

# Airborne Electromagnetics (EM) & 3D Geology

## EM support in *GeoModeller* !

New EM support in *GeoModeller* is a module available as part of the **Integration of Geophysics with Geology** theme Includes 1D and 2.5D forward and inverse modelling of AEM data directly linked with the 3D geology workspace

### Benefits

- **No high cost drilling** to delineate target geology subsurface
- **Work in 3D:** Reduce geological uncertainty with deeper, coherent, indicative geology from EM
- **Ease of use** with wizards and templates
- **Save time** with faster 2.5D inversions using MPI

### Supported Systems

DIGHem	GEOTem	QUESTem	VTEM
RESOLVE	HeliGEOTem	SPECTREm	VTEM+
TEMPEST		ExplorHEM	SkyTEM

### Features

- Wizards with clear interactive user interfaces
- Track lithologies and resistivities during inversion
- Rapidly integrate 1D/2.5D EM results into a 3D geology interpretation workspace with all available data: seismic, gravity, magnetics, drilling, geology
- Use inbuilt geostatistics and interpolation tools
- Create MeshGrids from forward and inverse results
- Accurately simulate 3D source excitation for full domain models inclusive of topography, non-conforming boundaries and very high resistivity contrasts
- Compute 3D source responses from arbitrary 2D geoelectrical models with infinite strike
- Create 3D water-tight meshes for uploading to other simulation codes

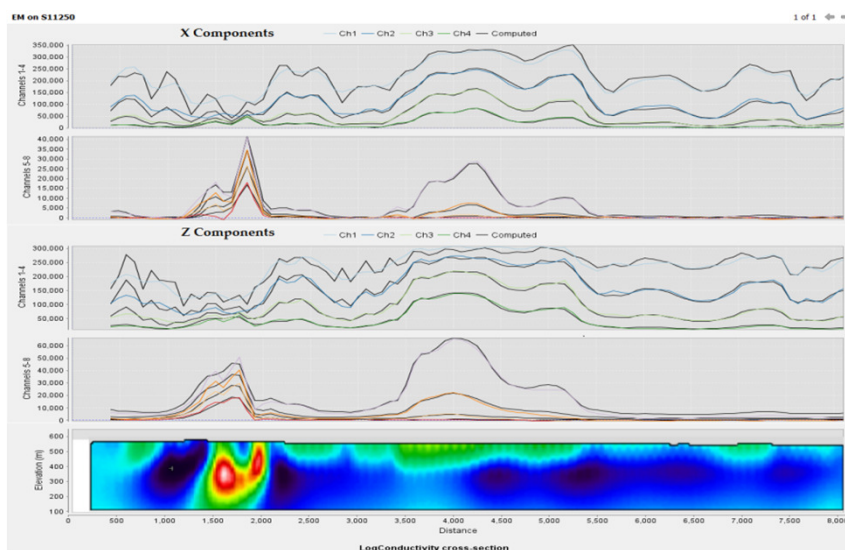
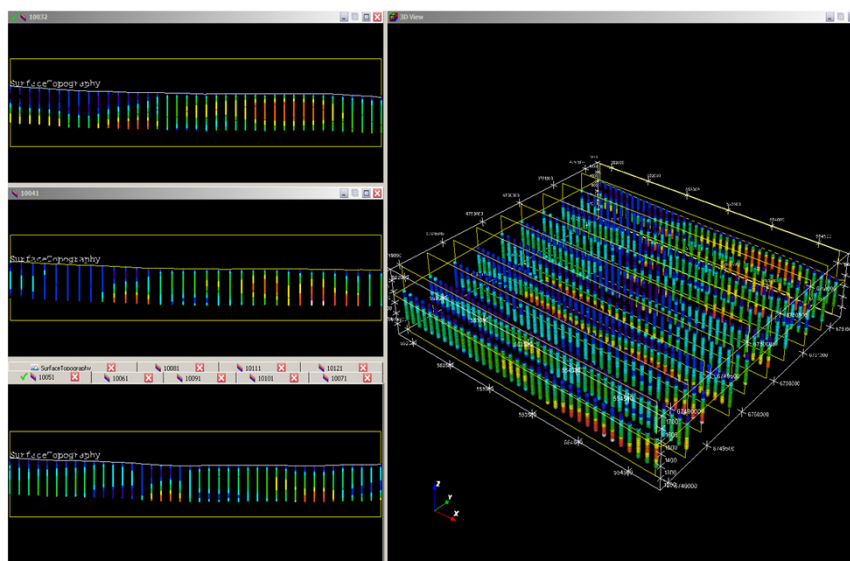
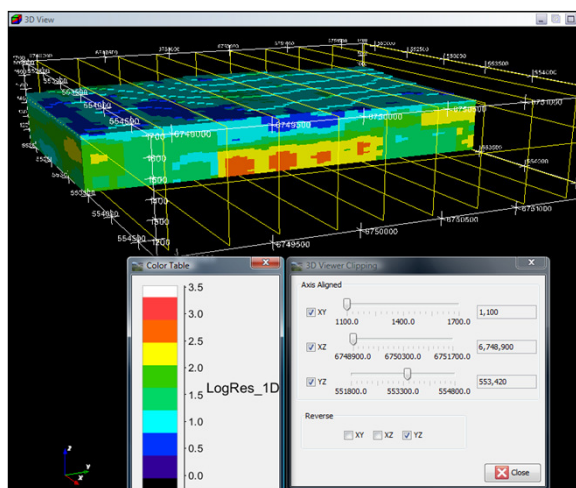


Figure: Profile views from Case Study: Bryah Basin AEM survey, Western Australia. SPECTREm<sub>2000</sub> fixed wing system, Leggatt 2000. Reference: Silic, Paterson, FitzGerald and Archer, 2015. Comparing 1D and 2.5D AEM inversions in 3D geological mapping using a new adaptive inversion solver. 14<sup>th</sup> International Congress of the Brazilian Geophysical Society. SBGf 2015.



Figures: 3D views from Case Study: Bryah Basin AEM survey