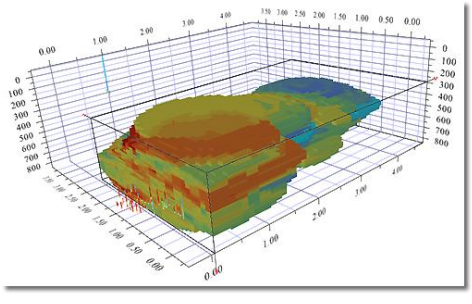
Variography



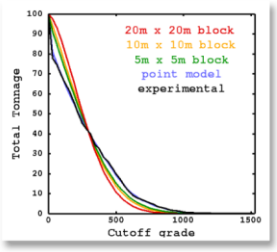
- 2D/3D isotropic and directional variogram, identification of directions and scales of continuity through unique 3D interactive variogram map. Variogram on large grids using FFT.
- Interactive graphical fitting mode. Simple and cross-variograms automatic fitting. Exhaustive set of models with no limitation in the choice of nested variograms.

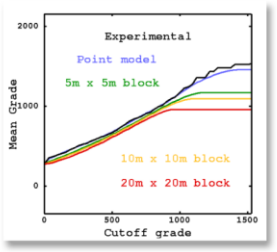
Full Range of Estimation Methods

- Univariate and multivariate kriging. Ordinary and simple kriging. Collocated co-kriging. External drift kriging. Punctual and block estimation. Polygon kriging. Local geostatistics. Different methods for local estimation based on non-linear techniques: Indicator Kriging, Multi-indicator Kriging, Disjunctive kriging, Uniform Conditioning (multivariate), Localized Uniform Conditioning, Lognormal kriging.



- Confidence intervals for resource classification. Powerful search neighborhood: anisotropic search radius, angular sector, declusturization radius, capping of high grades, heterotopic search. Estimation of recoverable resources.





Conditional Simulations

- Univariate or multivariate block simulations based on turning bands or Sequential Gaussian Simulations (SGS). Direct Block Simulations. Cloud Transform Simulations. Gibbs Sampler.
- Geological modeling: Sequential Indicator (SIS), Truncated Gaussian (TGS), Plurigaussian (PGS), Multiple-points Simulations (MPS).
- Simulation Reduction to extract a representative subset of the simulations.

Quantification of Uncertainties

Post-processing of simulations. Local histograms.
Probability maps, quantile maps, risk curves.

Data Management and Batch Procedure

Parameter files and journaling file system for automatic batch procedures and auditing. The workflow and all the parameters are stored in text files.

System Requirements

Operating system

Available on PC Intel/AMD Windows 7 or 8 32-bit or 64-bit (recommended) or Linux Red Hat Enterprise 5 (or 6) or equivalent (64-bit). Isatis on Windows OS requires the PC X server Exceed V14+

Hardware

- Processor: Pentium ~1Ghz (Windows, Linux).
- Memory: 1 GB required.
- Hard Drive: 200 MB of disk space.

License

Reprise Manager licensing system (by Reprise Software) allowing flexible use on any system. Single-user or site license system. Dongle-based license. License borrowing enabling temporary check out of a license for working offline.

Consulting Training

Our highly experienced consultants provide a wide range of top quality services for beginners and specialists in Geostatistics: one-to-one technical support, mentoring, training workshops, consulting.

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