

Enhancing knowledge through data visualisation

Groundwater Visualisation System (GVS) is a versatile software package that can produce 3D visualisation of geological and hydrological systems.

The 3D framework enables development of conceptual hydrogeological models. This format allows identification of temporal groundwater and surface water processes, and the time-space relationships between them. The ability to animate time-series data, interrogate and interact with 3D models, enables a greater understanding of the components, infrastructure and functions of groundwater systems.

GVS is a flexible and user-friendly groundwater management tool, developed by the Queensland University of Technology (QUT). GVS is easy to use and is based on open source software which can be readily redistributed.

GVS models are customised for specific project requirements. Models are designed in collaboration with hydrogeologists, software developers and visualisation specialists to maximise the value of underlying data. The models developed integrate a wide range of spatial and time series data from both surface and subsurface settings.

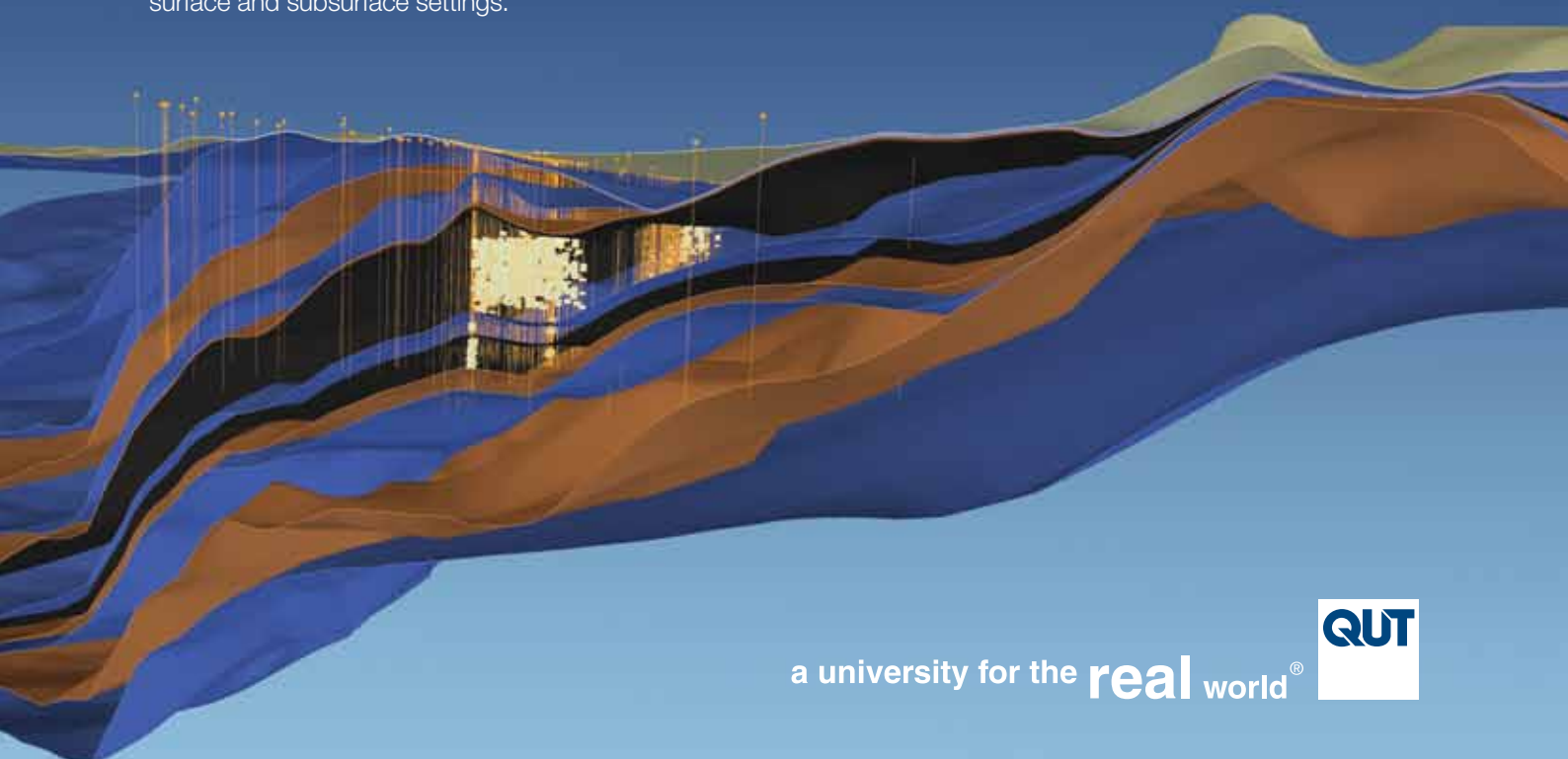
Potential application areas include:

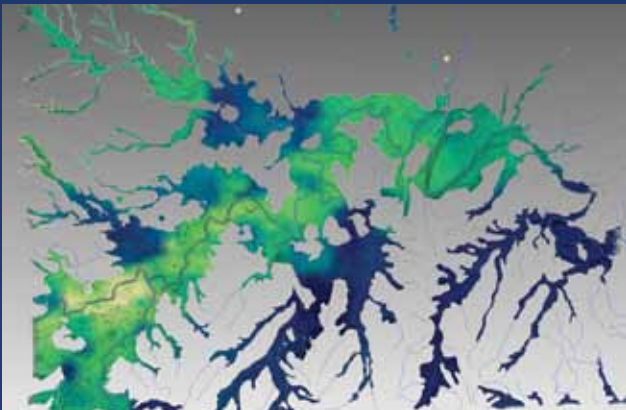
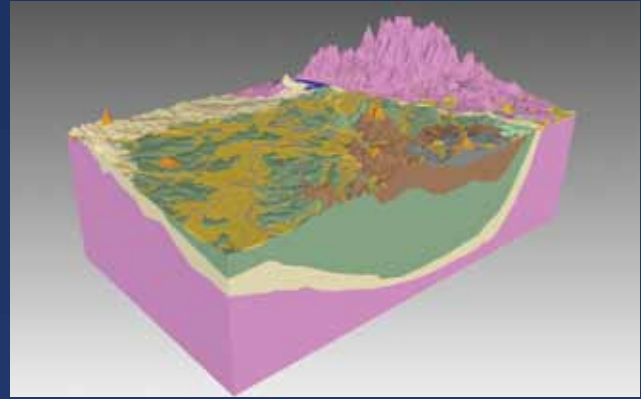
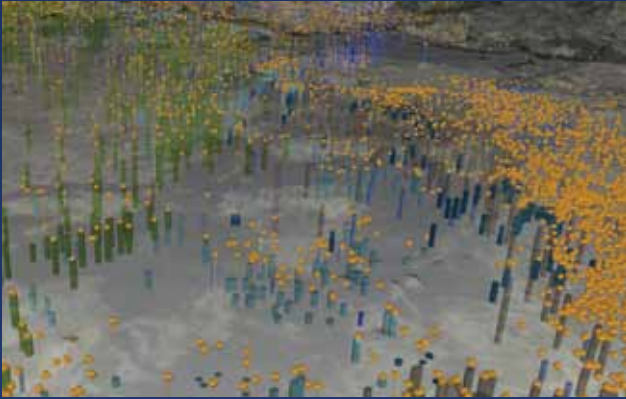
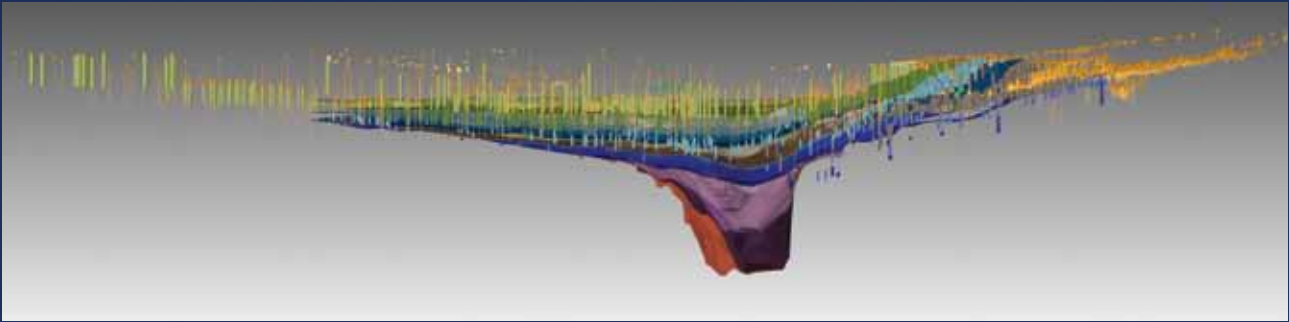
- groundwater and surface water resource investigation and management
- integration of water resources to land use
- coal seam gas operations, groundwater understanding and management
- groundwater dependent ecosystem (GDE) assessment
- open pit mining, quarrying operations and hydrology relations
- regional modelling of sedimentary basins and groundwaters
- sand island and coastal groundwater system modelling
- environment and climatic relations to hydrological systems.

More information

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www.isr.qut.edu.au/gsr/gvs





Clockwise from left > **Lower Lockyer Valley and middle Brisbane River:** Solid geological models can be imported in GVS, in addition to a range of other data, to provide a full conceptual understanding of the area.

Condamine region: The transparent topographic surface reveals the bore holes displayed with colour coded classified stratigraphy.

Surat and Bowen Basins: An east-west cross-section through the hydrogeological horizons of the basins, together with all bores and their classified stratigraphy.

Lower Lockyer Valley and middle Brisbane River regions: Standing water levels interpolated and projected on to the alluvial base surface highlight areas of drawdown and recharge.



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