

# Sources of Geospatial Data for Central and Western New York - 1998

*By* Stephen C. Komor

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U.S. GEOLOGICAL SURVEY

Open-File Report 99-191

Prepared in cooperation with the  
Water Resources Board of the Finger Lakes -  
Lake Ontario Watershed Protection Alliance



Ithaca, New York  
1999

U.S. DEPARTMENT OF THE INTERIOR  
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U.S. GEOLOGICAL SURVEY  
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## CONVERSION FACTORS

Multiply	By	To Obtain
<i>Length</i>		
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
<i>Area</i>		
square mile (mi <sup>2</sup> )	2.590	square kilometer

# Sources of Geospatial Data for Central and Western New York

by Stephen C. Komor

## ABSTRACT

The Finger Lakes-Lake Ontario Watershed Protection Alliance (FL-LOWPA), a coalition of 24 counties in central and western New York, wishes to develop a geographic information system (GIS) for mapping and managing hydrologic data in the region. A first step in developing a GIS is identifying sources of geospatial data in the area. (Geospatial data are hydrologic and other types of data that have a known position on the earth's surface). County agencies involved in water-resource management in the FL-LOWPA counties were surveyed to identify relevant sources of geospatial information. New York State and Federal data sources were identified by a search of the World Wide Web and follow-up telephone inquiries. This report contains a compilation of geospatial data from County, State and Federal data sources.

## INTRODUCTION

The Finger Lakes-Lake Ontario Watershed Protection Alliance (FL-LOWPA) is a coalition of 24 counties in central and western New York (fig. 1) whose mission is to work together to protect watersheds (fig. 2) and maintain good water quality. The governing body of the FL-LOWPA is the Water Resources Board of the Finger Lakes Association, which is headquartered in Penn Yan, New York.

In 1998, the U.S. Geological Survey (USGS), in cooperation with the Water Resources Board, compiled available geospatial information about the region from County, State and Federal sources. The results (Tables 1-3) represent a first step toward building a regional, computerized water-resources

database and geographic information system (GIS). This information can promote exchange of data among counties, help avoid duplication of efforts to scan and digitize paper maps, and speed development of GIS databases that provide detailed coverages.

## Purpose and Scope

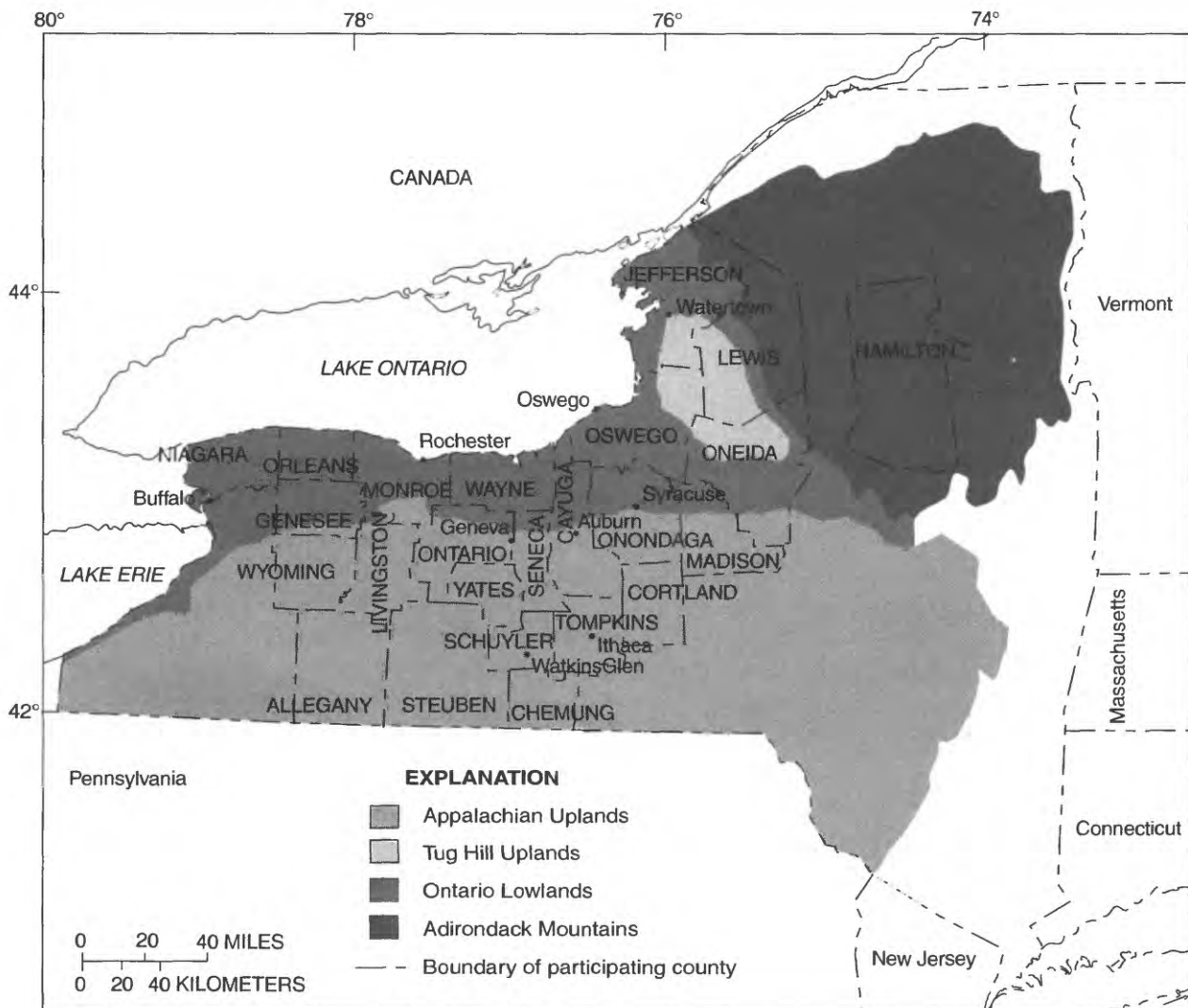
This report (1) describes the applications of GIS in watershed management and the methods of data compilation, and (2) presents the types of data available for each county (Table 1), the sources and scales of data in 16 categories, by county (Table 2), and a list and description of more than 50 State and Federal databases (Table 3).

## Acknowledgments

Funding for this project was provided, in part, by the New York State Legislature.

## PHYSICAL SETTING AND REGIONAL CONCERNS

The FL-LOWPA counties cover all or parts of 27 major drainage basins in central and western New York State (fig. 2). Prominent water features in the area include: the New York State (NYS) Barge Canal; the Black, Genesee, and Oswego Rivers; the southern Lake Ontario shoreline; 11 Finger Lakes (from west to east, Conesus, Hemlock, Canadice, Honeoye, Canandaigua, Keuka, Seneca, Cayuga, Owego, Skaneateles, and Otisco); and Oneida and Onondaga Lakes (fig. 3). This region of over 8,000 mi<sup>2</sup> includes 4 physiographic provinces (Isachsen and others, 1991) the Appalachian Uplands, the Ontario Lowlands, the Tug Hill Uplands, and the Adirondack Mountains



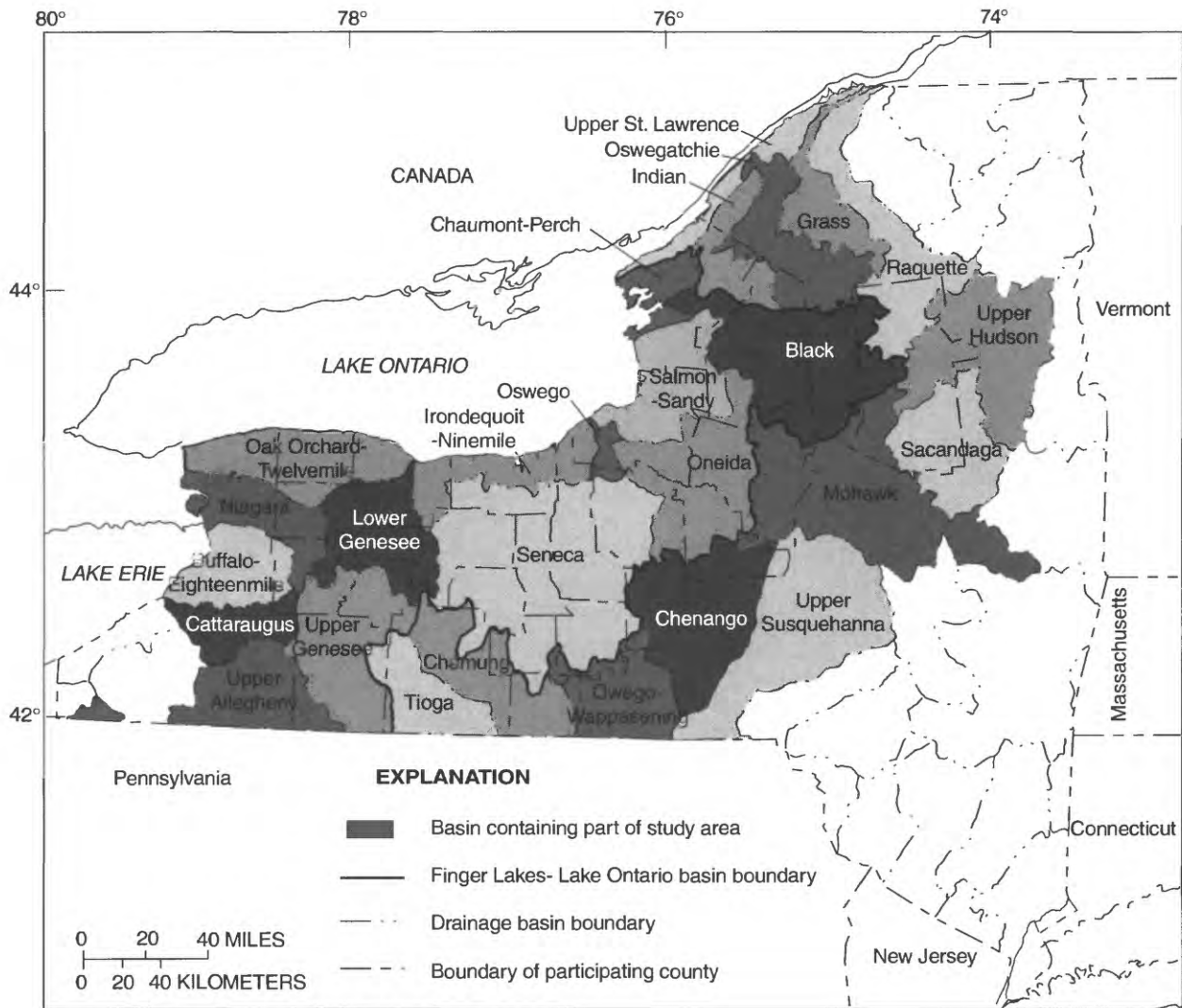
Base from U.S. Geological Survey digital data, 1:2,000,000

**Figure 1.** Locations of the 24 FL-LOWPA (Finger Lakes-Lake Ontario Watershed Protection Alliance) counties in central and western New York, and corresponding physiographic provinces.

(fig. 1). The Appalachian Uplands province includes the Finger Lakes Region and has steep to rolling glacial topography. Land use is predominantly agricultural, and regional population centers include the Towns of Auburn, Geneva, Ithaca, and Watkins Glen. The Ontario Lowlands province, which extends from Buffalo on the west to Watertown on the east, has low relief and productive farmlands; major cities include Oswego and Rochester on the Lake Ontario shoreline. The City of Syracuse lies on the border between the Appalachian Uplands and the Ontario Lowlands. The Tug Hill Uplands province is at the eastern end of the Ontario Lowlands and is characterized by steep terrain and rural communities. The Adirondack Mountains are

a roughly circular province of metamorphic rocks with long, straight valleys, gently curved ridges, and a radial drainage pattern (Isachsen and others, 1991).

Streamflow and lake levels in much of central and western New York are regulated by the Barge Canal. Canal flow policies affect seasonal and short-term flooding patterns, intrastate navigation, power generation, recreational opportunities, and wildlife preserves. Hence, canal control policies are important to the Water Resources Board. Other concerns in the region include runoff of agricultural chemicals, discharge of industrial and municipal waste water, introduction of exotic flora and fauna into local ecosystems, maintenance of sport-fisheries and other



Base from U.S. Geological Survey digital data, 1:2,000,000

**Figure 2.** Principal drainage basins in central and western New York. (Basin names correspond to cataloging units listed in the U.S. Geological Survey, 1982. County names are shown in fig. 1.)

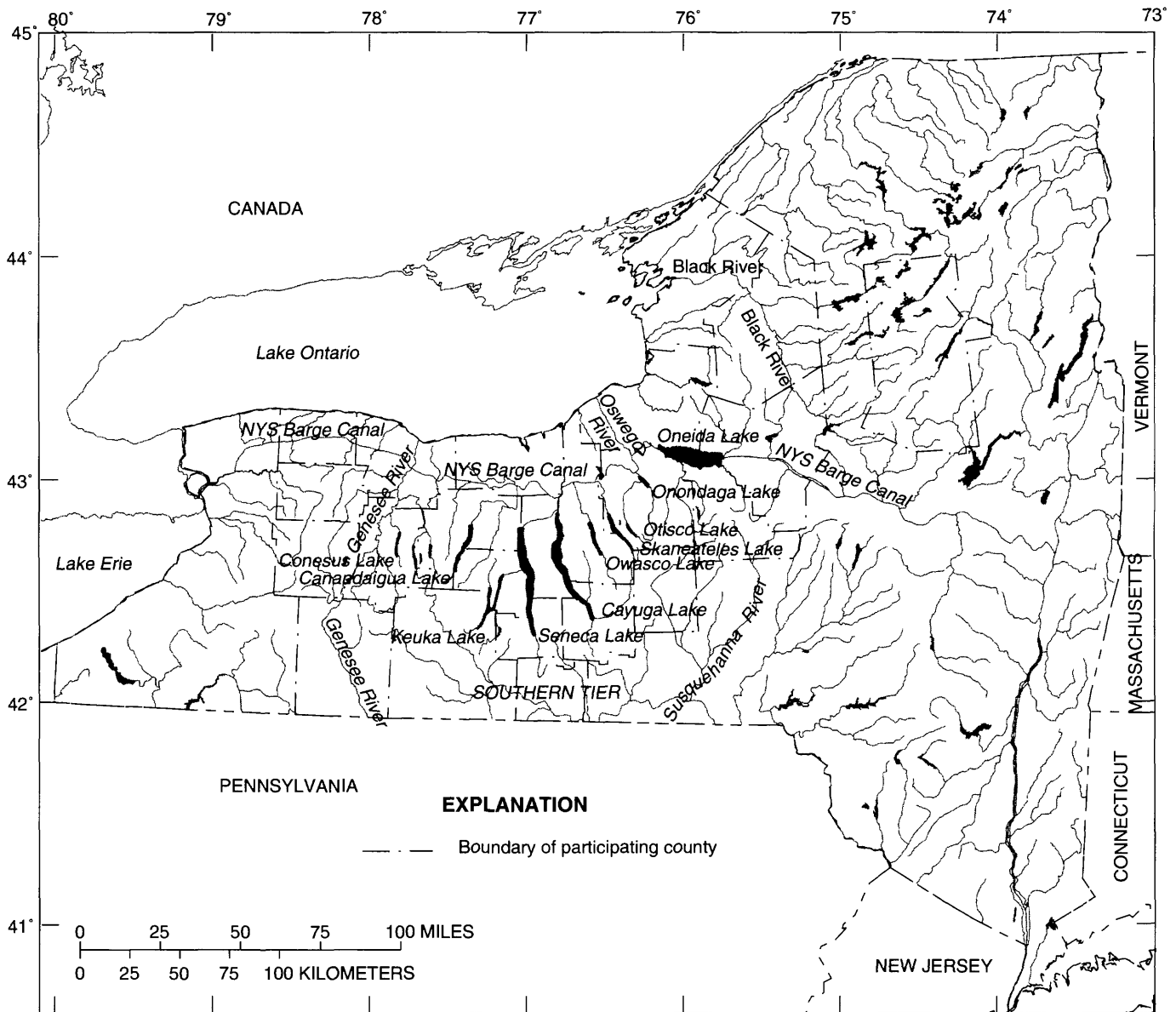
recreational water uses, urbanization and associated waterfront development, and wetland preservation.

## GIS Applications in Watershed Evaluation, Planning, and Protection

A GIS is a computerized mapping and visualization tool that has many potential applications for providing information about water resources. A regional GIS would help the FL-LOWPA counties develop basinwide water-management strategies that

cross political boundaries. Monitoring networks for assessing water quality and quantity could be improved and made more efficient by application of GIS techniques. A regional GIS system could provide a means for disseminating timely water-resources information to help water managers deal proactively with short- and long-term hydrologic changes. A regional GIS also may help to:

- Predict how flow fluctuations in the Barge Canal may impact lakes, streams and shorelines in the area,
- Predict how lake-level might affect shoreline communities,



Base from U.S. Geological Survey digital data, 1:2,000,000

**Figure 3.** Major lakes and streams in central and western New York. (County names are shown in fig. 1.)

- Identify flood-prone areas,
- Map and monitor changes in land-use that can affect nonpoint-source pollution. Land-use categories that could be monitored include croplands, deciduous and coniferous forests, grasslands and pastures, lakes and wetlands, and urbanized areas),
- Map water-well locations and define wellhead-protection areas,
- Map the locations of potential point-source contaminants, such as hazardous waste sites, landfills, septic systems, and underground storage tanks,
- Visualize how riparian buffer zones installed along stream corridors might filter nonpoint-source pollution,
- Correlate stream-water quality with bedrock geology, land use and contaminant sources,
- Map geomorphic patterns that determine flow directions and form drainage divides,
- Maintain accurate wetland inventories,
- Manage and analyze water-use data,
- Map surface-water intake locations and define water-protection areas.

# SOURCES OF GEOSPATIAL DATA FOR CENTRAL AND WESTERN NEW YORK

## Methods of Compilation

Federal and State water-resources information of relevance to the FL-LOWPA counties was identified by searching the World Wide Web (WWW). Information from the WWW was clarified and validated by direct contact of the appropriate agencies.

Twenty of the 24 counties in the FL-LOWPA participated in this survey of geospatial information. Jefferson, Orleans, Seneca, and Wayne Counties did not participate, but minimal information on these counties was gleaned from a previous GIS data compilation (Genesee/Finger Lakes Regional Planning Council, 1995).

Information was compiled from questionnaires mailed to water-resources personnel in each participating county. The questionnaires asked county personnel to indicate (1) the a primary GIS contact in each county; (2) the primary GIS software used by each county; (3) the types of geospatial data available in their counties; (4) the person and agency to contact to obtain copies of the data; (5) whether the data are in digital or paper form; and (6) whether the data are in the public domain or restricted. Information from the questionnaires was tabulated and returned to the county representatives for corrections. The tables were revised accordingly and sent to the county representatives for final verification.

Responses to the initial survey and subsequent requests for correction and verification varied by county. Some counties provided extensive information and detailed corrections whereas others provided only limited information for the initial survey and minimal or no revisions. The resulting compilation reflects the variability among responses to the information requests.

## Considerations for GIS Development

Over the past several years, the FL-LOWPA counties have considered plans to develop a regional GIS for water-resources management. Although GIS capabilities are well advanced in some counties, a regional system has yet to be realized. Development of a regional GIS system for the FL-LOWPA counties would require a financial commitment from the

member counties. Funding would be needed for salary of a GIS specialist and for purchase of the necessary computer hardware and software. New water-resources data sets commonly are in digital format that are easily incorporated into computerized databases. However, older geospatial information often is available only on paper maps that must be scanned or digitized before being incorporated into a database. This process can be time consuming and expensive.

The GIS would be most useful if the GIS specialist kept the database current with frequent updates of the compiled information; this would require a long-term funding commitment. Furthermore, hardware and software would need to be updated periodically, perhaps every 2 to 3 years, to meet the expected increase in system use by water managers and investigators. These updates would also require long-term funding.

## Guidelines for use of Tables 1-3

The types of data and documents that may be used to build a GIS database include (Collet et al., 1996):

1. Field data (usually point measurements).
2. Cartographic documents (topographic and thematic maps).
3. Analog images (aerial photographs and satellite images).
4. Digital images (aerial and satellite images, scanned documents).
5. Existing geographical databases (layers of information already in digital form).

County sources of geospatial water-resources information in the FL-LOWPA region are summarized in Table 1, and the contact persons and scales of data items are listed in Table 2, in alphabetical order by county. The data categories in Tables 2 and 3 were chosen based on their widespread use and elementary utility; these data types are likely to be included in any regional GIS database. Federal and State sources of geospatial water-resources information identified in the survey are compiled in Table 3. These sources offer a wide range of data that could be useful in developing a regional database in the FL-LOWPA counties. Some County, State, and Federal agencies restrict distribution of proprietary data. Therefore, certain data sets listed in the tables may be unavailable for incorporation into a regional GIS database.

The information in Tables 1-3 represents an overview of data characteristics at the time of



compilation; it will soon become outdated. Addresses of World Wide Web sites (Table 3) may change, rendering inactive previous valid electronic links. At the county level (Tables 1 and 2), additional data types may become available and the contact persons may change through time. Users of the tabulated information should expect discrepancies between actual data characteristics and those noted in the tables.

Although the information in Tables 1-3 will be helpful in locating geospatial data in the FL-LOWPA region, locating the information is only the first and perhaps easiest step in developing a useful database. Subsequent steps include data acquisition; data preparation and formatting for incorporation in the database; and selection and application of software to manipulate, exploit, and analyze the data (Collet et al., 1996).

## **SUMMARY**

A regional GIS system would be of great use to water managers and investigators in the FL-LOWPA

counties. Availability of a user-friendly GIS would almost immediately increase water managers' ability to protect and exploit water resources in their counties and the region. Dependable long-term funding would be necessary to establish and maintain a regional GIS system.

## **REFERENCES CITED**

- Collet, C., Consuegra, D., and Joerin, F., 1996, GIS needs and GIS software: in Geographical information systems in hydrology, Singh, V.P. and Fiorentio, F., eds., Kluwer, Dordrecht, p. 115-174.
- Genesee/Finger Lakes Regional Planning Council, 1995, Regional directory of data sources: Rochester, N.Y., 111 pp.
- Isachsen, Y.W., Landing, E., Lauber, J.M., Rickard, L.V., and Rogers, W.B., 1991, Geology of New York: Educational Leaflet No. 28, New York State Museum, Albany, 284 pp.
- U.S. Geological Survey, 1982, Codes for Identification of Hydrologic Units in the United States and the Caribbean Outlying Areas: Geological Survey Circular 878-A, 115 pp.

**Table 1. Availability and format of water-resources information from participating counties in central and western New York, by county**

[D, data available in digital form (generally can be printed on paper; P, data available in paper form; D&P, data available in digital and/or paper form. A dash indicates data unavailable. No data were available for Seneca or Wayne Counties.]

County	Aerial photos	Agri-cultural districts	County &/or municipal boundaries	Geology	Hazardous waste sites	Hydro-graphy &/or flood plains	Land use	Roads, rail lines, &/or trails	School districts	Soils	Tax parcels	Topo-graphy	Water &/or sewer lines	Water-shed bound-aries	Wetlands	Zoning maps	Page no. in table 2
Allegany	P	P	D	P	D&P	P	P	D&P	D	P	D&P	P	D&P	P	--	P	8
Cayuga	P	D	D&P	D	D	D&P	D&P	D&P	D&P	P	P	P	P	D&P	D&P	D&P	9
Chemung	--	--	D	D	D	D	D	D	P	D	D	D&P	D	D	D	D	10
Cortland	P	D	D	--	D	D	D	D	D	D&P	D	D&P	P	--	D	P	11
Genesee	P	D	D	--	--	D	--	D	P	P	D&P	P	P	D	--	D&P	12
Hamilton	P	--	P	--	--	--	P	P	P	P	P	P	--	--	P	--	13
Jefferson	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14
Lewis	P	P	P	--	P	P	P	P	D	P	P	P	P	D	P	--	14
Livingston	P	D&P	D&P	--	D&P	D&P	D&P	D&P	D	D&P	P	P	P	D&P	--	D&P	15
Madison	--	P	D	--	--	D	--	--	D	D&P	D&P	--	--	D&P	--	P	16
Monroe	P	D&P	D&P	--	P	D&P	D&P	D&P	D&P	D&P	D&P	P	D&P	D&P	D&P	D&P	17
Niagara	P	P	P	--	P	P	--	P	P	D&P	D&P	P	P	P	D&P	P	18
Oneida	D	D	D	--	--	--	--	--	--	D	D	--	--	--	--	--	19
Onondaga	D	D	D	D	--	D	D	D	D	D&P	D	P	D	D	D	--	20
Ontario	P	D	D	D	--	D	D	D	D	D	D	P	D	D	--	D	21
Orleans	--	D	D	D	--	D	D	D	--	D	D	D	--	--	--	D	22
Oswego	P	D	D	D	--	D	D&P	D	P	D	P	P	D	D	D	--	23
Schuyler	P	D	D	P	--	D	D&P	D&P	P	D&P	P	P	D&P	D&P	D&P	D	24
Steuben	P	D	D	D	D	D	D	D	D&P	D	D	P	D	D	D	D	25
Tompkins	P	D	D	P	--	D	P	D	D	D&P	D	D	--	D	D	D&P	26
Wyoming	--	D	P	D	P	D&P	--	P	--	D&P	P	P	--	P	--	--	27
Yates	D&P	D	D	D	--	D	D	D	D	D	D	D	D	D	D	D	28

**Table 2.** Water-resources-data categories, and their sources and scale, in participating central and western New York counties, by county [&/or = and(or). Dept. = Department. Dashes indicate information is unavailable.]

**Allegany County**

Primary GIS contact - Fred Sinclair, Soil & Water Conservation District (716) 268-7831  
 Primary GIS software - GRASS

Database category	Contact	Source scale
Aerial photographs	Soil & Water Conservation District, Fred Sinclair (716) 268-7831	--
Agricultural districts	"	1:24,000
County &/or municipal boundaries	"	--
Geology	"	--
Hazardous waste sites	"	--
Hydrography &/or floodplains	"	1:24,000; other
Land use	"	--
Roads, rail lines, &/or trails	"	--
School districts	"	--
Soils	"	1:250,000
Tax parcels	"	--
Topography	"	--
Water & sewer lines	Health Dept., Hans Peters (716) 268-9250	--
Watershed boundaries	Soil & Water Conservation District, Fred Sinclair (716) 268-7831	--
Wetlands	--	--
Zoning maps	Soil & Water Conservation District, Fred Sinclair (716) 268-7831	--

**Other information:** Information on municipal well-head location, public water supplies, and sewage and septic systems:

Geospatial information is available at scale of 1:24,000 for the following:

- Cuba Lake and Rushford Lake watersheds
- classified streams
- targeted watersheds
- Oil Springs
- Moss Lake Nature Conservancy
- municipal wellheads
- priority waterbodies
- the Seneca Nation
- wildlife refuges
- historic sites

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**  
**Cayuga County**

Primary GIS contact - Nick Colas, County Planning Department (315) 253-1276  
 Primary GIS software - ARC/INFO, ArcView

Database category	Contact	Source scale
Aerial photographs	County Planning Department, Nick Colas (315) 253-1276	variable
Agricultural districts	"	1:24,000
County &/or municipal boundaries	"	"
Geology	"	1:250,000
Hazardous waste sites	"	variable
Hydrography &/or flood plains	"	1:24,000, other
Land use	"	1:24,000
Roads, rail lines, &/or trails	"	"
School districts	"	1:95,040
Soils	"	1:15,840
Tax parcels	"	variable
Topography	"	1:24,000
Water & sewer lines	"	variable
Watershed boundaries	"	1:63,360
Wetlands	"	1:24,000
Zoning maps	"	variable

Other information:

Partial unique digital data coverages are available for the following:

- hazardous-waste sites
- soils
- topography
- zoning maps.
- hydrology
- tax maps
- water and sewer lines

Full digital coverages are available for the following:

- 911 (emergency) access points, economic development zones, and parkland recreation areas.

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**  
**Chemung County**

Primary GIS contact - Ron Shetler, Real Property Tax Services (607) 737-2988  
 Primary GIS software - ArcView

Database category	Contact*	Source scale
Aerial photographs	--	--
Agricultural districts	--	--
County &/or municipal boundaries	Planning Dept., Dave Bubniak (607) 737-5510; STCRPDB, Dara Fell (607) 962-5092	--
Geology	" a	--
Hazardous waste sites	"	--
Hydrography &/or floodplains	"	--
Land use	" b	--
Roads, rail lines, &/or trails	"	--
School districts	Real Property Tax Services, Ron Shetler (607) 737-2988	--
Soils	Planning Dept., Dave Bubniak (607) 737-5510; STCRPDB, Dara Fell (607) 962-5092	--
Tax parcels	Real Property Tax Services, Ron Shetler (607) 737-2988	--
Topography	Planning Dept., Dave Bubniak (607) 737-5510; c STCRPDB, Dara Fell (607) 962-5092	--
Water & sewer lines	" d	--
Watershed boundaries	"	1:100,000
Wetlands	"	--
Zoning maps	" e	--

\* STCRPDB, Southern Tier Central Region Planning and Development Board

a Surficial geology from Upper Susquehanna Coalition study.

b From LANDSAT images.

c Partial coverage for well-head protection area in Town of Horseheads.

d Locations of SPEDES discharges.

e For selected cities (e.g. Elmira).

Other information:

STCRPDB (<http://www.stcrpdb.dst.ny.us/>) has many other point, line, and polygon coverages for county.

Weiler Mapping Inc. (contact: John Trumber (607) 739-4476) maintains county tax parcel maps.

Other data available from County Planning Department include: locations of water wells tested for chemical quality; road-bank erosion sites; and stressed-streambank segment inventory (from Upper Susquehanna Coalition study).

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**  
**Cortland County**

Primary GIS contact - Dan Dineen, Planning Dept. (607) 753-5043  
 Primary GIS software - ARC/INFO

Data category	Contact	Source scale
Aerial photographs	Farm Services Agency, Tina Whiteman (607) 753-0851	1:7200
Agricultural districts	Planning Dept., Dan Dineen (607) 753-5043	--
County &/or municipal boundaries	"	1:24,000
Geology	--	--
Hazardous waste sites	"	--
Hydrography &/or floodplains	"	--
Land use	"	1:250,000
Roads, rail lines, &/or trails	*Planning Dept., Dan Dineen (607) 753-5043	1:24,000
School districts	Planning Dept., Dan Dineen (607) 753-5043	1:100,000
Soils	Soil & Water Conservation District, Amanda Barber (607) 756-5991; Planning Dept., Dan Dineen (607) 753-5043	1:250,000
Tax parcels	Planning Dept., Dan Dineen (607) 753-5043	--
Topography	Soil & Water Conservation District, Amanda Barber (607) 756-5991; Planning Dept., Dan Dineen (607) 753-5043	1:24,000
Water & sewer lines	Health Dept., Peter Rynkiewicz (607) 753-0651	--
Watershed boundaries	--	--
Wetlands	Planning Dept., Dan Dineen (607) 753-5043	1:24,000
Zoning maps	--	--

\* From scanned topographic maps.  
 Also available are digital coverages of: contour lines (20' interval); slope (percent); and zip-code boundaries.

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**  
**Genesee County**

Database category	Contact*	Source scale
Aerial photographs	<sup>a</sup> Planning Dept., Robert Patterson (716) 344-2580 x5468 SWCD, George Squires (716) 343-2362	1:4,800; 1:12,000
Agricultural districts	SWCD, George Squires (716) 343-2362; Planning Dept., Robert Patterson (716) 344-2580 x5468	--
County and/or municipal boundaries	Planning Dept., Robert Patterson (716) 344-2580 x5468	--
Geology	--	--
Hazardous waste sites	--	--
Hydrography and/or flood plains	SWCD, George Squires (716) 343-2362	--
Land use	--	--
Roads, rail lines, &/or trails	Planning Dept., Jim Duval (716) 344-2580 x5471	--
School districts	Planning Dept., Robert Patterson (716) 344-2580 x5468	--
Soils	SWCD, George Squires (716) 343-2362	1:15,840
Tax parcels	Real Property Dept., Joe Macaluso (716) 344-2550 x2218	--
Topography	SWCD, George Squires (716) 343-2362	--
Water & sewer lines	<sup>b</sup> Corneles Engineering, Scott Harter (716) 427-0320	--
Watershed boundaries	SWCD, George Squires (716) 343-2362	--
Wetlands	--	--
Zoning maps	Planning Dept., Robert Patterson (716) 344-2580 x5468	1:24,000; other

\* SWCD, Soil & Water Conservation District

<sup>a</sup> Aerial photographs taken in 1938, 1954, 1963, 1968, 1974, and 1985.

<sup>b</sup> Limited to certain municipalities (e.g. Batavia).

Other information: Also available are:

paper and digital information on Batavia Wellhead Protection Project (contact Robert Patterson, Planning Department (716) 344-2580 x5468); census data (paper format, contact Jim Duval, Planning Department (716) 344-2580 x5471); and enhanced TIGER maps showing locations of traffic-control devices (contact Jim Duval).

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**

**Hamilton County**

Primary GIS contact - Soil & Water Conservation District (518) 548-3991  
 Primary GIS software - None

Data category	Contact	Source scale
Aerial photographs	Soil & Water Conservation District (518) 548-3991 Real Property Services (518) 548-5531	1:24,000
Agricultural districts	--	--
County &/or municipal boundaries	Real Property Services (518) 548-5531	1:1,200; 1:2,400; 1:7,200
Geology	--	--
Hazardous waste sites	--	--
Hydrography &/or floodplains	--	--
Land use	<sup>a</sup> Real Property Services (518) 548-5531	1:177,408
Roads, rail lines, &/or trails	Real Property Services (518) 548-5531	1:24,000; 1:142,560
School districts	Real Property Services (518) 548-5531	1:12,000
Soils	Soil & Water Conservation District (518) 548-3991	1:24,000
Tax parcels	Real Property Services (518) 548-5531	1:1,200; 1:2,400; 1:7,200
Topography	Soil & Water Conservation District (518) 548-3991 Real Property Services (518) 548-5531	1:24,000; 1:62,500
Water & sewer lines	--	1:12,000
Watershed boundaries	Real Property Services (518) 548-5531	--
Wetlands	"	1:12,000
Zoning maps	--	--

<sup>a</sup> Land-use information in paper form also available for Towns of:

- Arietta (518) 548-3415);
- Benson (518) 863-8596);
- Indian Lake (518) 648-5885);
- Inlet (518) 357-2204);
- Long Lake (518) 5624-5441);
- Morehouse (315) 826-3052);
- Wells (518) 924-7912).
- Hope (518) 924-4060);
- Lake Pleasant (518) 548-5204)
- Speculator (518) 548-7352);

Information in paper form also available on countywide ambulance districts and census-block limits; contact Real Property Services (518) 548-5531.  
 For GIS information, contact Soil & Water Conservation District (518) 548-3991.



## Jefferson County

No significant countywide data sets.

The Tug Hill Commission (<http://www.imcnet.net/TugHill/tughill.html>) has a variety of digital data for the southern part of the county. Fort Drum Military Reservation has data for the Army base but has not shared it with the county. The Nature Conservancy has done some mapping of environmentally sensitive areas in the county.

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**  
**Lewis County**

Primary GIS contact - John Stewart, Soil & Water Conservation District (315) 376-6122  
Primary GIS software - ArcView

Data category	Contact*	Source scale
Aerial photographs	Tax Office, Clerk (315) 376-5324	1:9,600
Agricultural districts	SWCD, John Stewart (315) 376-6122	1:24,000
County &/or municipal boundaries	Planning Dept., John McHugh (315) 376-5422	1:126,720
Geology	--	--
Hazardous waste sites	Highway Dept., Gary Buckingham (315) 376-5351	--
Hydrography &/or floodplains	SWCD, John Stewart (315) 376-6122	1:24,000
Land use	SWCD, John Stewart (315) 376-6122	1:24,000
Roads, rail lines, &/or trails	Highway Dept., Gary Buckingham (315) 376-5351	--
School districts	--	--
Soils	SWCD, John Stewart (315) 376-6122	1:24,000
Tax parcels	Tax Office, Clerk (315) 376-5324	1:9,600
Topography	SWCD, John Stewart (315) 376-6122	1:24,000
Water & sewer lines	Health Dept, Tom Boxberger (315) 785-2277	--
Watershed boundaries	--	--
Wetlands	SWCD, John Stewart (315) 376-6122	1:24,000
Zoning maps	--	--

\* SWCD, Soil and Water Conservation District

### Other Information:

Planning Department (contact Jon McHugh) also has census and land-cover information.  
Highway Department (contact Gary Buckingham) also has locations of landfills, road-salt stockpiles, and drainageways.  
Primary GIS software is ArcView 3.0.

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**  
**Livingston County**

Primary GIS contact - Angela Ellis, Planning Department (716) 243-7550  
 Primary GIS software - ArcView, Atlas GIS

Data category	Contact	Source scale
Aerial photographs	Soil & Water Conservation District (SWCD), Peter Kanouse (716) 382-3214	1:12,000
Agricultural districts	Planning Dept., Angela Ellis (716) 243-7550	1:24,000
County &/or municipal boundaries	"	variable
Geology	Environmental Health Dept., Ralph Van Houten (716) 243-7280 Planning Dept., Angela Ellis (716) 243-7550	variable
Hazardous waste sites	Public Works Dept., Cathy Muscarella (716) 346-3523	1:253,440
Hydrography &/or floodplains	Planning Dept., Angela Ellis (716) 243-7550	variable
Land use	"	variable
Roads, rail lines, &/or trails	Highway Dept., Don Higgins (716) 346-3520 Planning Dept., Angela Ellis (716) 243-7550	variable
School districts	Planning Dept., Angela Ellis (716) 243-7550	variable
Soils	SWCD, Peter Kanouse (716) 382-3214; Planning Dept., Angela Ellis (716) 243-7550	1:31,680
Tax parcels	Real Property Tax Services, Richard Shefflin (716) 243-7192	1:4,800
Topography	Planning Dept., Angela Ellis (716) 243-7550	1:24,000
Water & sewer lines	Public Works Dept., Cathy Muscarella (716) 346-3523	variable
Watershed boundaries	Planning Dept., Angela Ellis (716) 243-7550	variable
Wetlands	--	--
Zoning maps	Planning Dept., Angela Ellis (716) 243-7550	--

**Other Information:** Contact Angela Ellis (716) 243-7550 for information on:

"Chemical analysis and nutrient loading of streams entering Conesus Lake", by J.C. Macarewicz (SUNY Brockport; paper report);  
 stressed-stream analyses for various streams entering Conesus Lake (paper data);

Conesus Lake Inventory (1994; paper and digital data);

Conesus Inlet Fish & Wildlife Management Area (paper and digital data); Genesee Valley Greenway (paper and digital data);

locations of recycling drop-off centers (paper and digital data);

ground-water availability and well yields (from U.S. Geological Survey Report; paper and digital data);

environmentally sensitive overlay districts (paper data).

Other available information includes: priority watersheds (paper data; contact James Booth, Natural Resources Conservation Service (716) 382-3214);

farm surveys (paper data; contact Peter Kanouse, Soil & Water Conservation District (716) 382-3214);

Livingston County Agriculture Study (paper data; contact Bruce Dehm (716) 243-4427);

water-quality sampling and monitoring, environmental permits (paper and digital data; contact Ralph Van Houten, Environmental Health Department (716) 243-7280);

historically significant sites (paper data; contact M. Patricia Schaap, County Historian (716) 243-2311);

locations of mines and oil and gas wells (paper data; contact Ralph Van Houten).

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**  
**Madison County**

Primary GIS contact - Lisa Welch, Planning Department (315) 366-2376  
 Primary GIS software - ARC/INFO, ArcView

Data category	Contact	Source scale
Aerial photographs	--	--
Agricultural districts	Planning Dept., Lisa Welch (315) 366-2376	1:24,000
County &/or municipal boundaries	"	1:600; 1:1200; 1:2400; 1:4800
Geology	--	--
Hazardous waste sites	--	--
Hydrography &/or floodplains	Planning Dept., Lisa Welch (315) 366-2376	1:24,000
Land use	--	--
Roads, rail lines, &/or trails	--	--
School districts	Planning Dept., Lisa Welch (315) 366-2376	1:600; 1:1200; 1:2400; 1:4800
Soils	"	1:24,000; 1:62,500
Tax parcels	Real Property Tax Services, Cathy Conrad (315) 366-2348	1:600; 1:1200; 1:2400; 1:4800
Topography	--	--
Water & sewer lines	--	--
Watershed boundaries	Planning Dept., Lisa Welch (315) 366-2376	1:24,000
Wetlands	--	--
Zoning maps	Planning Dept., Lisa Welch (315) 366-2376	variable

**Other information:**

Planning Department also has several nonunique digital and paper data sets that are available from State or Federal sources. Primary GIS software is PC ARC/INFO (contact Lisa Welch, Planning Department (315) 366-2376).

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**

**Monroe County**

Primary GIS contact - Tom Goodwin, Planning & Development Office (716) 428-5418

Primary GIS software - ARC/INFO, ArcView

Data category	Contact	Source scale
Aerial photographs	Planning & Development Office, Tom Goodwin (716) 428-5418	1:12,000
Agricultural districts	"	"
County &/or municipal boundaries	"	"
Geology	--	"
Hazardous waste sites	Environmental Management Council (716) 274-8137	"
Hydrography &/or floodplains	Planning & Development Office, Tom Goodwin (716) 428-5418	"
Land use	"	"
Roads, rail lines, &/or trails	*Center for Governmental Research, Scott Sherwood (716) 325-6360	--
School districts	Planning & Development Office, Tom Goodwin (716) 428-5418	1:12,000
Soils	"	"
Tax parcels	"	1:2,400
Topography	"	1:2,400
Water & sewer lines	"	1:12,000
Watershed boundaries	"	"
Wetlands	"	"
Zoning maps	"	"

\*Source is enhancement of Census Tiger Files.

**Other information:**

Coverages for buildings and facilities in City of Rochester are held by Rochester Bureau of Engineering Services (contact John Thomas (716) 428-6942).

Primary GIS software is ARC/INFO and ArcView (contact Tom Goodwin, Planning & Development Office (716) 428-5418).

**Table 2.** Water-resources data categories, and their sources and scale, in participating western New York counties (continued)  
**Niagara County**

Primary GIS software - ArcView	Database category	Contact	Source scale
	Aerial photographs	SWCD, Cindy Long (716) 434-4949	--
	Agricultural districts	Cornell Cooperative Extension, Paul Lehman (716) 433-8839	1:24,000
	County &/or municipal boundaries	Planning Dept., JoAnne Ellsworth (716) 439-7269	--
	Geology	--	--
	Hazardous waste sites	Planning Dept., JoAnne Ellsworth (716) 439-7269	1:24,000
	Hydrography &/or floodplains	SWCD, Cindy Long (716) 434-4949	--
	Land use	--	--
	Roads, rail lines, &/or trails	Public Works Dept., Dorson Wilson (716) 439-7242	1:63,360
	School districts	Planning Dept., JoAnne Ellsworth (716) 439-7269	"
	Soils	<sup>a</sup> SWCD, Cindy Long (716) 434-4949	1:15,840
	Tax parcels	<sup>b</sup> Real Property Tax Services, William Budde Jr. (716) 439-7077	1:4800
	Topography	SWCD, Cindy Long (716) 434-4949	1:24,000
	Water & sewer lines	Public Works Dept., Dorson Wilson (716) 439-7242	1:4800
	Watershed boundaries	SWCD, Cindy Long (716) 434-4949	1:63,360
	Wetlands	"	1:24,000
	Zoning maps	Planning Dept., JoAnne Ellsworth (716) 439-7269	"

\* SWCD, Soil & Water Conservation District

<sup>a</sup> Digital information available for Towanda Creek watershed (JoAnne Ellsworth, Planning Dept. (716) 439-7269).

<sup>b</sup> Digital information available for:

- Towns of Lockeporte and Pendleton (contact William Budde Jr. (716) 439-7077);
- Johnson Creek watershed (contact, Chris Castiglione, U.S. Fish & Wildlife Service (716) 691-5456); and
- City of Niagara Falls (contact Anthony Restaino, City of Niagara Falls (716) 286-4320).

Other information: Information in paper form is available for:

- gas pipelines (contact Cindy Long, Soil & Water Conservation District (716) 434-4949); and
- stream classifications at scale of 1:63,360 (contact JoAnne Ellsworth, Planning Dept. (716) 439-7269).

**Table 2.** Water-resources data categories, and their sources and scale, in participating western New York counties (continued)

**Oneida County**

Primary GIS contact - Verne LeClair, Planning Department (315) 798-5710

Primary GIS software - ArcView, GRASS

Database category	Contact	Source scale
Aerial photographs	Finance Dept., Dean Burth (315) 798-5750	--
Agricultural districts	"	--
County &/or municipal boundaries	*Planning Dept., Verne LeClair (315) 798-5710	--
Geology	--	--
Hazardous waste sites	--	--
Hydrography &/or floodplains	--	--
Land use	--	--
Roads, rail lines, &/or trails	--	--
School districts	--	--
Soils	Soil & Water Conservation District, Kevin Lewis (315) 736-3334	1:24,000
Tax parcels	Finance Dept., Dean Burth (315) 798-5750	--
Topography	--	--
Water & sewer lines	--	--
Watershed boundaries	--	--
Wetlands	--	--
Zoning maps	--	--

\*Includes fire districts.

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**  
**Onondaga County**

Database category	Contact*	Source scale
Aerial photographs	*City of Syracuse Water Dept. (315) 473-2608	--
Agricultural districts	SWCD, Walt Neuhauser (315) 677-3851 <sup>a</sup> City of Syracuse Water Dept. (315) 473-2608	--
County &/or municipal boundaries	SOCPA, Bruce Johnson; Don Jordan (315) 435-2611 <sup>a</sup> City of Syracuse Water Dept. (315) 473-2608	--
Geology		--
Hazardous waste sites	<sup>b</sup>	--
Hydrography &/or floodplains	SOCPA, Bruce Johnson/Don Jordan (315) 435-2611 NRCS, Tony Esser (315) 477-6536 <sup>a</sup> City of Syracuse Water Dept. (315) 473-2608	--
Land use	<sup>a</sup> City of Syracuse Water Dept. (315) 473-2608	--
Roads, rail lines, &/or trails	SOCPA, Bruce Johnson/Don Jordan (315) 435-2611 <sup>a</sup> City of Syracuse Water Dept. (315) 473-2608	--
School districts	SOCPA, Bruce Johnson/Don Jordan (315) 435-2611	--
Soils	<sup>b</sup> NRCS, Tony Esser (315) 477-6536; SWCD, Walt Neuhauser (315) 677-3851	--
Tax parcels	SOCPA, Bruce Johnson/Don Jordan (315) 435-2611 <sup>a</sup> City of Syracuse Water Dept. (315) 473-2608	--
Topography	SWCD, Walt Neuhauser (315) 677-3851 <sup>a</sup> City of Syracuse Water Dept. (315) 473-2608	--
Water & sewer lines	<sup>c</sup> City of Syracuse Dept. of Engineering, John Przepiora (315) 473-2607; Brad Miller (315) 473-2689	--
Watershed boundaries	SOCPA, Bruce Johnson; Don Jordan (315) 435-2611 <sup>a</sup> City of Syracuse Water Dept. (315) 473-2608 <sup>a</sup> City of Syracuse Water Dept. (315) 473-2608	--
Wetlands	<sup>a</sup> City of Syracuse Water Dept. (315) 473-2608	--
Zoning maps	--	--

\*SWSD, Soil & Water Conservation District  
 SOCPA, Syracuse-Onondaga County Planning Agency  
<sup>a</sup> Detailed digital coverages for Skaneateles Lake and/or City of Syracuse; many other digitized attributes are available in Skaneateles Lake watershed.  
<sup>b</sup> Includes partial digital coverage for Onondaga Lake watersheds.  
<sup>c</sup> Partial coverage for City of Syracuse. Countywide environmental management maps are currently being digitized.

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**  
**Ontario County**

Primary GIS contact - Tim Jensen, Planning Department (716) 396-4458  
 Primary GIS software - Atlas GIS

Database category	Contact	Source scale
Aerial photographs	*Planning Dept., Tim Jensen (716) 396-4458	1:12,000; 1:24,000
Agricultural districts	Planning Dept., Tim Jensen (716) 396-4458	--
County &/or municipal boundaries	"	--
Geology	"	--
Hazardous waste sites	--	--
Hydrography &/or floodplains	Planning Dept., Tim Jensen (716) 396-4458	1:24,000
Land use	"	--
Roads, rail lines, &/or trails	"	--
School districts	"	--
Soils	"	--
Tax parcels	"	--
Topography	"	--
Water & sewer lines	"	--
Watershed boundaries	"	--
Wetlands	--	--
Zoning maps	Planning Dept., Tim Jensen (716) 396-4458	--

\*Air photos taken in 1968, 1971, 1979, 1985, 1990, & 1995.  
 Also available are digital and paper data from Naples wellhead-protection study (contact Warren Hart, Planning Dept. (716) 396-4455).



**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**  
**Orleans County**

Primary GIS contact - James Bensley, Planning & Development Department (716) 589-7004  
 Primary GIS software - Atlas GIS

Database category	Contact	Source scale
Aerial photographs	--	--
Agricultural districts	Planning & Development Dept., James Bensley (716) 589-7004	--
County &/or municipal boundaries	"	--
Geology	"	--
Hazardous waste sites	--	--
Hydrography &/or floodplains	Planning & Development Dept., James Bensley (716) 589-7004	--
Land use	--	--
Roads, rail lines, &/or trails	Planning & Development Dept., James Bensley (716) 589-7004	--
School districts	--	--
Soils	Planning & Development Dept., James Bensley (716) 589-7004	--
Tax parcels	"	--
Topography	Planning & Development Dept., James Bensley (716) 589-7004	--
Water & sewer lines	--	--
Watershed boundaries	Planning & Development Dept., James Bensley (716) 589-7004	--
Wetlands	--	--
Zoning maps	Planning & Development Dept., James Bensley (716) 589-7004	--

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**

**Oswego County**

Primary GIS contact - Martin Weiss, Department of Planning & Community Development (315) 349-8292  
 Primary GIS software - ARC/INFO

Database category	Contact	Source scale
Aerial photographs	DPCD, Martin Weiss (315) 349-8292	1:24,000
Agricultural districts	DPCD, Martin Weiss (315) 349-8292	--
County &/or municipal boundaries	"	1:24,000
Geology	"	"
Hazardous waste sites	--	--
Hydrography &/or floodplains	"	1:24,000; 1:100,000
Land use	"	1:24,000
Roads, rail lines, &/or trails	"	"
School districts	--	--
Soils	DPCD, Martin Weiss (315) 349-8292	1:24,000
Tax parcels	"	--
Topography	"	1:24,000
Water & sewer lines	"	"
Watershed boundaries	"	--
Wetlands	"	1:24,000
Zoning maps	--	--

\* DPCD, Department of Planning and Community Development

Other information:

Digital geospatial information also available for the following:  
 greenways,  
 principal aquifers,  
 vegetative cover,  
 community facilities,  
 public well fields, and

Primary GIS software is ARC/INFO 7.1.2.

**Table 2.** Water-resources data categories, and their sources and scale, in participating western New York counties (continued)

**Schuyler County**

Primary GIS contact - Lloyd Wetherbee, Soil & Water Conservation District (607) 535-9650  
 Primary GIS software - GRASS

Database category	Contact*	Source scale
Aerial photographs	<sup>a</sup> Soil & Water Conservation District (SWCD), Lloyd Wetherbee (607) 535-9650	1:7920; 1:15,840
Agricultural districts	"	1:4,800
County &/or municipal boundaries	STCRPDB, Dara Fell (607) 962-5092	--
Geology	SWCD, Lloyd Wetherbee (607) 535-9650	1:250,000
Hazardous waste sites	--	--
Hydrography &/or floodplains	STCRPDB, Dara Fell (607) 962-5092	1:24,000
Land use	<sup>b</sup> SWCD, Lloyd Wetherbee (607) 535-9650; STCRPDB, Dara Fell (607) 962-5092	1:15,840
Roads, rail lines, &/or trails	STCRPDB, Dara Fell (607) 962-5092	1:24,000
School districts	Real Property Services (607) 535-8118	1:4,800
Soils	<sup>c</sup> SWCD, Lloyd Wetherbee (607) 535-9650	1:15,840
Tax parcels	Real Property Services (607) 535-8118	1:4,800
Topography	SWCD, Lloyd Wetherbee (607) 535-9650	1:24,000
Water & sewer lines	<sup>d</sup> SWCD, Lloyd Wetherbee (607) 535-9650	1:9,600
Watershed boundaries	SWCD, Lloyd Wetherbee (607) 535-9650; STCRPDB, Dara Fell (607) 962-5092	1:24,000
Wetlands	STCRPDB, Dara Fell (607) 962-5092	1:24,000
Zoning maps	SWCD, Lloyd Wetherbee (607) 535-9650	1:9,600

\* SWCD, Soil & Water Conservation District  
 STCRPDB, Southern Tier Central Regional Planning and Development Board

<sup>a</sup> Aerial photos taken in 1954, 1964, and 1985.

<sup>b</sup> Detailed land-use data for about 60 percent of county are available

<sup>c</sup> Detailed soils data for about 50 percent of county are available

<sup>d</sup> Partial coverages at scale of 1:9600 are available for sewer and water districts in towns of Watkins Glen and Montour Falls

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**

**Steuben County**

Primary GIS contact - Dara Fell, \*STCRPDB (607) 962-5092  
 Primary GIS software - ARC/INFO, ArcView

Database category	Contact**	Source scale
Aerial photographs	Planning Dept., Tom Sears (607) 776-9631	--
Agricultural districts	"	--
County &/or municipal boundaries	Planning Dept., Tom Sears (607) 776-9631; STCRPDB, Dara Fell (607) 962-5092	--
Geology	STCRPDB, Dara Fell (607) 962-5092	--
Hazardous waste sites	STCRPDB, Dara Fell (607) 962-5092	--
Hydrography &/or floodplains	Planning Dept., Tom Sears (607) 776-9631; STCRPDB, Dara Fell (607) 962-5092	--
Land use	"	--
Roads, rail lines, &/or trails	Planning Dept., Tom Sears (607) 776-9631; STCRPDB, Dara Fell (607) 962-5092	--
School districts	Real Property Services (607) 535-8118	1:4,800
Soils	STCRPDB, Dara Fell (607) 962-5092	--
Tax parcels	Real Property Tax Office, Donna Hatch (607) 776-9631 STCRPDB, Dara Fell (607) 962-5092	--
Topography	Planning Dept., Tom Sears (607) 776-9631	--
Water & sewer lines	<sup>a</sup> STCRPDB, Dara Fell (607) 962-5092	--
Watershed boundaries	STCRPDB, Dara Fell (607) 962-5092	1:100,000
Wetlands	"	--
Zoning maps	<sup>b</sup> STCRPDB, Dara Fell (607) 962-5092	--

\* STCRPDB Southern Central Regional Planning and Development Board

<sup>a</sup> Digital coverage of approximate sewer-line locations in Town of Corning.

<sup>b</sup> Digital coverages for Towns of Addison and Corning

Other information: STCRPDB (<http://www.stcrpdb.dst.ny.us/>) has many other point, line, and polygon coverages for county.

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**  
**Tompkins County**

Primary GIS contact - Greg Potter, Department of Information Services (607) 274-5416  
 Primary GIS software - ARC/INFO, ArcView

Database category	Contact	Source scale
Aerial photographs	Dept. of Information Services, Greg Potter (607) 274-5416	1:12,000 to 1:24,000
Agricultural districts	"	1:4,800
County &/or municipal boundaries	"	1:600 to 1:4,800
Geology	"	1:250,000
Hazardous waste sites	*	--
Hydrography &/or floodplains	Dept. of Information Services, Greg Potter (607) 274-5416	1:4,800 to 1:24,000
Land use	"	1:24,000
Roads, rail lines, &/or trails	"	1:600 to 1:4,800
School districts	"	1:600 to 1:4,800
Soils	"	1:15,800
Tax parcels	"	1:600 to 1:4,800
Topography	"	1:24,000
Water & sewer lines	--	--
Watershed boundaries	Dept. of Information Services, Greg Potter (607) 274-5416	1:24,000
Wetlands	"	1:24,000
Zoning maps	"	1:600 to 1:4,800

\* Information about hazardous-waste sites is available in summary reports, but the source data is proprietary. Numerous data are available for site-specific locations exist. Contact Greg Potter for more information. See Tompkins County's GIS Website at <http://www.tompkins-co.org/gis/>.

**Table 2. Water-resources data categories, and their sources and scale, in participating western New York counties (continued)**

**Wyoming County**

Primary GIS contact - Greg McKurth, Soil & Water Conservation District (716) 786-5070  
 Primary GIS software - Atlas GIS

Database category	Contact	Source scale
Aerial photographs	--	--
Agricultural districts	Planning Dept., Barbara Shilling (716) 786-8846	--
County &/or municipal boundaries	"	--
Geology	"	--
Hazardous waste sites	"	--
Hydrography &/or floodplains	"	1:24,000; other
Land use	--	--
Roads, rail lines, &/or trails	Planning Dept., Barbara Shilling (716) 786-8846	--
School districts	--	--
Soils	Soil & Water Conservation District, Greg McKurth (716) 786-5070	1:190,080
Tax parcels	Real Property Tax Services, Richard Dean (716) 786-8828	
Topography	Planning Dept., Barbara Shilling (716) 786-8846	--
Water & sewer lines	--	--
Watershed boundaries	Soil & Water Conservation District, Greg McKurth (716) 786-5070; Planning Dept., Barbara Shilling (716) 786-8846	1:24,000
Wetlands	--	--
Zoning maps	--	--

**Other information:**

The following point data are available in paper form:

Dry hydrant locations (scale = 1:24,000; contact Melissa Franklin, Soil & Water Conservation District (716) 786-5070;  
 physical landmarks (airports, hospitals, parks, prisons, etc. (contact Barbara Shilling, Planning Department (716) 786-8846;  
 stream classifications (contact Greg McKurth, Soil & Water Conservation District (716) 786-5070;  
 transportation (locations of stop and yield signs; contact Office of Emergency Services (716) 786-8867.

**Table 2.** Water-resources data categories, and their sources and scale, in participating western New York counties (continued)

**Yates County**

Primary GIS contact -Richard Brown, Planning Department (315) 536-5153

Primary GIS software - ARC/INFO, ArcView

Database category	Contact	Source scale
Aerial photographs	<sup>a</sup> Planning Dept., Richard Brown (315) 536-5153	1:1,000
Agricultural districts	"	1:24,000
County &/or municipal boundaries	"	1:63,360
Geology	"	--
Hazardous waste sites	--	--
Hydrography &/or floodplains	Planning Dept., Richard Brown (315) 536-5153	1:24,000
Land use	**	1:1,000
Roads, rail lines, &/or trails	"	1:24,000; other
School districts	"	--
Soils	"	1:24,000
Tax parcels	"	1:2,400:1:4,800
Topography	" b	1:24,000
Water & sewer lines	"	1:24,000
Watershed boundaries	"	1:24,000
Wetlands	"	--
Zoning maps	"	--

<sup>a</sup> 1985 survey.

<sup>b</sup> Contour interval is 10 feet.

Other information: The following digital information on the Keuka Lake watershed is also available (contact Richard Brown, Planning Department (315) 536-5153): land use from aerial photography (1990 survey; scale = 1:1,000); pollution sources (landfill, salt storage, SPEDES, spills, etc.; scale = 1:24,000); water quality (scale = 1:24,000).

Table 3. Federal and State sources of water-resources information for participating western New York counties, August 1998 (Glossary of terms on p. 38)

Database description or application	Agency	Contact phone - email - WWW site	Data format	Use policy	Source scale	Hard- ware or OS	Type of software or file
<b>Agriculture</b> Agricultural district boundaries.	New York State Department of Agriculture & Markets  Cornell Institute for Resource Information Systems	Bob Summers (518) 457-2713 <a href="http://www.agmkt.state.ny.us/">http://www.agmkt.state.ny.us/</a>  Susan Hoskins (607) 255-6520 <a href="http://www.cfe.cornell.edu/ciris/default.html">http://www.cfe.cornell.edu/ciris/default.html</a>	digital/ paper	public	1:250,000	PC	ARC/INFO
<b>Biodiversity inventory</b> Rare & endangered species & habitats.	New York State Natural Heritage Program	Information Services (518) 783-3932 <a href="http://www.heritage.tnc.org/nhp/us/ny/">http://www.heritage.tnc.org/nhp/us/ny/</a>	digital/ paper	public/ restricted	1:24,000	PC Unix	ARC/INFO ArcView
<b>Climatological data</b> <b>Current and historical weather records and summaries.</b>	National Oceanic and Atmospheric Administration  State Climatologist	(704) 271-4800, questions@ncdc.noaa.gov <a href="http://www.ncdc.noaa.gov/ncdc.html">http://www.ncdc.noaa.gov/ncdc.html</a>  Keith Eggleston (607) 255-1749, KLE1@cornell.edu <a href="http://met-www.cit.cornell.edu">http://met-www.cit.cornell.edu</a>	digital	public	variable	variable	ASCII
<b>Compilation of GIS databases in nine Finger Lakes counties</b>	Genesee/Finger Lakes Regional Planning Council	David Zorn (716) 442-3770 dzorn@frontiernet.net <a href="http://www.gfrpc.org/gisdata.htm">http://www.gfrpc.org/gisdata.htm</a>	digital/ paper	public/ restricted	variable	variable	ARC/INFO ArcView Atlas GIS
<b>Congressional Districts</b>	U.S. Geological Survey	<a href="http://nsdi.usgs.gov/nsdi/index.html">http://nsdi.usgs.gov/nsdi/index.html</a>	digital	public	> 1:100,000	variable	ASCII
<b>Digital Orthophoto Quadrangles</b> Partial New York State coverage.	New York State Department of Environmental Conservation	Larry Alber (518) 457-3143 <a href="http://www.dec.state.ny.us">http://www.dec.state.ny.us</a>	digital	public	1:24,000	variable	ARC/INFO
<b>Digital Elevation Models</b> Partial New York State coverage.	U.S. Geological Survey	(800) USA-MAPS <a href="http://mapping.usgs.gov/nsdi/">http://mapping.usgs.gov/nsdi/</a> <a href="http://mcmweb.er.usgs.gov/status/mac/ny/index.html">http://mcmweb.er.usgs.gov/status/mac/ny/index.html</a> <a href="http://edcwww.cr.usgs.gov/webglis/">http://edcwww.cr.usgs.gov/webglis/</a>	digital	public	<u>DOQs:</u> 1:12,000 <u>DEMs:</u> 7.5'; 1:100,000 <u>DLCs:</u> 7.5'; 1:100,000 <u>DRGs:</u> 1 x 1°	variable	<u>DOQs:</u> binary images <u>DEMs:</u> ASCII <u>DLCs:</u> ASCII <u>DRGs:</u> TIFF
<b>Digital Line Graphics</b> Partial New York State coverage (cultural, hydrography, hypsography, transportation, vegetation).							
<b>Digital Raster Graphics</b> Partial New York State coverage.							
<b>Economic</b> Business, employment & labor.	New York State Data Center  New York State Department of Labor	Bob Scardania (518) 474-1141 <a href="http://205.232.252.23/nysdc/ECONOMIC.html">http://205.232.252.23/nysdc/ECONOMIC.html</a>  Todd Nelson (518) 457-1317 <a href="http://www.labor.state.ny.us">http://www.labor.state.ny.us</a>	digital	public	variable	PC	ArcView Atlas GIS
			digital	public/ restricted	variable	PC	ArcView Atlas GIS



**Table 3. Federal and State sources of water-resources information for participating western New York counties, August 1998 (continued)**

Database description or application	Agency	Contact phone - email - WWW site	Data format	Use policy	Source scale	Hard- ware or OS	Type of software or file
<b>Emergency</b> Dose-assessment models, fires, floods, historical seismicity, hurricanes, nuclear-plant evacuation routes, rain gages, tornadoes, toxic-waste inventories, weather stations.	New York State Emergency Management Office  New York Dept. of State, Fire Prevention & Control	Robert Simpson (518) 457-9927 <a href="http://www.nysermo.state.ny.us/">http://www.nysermo.state.ny.us/</a>  Frederick Richards (518) 474-6746 <a href="http://www.dos.state.ny.us/fire/firewww.html">http://www.dos.state.ny.us/fire/firewww.html</a>	paper/ digital  digital	public  public/ restricted	1:24,000 1:100,000 1:250,000  --	variable  IBM	ARC/INFO  ASCII
<b>Flood</b> Q3 flood data.	Federal Emergency Management Agency	Map Service Center (800) 358-9616 <a href="http://www.fema.gov/msc/q3flooda.htm">http://www.fema.gov/msc/q3flooda.htm</a>	digital	public	7.5'	Unix	ARC/INFO MapInfo DLG, DRG
<b>Forests</b> Fire-effects information system, forest inventory and research, pest conditions, etc.	USDA Forest Service  U.S. Environmental Protection Agency	Tom Frieswyk (610) 975-4075 <a href="http://www.fs.fed.us/database/">http://www.fs.fed.us/database/</a>  David L. Evans (601) 324-1611 <a href="http://www.epa.gov/docs/grd/forest_inventory/">http://www.epa.gov/docs/grd/forest_inventory/</a>	digital/ paper  digital	public/ restricted  public	variable  variable	PC Unix  variable	ARC/INFO ER MAPPER  ARC/INFO GIF
<b>Geographical reference data</b> Locations & records for meteorological stations; reservoir & stream gages.	U.S. Geological Survey GCIP Reference Data Set	ahrea@csdokokl.cr.usgs.gov (405) 843-7570 <a href="http://nsdi.usgs.gov/nsdi/wais/water/gcip.HTML">http://nsdi.usgs.gov/nsdi/wais/water/gcip.HTML</a>	digital	public	variable	variable	DLG ARC/INFO ASCII
<b>Geology</b> Bedrock, faults, glacial, & minerals	New York State Geological Survey  New York State Museum  Southern Tier Central Regional Planning & Development Board	Robert Fakundiny (518) 474-5816 <a href="http://www.nysm.nysed.gov/geology.html">http://www.nysm.nysed.gov/geology.html</a>  nysmweb@mail.nysed.gov <a href="http://www.nysm.nysed.gov/datasets.html">http://www.nysm.nysed.gov/datasets.html</a> <a href="http://www.nysm.nysed.gov/research.html">http://www.nysm.nysed.gov/research.html</a>  Dara Fell (607) 962-5092 <a href="http://www.stcrpdb.dst.ny.us/">http://www.stcrpdb.dst.ny.us/</a>	digital/ paper  digital/ paper  digital/ paper	public  public  public	1:24,000 1:250,000  1:24,000 1:250,000  variable	Unix PC  PC  Unix Win- dows NT	ARC/INFO other  ARC/INFO Microsoft Powerpoint  ArcView ARC/INFO

**Table 3. Federal and State sources of water-resources information for participating western New York counties, August 1998 (continued)**

Database description or application	Agency	Contact phone - email - WWW site	Data format	Use policy	Source scale	Hard- ware or OS	Type of software or file
<b>Great Lakes</b> Commercial fishing database, research vessel data, lake surveys.	Great Lakes Science Center, U.S. Geological Survey, Biological Research Division	Scott Nelson (313) 994-3331 x243 scott_nelson@usgs.gov http://www.glsc.usgs.gov/	digital	public	lat./long.	PC	ARC/INFO
Areas of concern for beneficial water use.	U.S. Environmental Protection Agency	USEPA nsdi@epamail.epa.gov http://nsdi.epa.gov/nsdi/projects/r5_aochuc.html http://nsdi.epa.gov/nsdi/projects/r5_grlks2mh.html	digital	public	1:250,000	variable	ArcExport
Coastal areas & shorelines.	New York State Department of State	Thomas Hart (518) 473-2465 http://www.dos.state.ny.us/	digital/ paper	public	--	--	--
Lakes Ontario & Erie - ice cover, shoreline recession rates, water levels, etc.	U.S. Army Corps of Engineers	Caroline Forbes (716) 879-4104 http://hank.nch.usace.army.mil/GreatLakes/Great- Lakes.html	digital	public	variable	--	Web access
<b>Health data</b> County environmental health data, health profiles, hospital locations, vital statistics.	New York State Department of Health	Thomas Talbot (518) 458-6212 http://www.health.state.ny.us	digital	public/ restricted	variable	PC	MapInfo
<b>Historic landmarks</b> Archeological and historical sites.	New York State Parks, Recreation & Historic Preservation	Robert Engler, Raymond Smith, Cynthia Blakemore (518) 237-8643, http://www.nysparks.state.ny.us	digital/ paper	public/ restricted	1:24,000	PC	MapInfo
<b>Hydrology</b> Lakes, rivers, streams and wetlands >12 hectares; watershed boundaries.	National Register Information System	John Byrne (202) 343-9543 http://www.nr.nps.gov	digital	public	1:24,000 UTM	HP3000	dBASE Atlas GIS
Hydrologic Unit maps, stream gages.	New York State Department of Environmental Conservation	Howard Pike (518) 457-1617 http://www.dec.state.ny.us	digital	public	1:24,000	variable	ARC/INFO
Genesee River Basin information.	U.S. Geological Survey	Ken Lanfear (703) 648-6852, lanfear@usgs.gov http://water.usgs.gov/public/GIS/huc.html	digital	public	1:250,000 1:2,000,000	AViON Unix	ARC/INFO
	U.S. Army Corps of Engineers	Rich Thomas (716) 879-4333 http://hank.nch.usace.army.mil/Genesee/ GeneseeRiver.html	digital	public	variable	Unix	Web access

**Table 3.** Federal and State sources of water-resources information for participating western New York counties, August 1998 (continued)

Database description or application	Agency	Contact phone - email - WWW site	Data format	Use policy	Source scale	Hard- ware or OS	Type of software or file
<b>Land use and land cover</b> Information on urban or built-up land, agricultural land, rangeland, forest land, water, and wetlands.	U.S. Geological Survey  U.S. Fish and Wildlife Service	<a href="http://edcwww.cr.usgs.gov/gis/hyper/guide/1_250 Julcfig/states/NY.html">http://edcwww.cr.usgs.gov/gis/hyper/guide/1_250 Julcfig/states/NY.html</a>  Deb Southworth (303) 275-2320 <a href="http://www.fws.gov/data/gishome.html">http://www.fws.gov/data/gishome.html</a>	digital  digital	public  public/ restricted	1:24,000 1:250,000 1:2,000,000	PC Unix	CTG DLG GIRAS Landsat SPOT
<b>Landfills and Resource Conservation and Recovery Act sites</b> Locations and characteristics of waste-disposal sites.	New York State Department of Environmental Conservation - Solid Waste Division  U.S. Geological Survey	Gerald Wagner (518) 457-2051, <a href="http://www.dec.state.ny.us/">http://www.dec.state.ny.us/</a>  Ken Lanfear (703) 648-6852 <a href="http://water.usgs.gov/nsdi/usgsword/landfill.html">http://water.usgs.gov/nsdi/usgsword/landfill.html</a> <a href="http://nsdi.usgs.gov/wais/water/rcra.HTML">http://nsdi.usgs.gov/wais/water/rcra.HTML</a>	digital  digital	public  public	UTM coordi- nates  1:2,000,000	PC  Unix	FoxPro  ARC/INFO
<b>Military</b>	New York State Division of Military & Naval Affairs	<a href="http://www.dmma.state.ny.us/">http://www.dmma.state.ny.us/</a>	--	restricted	--	--	--
<b>Miscellaneous</b> Locations of: active and closed municipal-waste sites; air-permit data; locations of ground-water wells, public water supplies; & wastewater discharges; radon measurements; toxic-chemical release inventory; water and gas lines.  Aerial photos, base maps, biological resource data, geologic data, GIS images, etc.	New York State Department of Health  Southern Tier Central Regional Planning & Development Board  U.S. Geological Survey	Thomas Talbot (518) 458-6212 <a href="http://www.health.state.ny.us/">http://www.health.state.ny.us/</a>  Dara Fell (607) 962-5092 <a href="http://www.stcrpdb.dst.ny.us/">http://www.stcrpdb.dst.ny.us/</a>  <a href="http://nsdi.usgs.gov/nsdi/index.html">http://nsdi.usgs.gov/nsdi/index.html</a>	digital/ paper  digital  digital	public/ restricted  public  public	variable  variable  variable	variable  Unix Win- dows NT  variable	ARC/INFO other  ARC/INFO ArcView  ARC/INFO other
<b>National Water Information System</b> Locations of precipitation- & stream-gaging stations; wells; and associated data (discharge rates, water levels, water quality, etc.).	U.S. Geological Survey	Andy Cohen (518) 285-5638 <a href="mailto:acohen@usgs.gov">acohen@usgs.gov</a> <a href="http://ny.usgs.gov/htmls/pub/index.html">http://ny.usgs.gov/htmls/pub/index.html</a>	digital/ paper	public	1:24,000	Unix	ARC/INFO

**Table 3. Federal and State sources of water-resources Information for participating western New York counties, August 1998 (continued)**

Database description or application	Agency	Contact phone - email - WWW site	Data format	Use policy	Source scale	Hard- ware or OS	Type of software or file
<b>Natural resources</b> Land cover/use, cropping history, irrigation type & water source, streambank erosion, streams > 1/8 mile wide, water bodies >40 acres in area, wetlands classification, etc. Locations of mines, and oil & gas wells. Soil boring logs; other geospatial data.	Natural Resources Conservation Service New York State Department of Environmental Conservation - Mineral Resources Division U.S. Army Corps of Engineers New York State Department of Education	<a href="http://www.nhq.nrcs.usda.gov/MLH/mrites/nri_data.html">http://www.nhq.nrcs.usda.gov/MLH/mrites/nri_data.html</a> Eric Shyer (518) 457-0100 <a href="http://www.dec.state.ny.us/website/dmmn/data.html">http://www.dec.state.ny.us/website/dmmn/data.html</a> Paul Murawski (716) 648-6094 <a href="http://corpsgeo1.usace.army.mil/CELRB/ce1rb.html">http://corpsgeo1.usace.army.mil/CELRB/ce1rb.html</a> Ann Getman (518) 486-1702 <a href="http://www.nysl.nysed.gov/gis/">http://www.nysl.nysed.gov/gis/</a> <a href="http://www.ctg.albany.edu/gis/directory.html">http://www.ctg.albany.edu/gis/directory.html</a> <a href="http://www.nysl.nysed.gov/gis/cooplist.htm">http://www.nysl.nysed.gov/gis/cooplist.htm</a>	digital digital paper digital	public public/ restricted public/ restricted public	variable lat./long. variable variable	-- Unix Unix variable	Web access MapInfo ArcInfo JPEG, TIFF other variable
<b>New York State GIS Clearinghouse</b> <b>Center for Technology in the Environment</b> <b>Statewide GIS Data Sharing Cooperative Participants &amp; Inventories</b> <b>New York Counties on the Web</b>	New York State Association of Counties	<a href="http://www.state.ny.us/nysac/cowebblink.html">http://www.state.ny.us/nysac/cowebblink.html</a>	--	public	--	--	--
<b>New York State Department of Environmental Conservation</b> Coverages under development include: air-monitoring stations; bedrock data; hydrographic features; inventories of dams, inactive hazardous waste sites, & regulated facilities; largest pollution generators; mine locations; roads; wildlife-management & natural-resources data.	New York State Department of Environmental Conservation	Larry Alber (518) 457-3143 lalbar@gw.dec.state.ny.us <a href="http://www.dec.state.ny.us/">http://www.dec.state.ny.us/</a>	digital	public/ restricted	variable	Unix PC	ARC/INFO ArcView

**Table 3. Federal and State sources of water-resources Information for participating western New York counties, August 1998 (continued)**

Database description or application	Agency	Contact phone - email - WWW site	Data format	Use policy	Source scale	Hard- ware or OS	Type of software or file
<b>Parks</b> Archeological and national register sites, maps, natural resource inventories, park boundaries, snowmobile trails.	New York State Office of Parks, Recreation & Historic Preservation  National Park Service	John Fox (518) 486-2098 <a href="http://www.nysparks.state.ny.us/info/">http://www.nysparks.state.ny.us/info/</a>  Nigel Shaw (617) 223-5065 <a href="http://www.nps.gov/hfc/publications/index.htm">http://www.nps.gov/hfc/publications/index.htm</a> <a href="http://hans.nrrc.ncsu.edu/npsgis/">http://hans.nrrc.ncsu.edu/npsgis/</a>	digital  digital/ paper	public/ restricted  public	1:24,000  variable	--  PC/ Unix	ARC/INFO  ARC/INFO ArcView Adobe Acrobat
<b>Police</b> Landmarks, roads, water features, etc.	New York State Police	Jim Deconno (518) 485-8307 <a href="http://www.troopers.state.ny.us/">http://www.troopers.state.ny.us/</a>	digital/ paper	public/ restricted	--	--	ARC/INFO
<b>Political boundaries</b> Counties, municipalities, towns.	New York State Office of Real Property Services	Ross Testa (518) 486-4518 <a href="http://www.orps.state.ny.us/">http://www.orps.state.ny.us/</a>	digital/ paper	public	1:24,000	Unix	ARC/INFO
<b>Population</b> Census blocks (1990).	Census Bureau  New York State Department of Health  SEDAC	<a href="http://www.census.gov/geo/www/tiger">http://www.census.gov/geo/www/tiger</a>  Thomas Talbot (518) 458-6212 <a href="http://www.health.state.ny.us/">http://www.health.state.ny.us/</a>  <a href="http://plue.sedac.ciesin.org/plue/">http://plue.sedac.ciesin.org/plue/</a>	digital  digital  digital	public  public  public	1:100,000  1:24,000  1:100,000	VAX  PC  variable	ARC/INFO Tiger files  ARC/INFO MapInfo Atlas GIS
<b>Remote imagery</b> Satellite observations of the Earth's surface.	New York State Department of State	Thomas Hart (518) 474-6000 <a href="http://www.dos.state.ny.us/">http://www.dos.state.ny.us/</a>	digital	public	1:24,000 other	variable	Landsat RADARSAT
<b>Sand and gravel aquifers</b> Glaciated northeastern U.S.	U.S. Geological Survey	Al Randall, Andy Cohen; (518) 285-5628 <a href="http://ny.usgs.gov/htmls/pub/index.html">http://ny.usgs.gov/htmls/pub/index.html</a>	digital	public on release	variable	Unix	ARC/INFO
<b>School districts</b> Boundaries of school districts for tax and attendance purposes..	New York State Office of Real Property Services	William Godell (518) 486-4513 <a href="mailto:bill.godell@orps.state.ny.us">bill.godell@orps.state.ny.us</a> <a href="http://www.orps.state.ny.us/">http://www.orps.state.ny.us/</a>	digital	public/ restricted	1:600 1:4800 other	Sun	ARC/INFO ArcView

**Table 3. Federal and State sources of water-resources Information for participating western New York counties, August 1998 (continued)**

Database description or application	Agency	Contact phone - email - WWW site	Data format	Use policy	Source scale	Hard- ware or OS	Type of software or file
<b>Soils</b> STATSGO Soil maps completed, in progress, or planned for the following counties: Chautauqua, Clinton, Dutchess, Erie, Genesee, Madison, Monroe, Oneida, Otsego, Putnam, Remsenlaer, Rockland, Saratoga, Seneca, St. Lawrence, & Suffolk. Also Catskill & Onondaga & Skaneateles Lakes watersheds.	Natural Resources Conservation Service  Cornell University under contract with NRCS	State Soil Scientist (315) 423 5510 <a href="http://www.ftw.nrcs.usda.gov/stat_data.html">http://www.ftw.nrcs.usda.gov/stat_data.html</a>  Steve Indrick (315) 477-6504	digital  digital	public  public	1:250,000  1:24,000	variable  Sun Unix	ARC/INFO ASCII  ARC/INFO GRASS
<b>Surficial aquifers</b> Primary and sole source.	U.S. Geological Survey	Andy Cohen (518) 285-5638 <a href="http://ny.usgs.gov/htmls/pub/index.html">http://ny.usgs.gov/htmls/pub/index.html</a>	digital	public/ restricted	1:24,000 1:250,000	Unix PC	ARC/INFO ArcView
<b>Tax maps for various cities</b> Boundaries of tax districts.	U.S. Environmental Protection Agency	Robert Simpson (212) 637-3335 <a href="http://www.epa.gov/region02/gis/atlas/aquifers.htm">http://www.epa.gov/region02/gis/atlas/aquifers.htm</a>	digital	public	1:100,000	Win- dows NT	ARC/INFO
<b>Telephone directory</b> Telephone numbers of state agencies	Southern Tier Central Regional Planning & Development Board  New York State Office of General Services	Dara Fell (607) 962-5092 <a href="http://www.stcrpdb.dst.ny.us/">http://www.stcrpdb.dst.ny.us/</a>  David Runyon (518) 486-9200 <a href="http://www.ogs.state.ny.us/telecom/org/default.htm">http://www.ogs.state.ny.us/telecom/org/default.htm</a>	digital	public	variable  --	Unix Win- dows NT  --	ARC/INFO ArcView  --
<b>Thematic mapping</b> Topical maps on a variety of subjects.	U.S. Environmental Protection Agency Region 2  New York State Department of State	Harvey Simon (212) 637-3594 <a href="http://www.epa.gov/mrlc">http://www.epa.gov/mrlc</a>  Thomas Hart (518) 474-6000 <a href="http://www.dos.state.ny.us/">http://www.dos.state.ny.us/</a>	digital	public  restricted	1:100,000  25-meter pixels	Win- dows NT  PC	ARC/INFO  MapInfo
<b>Tourism</b> Information on recreational resources.	New York State Travel and Tourism	(800) CALL-NYS <a href="http://www.iloveny.state.ny.us/">http://www.iloveny.state.ny.us/</a>	paper	public	--	--	--
Database description/application	Agency	Contact phone/email/Web site	Data format	Use policy	Map base/ scale	Hard- ware	Software/ file type

**Table 3. Federal and State sources of water-resources information for participating western New York counties, August 1998 (continued)**

Database description or application	Agency	Contact phone - email - WWW site	Data format	Use policy	Source scale	Hard- ware or OS	Type of software or file
<b>Toxic release inventory</b> Compilation of toxic wastes released into the environment.	U.S. Environmental Protection Agency	Loren Hall (202) 260-3931 <a href="http://earth1.epa.gov/TRI_cover93/MetaRecord.html">http://earth1.epa.gov/TRI_cover93/MetaRecord.html</a>	digital	public	--	--	--
<b>Hazardous substance release/health effects database</b> Types and effects of hazardous materials released into the environment.	HazDat Agency for Toxic Substances & Disease Registry	Sandra Susten (404) 639-0700, director Bill Henriques (404) 639-6088, GIS manager <a href="http://atsdr1.atsdr.cdc.gov:8080/hazdat.html">http://atsdr1.atsdr.cdc.gov:8080/hazdat.html</a>	digital	public	lat./long.	Unix	ARC/INFO
<b>New York State 1995 toxic release inventory</b> Toxic materials released in New York State.	New York State Department of Environmental Conservation	Pollution Prevention Unit (518) 457-2553 <a href="http://www.dec.state.ny.us/website/pollution/p2tri.html">http://www.dec.state.ny.us/website/pollution/p2tri.html</a>	digital	public	--	--	ASCII dbf
<b>Transportation</b> Airports, bridges, names, railroads, remote imagery, roads, survey monuments, maps, etc.	New York State Transportation Department	Map Information Unit (518) 457-3555 <a href="http://dot.state.us/magis/magis.html">http://dot.state.us/magis/magis.html</a> <a href="http://www.nysl.nysed.gov/gis/inventories/dot.htm">http://www.nysl.nysed.gov/gis/inventories/dot.htm</a> <a href="http://www.bis.gov/gis/state/tx_visit.html#new">http://www.bis.gov/gis/state/tx_visit.html#new</a>	digital/ paper	public/ restricted	1:1,200 1:24,000 1:250,000 other	Unix	ARC/INFO TIFF other
<b>Tug Hill Commission</b> Information for parts of Jefferson, Lewis, Oneida, and Oswego Counties.	Tug Hill Commission	(315) 785-2380/2570, <a href="mailto:tughill@tughill.org">tughill@tughill.org</a> <a href="http://www.imcnet.net/TugHill/tughill.html">http://www.imcnet.net/TugHill/tughill.html</a>	digital/ paper	public	variable	--	--
<b>U.S. Environmental Protection Agency</b> Air quality; biological, cultural & water resources; control layers; image & CAD data; regulatory & terrain features; transportation; utilities.	U.S. Environmental Protection Agency Region 2	Harvey Simon (212) 637-3594 <a href="http://www.epa.gov.region02/gis/dataset/htm">http://www.epa.gov.region02/gis/dataset/htm</a>	digital	public	1:24,000 other	variable	ARC/INFO Arc View
<b>Utilities</b> gas pipelines, gas & electric franchise data, utility infrastructure, cable TV, water companies, telecommunications	New York State Public Service Commission New York Power Pool	Linda Demers (518) 474-5364, <a href="mailto:imd@eps.state.ny.us">imd@eps.state.ny.us</a> <a href="http://www.dps.state.ny.us/index.html">http://www.dps.state.ny.us/index.html</a> Steve Corey (518) 356-6134 <a href="http://www.nypowerpool.com/">http://www.nypowerpool.com/</a>	digital paper	public/ restricted public	1:24,000 other 1:2,000,000	Unix PC --	ARC/INFO Arc View --
<b>Watershed boundaries</b> Major watersheds in Lake Ontario basin; subwatersheds delineated for ~50% of basin.	U.S. Geological Survey	Andy Cohen (518) 285-5638 <a href="http://ny.usgs.gov/htmls/pub/index.html">http://ny.usgs.gov/htmls/pub/index.html</a>	digital/ paper	restricted	1:24,000	Unix	ARC/INFO

**Table 3. Federal and State sources of water-resources information for participating western New York counties, August 1998 (continued)**

Database description or application	Agency	Contact phone - email - WWW site	Data format	Use policy	Source scale	Hard- ware or OS	Type of software or file
<b>Water quality</b> Ambient & effluent water quality, intensive surveys, waterway planimetric data.	U.S. Environmental Protection Agency Region 2	Bill Justis (210) 637-3334 <a href="http://www.epa.gov/region02/gis/atlas/storet.htm">http://www.epa.gov/region02/gis/atlas/storet.htm</a>	digital	public/ restricted	variable	variable	ARC/INFO ArcView
<b>Wetlands</b> Locations and types of wetlands.	New York State Department of Environmental Conservation U.S. Fish & Wildlife Service National Wetlands Inventory	Wayne Richter (518) 783-5733 <a href="http://www.dec.state.ny.us/">http://www.dec.state.ny.us/</a> Chief Cartographer (602) 555-1212 <a href="http://www.nwi.fws.gov/">http://www.nwi.fws.gov/</a>	digital/ paper digital	restricted public/ restricted	1:24,000 1:24,000	SPARC variable	ARC/INFO ARC, DLG; dxf, GRASS
<b>WWW links</b> General GIS information	National Center for Geographic Information & Analysis National States Geographic Information Council Environmental Systems Research Institute Remote sensing and GIS resources GIS links Yahoo GIS links Geodata Information Services	<a href="http://www.ncgia.ucsb.edu/">http://www.ncgia.ucsb.edu/</a> <a href="http://www.geo.drake.edu/nsgic/">http://www.geo.drake.edu/nsgic/</a> <a href="http://www.esri.com/base/common/jumpstation/jumpstation.html">http://www.esri.com/base/common/ jumpstation/jumpstation.html</a> <a href="http://www.gis.umn.edu/rsgisinfo/rsgis.html">http://www.gis.umn.edu/rsgisinfo/rsgis.html</a> <a href="http://www.gisnet.com/gis/orcs/gis/index.html">http://www.gisnet.com/gis/orcs/gis/index.html</a> <a href="http://www.yahoo.com/Science/Geography/Geographic_Information_Systems_GIS/">http://www.yahoo.com/Science/Geography/ Geographic_Information_Systems_GIS_/ http://www.cgrer.uiowa.edu/servers/ servers_geodata.html</a>	-- -- -- -- -- -- -- --	public public public public public public public public	-- -- -- -- -- -- -- --	-- -- -- -- -- -- -- --	-- -- -- -- -- -- -- --
<b>Zoning for various cities in Southern Tier</b> Zoning boundaries and types	Southern Tier Central Regional Planning & Development Board	Dara Fell (607) 962-5092 <a href="http://www.stcrpdb.dst.ny.us/">http://www.stcrpdb.dst.ny.us/</a>	digital	public	variable	Unix Win- dows NT	ARC/INFO ArcView



### Glossary of Terms Used in Table 3

**Adobe Acrobat** - A program for publishing, displaying and downloading information on the World Wide Web.

**ARC/INFO, ArcView** - Computer programs for compiling, displaying and manipulating geospatial information. Published by Environmental Systems Research, Inc., Redlands, Calif.

**ASCII** - American Standard Code for Information Interchange. A code in which each alphanumeric character is represented as a number from 0 to 127, translated into a 7-bit binary code for the computer.

**Atlas GIS** - A computer program for compiling, displaying and manipulating geospatial information. Published by Environmental Systems Research, Inc., Redlands, Calif.

**AViiON** - a minicomputer manufactured by the Data General Corporation, Westborough, Mass.

**binary** - data coded in ones and zeros.

**CTG** - Composite Theme Grid format. A grid-cell oriented format for displaying land use-land cover information.

**dBase** - a database program for personal computers. Published by INPRISE Corporation, Scotts Valley, Calif.

**dbf** - Database file.

**DEM** - Digital Elevation Model. A digital file consisting of terrain elevations at regularly spaced horizontal intervals.

**DLG** - Digital Line Graphs. Digital representations by points, lines and areas of planimetric information.

**DOQ** - Digital Orthophotography Quadrangles. Scanned aerial photographs corrected for both camera and elevation variations and registered to a geographic basemap.

**DRG** - Digital Raster Graphics. A scanned image of a U.S. Geological Survey standard series topographic map.

**dxg** - Drawing Interchange File Format. A format for vector graphics.

**ER Mapper** - Image processing software published by Earth Resources Mapping, San Diego, Calif.

**FoxPro** - a database program for personal computers. Published by Microsoft Corporation, Redmond, Wash.

**GIF** - Graphics Interchange Format. A format for bitmap graphics.

**GIRAS** - Geographic Information Retrieval Analysis System. A system for storing and processing land use-land cover information.

**GRASS** - Geographic Resources Analysis Support System. A public-domain raster- and vector-based GIS for image-processing and graphics production.

**JPEG** - Joint Photography Experts Group. A format for bitmap graphics.

**Landsat** - A series of satellites developed by the U.S. that acquire high-resolution multispectral data of the earth's surface.

**lat./long.** - latitude/longitude.

**MapInfo** - A computer program for displaying geospatial information. Published by MapInfo Corporation, Troy, N.Y.

**Microsoft Powerpoint** - A computer program for creating presentation graphics. Published by the Microsoft Corporation, Redmond, Wash.

**OS** - computer operating system.

**PC** - personal computer.

**RADARSAT** - a Canadian-led project for obtaining detailed images of the earth through cloud cover.

**SPOT** - A series of satellites developed by France, Belgium and Sweden for gathering multispectral data on land use and land cover.

**TIFF** - Tagged Image File Format. A format for bitmap graphics.

**Tiger files** - Data from the U.S. Census Bureau Tiger that contain very detailed street and address information, which can be used to assign geographic locations to point information.

**Unix** - A computer operating system.

**UTM** - Universal Transverse Mercator. A cylindrical map projection that is the basis for the State Plane Coordinate System used in New York State.

**VAX** - A minicomputer manufactured by the Digital Equipment Corporation, Maynard, Mass.

**Windows NT** - Windows New Technology. A computer operating system published by the Microsoft Corporation, Redmond, Wash.