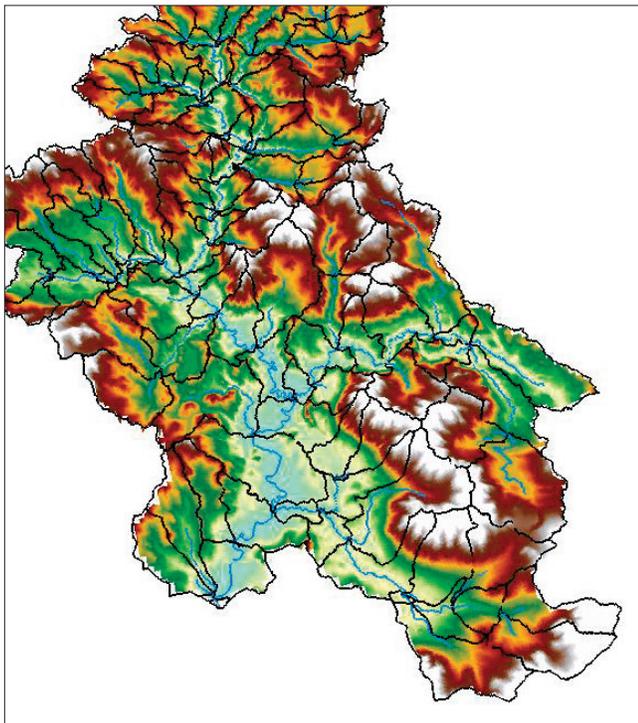


Arc Hydro: GIS for Water Resources

Why Arc Hydro?

Water resource managers use geographic information system (GIS) technology to visualize and analyze hydrologic data for tasks such as assessing water quality, estimating water availability, planning flood prevention, understanding the natural environment, and managing water resources.

Arc Hydro is the starting point for water resource analyses with Esri® ArcGIS® software. Download the free Arc Hydro data model and tools via the Hydro resource center at resources.arcgis.com/en/communities/hydro.



Visualization of a Watershed Model Created Using the Arc Hydro Data Structure and Tools

What is Arc Hydro?

A Template Data Model for Water Resources

Developed by leaders from industry, government, and academia, Arc Hydro is a GIS data structure that links hydrologic data to water resource modeling and decision-making methods. Using Arc Hydro helps you build a dataset that can be integrated with water resource models. The Arc Hydro data model standardizes water data structures so that data can be used consistently and efficiently to solve water resource problems at any spatial scale. It gives you a starting point for building your own data model and integrates with the Arc Hydro tools.

A Set of Tools to Support Water Resource Analyses

The Arc Hydro data model is complemented by a set of tools for building Arc Hydro-compliant datasets and running the data model. Arc Hydro tools work within ArcGIS for Desktop, but some also require the ArcGIS Spatial Analyst extension. Use Arc Hydro tools to do the following:

- Generate and populate an Arc Hydro geodatabase from vector and raster data sources.
- Establish relationships between core spatial layers.
- Apply geometric networks for upstream and downstream tracing and resource accumulation.
- Perform advanced water resource functions (e.g., watershed delineation and characterization).
- Develop node-link hydro schema.
- Use an XML data exchange framework for data integration with external models.

Arc Hydro offers toolbars, menus, and geoprocessing tools that allow you to create an integrated data and modeling environment in ArcGIS. You can string together standard ArcGIS and Arc Hydro geoprocessing tools to build your own water resource geoprocessing models, which can be used in desktop and web environments.



What can you do with Arc Hydro?

- Create basemaps and GIS data that support your simulations and use hydrologic (soil type, land-use, vegetation), topographic (area, slope), and topologic (relationship, network) information.
- Incorporate man-made structures into stream networks to develop an integrated data and flow modeling environment for asset management and hydrologic modeling support.
- Inspect your data to reveal flow conditions that might be overlooked (e.g., slope or soil changes).
- Integrate spatial and temporal data.
- Develop data inputs for external hydrologic and hydraulic models.
- Display your simulation results on a map and integrate the results with other GIS analyses such as vehicle routing and impact analyses.

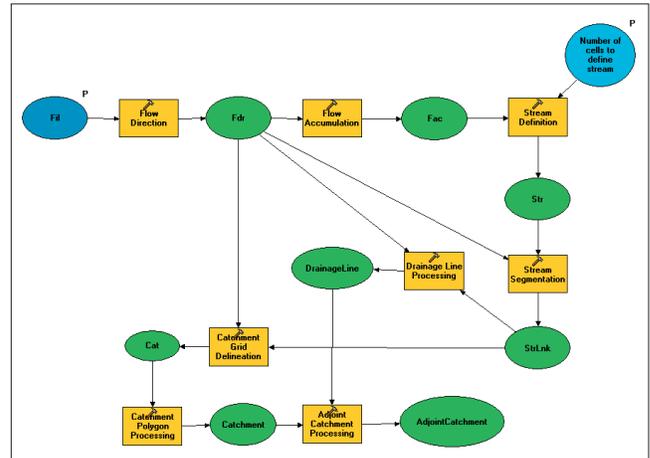
How can you get started?

Download the Arc Hydro data model and tools using the Hydro resource center at resources.arcgis.com/en/communities/hydro. From the resource center, you can access the water resources/Arc Hydro discussion forums. You can also attend the instructor-led training courses *Arc Hydro: GIS in Water Resources* and *Hydraulic and Hydrologic Analyses Using ArcGIS* to get started or sharpen your Arc Hydro skills in a classroom environment. Find more training information at training.esri.com.

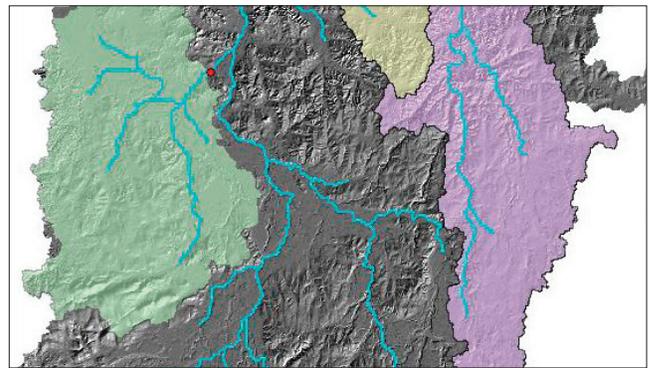
The Esri Professional Services water resources team can help you jump-start your Arc Hydro GIS implementation. The team can do the following:

- Develop and deliver custom Arc Hydro training
- Leverage your data and quickly mobilize it in Arc Hydro
- Design and develop Arc Hydro implementation plans and Arc Hydro-based custom solutions

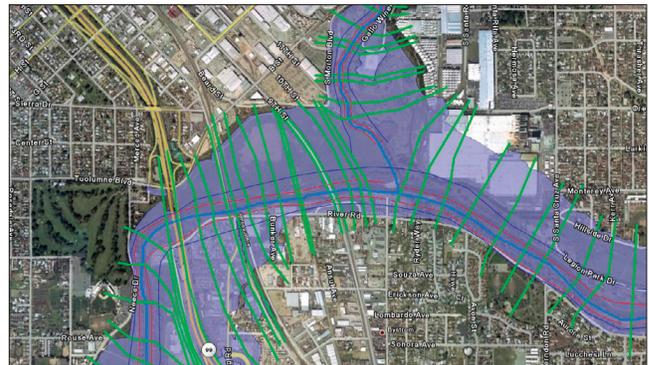
Send inquiries to archydro@esri.com.



Terrain Processing Workflow Using Arc Hydro Tools in ModelBuilder™



Water resources GIS data is stored in layers that can be selectively displayed to model a real-world watershed. This image displays four layers: shaded relief, watersheds, drainage lines, and watershed points.



Floodplain and Flood Depth Data on Top of Imagery and Street Basemaps



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