

PRODUCT SHEET



DionisosFlow™
Stratigraphic Modeling

Aiming at de-risking exploration by predicting stratigraphy and facies architecture in unexplored areas, DionisosFlow reconstructs facies architecture through geological time at basin or appraisal scale while honoring sequence stratigraphy models based on core, well logs and seismic data.

Predicting stratigraphy at regional scale for reducing the exploration risk

DionisosFlow is a unique industrial package for generating 4D forward stratigraphic models in under-explored areas while assessing the complex interaction between accommodation space, sediment supply and transport through a combined simulation of sedimentary processes (continental to marine siliciclastics, carbonates). DionisosFlow helps in delimiting:

- geometry and facies of reservoirs bodies;
- extension and thicknesses of seals;
- distribution and nature of source rocks;
- paleo-geometries of sedimentary basins.

A physically sound geo-history of sedimentary basin development including sedimentary architecture, lithological facies and paleo-bathymetry distribution through space and time is delivered.

DionisosFlow has been validated successfully through numerous case studies including amongst others, the Middle-East Cretaceous carbonate platform, Gulf of Mexico salt-driven tectonics province, Niger delta turbiditic system and the intra-cratonic depression in North Africa.

DionisosFlow has also been applied favorably for delineating subtle stratigraphic traps in mature basins.

Modeling sedimentary processes

Accounting for subsidence rate, eustasy and sediment supply, DionisosFlow simulates sediment erosion, transport and

deposition as well as local carbonate production. Carbonate production is modeled using bathymetry, wave/drift energies and ecological controlling factors.

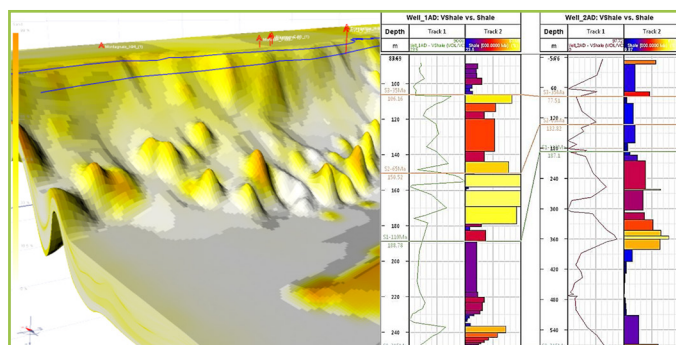
Sediment transport is controlled by combining river discharge and slope parameters as well as flooding and slope instability for catastrophic sedimentary processes.

Input data consists in up-to-date interpreted depth maps, subsidence maps, sea level variation data and salt deformation, if applicable.

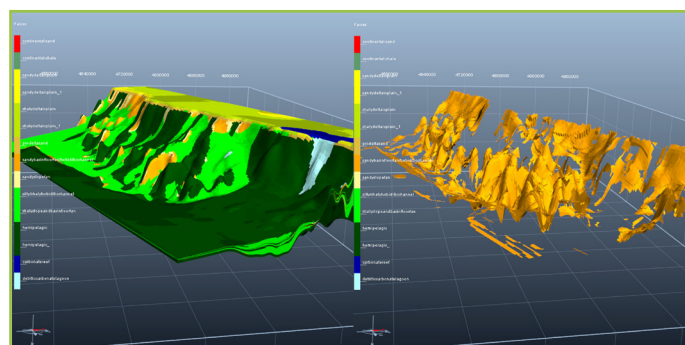
Calibration is made against seismic facies and hard log data (NTG curves, Vshale, Gamma Ray, Resistivity).

Key benefits

- Applicable in clastic, carbonate and mixed environments, from continental to deep water
- Tailored for stratigraphers and sedimentologists
- Seamless link with TemisFlow for further multi-dimensional basin modeling
- Slick & user-friendly
- Uncertainty and risk analysis
- Compatible with third-party applications (such as MPath® and Of-Mod®),
- Innovation through active research & development



Nova Scotia Margin: Sand distribution and calibration to well data.



Facies model (left) and focus on basin floor fans and turbiditic channels (right).