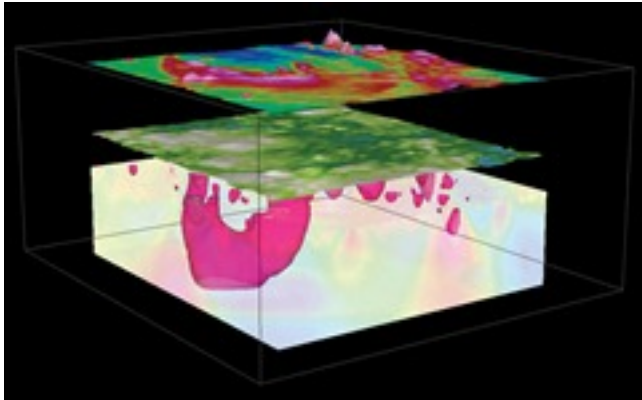


Geosoft releases VOXI Earth Modelling technology

Written by Randy Post

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Cloud-based 3D modelling technology advances exploration geophysics for improved geologic understanding and drill targeting.

Geosoft announced the release of VOXI Earth Modelling, a cloud-based geophysical inversion software service that generates 3D voxel models from airborne or ground gravity and magnetic data. VOXI is available as part of the Geosoft 2012 Software Release.

Over the past decade, 3D geophysical modelling has become increasingly important to exploration around the world. The ability to convert geophysical measurements directly into 3D images of subsurface rock properties that can be integrated with other exploration information in three dimensions enables resource explorers to extract significantly more insight from geophysical data.

“One of the important benefits of converting gravity or magnetic data into a 3D earth model is that the visual end product allows explorers to see and understand the subsurface using now common 3D viewing platforms,” said Ian MacLeod, Geosoft Chief Technologist. “VOXI produces a model of rock properties, which can be directly integrated with other surface and subsurface geologic observations. "

Integration is important, says MacLeod, because no one technique provides all the answers. “Geophysical models often need to be constrained by geological and geochemical observations in three dimensions. Our aim as explorers is to develop the most complete subsurface picture of geology and mineral systems that we can."

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While effective, 3D geophysical modelling has been limited to use by expert modellers, and the ability to generate earth models with confidence has been out of reach for most geophysicists. With its VOXI Earth Modelling solution Geosoft is targeting speed, usability and accessibility to remedy this.

“ We have designed VOXI Earth Modelling to fit naturally within an explorer’s workflow” said Robert Ellis, Geosoft Senior Earth Modelling Scientist, “and we’ve made it fast, recognizing that speed in generating 3D inversions is a critical requirement that will allow geoscientists to use this tool routinely. Speed also allows us to iteratively improve our models as we add constraints and learn more about our projects.”

Behind VOXI Earth Modelling’s speed and agility is cloud technology engineered by Geosoft to conduct the complex geo-computing using powerful cloud server farms, with minimal drain on the explorer’s personal computer systems. The VOXI Earth Modelling cloud service is powered by Microsoft Windows Azure.

Included in the first release of VOXI Earth Modelling is the Geosoft Magnetization Vector Inversion (MVI) modelling technique. MVI allows the magnetization direction to vary within the model and thus take into account the combined effects of remanence, demagnetization, anisotropy and induced magnetization. The result is a more realistic representation of rock magnetization, which is the fundamental rock property measured with the magnetic method.

Geosoft VOXI Earth Modelling is being offered as a software service extension accessible within Geosoft Oasis montaj. Visit www.geosoft.com/voxi to try VOXI Earth modelling or learn more about geophysical 3D modelling. For general Geosoft software enquiries and local representation, please contact re@geosoft.com [explo](#)

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