



THE FOUR STAGES OF DROUGHT RESPONSE IN NEW YORK

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As I write this article, New York State has just issued a statewide drought watch. The last time a drought watch was issued was in 2002. Thus, I thought that this would be a good time to give a refresher on the four stages of drought as declared by New York State. I also will give some suggestions on actions that local water suppliers can take during each of these stages.

New York State uses two measures to determine the various stages of drought. One is called the Palmer Drought Index (PDI). It is largely based upon soil moisture levels. Current maps showing PDI levels can be viewed at: <https://www.drought.gov/drought/data-maps-tools/current-conditions>. The other measure used to quantify drought is the State Drought Index. This methodology, calculated by the New York State Department of Environmental Conservation (NYSDEC), utilizes the indicators of precipitation levels, reservoir/lake levels, and stream flow and groundwater levels. These indicators are weighted and an index calculated on a regional basis. There are nine drought management regions in New York State as indicated on Figure 1.

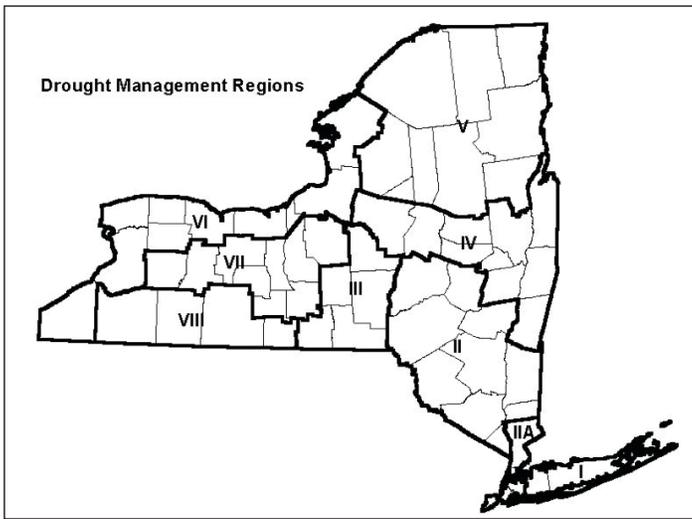


Figure 1. Drought Management Regions.

DROUGHT WATCH

A watch is the first of four levels or stages of drought advisories in New York and is declared by the NYSDEC. There are no statewide mandatory water use restrictions in place under a drought watch. However, public water suppliers may wish to inform their users of the threat of a developing drought and urge customers to conserve water. Water suppliers should consider cutting back on their uses of water such as flushing, street cleaning, etc. This

would also be a good time to fix leaks and other wastes of water. Finally, public water are urged to review their emergency response plans for drought during the watch stage and possibly begin to implement some of the preliminary steps in this plan. This could include more closely monitoring source water levels.

DROUGHT WARNING

The next drought stage is a warning and is also declared by the NYSDEC. A drought warning is indicative of “impending and imminent severe drought conditions”. During the warning stage, efforts to encourage water conservation should be increased and the public should be prepared for mandatory measures. Water suppliers should continue to implement some steps in their emergency response plan for drought, for example, making provisions for utilizing emergency sources of supply.

DROUGHT EMERGENCY

The next stage of drought is an emergency. A drought emergency is declared by the New York State Disaster Preparedness Commission and is an indication of “existing severe and persistent drought conditions”. During a drought emergency, water suppliers would typically declare mandatory water conservation measures. These could include prohibiting: (1) the washing of vehicles using water from the system except at washing operations that recirculate water; (2) the use of water from the system to wash street, sidewalk, driveway, etc.; and (3) the use of water to water lawns, trees, shrubs, gardens, etc. except during limited hours, etc.

DROUGHT DISASTER

The fourth and final drought stage is that of disaster. This stage is declared by the Governor “when a significant proportion of communities in the impacted area are unable to address local needs adequately”. On one occasion, a federal presidential disaster declaration was declared for drought in New York. This occurred in August 1965 for southeastern New York State. The 1965 drought was the culmination of dry conditions in the Northeastern U.S. that began in 1961.

FINAL THOUGHTS

Here in New York State we on average have ample precipitation. However, as we know, there are variations in weather patterns that result in periods of drier weather. All water suppliers should prepare emergency response plans that address drought. Now is a good time to take these plans off the shelf and take a look! 💧💧