

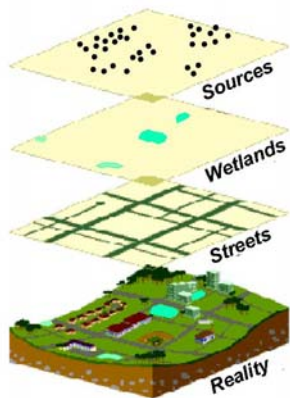
Susquehanna River Basin Commission Information Sheet

Geographic Information System (GIS) Program Providing Mapping, Data and Analysis Support



What is GIS?

GIS (geographic information system) is a computer technology capable of assembling, storing, manipulating and displaying geographically referenced information. Data, people and hardware/software are key components of GIS. While many people equate GIS with producing paper maps, the power of GIS technology is its use in a wide range of operations and applications. GIS combines layers of information about a place in order to explore interrelationships of various natural, social and man-made resources. The information or data combined can be from many different sources and be in various formats from tabular data to images. With GIS, users can build multiple applications for decision-making purposes, perform statistical analysis or query geo-referenced spatial data in three dimensions.

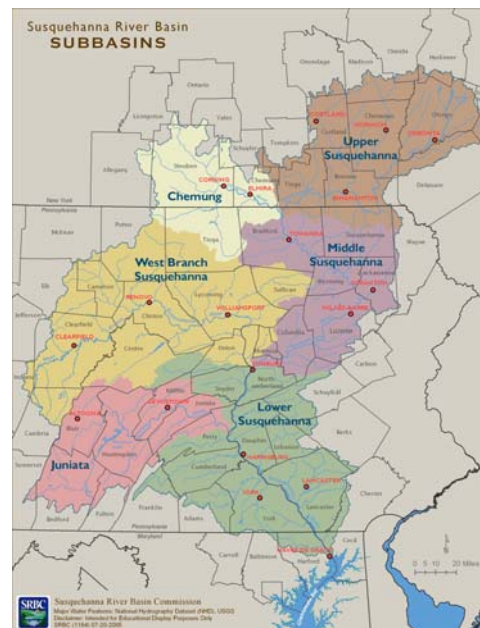


GIS Program

The goal of the Susquehanna River Basin Commission's (SRBC's) GIS program is to aid in the collection, organization and distribution of information needed to protect the water resources of the basin. GIS staff builds and maintains the GIS database, manages the infrastructure and provides support for SRBC's technical and public information and outreach staff.

GIS Program Implementation

SRBC staff uses GIS to strengthen its data analysis capability when investigating water resource activities. As a database tool, the integration of data from different data sources can reveal spatial relationships not apparent with tabular datasets. Data manipulation and data delineation functions are used to overlay various coverages creating new information about a study area. GIS also provides a way to communicate these results through visual presentation. As a mapping tool, cartographic information can be displayed in various formats that can be easily understood by a wide audience.



SRBC has incorporated GIS technology into its routine water resource management activities including public information and education, analysis and assessment, water use planning, and data sharing and assistance.

GIS Program Database

SRBC's GIS Program database is a growing and continuously updated assemblage of data layers. Data sources include the U.S. Geological Survey (USGS), U.S. Environmental Protection Agency (EPA), Pennsylvania Department of Environmental Protection (PADEP), New York State Department of Environmental Conservation

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(NYSDEC) and Maryland Department of the Environment (MDE). Due to data comparability and availability issues among SRBC's three member states (New York, Pennsylvania and Maryland), an ongoing task of the GIS program is to create seamless datasets that encompass the entire Susquehanna River Basin. The following is a partial list of basinwide GIS datasets and maps available from SRBC.

GIS Datasets & Maps

- Subbasins
- Geology by Rock Type
- Land Use Land Cover (as shown on page 1)
- Elevation
- Soils
- Streams
- Waterbodies
- Major Watersheds
- Ecoregions
- Precipitation, 30-Year Average
- Water Quality Monitoring Sites

GIS Hardware and Software

The SRBC GIS Program utilizes ESRI software. Licenses for ArcGIS Server 10, ArcGIS for Desktop Advanced and Basic, ArcView 3.2, Spatial Analyst and 3-D Analyst are maintained. Staff can access the GIS software on a local area network. Peripheral hardware includes a Hewlett Packard DesignJet 800 PS plotter and 35 Global Positioning System (GPS) units:

- Trimble GeoExplorer 3 (1)
- Trimble GeoXT (2)
- Garmin GPS 72 (13)
- Garmin Nuvi Automotive GPS (19)

GIS Maps and Data Access

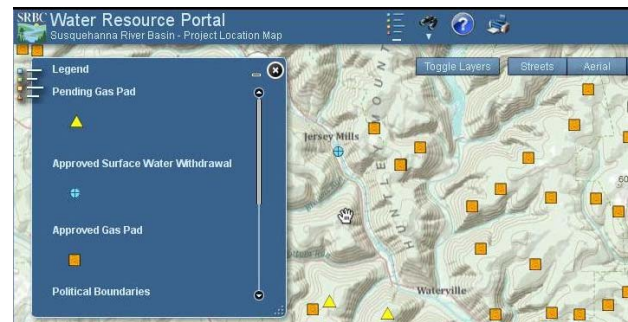
Since the implementation of ArcGIS Server 10, the GIS Program has expanded its role to include production of web-based interactive maps. ArcGIS Server 10 provides the ability to distribute GIS data over the internet and allows for the creation of mobile and web-based mapping applications. Here are some examples of SRBC websites that include this new functionality:

Map and Data Atlas (www.srbc.net/atlas)

The atlas provides an array of maps and data based on general geographic themes and current projects. Maps can be viewed on screen or downloaded as high quality printable Adobe Acrobat (PDF) files. Selected GIS datasets are also available for download in ESRI shapefile format throughout the Atlas.

Water Resource Portal (www.srbc.net/wrp)

The portal enhances public access to information on water use projects regulated by SRBC. Users can obtain information on pending and approved projects by tabular queries or spatially through the project location map.



Remote Water Quality Monitoring Network (mdw.srbc.net/remotewaterquality)

The network continuously measures and reports water quality conditions of smaller streams throughout the middle and northern areas of the basin. Users can view real-time data in various formats as well as in a web-based map.



Susquehanna Inundation Map Viewer (maps.srbc.net)

The viewer displays expected areas of flood inundation for selected National Weather Service (NWS) river forecast points. Users can easily identify their location and view inundation areas at various river stages to assist in flood preparedness.

