

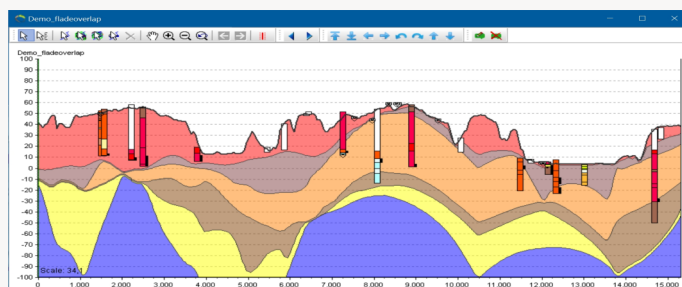
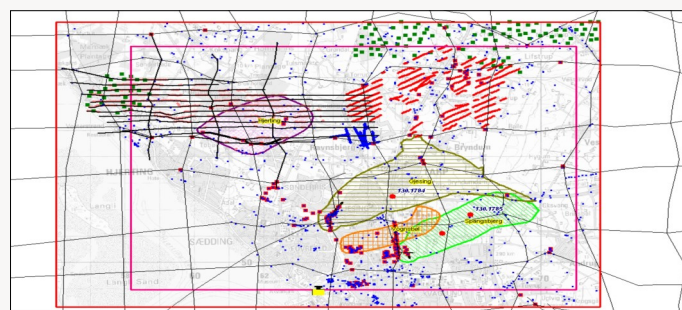
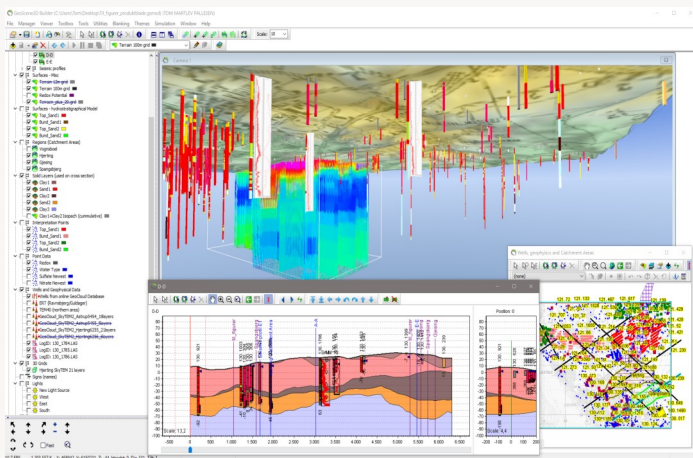
LAYER BUILDER MODULE

Layer Builder— a GeoScene3D Module

Layer Builder is a specialized add-on module for building geologic layer-based models in GeoScene3D. The module is well suited for geoscientists working on regional scale geologic models, e.g. hydrogeological models, as well as local models, e.g. contaminated sites or detailed models in

Modeling Workflow

Layered models can be built in GeoScene3D using various workflows. One well-tested methodology entails importing all available data for the area into GeoScene3D. Based on a geological evaluation of the data and geological knowledge for the area, a series of Interpretation Points are defined — typically on cross sections. An interpolation algorithm is then selected and configured to create 2D surface grids from the Interpretation Points.

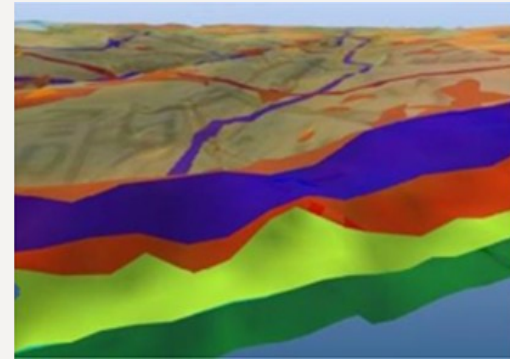
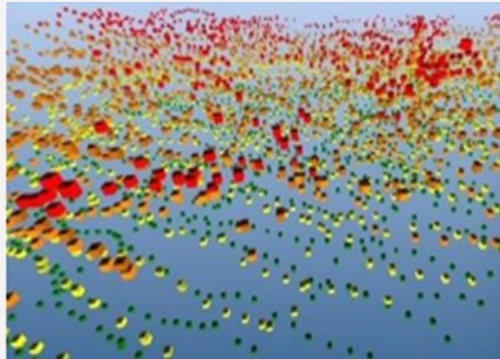
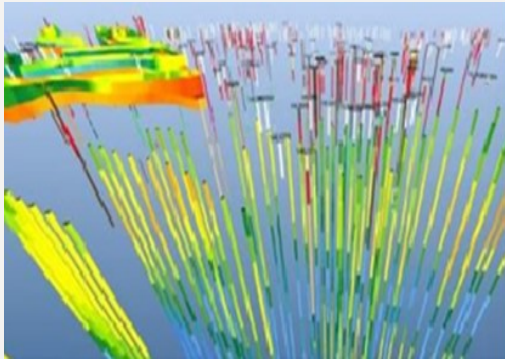


One Environment

GeoScene3D Layer Builder offers access to a Map View for multiple GIS layers, a Cross Section View, and a fully-interactive 3D view, all in one integrated and seamless environment.

Interpretation Points can be added directly in all three views, Cross Sections, GIS Maps, 3D View and the results can be inspected directly in all three views.

The Tool Box contains tools for adjusting interpolated surfaces, grid manipulations, and export utilities.



Modeling Tools and Data

A large number of data types can be visualized and used to build your layer model, e.g.

- **Borehole information** – Lithology, water table, screens, Gamma, CPT, etc.
- **Geophysical data** – 1D and 2D AEM, TEM, ERT, Geo Radar, Seismic
- **3D Grids** – based on geophysical data, chemistry and other data types
- **Vector based data** – pipelines, roads, buildings etc.
- **Exciting models** – surfaces as grids from older or nearby models
- **Point data** – groundwater chemistry and other point observations
- **Geological maps**

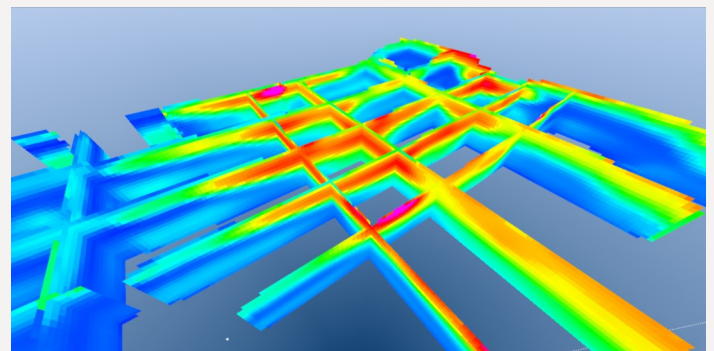
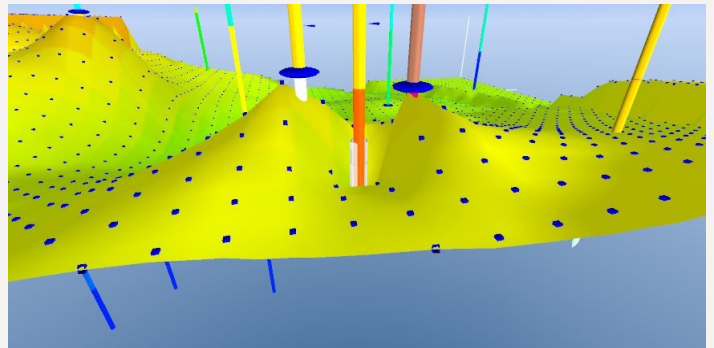
User-friendly tools are available for editing 2D points and 2D grids directly in all views, GIS Map, Cross Section and 3D. Data can be interpolated in 2D and 3D grids, volume calculations can be done based on 2D and 3D grids, surfaces can be adjusted and manipulated in the Tool Box as well.

Exporting Modeling Results

Interpretation points are stored in standard MS Access database format while the generated 2D grid surfaces are stored in Surfer binary, both easily accessible for use in other software, e.g. QGIS, MODFLOW and FEFLOW. Data export is facilitated by the Export Data Wizard, where a number of export formats can be selected.

Interpolation and Geostatistics

Interpolation is implemented in the Layer Builder using a series of wizards. Kriging is available using the GSLIB geostatistical code, while Inverse Distance Weighting and Nearest Neighbor are implemented using standard algorithms. Tools for modeling semi variograms and generation of uncertainty estimates for kriged surface models are also available through the wizard. Interpolation has been implemented in GeoScene3D so it can be done on the fly within any workflow.



WANT TO KNOW MORE?

We are here to help you! Find our useful online tutorials and information about GeoScene3D on our homepage or on YouTube channel: www.youtube.com/user/GeoScene3D