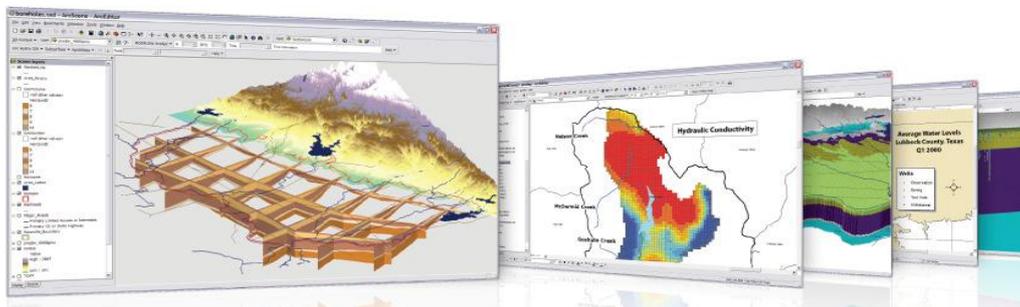# Arc Hydro Groundwater

## Display, analyze and archive your Groundwater & subsurface data.
## All within ArcGIS



Based on the **Arc Hydro Groundwater data model**, the tools will enable you to take advantage of the ArcGIS platform to archive, manage, and visualize your groundwater information.

- Expand your ArcGIS software with groundwater and subsurface geoprocessing tools developed in collaboration with ESRI
- Georeference subsurface data including boreholes, sketched cross sections, and geovolumes
- Reduce the need for multiple applications - visualize model data inside of ArcGIS
- Store, georeference, and create GIS maps of MODFLOW model input and solution data

### Groundwater Analyst

Tools in the Groundwater Analyst will help you import data into your **AHGW datamodel**, manage key attributes, and visualize your data. With Groundwater Analyst you will be able to import a variety of datasets (wells, time series, cross sections, volumes) into your geodatabase, manage symbology of layers in ArcMap and ArcScene, map and plot time series, and create common products such as water level, water quality, and flow direction maps.
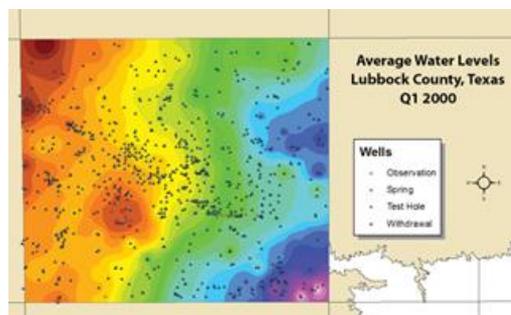


➢ **Manage Well Data**
- Use text import wizard
- Create maps to visualize well data using raster data sets
- Display flow vectors from flow direction generator
- Create maps to communicate various types of data
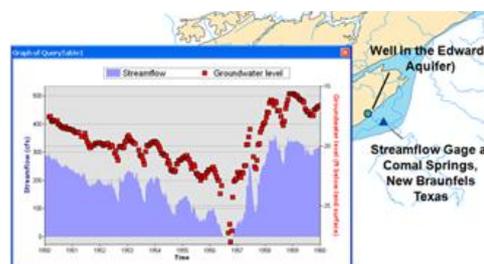


➢ **Perform Time Series Statistics**
- Show average readings
- Show readings from a range of time
- Query time series data to generate maps
- Use the built-in spatial analyst tools to create raster images

❖ **MODFLOW Analyst**

The MODFLOW Analyst enables you to create, archive, and visualize modflow models within ArcGIS. The geoprocessing tools are based on the **MODFLOW Data Model**, which supports the storage of a complete modflow model (including grid structure, inputs, and results) within an ArcGIS geodatabase. Tools in the toolkit enable you to import an existing model into the geodatabase and geo-reference the model so you can visualize and analyze the results in context with other GIS data, as well as create new models from GIS features.
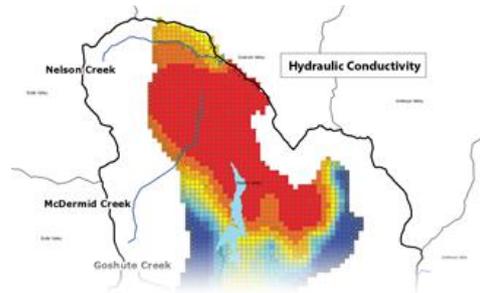


➢ **Manage MODFLOW models within ArcGIS**

- MODFLOW Analyst now supports MODFLOW 2005 as well as a number of MODFLOW packages!
- Import existing MODFLOW models and store them in the MODFLOW model structure
- Export & Run MODFLOW models within ArcGIS
- Map GIS attributes to MODFLOW models
- Well permitting tool
- Customized workflow

❖ **Subsurface Analyst**

Create and visualize both 2D & 3D geologic models, starting with classification and visualization of borehole logs, creation and editing of cross sections, and generation of 3D geosections and geovolumes.

➢ **Create & Edit Cross Sections**
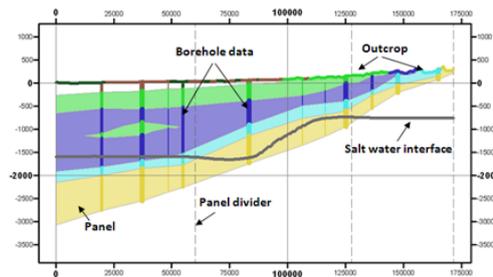


Interactive cross section editing of borehole data.
Include water table & saltwater interface and other geologic map data.
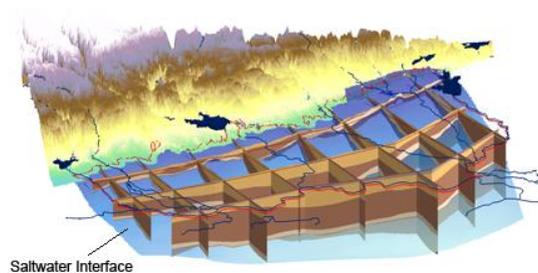


2D Cross Sections can be converted to 3D Geosections and viewed in ArcScene.
3D Geosections can also be converted to 2D Cross Sections to edit and view in ArcMap.

➢ **Create XS2D Geophysical Plot Features**

Add geophysical plots to 2D cross sections. This tool creates features representing geophysical data, such as points, lines and polygon plots, along with scale bars, for use in an XS2D data frame.
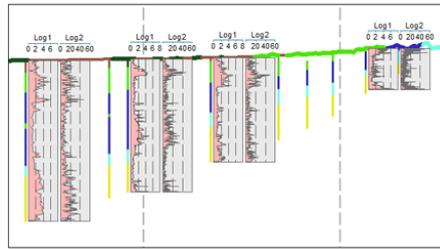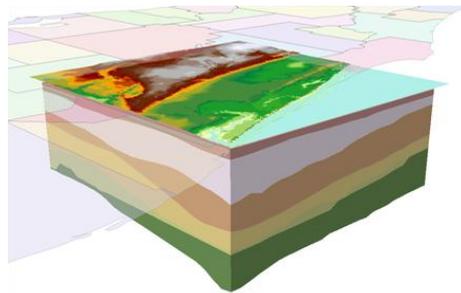


➢ **Add Borehole Image Wizard**
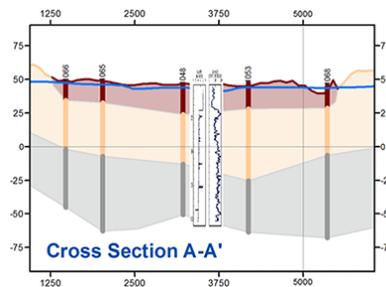


Add borehole images to cross sections. After selecting a particular well, run the wizard to register the borehole image. When finished, view the registered image in the cross section data frame.

➢ **Generate 3D Geovolumes**

Build 3D GeoVolumes from your subsurface data and visualize the new GeoVolume features in ArcScene.



➢ **Classify, Visualize & Edit Borehole Data**

Visualize, classify and edit borehole data such as stratigraphy, casing and screen intervals.