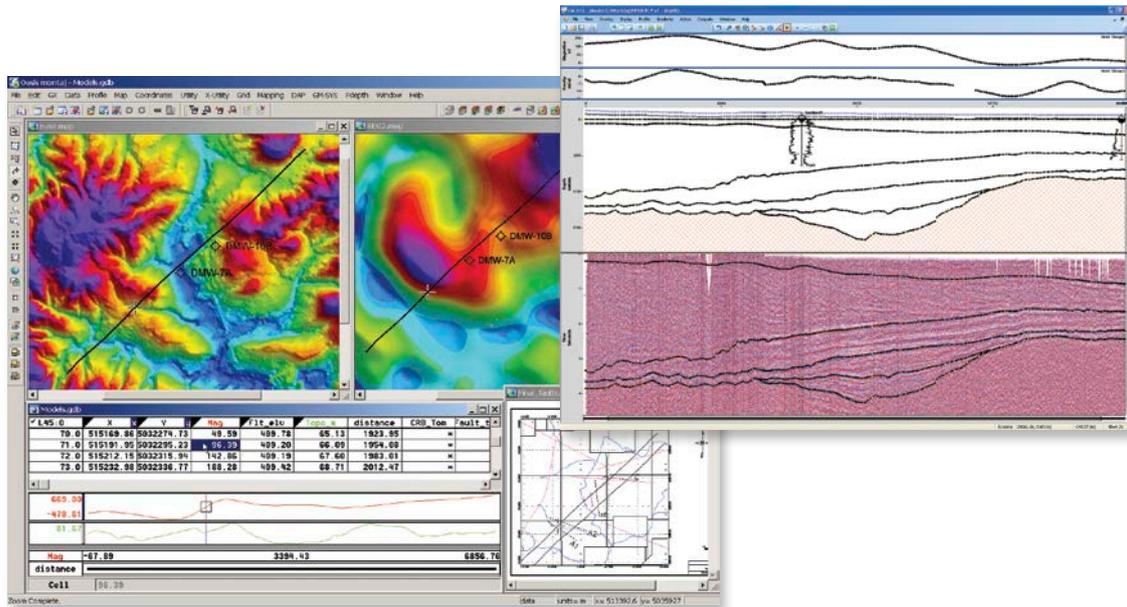# GM-SYS Profile

Interactive, Feature-rich Modelling of Gravity and Magnetics

GEOSOFT®

Advanced Software for Potential Fields

GM-SYS is the industry-leading solution for gravity and magnetic modelling, supporting the work of international government surveys and the exploration programs of the world's most successful energy companies. GM-SYS Profile Modelling is an intuitive and feature-rich workflow for gravity and magnetic modelling which provides many opportunities to constrain modelling variables.

- Create a geologic model of the subsurface and test model accuracy by comparing the model's gravity and magnetic response to observed measurements
- Integrate seismic, well, and geologic data with observed gravity and magnetic measurements
- Model hundreds of bodies, using any tabular prism that can be modelled and all parts of the model can be defined with unique properties
- Calculate gradient components, including magnetic horizontal and vertical gradient, and the six unique gravity gradient tensor components
- Model response data efficiently, with easy-to-use interface and feature-rich tool sets

Full Featured and Adaptable

Explore Model Possibilities

Quickly build a model to test your hypotheses. Try a range of density, susceptibility, remanent magnetization to test different interpretations.

Data Integration

Constrain the gravity and magnetic model with an interpreted seismic section or sketch, surface data, well picks and LAS well logs.

Oasis montaj Integration

Interactively create a GM-SYS model by selecting data from a database line or along a digitized grid profile. Extract horizons from a suite of models into a database or geostring file and block boundaries to a geostring file, for building a 3D interpretation in Oasis montaj.

Convert Time to Depth

With GM-SYS Profile, you can build your initial model in "time" in a separate time pane below the standard depth pane, then convert it to depth.

Supports Common Graphics Formats

Vector-plot drivers export to: Adobe Illustrator, CorelDraw, DGM, DXF and Geosoft plot files.

Seamless Interoperability

Import and work with more than 50 data formats, including grid, map and image formats.

2¾D Modelling

Close approximations of 3D structures are attained with the 2¾D Modelling option. Truncate blocks in the ± Y direction and assign different properties to the new blocks beyond the truncations.

Joint Inversion

The Joint Inversion/Optimization option speeds the modelling process by providing inverse modelling of gravity and/or magnetic data. This option refines your model to obtain the optimal fit between your model response and your data.

Seismic Bitmap

Incorporate seismic and other raster data into your modelling with the Seismic Bitmap option. This option enables you to register and display images in the background of the cross-section pane of your model to assist with creating and constraining models.

SEG-Y Reader

Convert 2D SEG-Y profiles into Oasis montaj section grids, databases or section grids, and project them directly onto GM-SYS Profile models. 3D SEG-Y data can be converted into Oasis montaj databases or 3D voxel grids.

Model Size

Build models of virtually any size or complexity, with up to 300 blocks, and as many as 16,000 gravity and/or magnetic observations.

Gravity and Magnetic Gradients

Constrain your model utilizing gradient data with the Gravity/Magnetic Gradients option. Calculate six gradient components of the gravity field and the horizontal and vertical gradients of the total magnetic field, giving insight into the nature of the source bodies.

Grid Response

To visualize the model response in 3D, create a gravity or magnetic response grid of the model to compare to the original gridded data. Export a model property as an oriented section grid to view your interpretation in 3D with other data.

Integrated workflows within Oasis montaj

Fully integrated with the Oasis montaj platform, GM-SYS leverages Geosoft's wide range of capabilities for gravity and magnetic data processing, mapping, modelling and interpretation.

Explore more effectively

Create an integrated 2D visualization and modelling solution for identifying and characterizing potential reservoirs.

Use all your data assets

Optimized environment for integrating, viewing and comparing large volume geophysical, geochemical and geological data including well data in LAS format.

Make confident decisions

Accelerate data analysis to support effective interpretation and target selection in daily decision making.

Make successful discoveries

Maximize the accuracy of final interpretations, thus helping to improve the potential for successful discoveries, reduce risk and minimize costs.

Collaborate across disciplines

Effectively share and progress your results with team members and knowledge experts. Work together to better manage project risk, costs and timelines.

Learn more

Visit: geosoft.com/products/gm-sys/gm-sys-profile-modelling