

Hydrologic Conditions – October 2021

The Hydrologic Conditions Mapper for New York State has been updated for the month of October 2021 and can be accessed at:

<http://ny.water.usgs.gov/projects/eom/>

During October, monthly precipitation totals averaged 6.6 inches, and 2.7 inches above normal quantities across the State. The highest precipitation amount (8.5 inches) and largest positive departure from normal quantities (5.3 inches) were recorded in Ontario County. The lowest precipitation amount (4.7 inches) was recorded in Nassau County and the smallest positive departure from normal quantities (0.3 inches) was recorded in Hamilton County. There were no negative departures from normal quantities in October.

Of the 32 index streamflow sites, 7 recorded normal levels, 25 recorded wet levels, and none of the sites recorded dry or very dry levels during October. Due to heavy rainfall from storms in late October, the National Weather Service (NWS) flood stage was exceeded at 7 of the 32 index streamflow sites: Schoharie Creek at Prattsville, NY (01350000); East Branch Delaware River at Margaretville, NY (01413500); Beaver Kill at Cooks Falls, NY (01420500); West Branch Delaware River at Walton, NY (01423000); Susquehanna River at Conklin, NY (01503000); Chenango River near Chenango Forks, NY (01512500); and Chemung River at Chemung, NY (01531000). The NWS moderate and major flood stages were not exceeded at any of the index sites during October. However, the respective NWS flood stages at twenty-seven non-index streamflow sites located in New York State were also exceeded in October (mostly in late October, like the index sites), and the NWS moderate flood stage was exceeded at eight of those streamflow sites. Further, at one of those sites, Owasco Inlet below Aurora Street at Moravia, NY (04235299), the NWS major flood stage was exceeded.

The New York State Department of Environmental Conservation (NYSDEC) reported that all drought regions in New York State were in normal status at the end of October.

Average lake levels of Lake Ontario during October were about 0.5 feet above long-term monthly average water levels (<https://www.glerl.noaa.gov/data/wlevels/>).

New York City reservoirs were collectively at about 97.6 percent of capacity at the end of the month; about 20.3 percent more than the normal storage capacity of about 77.3 percent (<https://www1.nyc.gov/site/dep/water/reservoir-levels.page>).

Twenty-four percent of the index groundwater wells with sufficient data for the month and period of record (92 in total) reported normal water levels for the month. Sixty-six percent reported above-normal water levels, 10 percent reported low water levels, and none of the index groundwater wells reported very-low water levels. Low water levels were confined to the northwestern, central and northernmost parts of the state. Only above normal water levels were observed in the southeastern part of the state (excluding Long Island, where only normal water levels were observed); otherwise, there was no discernible strong geographical distribution of the rest of the wells that fell into the normal and above normal classifications. Bedrock and water-table wells had similar percentages of wells reporting water levels in their respective below-normal ranges (11 and 9 percent, respectively) and above-normal ranges (64 and 67 percent, respectively).

None of the 92 wells with sufficient data reported new record low monthly median levels for October. Nine of the 92 wells reported a new record high monthly median level. All of those wells have periods of record of 20 years or less.

Although the Hydrologic Conditions Mapper showed only three reporting wells with sufficient data on Long Island—all of which reported normal water levels—the USGS Groundwater Watch (at <https://groundwaterwatch.usgs.gov/>) showed that many wells in Nassau and Suffolk Counties continue to indicate below-normal water levels at the end of October.

Exceedance percentages shown on the Hydrologic Conditions Mapper are calculated for individual USGS sites. This information, along with additional information from other Federal, State, and local agencies, assists the NYSDEC and the State Drought Management Task Force with evaluating regional conditions for determination of drought classifications.

Alex Graziano, Hydrologist, New York Water Science Center

Phone: 518-527-5843

Email: agraziano@usgs.gov