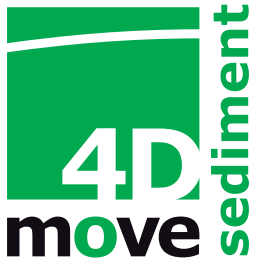


Providing a **bedrock** for structural geology



Turbidite modelling on palaeo-restored surfaces providing direct outputs for Basin & Reservoir Modelling

Predictive Turbidity Current Modelling

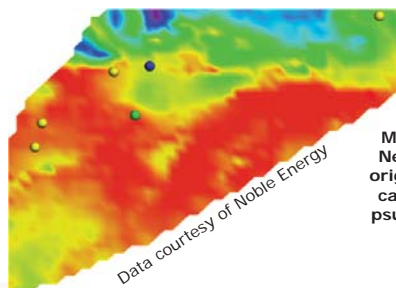
4DSediment is a module of 4DMove providing an automated 3D turbidity current modelling workflow for simulating turbidite flows onto a paleobathymetry and outputting turbidite distribution and reservoir quality attributes.

Using a combined forward and inversion modelling approach to model turbidite flow on a palaeosurface and to validate the results with available well data and attribute maps as appropriate. Following calibration with available data, the modelling of the sand body distributions extends to areas with no well control. Pseudo well analysis provides quantitative predictive results. 4DSediment provides direct outputs for decision making and Basin and Reservoir modelling.

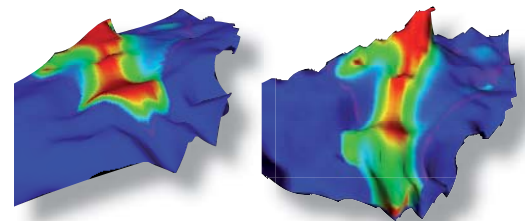
4DSediment can be used as a stand alone modelling workflow for users with a variety of data inputs from interpreted seismic horizon data or tidied horizons from geomodelling packages, to fully restored palaeogeometries from structural restoration packages.

2DMove and 3DMove combined with 4DSediment provides the user with the 'Petroleum Systems, Validation, & Modelling Combination': established 2D & 3D structural modelling with innovative Charge and Sediment Modelling capabilities – for both new or existing 2DMove and 3DMove users with a particular interest in the evolution of the Petroleum System. The combination gives the user the capability to perform:

- Petroleum Systems modelling integrated with advanced 2D & 3D structural systems modelling.
- Predictive Turbidite modelling on palaeosurfaces with reservoir quality map & 3D surface outputs.
- Charge modelling to identify key controls and critical time steps.
- Ideal precursor modelling and statistical analysis to optimise future Basin Modelling.
- Integrated Charge and Fracture Modelling with sensitivity testing and characterisation capability.



Map Output of Net:Gross with original wells for calibration and psuedo wells for prediction



Palaeosurface with turbidite flow colour mapped for flow thickness. Automated 3D turbidity current workflow in 4DMove's module 4DSediment (developed in conjunction with Royal Holloway University of London).

Functional benefits of 4DSediment

- 'Pick-up & Use' Workflow - clear, stepped modelling stages to reduce training requirements and catering for infrequent, regular and advanced users.
- Simple input data requirements - from interpreted horizons and wells, to modelling with fully restored palaeogeometries.
- Variety of input parameters - such as entry point, channel width, grain size and erosion.
- Forward and inversion modelling/simulations - to give best fit output parameters to user defined control points such as well data.
- Quantitative Analysis - extensive analysis capability providing quantitative reservoir predictions validated by good correlation with well observations including plots and logs.
- Output Maps of variety of Reservoir Qualities - net:gross, thickness and sorting index, use of psuedo wells for quantitative predictive analysis
- Intelligent defaults - for effective modelling by both the generalist and specialist user.
- Seamless integration with Move components for advanced structural modelling workflows & analysis. Communicate results to colleagues and business partners using MoveViewer.
- Data input/output, management, visualisation and additional analysis using 4DMove.

Further information on 4DSediment can be found in the software pages of our website, www.mve.com or contact help@mve.com.