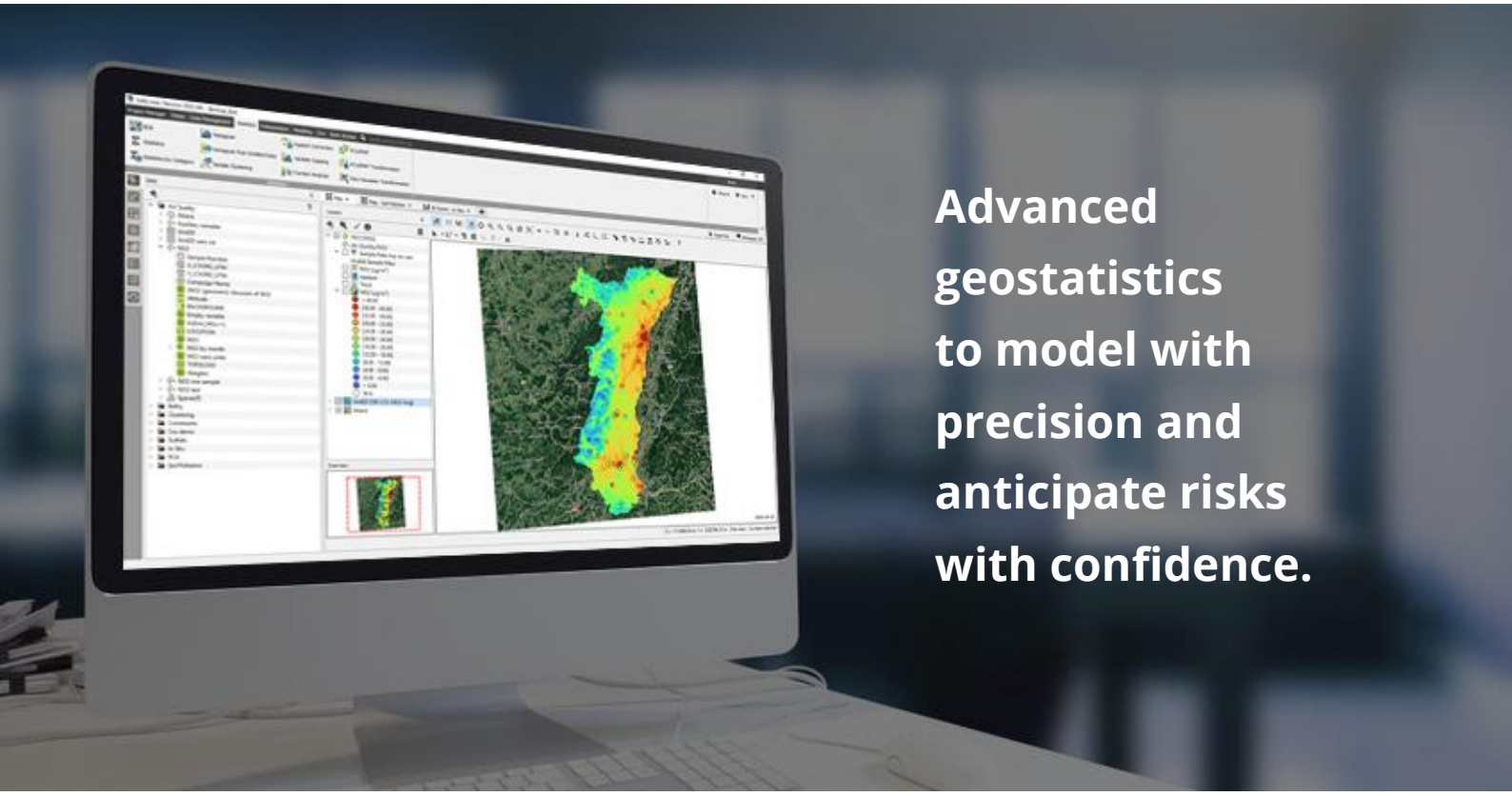
isatis.neo

GEOSTATISTICS MADE ACCESSIBLE

Standard edition



Isatis.neo is a comprehensive and high-performance geostatistics software solution designed for any organization working with spatialized data.

The software goes **beyond geostatistical standards to deliver advanced data analysis and visualization**, **high-quality maps and 3D models**, and **robust uncertainty and risk assessment, supporting** smarter, more confident decisions.

Thanks to its **Python scripting capabilities** and **machine learning algorithms**, **Isatis.neo** simplifies the **automation**, **customization**, and **integration** of geostatistical workflows into your business processes. Its **intuitive interface** ensures quick adoption and smooth, efficient daily use.

Available in a ***Standard Edition***, **Isatis.neo** also comes in two specialized versions:

- ***Petroleum Edition*** – featuring a preconfigured workflow for **depth conversion, automatic spill-point detection, and volumetrics**, with uncertainty quantification throughout.
- ***Mining Edition*** – tailored to meet the specific needs of mining professionals.

Why Isatis.neo?

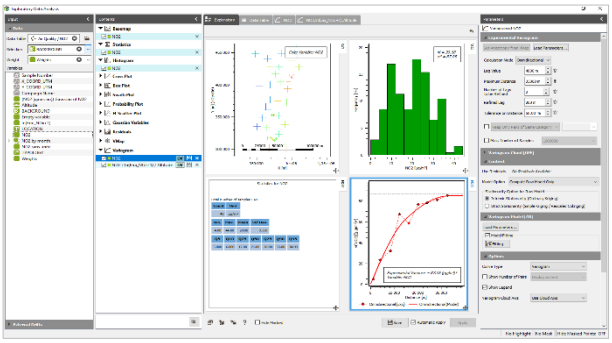
– **Unmatched performance** powered by cutting-edge parallelized algorithms for faster, more efficient computations.
– **Simple and seamless to use** thanks to an intuitive interface, guided tasks, and an immediate learning curve.
– **Custom, fully integrated, and automated workflows** that adapt to your processes and free your teams from repetitive tasks.
– **Proven reliability**, backed by over **40 years of Geovariances' expertise** in geostatistics and software development, in partnership with **Mines Paris – PSL**.

For more information or to request a demo, visit www.geovariances.com

ISATIS.NEO KEY FEATURES

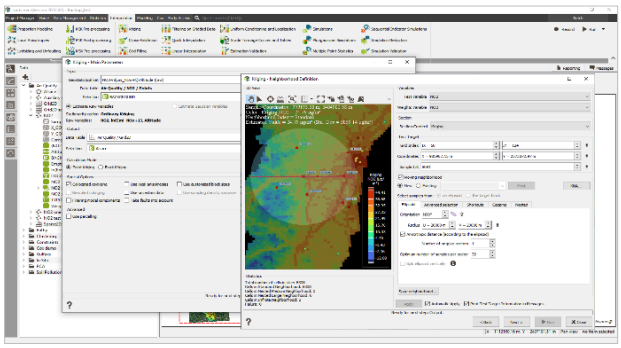
- Integrated and powerful application for Exploratory Data Analysis in univariate and multivariate contexts.
- Automatic sample clustering for the definition of homogeneous geological facies classes. Border analysis.
- Built-in tools for drill hole compositing, data declustering, PCA, MAF, PPMT, KNA, cross-validation, local varying anisotropies, variable capping, unfolding.
- Classical interpolation methods (nearest neighbor, inverse distance, moving average, moving median).
- Industry-standard estimation methods (point, block, on subblocks, simple, ordinary, universal, multivariate, spline, linear kriging, kriging with external drift).
- Advanced estimation methods (rescaled cokriging, kriging with uncertain data, faults, filtering model components, Mixed Support Kriging, using local parameters, using Sampling Density Variance, conditional expectation).
- Conditional and non-conditional simulations (SGS, TBS, Direct Block Simulations, SPDE, Cox). Simulation reduction.
- Genuine simulation post-processing for robust uncertainty and risk analysis.
- Sequential Indicator Simulations, Plurigaussian Simulations, Multiple-point Statistics for modeling subsurface, reservoir, or orebody geology.
- Estimation validation / Simulation validation.
- Uniform Conditioning, LMUC, MIK.
- Python functionalities and coding.
- Great interoperability.
- Access to Isatis.neo database (read/write) from outside using Python.

FULLY EXPLORE YOUR DATA



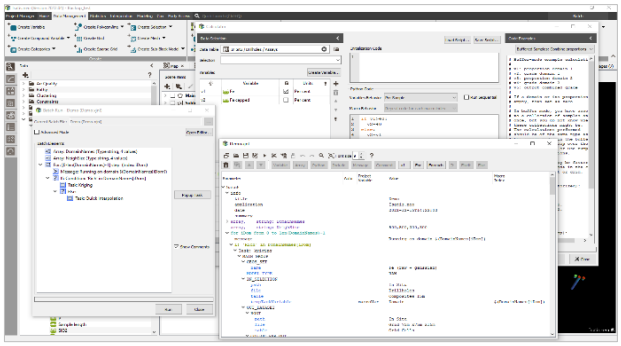
An integrated, user-friendly application for Exploratory Data Analysis enables fast computation and display of various statistics (i.e., histograms, box plots, cross-plots, swath-plots, probability plots, H-scatter plots), variograms, and Gaussian anamorphosis, with variables dragged and dropped. All the inputs users need for kriging or simulation (variogram models, stationarity options, and anamorphosis function) are stored in a single dedicated object. It guarantees consistency and makes further parameter tuning easier.

QUICKLY GET RELIABLE ESTIMATES



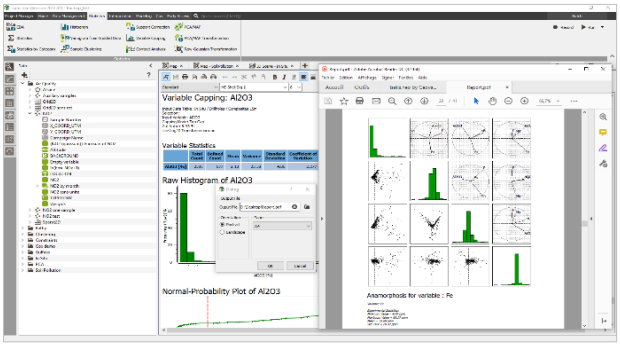
Kriging options are grouped in a single dialog box and selected with a mouse click, simplifying the settings choices. Systematic naming of output variables, based on a predefined or user-defined convention, saves users time and ensures consistent naming across models.

CUSTOMIZE AND AUTOMATE YOUR WORKFLOWS



With its database open to Python scripting and its programming capabilities giving access to the entire Python ecosystem, Isatis.neo enables advanced workflow customization. Workflows can be saved as batch files and replayed automatically or interactively to process new data or explore different scenarios. These batch files document every sequence and parameter setting, ensuring thorough audit trails and quality control.

QUICKLY PRODUCE YOUR STUDY REPORTS



An integrated word processor facilitates reporting. The tool allows users to copy views, graphics, and message contents to a report as the project progresses. Users can then edit the text to their needs and export the report as a PDF.