

Water Resources of NYS:

Water Facts

Water Quality

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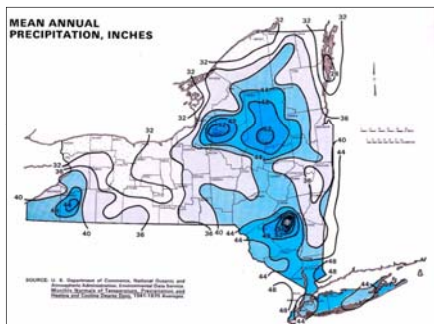
Water Resources

The water resources of NYS are based on the following factors:

- **Precipitation** in the form of rain and snow is an important factor (an element of weather and a climate characteristic).
- **Landforms** determine how quickly water (precipitation and run off) is absorbed.
- **Glaciers** scoured the landscape creating water courses and storage areas.
- **People** need water.

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Average Annual Precipitation



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Definitions

Chapter 16

- **Hydrogeology** – the study of surface and groundwater in relation to local geology.
- **Hydrology** – the study of water movement.
- **Surface waters** – water in rivers, streams, and lakes.
- **Groundwater** – water that has been absorbed by the ground. It is stored in and moves through aquifers (porous layers of rock material).

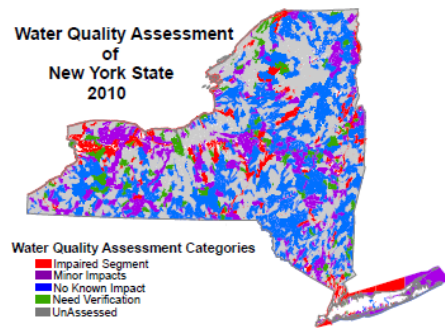
Facts about NYS Waters

Source: NYSDEC

- Major drainage basins: 17
- EPA watersheds: 57
- Rivers and streams: 52,337 miles
- Lakes/ponds/reservoirs: 7,849 units
- Volume of surface waters: 22,164 billion gallons
- Great Lakes shoreline: 577 miles
- Atlantic shoreline: 117.5 miles
- Estuaries/bays/harbors (incl. part of LI Sound): 1,530 sq mi
- Freshwater wetlands: 2.4 million acres
- Tidal wetlands: 25,000 acres
- Long Island aquifers: underlie about 3% of NYS
- Primary water supply aquifers: underlie about 4% of NYS (upstate)
- Principal aquifers: underlie about 11% of NYS.

Water Quality Assessment

Water Quality Assessment
of
New York State
2010



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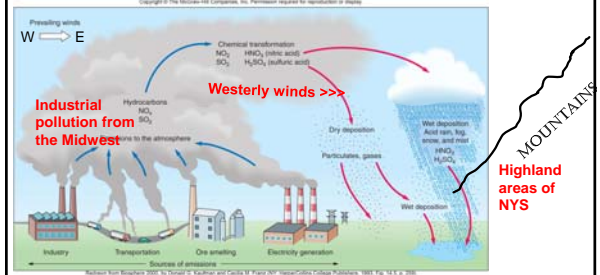
Water Quality Issues

Among the many water quality issues that need to be addressed by concerned citizens of NYS are:

- land use and water quality within watersheds
- municipal water supplies
- conservation
- acid precipitation
- erosion control
- thermal pollution
- industrial, household and agricultural waste disposal
- underground water supplies
- coastal zone management
- preservation of wetlands
- flood control
- drought
- power production
- fisheries
- recreational use
- imposition of rules and regulations

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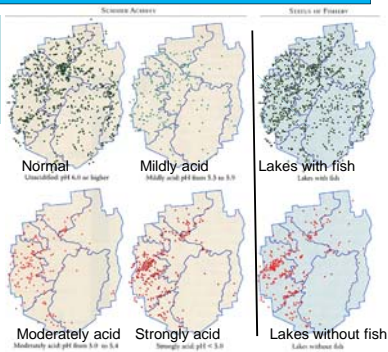
Formation of Acid Precipitation



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Acid Rain and Lake Water

pH maps of lakes in the Adirondacks



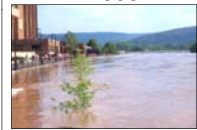
Source: Adirondack Lakes Survey Corp.

2008 Flood Summit

FOCUS: What We Can Do To Help Stop The Destruction.

- Stream management
- Floodplain development
- Protect natural wetlands
- Contain rainwater in paved areas
- Flood control projects

Chenango River in flood at Binghamton, NY 2006



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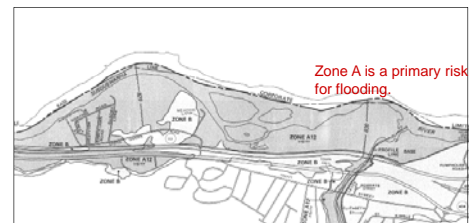
Flooding in the Catskills, 2011



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FEMA Flood Zone Map

Vestal, NY (Broome County)



<http://www.fema.gov/> - for hazards, including flooding

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Agriculture and Water Regulation

L.I. Duck Farms Struggle With Water Regulation



High-end restaurants value the free-range ducks from the Jurgielewicz farm in Moriches, N.Y., but regulators call them polluters. NYTimes 02/25/08

Officials say the Forge River's nitrogen levels are too high.



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Geography of Waters

- <http://www.epa.gov/waters/about/geography.html>



Source: US EPA

Exercise 10 deals with water quality issues. 14