Geovariances
Where no one has gone before

the experts you need

RESERVOIR-RELATED SERVICES

Our offer

Geostatistics is at the heart of numerous E&P workflows, from seismic data QC and depth conversion to reservoir characterization and volumetrics. Whatever the method you apply, controlling the underlying assumptions and validating the results is critical to avoid any detrimental consequences during prospect evaluation and reservoir uncertainty assessment.

Consulting - Benefit from renowned expertise

Geovariances consultants help you to efficiently setup solutions tailored to your particular geostatistical needs. Consulting projects can be organized either at your offices or in our premises, on an ad-hoc basis or through long-term commitment. They can:

- Review geostatistical components of your reservoir characterization workflows, whatever your software package
- Implement efficient workflows and integrate ISATIS seamlessly with your other software products
- Quantify the benefit of advanced QCing and modeling methodologies

Mentoring - Deepen your knowledge on specific issues

Increase your proficiency in geostatistics through one-to-one sessions with our experts

- Receive practical guidance on appropriate and well-proven geostatistical approaches
- Develop your geostatistical skills and, learn new methods

Training - Increase your skills in geostatistics

Geovariances offers a full suite of petroleum geostatistics courses available worldwide

- In-house sessions and workshops tailored to your specific requirements (basic to advanced)
- Courses focused either on geostatistical concepts or on software practice
- More than 300 people from 20 different countries successfully trained in the last two years

Scientific Innovation - Going even further

Geovariances has privileged links with the Geosciences/Geostatistics Group at Mines ParisTech. Together, we have the unique capacity to solve technical problems that need theoretical developments

- Research & development projects and consortia
- Working parties and seminars focused on specific issues

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How we can help you

Reservoir Characterization

Geovariances masters **state of the art geostatistical techniques to resolve complex geological deposition and structures**.

Geovariances offers the services of **experienced consultants with strong geostatistical** and **multi-disciplinary skills** to help you at any stage of your reservoir characterization, **from appraisal to production**.

Our consultants have expertise in a wide range of algorithms, from conventional **SIS**, **Turning Band** and **SGS** to more advanced **Plurigaussian Simulation (PGS)** or **Multiple-point Statistics (MPS**). If relevant, they can also use ISATIS links to integrate these algorithms with your reservoir characterization software (Petrel™, Gocad™, RMS™, Decision Space™).

We help you setting up optimal **quantitative assessment of reservoir uncertainties** and **risk analysis**.

Geovariances consultants help you benefit from advanced simulation methodologies to:

- Optimally analyze and interpret the data in order to understand them and optimize their use.
- Model geological structure(s) at various scales.
- QC your model choice (assumptions) by the use of cross-validation tools.
- Analyze and properly model non stationary environments.
- Build accurate lithotype proportion curves, which gives detailed insight into the geological structure.
- Set appropriate facies rules which fully reflect the reservoir depositional scheme and illustrate vertical and horizontal relationship between facies.
- Optimally integrate seismic information to drive the facies model.
- Optimally distribute the petrophysical properties in the structural model driven by the geology.
- Produce different possible images of the reservoir to fully quantify the uncertainties.
- Properly incorporate seismic inversion to your reservoir.
- Perform post-processing tasks to quantify the model uncertainty.
- Offer advanced permeability modeling from poro-perm relationship.

Volumetric Uncertainty

E & P decision making must be supported by the best **assessment of volume uncertainties**.

Geovariances helps you estimating these volumetric uncertainties, by quantifying:

- Uncertainty on GRV integrating probabilistic **depth conversion** workflows.
- Uncertainty on GRV and contact depth using our **spill point** method, and automatically filtering unrealistic scenarios.
- Uncertainty on petrophysical properties.

Geovariances consultants bring state-of-the-art stochastic simulation techniques to help you quantifying reserves by:

- Building expectation curves on volumes (GRV, HCPV, IGIP, OOIP, STOIIP, HIIP), based on flexible combinations of multiple realizations of the reservoir geometry and properties.
- Identifying P10, P50, P90 scenarios on volumes.
- Performing **spill point analysis**.

Gain from our knowledge

Apart from reservoir-related services, benefit from our knowledge in geostatistics, seismic filtering, seismic inversion, geostatistical depth conversion, mining, environment to get practical advice on workflows, methodologies or bespoke solutions to resolve specific needs.

Our people

Geovariances has developed a professional expertise confirmed by more than 25 years of experience in the petroleum field.

Our consultants are highly qualified, experienced, versatile and fully committed to supporting your company's needs:

- A team of geostatisticians, geologists, petroleum engineers and geophysicists with worldwide experience.
- Regular contributions to international industry and academic conferences and journals.
- Responsible of the implementation of many significant technical advances over the past 25 years.

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