



stretch

FORWARD MODELLING OF
RIFT BASINS & PASSIVE MARGINS

Stretch is a forward modelling program that produces profiles of whole-basin/regional structure, both at the syn-rift stage of faultblock development and during the subsequent phase of post-rift subsidence. It can be used to analyse multiple rift episodes.

Stretch uses the whole-lithosphere Flexural Cantilever model incorporating not only fault-block geometry and isostatically-balanced subsidence but also heat-flow perturbation and heat-flow prediction through time.

Stretch takes cross-section geometries, typically as seen on seismic data, and produces 2D structural/stratigraphic models and predicts footwall uplift and erosion, geohistory, heat flow, etc.

Stretch is used to:

- > Make quantitative predictions about the basin development.
- > Model complex basin histories either as consecutive rift phases or through punctuated periods of thermal subsidence.
- > Generate isostatically-balanced cross-sections to validate and QC interpretations.
- > Predict dynamic uplift within and adjacent to the basin to identify sediment source and estimate amounts of footwall erosion.
- > Calculate structurally-constrained estimates of beta (stretching factor) and the resulting thermal histories through time.
- > Model burial histories through the post-rift interval.
- > Model the total gravity field of an entire model or just the contribution to the gravity field from the various lithosphere components.
- > Compare the synthetic gravity data with real data.

