Groundwater Data Model

Data Model User Group

Join the data model user group if you are an existing ArcGIS customer and want to learn more about design and architecture of personal or enterprise Geodatabase and become a part of Esri's growing data model community.

The Arc Hydro Groundwater data model is a geodatabase design for representing multidimensional groundwater data. The data model supports representations of different types of groundwater data including representation of data from aquifer maps and well databases, data from geologic maps, 3D representations of borehole and hydrostratigraphy, temporal information, and data from simulation models.

The data model is based on the newly designed Arc Hydro framework which is shared by the surface water and groundwater data models. Users can add groundwater and surface water components to the framework as necessary, or develop their own components. This new componentized approach enables tailoring the geodatabase design to meet specific project needs.

The groundwater data model is being documented as an ESRI Press book: Arc Hydro Groundwater Data Model, which will be available in the coming months.

For more information on the data model please visit the Arc Hydro Groundwater Wiki or contact Gil Strassberg, or Norm Jones.

--Arc Hydro Groundwater Tools--

The Arc Hydro Groundwater Tools have now been released! Please visit the Aquaveo website to download.

New ArcGIS tools are developed by Aquaveo, a software development company with substantial expertise in groundwater modeling and data management applications. The Arc Hydro Groundwater tools will include three sets of tools:

Groundwater Analyst – 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.

MODFLOW Analyst – Create, archive, and visualize MODFLOW models within ArcGIS. 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.

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.

Presentation downloads are also available. Learn more about the three tools or download Arc Hydro Groundwater from http://www.aquaveo.com/archydro-groundwater or contact Jeff Davis at (801)302-1400.

User Forums

Visit the Esri data model discussion forum to share your ideas, thoughts, and questions with other users.

Downloads - Case Studies

These Case Studies are a good starting point to learn about best practices for this discipline. These project examples include sample geodatabases, map documents, and documentation.

- UC2007 Presentation .ppt and .txt - zip format, 27955 kb

Downloads - Design Templates

The Design Templates are the result of the community-based design process. The general concepts and terms for this discipline are described here. Tools and examples to create a template data model are also included for advanced users.

- ArcHydro Groundwater Data Model Poster .emf, .vsd, and .txt - zip format, 4363 kb
- Groundwater Data Model Design Template xml, .mdb, .xls, .txt - zip format, 116 kb

User Community

Please check Irrigation data model created for Irrigation District user community. Any feedbacks are appreciated in order to enhance the model.