Hydrologic Conditions – September 2016

The Hydrologic Conditions Mapper for New York State has been updated for the month of September 2016 and can be accessed at:

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

As issued by NYS Department of Environmental Conservation (DEC), a Drought Warning for western New York and a Drought Watch for the rest of the State have continued through the month of September. Fifty percent of the counties in New York reported precipitation totals between about 2 and 2.6 inches during September; however, precipitation totals ranged from 1.27 inches in Dutchess County to 3.88 inches in Cattaraugus County. Every county in the State reported precipitation deficits that ranged from -0.38 inches in Cattaraugus County to -3.36 inches in Ulster County. Year-to-date precipitation quantities are generally 5 to 10 inches below normal across the State and 365-day totals are more than 10 inches below normal for over half the State (NOAA Northeast River Forecast Center). .

Streamflows that during August generally rebounded from the below-normal levels that were present in July have returned to below-normal levels during September. Seventy-five percent of the index flow sites reported flows less than their respective monthly 25-percentile flow and 31 percent had flows less than their respective 10-percentile flow. Since August, flow levels have decreased in the Adirondack Mountains region and the Mohawk River and Chenango River basins, as well as, in southeastern New York. Streamflows at some index sites in parts of the Catskill Mountains region have dropped to below-normal levels. Streamflows remained well below normal levels in a band north of the western Finger Lakes in Monroe, Wayne, and Ontario Counties. Normal flows were reported in the upper Susquehanna River and Chemung River basins, as well as in southwestern New York.

New York City reservoirs were collectively at about 69-percent capacity at the end of the month, less than the 76-percent capacity that is normal for the end of September.

About 35 percent of groundwater levels at index sites across the State were at or near normal levels. Only 2 wells reported above-normal water levels, whereas 63 percent of the wells reported low-to-very-low water levels. Fifty-eight and 67 percent of the reporting bedrock wells and water-table wells, respectively, had water levels that were below normal levels. Of the 81 reporting wells, 24 reported new record low monthly median values for September; and, of these, 15 had also reported record low monthly median values for August. Also, of these 24 wells, only three had periods of record that exceeded 14 years. Although wells with normal and above-normal water levels could be found scattered across the State, wells with below-normal water levels appeared to be clustered in the band north of the western Finger Lakes in Monroe, Wayne, and Ontario Counties (the same area as the long-term below-normal streamflows) and across the central Finger Lakes region, as well as around the perimeter of the Adirondack Mountains and in the southeastern corner of the State, including Long Island.

Groundwater response to rainfall, which depends on the depth and type of the aquifer in which a well is finished, may not mimic surface-water response. High-intensity, short-duration rainfall will have a noticeable effect on streamflows, especially in urban areas, but quick runoff from the land surface will not facilitate infiltration of water to replenish low groundwater levels. Groundwater levels should respond to medium-intensity long-duration rainfall that will permit infiltration and to a decrease in evapotranspiration under leaf-off conditions as the Fall season approaches.

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 assist the NYSDEC and the State Drought Management Task Force to evaluate regional conditions for determination of drought classifications.

Let me know if you have any questions.