Software for Earth Science
Mapping and Processing
Why Oasis montaj?

A leading exploration technology solution, Oasis montaj provides a scalable environment for efficiently importing, processing, viewing, analyzing and sharing large volume geophysical, geochemical and geological data, all within one integrated environment.

This powerful mapping and processing software is designed to support and streamline your daily problem solving needs, with a rich set of easy to use features that meet and exceed rising global standards.

Join the global leaders in earth exploration and geosciences currently using Geosoft® Oasis montaj™ technology, to increase productivity and profitability.

Oasis montaj provides a complete data experience, including data access, processing, interpretation, data sharing and decision making.

**Industries that use Oasis montaj**
- Mineral exploration
- Government
- Environmental
- Energy
- Education
- Natural Resources
- Geological Surveys
- Defence

**Solutions**
- Earth mapping
- Earth modelling
- GIS mapping
- Information management
- Unexploded ordnance

“We remain focused on usability and productivity advances within the Geosoft environment, allowing us to put more power, flexibility and control into the hands of our clients. This focus is the foundation of our vision to help geoscientists recapture time lost to handling and working with data, so they are free to explore.”

Louis Racic, Geosoft Product Management Director
“The raw power that Oasis montaj provides for quickly and easily creating and recreating grids, tweaking colour bars, recontouring, and doing real time sun shading with different orientations of lineaments, is not available in any other software program…”

Bill Pearson, Pearson Technologies Interactive Visualization

Proven ROI
A proven industry standard technology, Oasis montaj achieves long term savings in both time and money. Integrated productivity tools maximize your ability to make strategic use of large volumes of geoscience data within today’s compressed project time lines.

- Access all available data for a complete investigation and informed decision making.
- Collect and view data for quick site assessment in the field, or use Oasis montaj for in depth processing and analysis.
- Create sophisticated visualizations to guide subsurface exploration.
- Construct professional quality maps of complex 3D earth models for sharing your information with colleagues and investors.

Core Capabilities

Produce Professional Maps
Easily create maps to share, integrate data and use in presentations to management and investors.

Subsurface 3D Visualisation
The full integration of 3D capabilities simplifies viewing, manipulation and analysis of all your data including: geology, geochemistry, and geophysics data.

Seamless Interoperability
Import and work with more than 50 supported data types and formats including CAD, GIS, mine planning and modelling formats.

Dynamic Data Linking
Click on a point on a map and immediately see the exact data point within the database, profile, graph or data view.

Advanced Gridding
Gridding algorithms with Oasis montaj are fast, efficient and optimised for large-volume geoscientific data. Interpolate data to produce grids, using minimum curvature, bi-directional, trended, gradient, IDW, tinning or kriging gridding routines.

High-Performance Database
Efficient storage for very large geoscientific datasets ensuring access and usability throughout the project lifecycle.

Built-In Search Technology
Find, display and extract geospatial data from a variety of data servers for complete investigation and informed decision making.

Spatial Data Cataloguing
Geosoft Desktop Cataloger builds a catalogue of all spatial data files from local drives allowing you to easily find the data from within Geosoft environment.

Fast data processing
Rapidly assess and experiment with data in real-time running numerous filters and processes on data with ease.

Complete Esri Integration
Esri technology is built in to ensure the seamless creation, viewing and sharing of ArcGIS MXD and Geosoft Map files between Geosoft and ArcGIS users.

Unicode Multi-language Support
Display foreign-language character sets within your application environments and print to maps.

montaj Extensions
Over 20 extensions are available for advanced geophysics and geochemistry data processing, analysis and quality control, 3D drillhole plotting, filtering, levelling, interpretation and modelling.

Data Sharing
Plug-ins and data conversion options provide superior connectivity between Oasis montaj mapping and GIS or specialized modelling applications.

Oasis montaj Viewer
Use the Oasis montaj Viewer to share all your maps, grids, and interpretations created in Oasis montaj. As an added bonus, the viewer can complete a wide variety of grid conversions and print capabilities.

Geosoft provides an easy-Digitizing
A new streamlined workflow makes it easy to digitize geological interpretations on section and plan maps. Polygon features can be used to represent individual rock units, alteration or mineralization zones, while polyline features can be used to draw faults or contact surfaces.

Wireframing
Geosoft provides an easy-to-use wireframing interface that enables you to build 3D subsurface geological models by joining section and plan map interpretations.
Airborne Quality Control
The Airborne Quality Control extension provides essential tools for planning an airborne survey, and meeting basic tender specifications. It includes flight path planning tools, the ability to monitor survey progress, and streamlined tools for quality control.

Geophysics Levelling
The Geophysics Levelling extension incorporates advanced tools for processing and enhancing airborne magnetic and other geophysical data. It provides a step-by-step methodology for accomplishing a variety of levelling and correction tasks, and includes a microlevelling toolkit.

GridKnit
GridKnit provides two advanced methods for rapidly and accurately merging virtually any pair of geophysical grids. It includes a blending method for merging grids and a suturing method for defining a join path.

256-Channel Radiometrics Processing
The 256-Channel Radiometrics Processing extension provides the capability to visualize and process 256 channel spectrometer data collected from airborne surveys. It supports the three main phases in airborne spectrometer surveying: acquisition, processing and presentation.

Praga 4 Radiometrics
Praga 4 Radiometrics enables you to map and process airborne and ground gamma-ray spectrometry data acquired by modern spectrometers using NaI (TI) detectors. The feature-rich, GUI oriented software was specifically developed to perform whole spectrum gamma-ray data processing.

Developed by Pico Envirotec.
**Geophysics**
The Geophysics extension provides a range of filters and statistical tools for working with large volume geophysical data. A variety of geostatistical tools provide the ability for summary and advanced statistics.

**MAGMAP Filtering**
MAGMAP Filtering utilizes a 2D-FFT filter library to allow the application of common Fourier domain filters to gridded data in Oasis montaj. Rapidly process and enhance gridded datasets by applying a wide range of geophysical and mathematical filters.

**UX-Detect**
The UX-Detect extension provides unique capabilities for locating and analysing UXO targets, based on magnetic (total field and gradiometer) and electromagnetic data. Quickly locate the ground position of potential UXO targets and narrow selections for your final target list.

**Gravity and Terrain Correction**
The Gravity and Terrain Correction extension is a complete system for processing and reducing gravity data from conventional surveys. Apply terrain corrections from digital elevation models or gridded elevation data.

**Induced Polarization**
The Induced Polarization extension enables geophysicists to perform IP data tasks including import, quality control, processing, gridding, and plotting. Import and perform basic quality control. Process and present data from both time and frequency domain surveys.

**Isostatic Residual**
The Isostatic Residual extension calculates a depth to the Moho (the “root”) using the topographic grid, terrain density, Moho density contrast and depth of sea level compensation.

**Compudrape**
Compudrape drapes any potential field profile or gridded data to any reference surface and performs height continuation on aeromagnetic profile data. Developed by Paterson, Grant & Watson Limited.

**CET Grid Analysis**
CET Grid Analysis consists of a number of tools that provide automated lineament detection of gridded data, which can be used for first-pass data processing. Developed by Centre for Exploration Targeting (CET).

**Predictive Targeting with Neural Networks**
Predictive Targeting with Neural Networks provides Oasis montaj GxS for training, simulation and target generation. It allows you to apply neural network simulation to the study area, to locate signatures similar to the known targets. Developed by Paterson, Grant & Watson Limited.

**Drillhole Plotting**
The Drillhole Plotting extension allows quick, easy and accurate production of presentation quality drillhole section and plan maps. It enables geologists to set up drill projects, manage and interpret results for follow-up drilling and decision making.

**Geochemistry**
The Geochemistry extension adds advanced geochemical analysis and QA capabilities to Oasis montaj. Designed for the exploration geologist, this extension enables you to effectively import, validate and analyze your surface geochemical data.
Advanced 3D geophysical modelling

GM-SYS 3D Modeling
GM-SYS 3D is gravity and magnetic modelling software for surface-oriented models. Fully integrated with Oasis montaj, it allows geoscientists to model complicated three dimensional subsurface structures of any size or scale.

VALEM is a high performance computing (HPC), cloud-based gravity inversion service seamlessly integrated as a natural part of the GM-SYS 3D modelling workflow.

VALEM resolves the base of salt from gravity data bound by the constraints of seismic modelling for improved velocity models and seismic interpretations.

GM-SYS Profile Modeling
GM-SYS Profile Modelling is an intuitive and feature-rich workflow for gravity modelling which provides many opportunities to constrain modelling variables. It enables you to test geologic model accuracy by comparing the model’s gravity and magnetic response to observed measurements.

Grav/Mag Interpretation
The Gravity and Magnetic Interpretation extension automatically locates and determines depth for gridded magnetic and gravity data with Euler 3D Deconvolution processing routines. It includes the Keating Magnetic Correlation Coefficients tool for kimberlite exploration.

Depth to Basement
The Depth to Basement extension provides an automated method for determining the position, dip and intensity of magnetic source bodies for a magnetic profile. The depths are determined using Werner Deconvolution, Analytic Signal and Extended Euler Deconvolution.

PotentQ
PotentQ provides rapid semi-automatic modelling of a single magnetic and/or gravity anomaly. A specially formulated inversion scheme generally requires no user intervention.

VOXI Earth Modelling
VOXI Earth Modelling is a geophysical software service that generates 3D voxel models from airborne or ground gravity and magnetic data. VOXI Earth Modelling is accessed through Oasis montaj and uses the power of cloud computing to rapidly create 3D models of large exploration datasets.

"My mapping software offers a lot of interactivity, and testing of our hypothesis, and I can show customers results in real time... I think people don’t realize how easy it is to integrate all of their datasets, whether it's seismic and non-seismic, raster and vector, GIS software and Oasis montaj provide some great tools for that."

Dr. Michal Ruder, Wintermoon Geotechnologies
VOXI Earth Modelling provides a new way of creating 3D geophysical models that is faster and more efficient than other modelling software approaches. VOXI Earth Modelling operates seamlessly within the Oasis montaj exploration platform providing a natural workflow for geophysicists. VOXI introduces unique techniques for modelling geophysical data that provide more insight for greater discovery success. VOXI leverages the processing power of the Microsoft Azure cloud platform to run geophysical inversions in “real time” and can scale to any size exploration project.

**3D Earth Modelling**
3D Inversion of gravity, gravity gradiometry, and magnetic data to further understand the structure and processes beneath the surface.

**3D Forward Modelling**
3D forward modelling is available for calculating the response from a given physical property of a user defined 3D voxel model. Use forward modelling to rapidly explore different source responses and optimise gravity and magnetic survey design.

**Model Constraints**
Improve your earth models with easy to use constraint building.

**Advanced Capabilities**
Magnetization Vector Inversion accounts for the effects of both remanent and induced magnetization in your data. Iterative Reweighting Inversion Focussing enables easy refinement of your smooth inversion result into a more focused and geologically reasonable model.

**Data Integration**
Interactive tools enable you to view, manipulate, and analyse input data parameters and modelling results. Seamless import to Oasis montaj 3D viewer ensures integration with additional exploration data such as geology, geochemistry, and drilling results.

Oasis montaj customers running 7.5 or higher can learn how to run inversions, create and share models up to 50 x 50 cells (2.5 km² area) at no cost. Try VOXI Earth Modelling today. [www.geosoft.com/voxi](http://www.geosoft.com/voxi)

“**The streamlining of the inversion setup, lightning-fast computation speeds you dream about and output displays make VOXI a pleasure to use. 3D models can be generated in a fraction of the time and effort on a regular PC/laptop. A very welcome development.**”

John Donohue, Carpentaria Exploration Ltd.
Easily produce multiple map sheets.
Complete 3D interpretations.
Produce professional quality maps.

View multiple symbol plots.
Access all data with Seeker.
Integrate vectors with 3D grids.

Slice 3D voxels.
Integrate all your data in one environment.
Generate isosurfaces from voxel data.