

Stream, Lake, and Tidal Gauges in New York

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The US Geological Survey (USGS) currently operates 310 stream flow, stream stage (height), lake level, and tidal gauges in New York State. Of these, 272 are real-time gauges that provide continuous measurement of water levels and near-real-time reporting on the internet (<http://ny.usgs.gov>).

Data from the stream gauging network are used for a variety of purposes, including: river forecasting, flood warnings, operation of flood control structures (dam releases, installation of levee closures, etc.), emergency evacuations and response, floodplain mapping, flood mitigation, bridge design, water supply management, operation of water supply dams, water quality monitoring (to convert measured concentrations to pollutant loads), discharge permits, regulating water withdrawals, drought management, evaluating impacts of climate change, and recreational safety.

The USGS gauging network is funded by an aggregation of funding sources:

Cooperative Water Program (CWP): The USGS Cooperative Water Program is a partnership between the USGS and non-federal partners to fund surface water gauges, groundwater gauges, water quality monitoring, and other water-resource projects. The CWP currently funds 79% of

the USGS ground-water and surface water gauging network in New York. The bulk of the partner funding comes from the New York City Department of Environmental Protection and the NYS Department of Environmental Conservation. Additional partners include: power companies, counties, Hudson River-Black River Regulating District, NYS Thruway Authority, NY Power Authority, NYS Department of Transportation, and municipalities. This program is designed to provide 50% federal funding for data collection and research supported by non-federal partners. However, recent federal funding levels have resulted in non-federal agencies picking up almost ¾ of the CWP part of the network costs.

Other Federal Agencies: About 15 percent of the network costs in the USGS gauging program are funded by other federal agencies. Agencies that support New York gauges include: National Oceanic and Atmospheric Administration (NOAA), U.S. Army Corps of Engineers (Buffalo, Baltimore, and Pittsburgh Districts), and the Department of Energy. Funding provided by these agencies, as well as by non-federal CWP cooperators, can be threatened by other budget priorities. For example, 18 gauges in the Chemung and Susquehanna Basins of NY are currently listed as threatened due to U.S. Army Corps of Engineers funding reductions.

National Streamflow Information Program (NSIP): The National Streamflow Information Program was established in 2001 to reduce the volatility of the nation's gauging system by providing full federal funding for a core network of stream gauges. Full implementation of the NSIP plan would provide stable funding for 102 stream and river gauges in New York. However, low funding levels result in NSIP funding only 3 percent of the network costs in New York.

In the current economic climate, funding for continued collection of basic stream flow and water level information faces increased threats. The USGS recently released a list of 54 New York gauges that may be discontinued due to funding reductions from partner agencies (<http://waterdata.usgs.gov/ny/nwis/rt>). Although the financial benefits of this gauging network have not been well-documented, it is estimated that thousands of dollars in flood damages are prevented for every dollar invested in gauging.

NYSFSMA wrote a letter to the NY congressional delegation providing information about this topic in November 2008 (at <http://ny.floods.org>). The Association of State Floodplain Managers (ASFPM) has also actively supported federal funding for the stream gauge network (<http://www.floods.org>). Additional efforts are needed so that state and federal decision makers are able to make fully informed decisions regarding funding of data collection efforts.