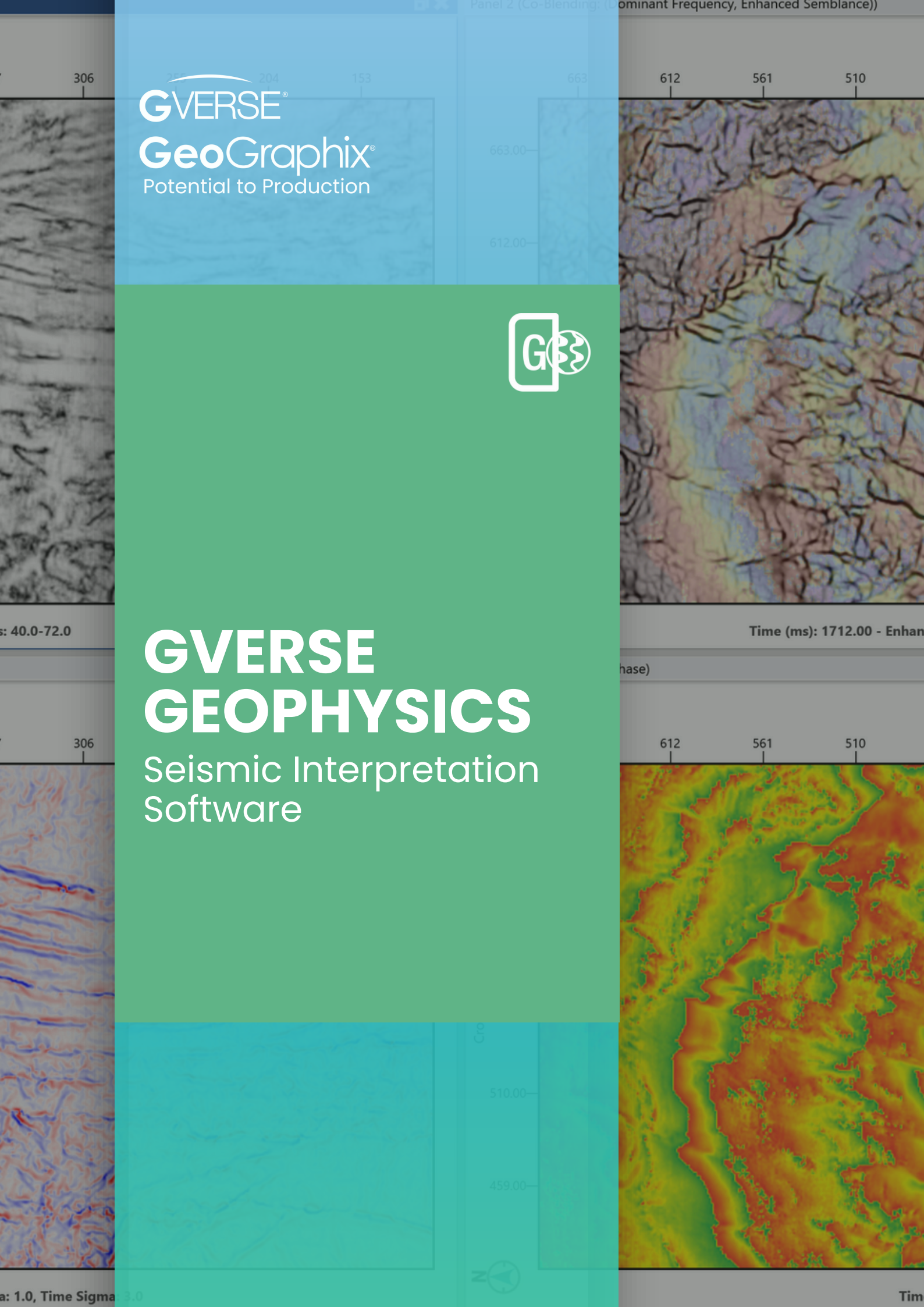
GVERSE®
GeoGraphix®
Potential to Production

GVERSE GEOPHYSICS

Seismic Interpretation Software



A COMPLETE GEOSCIENCE PLATFORM

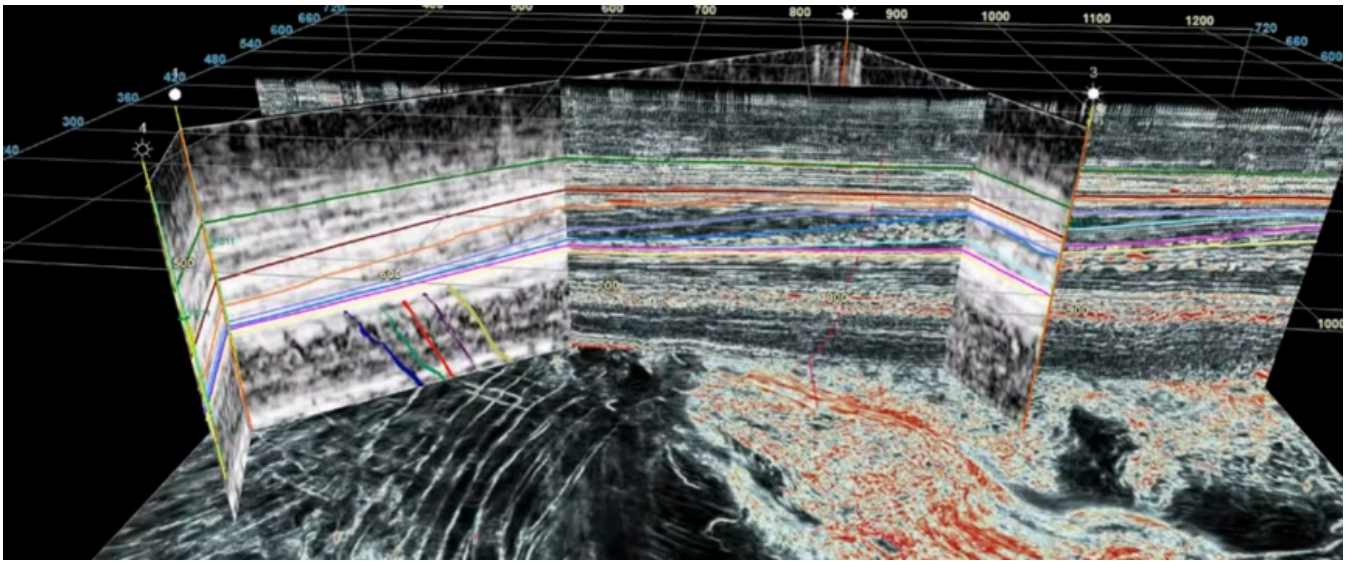
Streamline Exploration and Production Workflows

Our comprehensive **GVERSE GeoGraphix** solution integrates geological, geophysical, petrophysical, and data management tools allowing geoscience teams to collaborate and make rapid, accurate decisions.

GVERSE Geophysics software is a fully integrated 2D and 3D seismic interpretation system with a full range of fit-for-purpose interpretation capabilities, attribute analysis, and mapping tools. Whether exploring complex structural areas, or looking for subtle stratigraphic traps, geoscientists today can employ the many tools available in **GVERSE Geophysics** to solve these otherwise challenging problems.

Define Future Plays with GVERSE Geophysics

Powerful 2D and 3D Seismic Interpretation System for Rapid Prospect Generation.



Key Benefits

Full Integration
Maximize your investment with full integration between our geological, geophysical and, mapping tools. Access most everyday workflows within the base package & license.

Superior Visualization
Gain deeper insights into subsurface structures and data in with our specialized 2D & 3D viewers. Our fast and highly intuitive viewers offer all tools for efficient interpretation workflows.

Speed & Performance
Work with large seismic files and hundreds of thousands of wells without compromising performance, even on off-the-shelf hardware.

Accuracy and Reliability
Make quick and accurate structural or stratigraphic interpretations with an extensive toolset for horizon, fault, and geobody interpretation.

On-the-Fly Attributes
Obtain a better understanding of your seismic data with on-the-fly attribute computation.

Ease of Use
Leverage a simple, intuitive UI to focus solely on making decisions that matter.

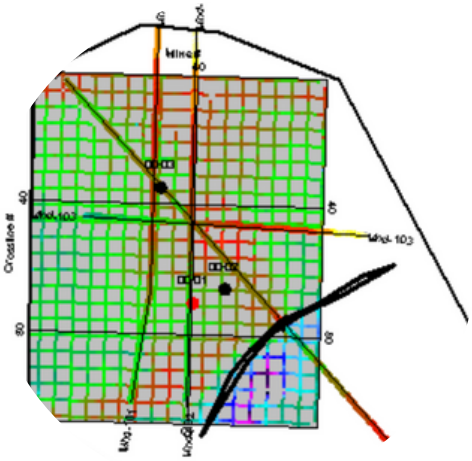
Key Features

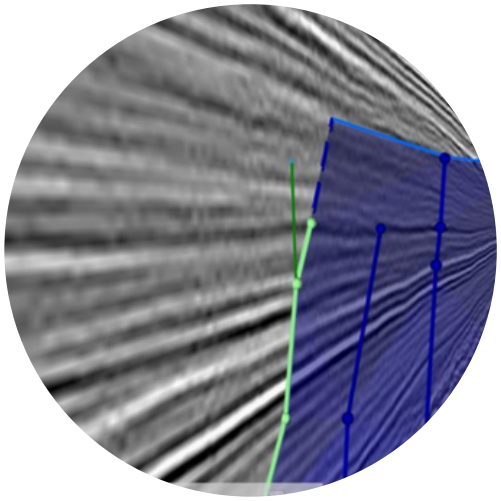
Seismic Interpretation

In-Depth Horizon Interpretation

Access multiple picking modes to mark picks & track horizons across multiple 2D & 3D surveys.

- QC features like confidence, pick order, pick type, & pick relationships.
- Multi-Z horizon picking for 2D data.
- Auto-pick events across intersecting 2D lines.
- Snapping, smoothing, merging, dip & azimuth calculations, and other operations.





Rapid Fault Picking & Analysis

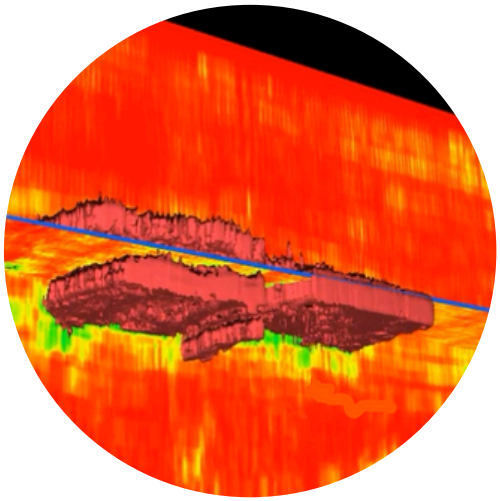
Detect and automatically pick all faults in a volume or pick manually with flexible picking and editing tools for vertical, horizontal, & three-dimensional seismic displays.

- Analysis tools like rose diagrams & stereonets for faster analysis & decisions.
- Correlation windows & fault projection to assist picking in noisy data.
- Fault polygons & heave calculations.

Cutting Edge Geobody Analysis

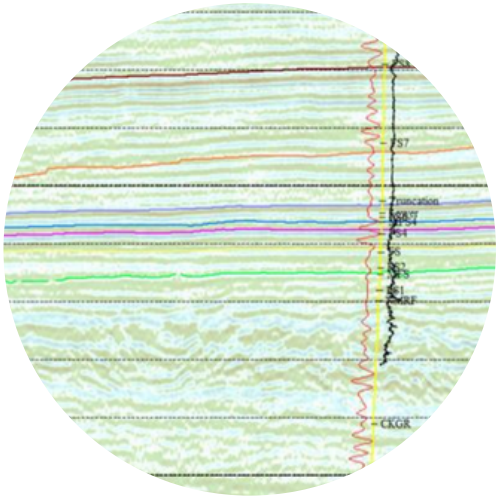
Pick structures on seismic volumes as geobodies. Interpolate picks, track signatures, or automatically detect & extract geobodies from seismic data.

- Calculate volumetrics and map thicknesses, convert to horizons, and compute attributes.
- Drape data on geobodies or show intersections on sections.
- Create layers to bring geobodies to other **GeoGraphix** apps.



Integrated Well Top Picking

Add new or adjust existing picks for formation tops and fault cuts in a well directly from **GVERSE Geophysics**. View & interact with multiple observations for each formation or fault in a well.

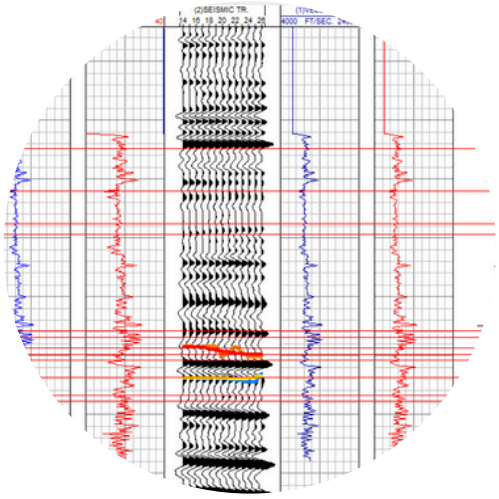


Time-Depth Workflows

Comprehensive Synthetic Modeling

Create or edit synthetic seismograms in SynView – an integrated synthetic editor with no additional license requirement.

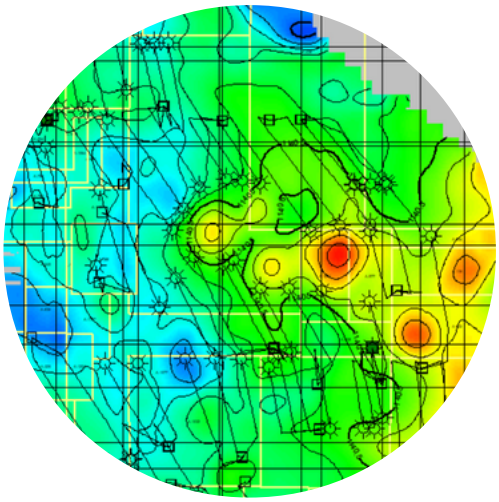
- Adjust & update synthetic with undo-redo in SynView or in 3D.
- Create & edit wavelets or extract from seismic.
- Calibrate, estimate, process & edit input curves.
- Drift, correlation & spectrum analyses to calculate optimum time & phase shifts.
- Work with deviated wells



Robust, Reliable Depth Conversion

Experience fast & reliable depth conversion with an extensive set of options suitable for all your depth conversion requirements.

- Half-a-dozen types of velocity models including the ability to use velocity cubes as models.
- Unique three-component horizons & comprehensive conversion options.
- Dynamic depth conversion to keep backdrops in **GVERSE Geo+** up-to-date.
- Depth Mode to instantly convert time scenes including all seismic, horizons, faults and geobodies to depth.
- Variety of velocity QC tools.



Data Management & Visualization

Effortless Data Management

Perform rapid interpretation in large 2D, 3D, or combination projects with our 64-bit architecture. Versatile SEG-Y readers handle all scenarios.

Interactive Mistie Analysis

Easily balance 2D, 3D, and 2D-3D datasets and auto-calculate phase, gain & time relationships.

- Add, edit & search shifts in a single location.
- Import and export shift values.
- Interactive line balancing to match lines quickly & easily.

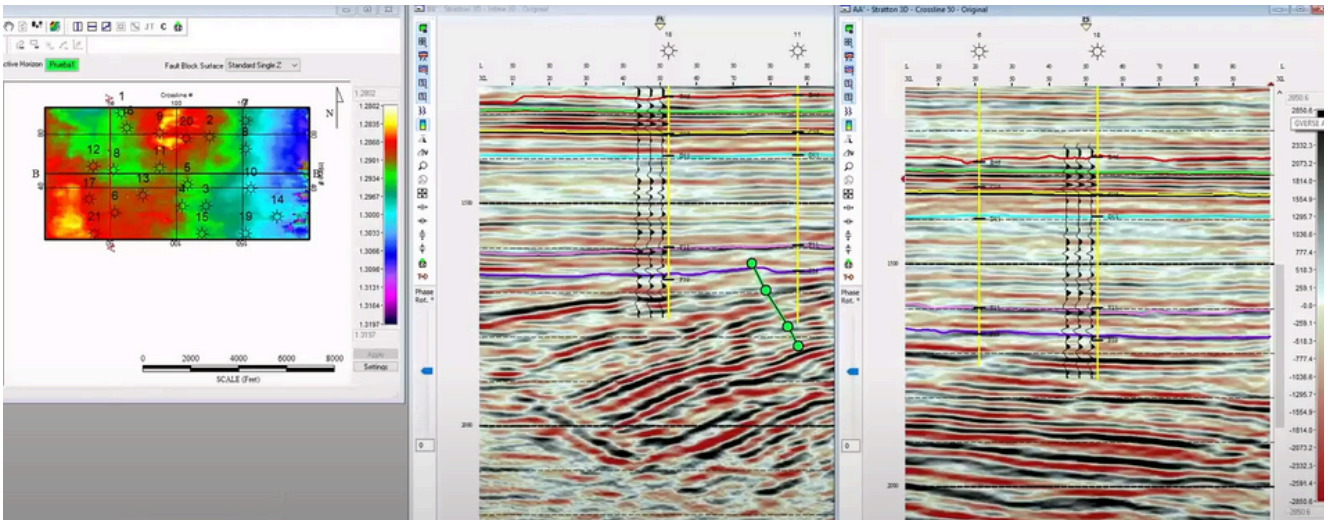
Blazing Fast 3D

Use an engine built for subsurface data to view your seismic, wells, and other data in 3D. The LOD format does not compromise performance even with very large seismic files. Voxels, blending, selective transparency and other advanced features let you visualize structures for deeper insights and better decisions for your play.

Versatile Seismic & Well Displays

Feature-rich vertical, horizontal, & three-dimensional seismic viewers with detailed well data posting.

- Load data into RAM for faster visualization.
- Wiggles, power spectrums, phase rotation, filters & other processing tools.
- Default color palettes based on data type.
- Use **GVERSE Petrophysics** log templates to display logs and related well data.
- Display wellbores, tops & observations, well logs, production data, microseismic, and more.

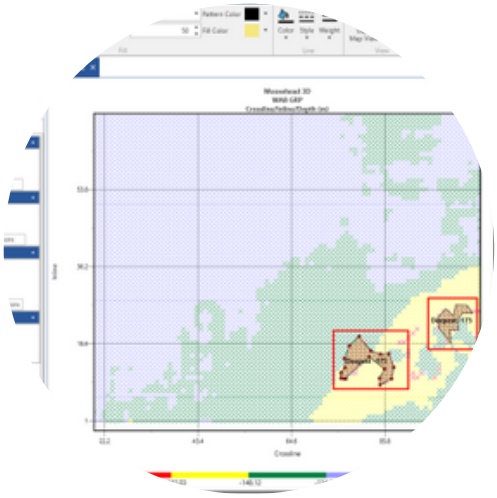


Interpretation and Analysis

Attribute & Surface Calculations

Compute attributes with multiple options in an easy-to-use interface.

- Flexible windowing options.
- Integration with **ZoneManager**.
- Surface-to-surface calculations.
- Extract seismic data at well locations.



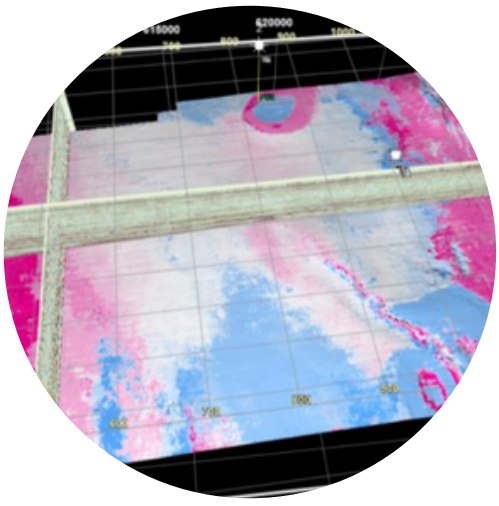
Crossplot Seismic, Attributes, & Logs

Create scatter plots for seismic, surfaces and well logs for insight into relationships between data.

- Crossplots for sections, horizons, wells or volumes.
- Select and display anomalies on maps & 3D.
- Complete annotation toolset.

Intelligent Facies Classification

Use the power of machine learning and neural networks to classify facies on horizons with automatic waveform classification by a self-organizing maps algorithm.



IIndigenous Mapping Capability

Fulfill most of your mapping needs with a built-in mapping framework or leverage the full capabilities of our mapping tools with seamless integration with **GeoAtlas**.

- Multiple base maps with unique set of display parameters and color palettes.
- Comprehensive gridding and contouring options for maps and surfaces.
- Export or import layers to and from other **GVERSE GeoGraphix** applications.

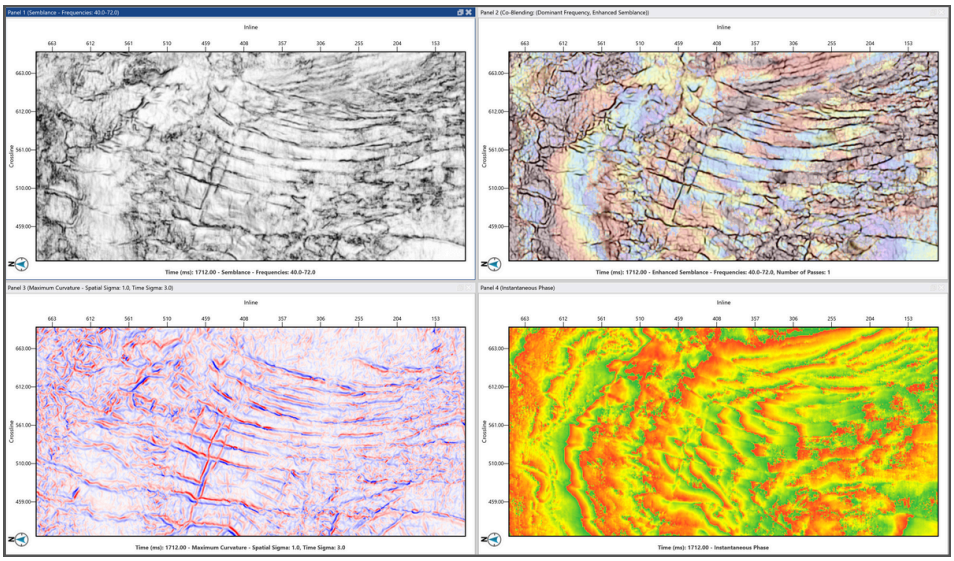
Ease of Use & True Mobility

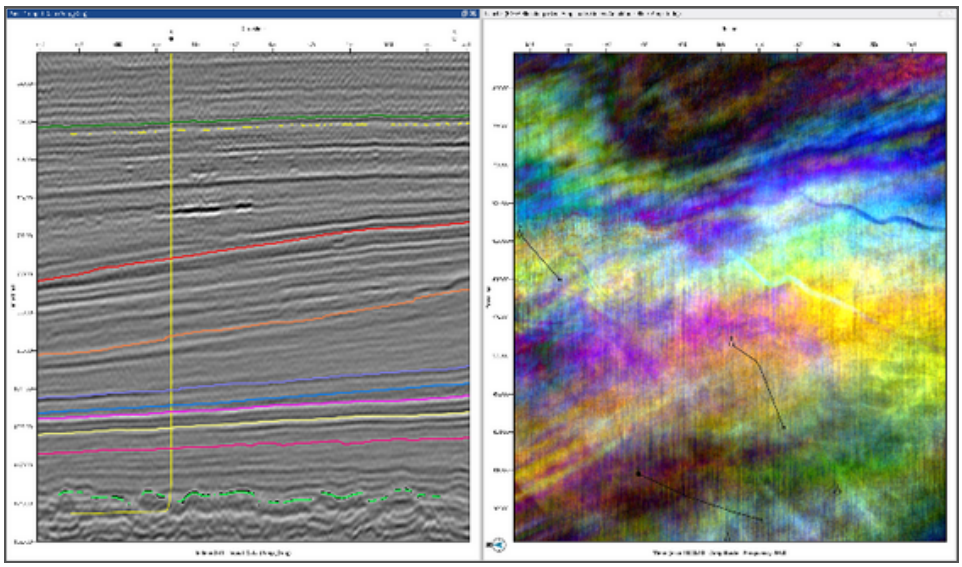
Focus on what's important and minimize the learning curve with a multi-screen, ribbon-based interface, keeping essential tools at your fingertips. It supports remote, desktop, and mobile environments, enabling you to handle large regional projects with minimal IT support.

Release Highlights

Compute Seismic Attributes on-the-fly

Calculate, display and compare on-the-fly seismic attributes in the new Multi View window. Add horizons, faults, and wells to your displays to gain deeper insights. Attach output volumes directly to your interpretation.





Invert Seismic for Impedance Volumes

Analyze seismic and well data spectrums to create suitable inversion operators. Apply operators to input seismic in the new Multi View window. Incorporate horizon data to create low frequency models for absolute impedance calculations. Generate relative or absolute volumes and attach directly to your interpretation.

Triton 2024 Features List

Release	Feature	Details
2024.2	3D Attribute Computation & Log Integration	• Calculate on-the-fly attributes in the 3D environment. • Create inversion operators and preview inversion results in the 3D environment. • Use log templates from **GVERSE Petrophysics** to display multiple tracks and logs on seismic data, attributes, and inverted seismic. • Show two log curves as lines on either side of a well in Multi View windows. • Create a color-filled panel display centered on a well in Multi View windows.
2024.1	Seismic Attributes & Inversion	Full, seamless integration of the on-the-fly seismic attribute computation and visualization capability of **GVERSE Attributes** into **GVERSE Geophysics**. • Introducing Multi View: A new, multi-panel display for side-by-side data visualization and comparison. • Sync navigation, zooming, and panning between panels for easier analysis. • Compute multiple seismic attributes on-the-fly and display in Multi View panels. • Create custom attributes by mathematically combining available attributes. • Apply co-blending and RGB blending for deeper insights. • Add horizons, faults, and wells to panels on real-time attributes displays. • Generate attribute volumes and automatically add them to interpretations. Invert seismic data to create relative and absolute acoustic impedance volumes. • Use seismic data and well logs to create and save inversion operators. • Preview inversion results on input seismic in Multi View panels. • Use interpreted horizons and well data to create Low Frequency Model to calculate absolute acoustic impedance. • Generate inverted volumes and automatically add them to interpretations.

Technical Specifications

The following sections list the system requirements for the GVERSE Geophysics:

Hardware

Minimum

- 2.4GHz 64-bit Intel class or better
- 8 GB RAM
- Any DirectX 11.1 capable card comparable with NVIDIA® GeForce GTX 1030 with 6GB VRAM. (DirectX is not shipped with GeoGraphix 2024.2. You must download and install it separately.)
- 1,366 x 768 graphics resolution

Recommended

- Quad 3.2 GHz 64-bit Intel class or better
- 32 GB RAM
- Any DirectX 11.1 capable card comparable with NVIDIA® GeForce GTX 3080 with 6GB VRAM. (DirectX is not shipped with GeoGraphix 2024.2. You must download and install it separately.)
- NVIDIA GeForce or Quadro - 2GB VRAM
- Solid-state Drive (SSD)
- 1920 x 1080 screen resolution

Software

- Microsoft® .NET 4.5
- Microsoft DirectX 11

Note: *It is recommended to use the latest Microsoft® service packs and security patches*

Operating System(s)

- *Windows® 10 Professional x64*
- *Windows® 10 Enterprise x64*
- *Windows® 11 Professional x64*
- *Windows® 11 Enterprise x64*

Licenses

The following licenses are required to run the application:

- *GVERSE® GeoGraphix license version 2024.2*
- *GVERSE® Geophysics license version 2024.2*
- *License Management Tool version 2024.1*