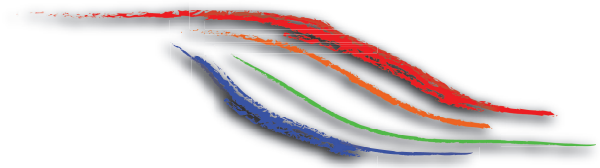
Earth Sciences
Creators of OpendTect

Sequence Stratigraphy

"SSIS represents a quantum step forward in our ability to analyze the stratigraphic record"
Brad Macurda, The Energists

OpendTect SSIS: Detecting Subtle Petroleum Reserves

With the worldwide decline in unexplored, structural traps, the need to extract more information from seismic data about subtle petroleum reservoirs has never been more important. dGB Earth Sciences' OpendTect SSIS (Sequence Stratigraphic Interpretation System) is addressing these challenges head-on, providing users with a better insight into sediment deposition, erosion and timing, and an entirely different perspective on the geological and stratigraphic aspects of the data volume. Your knowledge of sediment deposition, erosion and timing will never be the same again.

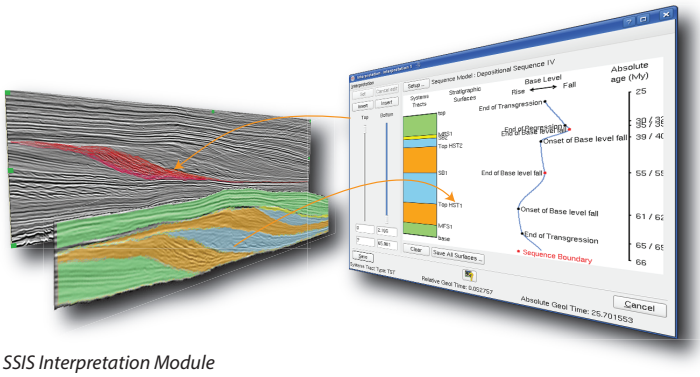


Sequence Stratigraphic Interpretation System

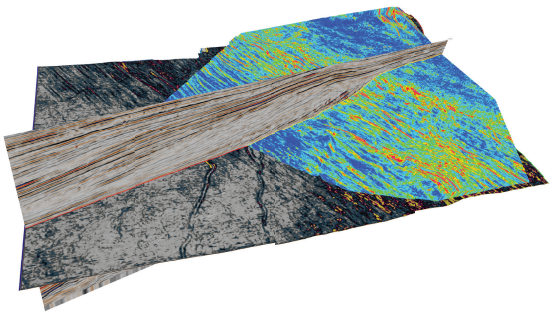
A Different Geological and Stratigraphic Perspective

OpendTect SSIS increases the geological insight into the depositional history of sedimentary packages, improves seismic facies and lithofacies predictions, and provides accurate targeting of reservoir, source rock and seal potential. Users can:

- Interactively reconstruct the depositional history in geological time as well as cross-correlate events between wells through the automated tracking at sub-seismic resolution of chronostratigraphic horizons.
- Flatten 2D and 3D seismic data through moving data from the structural seismic domain to the Wheeler domain, increasing understanding of the spatial distribution and timing of sediment deposition.
- Have access to full system tracts interpretation, stratigraphic surfaces identification, base-level reconstruction.
- Use seismic facies mapping for the visualization of paleo geomorphological features, and much, much more...



SSIS Interpretation Module



Attribute analysis on automatically extracted stratigraphic surfaces reveals different depositional environments

Sequence Stratigraphy

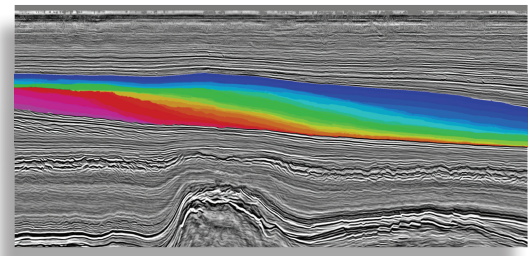
SSIS

OpendTect SSIS enables sequence stratigraphic interpretation of HorizonCubes (previously chrono-stratigraphy). This is a set of densely sampled 2D or 3D horizons that follow seismic events. Each chrono-stratigraphic horizon is a geologic time line.

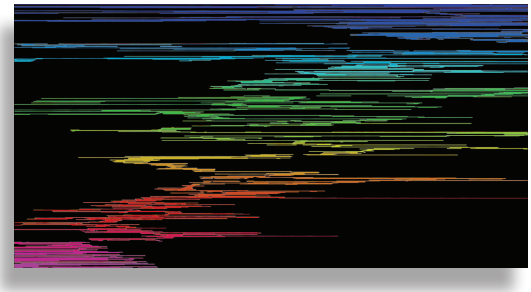
With the HorizonCube slider we can interactively add/remove chrono-stratigraphic horizons from a display of a seismic section. In that way we can reconstruct the history of deposition in (relative) geologic time. This tool is also extremely useful in cross-correlating events between wells.

The Wheeler transformation is another key feature of OpendTect SSIS. A Wheeler transformation is a flattening of seismic data according to the calculated chrono-stratigraphy. In the Wheeler domain we see when (in relative geologic time) and where (spatially) events were deposited.

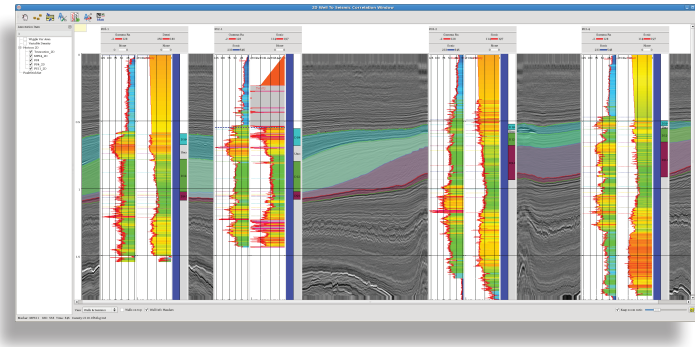
Systems tracts interpretation is performed with the help of the chrono-strat slider by simultaneously analyzing data in the structural domain and the Wheeler domain.



Depositional Domain



Wheeler Domain



Well Correlation Panel

The interactive viewer displays seismic data and wells simultanously, which allows for easy correlation of wells. You can correlate markers between wells, correlate markers to seismic horizons, and update well-ties, markers and horizons easily. The markers and horizons can be tied into a stratigraphic column or framework.

The OpendTect Geology Sequence Stratigraphy Package includes:

Dip Steering, HorizonCube, SSIS, Well Correlation Panel, Seismic Spectral Blueing, Neural Networks, CLAS Lite, PDF-3D, Workstation Access

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For a different perspective on the geological and stratigraphic aspects of your data volume, contact dGB Earth Sciences at info@dgbes.com

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