



# Spotlight – Curve-based models

## Curve-based basin and reservoir models

Permedia Petroleum Systems provides several ways to build detailed basin models. For occasions where you don't have time (or the need) to run a full 3D BasinPT simulation, a curve-based model provides a fast and easy solution for creating 3D models for quick assessment of generation and migration potential.

Curve-based models are full 3D basin models that use scalable curves (created using Curve Editor) for pressure and temperature assignment. Rock properties are based on true decompaction, which is controlled by the effective stress- porosity curves defined for each lithology.

## Creating curve-based models

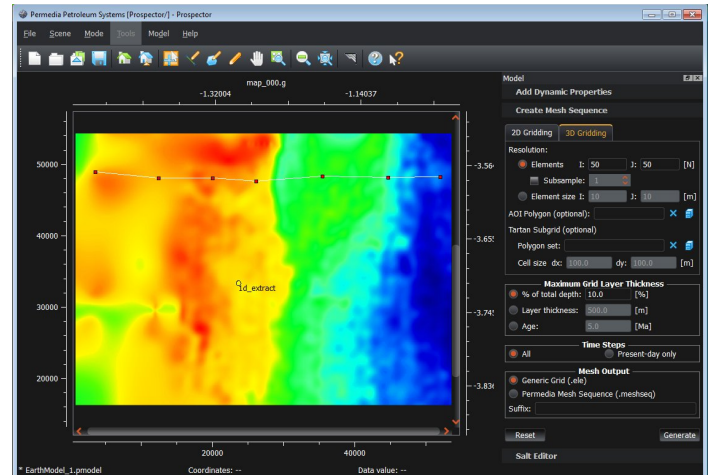
To create a curve-based model:

1. Build an Earth model in Prospector. (Trinity, Dionisos and other models can also be imported.)
2. From the File menu, choose Load Object, select depth-pressure, depth-temperature and/or mudline-depth-temperature curves and click Open.
3. In the Scene Manager, right-click each curve in turn and choose Assign as Curve.
4. From the Model menu, choose Create Mesh Sequence.
5. Set the Gridding options.
6. To generate a full basin model, select All; for a present-day (reservoir) model, select Present-day only.
7. Enter a Suffix for the mesh output and click Generate.

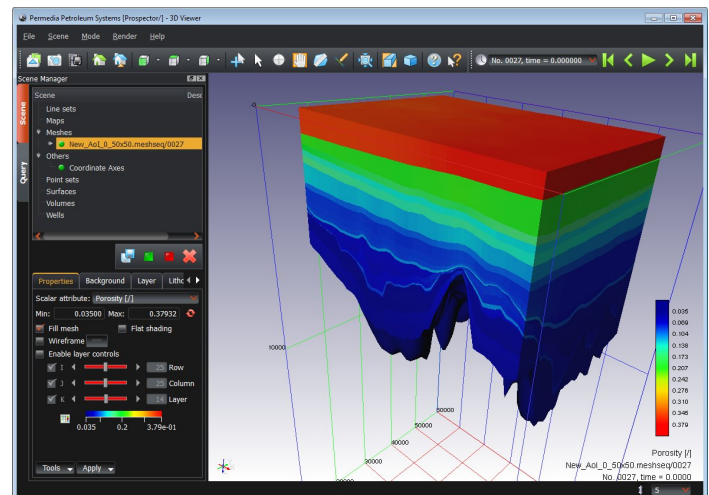
## Using curve-based models

Basin and present-day curve-based models can be used in a variety of workflows:

- Generate source material scenarios for basin models using Basin Mesh Overrides, then use Dynamic Migration to migrate the petroleum components.
- Use basin models as input to Geocosm TMap.
- Run Pressure seeding simulations to model present-day pressure distributions in basin or reservoir models.
- Use Reservoir Filling to fill present-day basin models.



Creating a curve-based mesh sequence from an Earth Model



3D, curve-based basin model ready for fluid modeling