

September 13, 2022

## **Drought Report**

### **Summary: September 6 – September 13**

#### **Preface**

This report summarizes the various indicators utilized in drought monitoring; it is current to noon on September 13<sup>th</sup>, 2022. Each parameter (precipitation, surface water, groundwater, and palmer index) has their own individual indicator for each county. When readings hit a pre-determined trigger level, the indicator is coded as “Normal”, “Watch”, “Warning”, or “Emergency” for that county. These indicators are used to evaluate the drought status of a particular county; they are not, themselves drought declarations. Drought “Watch” and “Warning” declarations are determined by the Commonwealth Drought Coordinator and the Department of Environmental Protection (DEP), with support of the Drought Task Force; “Emergency” declarations follow a similar process but are given final approval by the Governor.

#### **Drought Report**

*Precipitation* – Unable to report on the 7-day and 90-day precipitation since the NWS website is not providing this information on most of the state.

The precipitation indicators based on a 90-day departure is showing 6 counties in drought “Watch” (Bucks, Dauphin, Montgomery, Montour, Northampton, and Perry), 4 counties in “Warning” (Northumberland, Philadelphia, Snyder, and Union), and none in “Emergency” condition. Since the last report 21 counties have improved from “Warning” to “Watch” (3), or from “Watch” to “Normal” (12) condition, or from Emergency to Warning (2), or from “Emergency” to “Watch” (1) or from “Warning” to “Normal” (3) condition. These changing indicators reflect a nearly statewide improvement of precipitation conditions within the last week until Saturday September 11, 2022.

*Surface Water* – For this date, there is 1 gage showing instantaneous flow at less than the 10th percentile. The 30-day moving average streamflow indicators are showing 3 counties in drought “Watch” (Berks, Snyder, and Union), no counties in “Warning” or “Emergency” condition. Since the last report 21 counties have improved from “Watch” to “Normal” (14), or from “Warning” to “Watch” (3), or from “Warning” to “Normal” (3), and one county has declined from “Emergency” to “Normal” condition. Surface water is following similar patterns to the precipitation indicators throughout the state with some critical improvements with some exceptions.

*Groundwater* – The 30-day moving average indicators for groundwater levels are showing 8 counties in drought “Watch” (Clearfield, Lancaster, Lawrence, Monroe, Pike, Schuylkill, Susquehanna, and Wayne), four counties in “Warning” (Dauphin, Lebanon, Montour, and Union), and three counties in “Emergency” (Fulton, McKean, and Potter) condition. Since the last report one county has remained the same, and 3 counties have declined from “Normal” to “Emergency” (1), or from “Normal” to “Watch” (2) condition and 15 counties have improved from “Emergency” to “Warning” (2), or from “Warning” to “Watch” (1), or from Watch to Normal (11) condition. Though the recent rains have improved conditions statewide for precipitation and surface water gages there has yet to be broader improvement in groundwater. Since groundwater is a lagging indicator it’s likely that these conditions are reflective of drier surface water and precipitation conditions a few reports back which would explain the declining indicator scores for this metric.

*Palmer Drought Severity Index* – The Palmer soil moisture indicator is displaying 10 counties in drought “Warning” (Clarion, Crawford, Erie, Forest, Jefferson, McKean, Mercer, Potter, Venango, and Warren), Since the last report 67 counties have improved from “Emergency” to “Warning” (10), “Warning” to “Normal” (23), or from “Watch” to “Normal” (34) condition throughout the state. The Palmer Drought Severity Index (PDSI) is currently viewed with some skepticism, as a result, hard data such as precipitation, ground water, and surface water data are the favored drought indicators in decision making..

*Public Water Supply Agencies (PWSAs)* – Presently, DEP is aware of 9 PWSs on voluntary water use restrictions and four on mandatory water use restrictions.

The following PWSs implementing voluntary measures:

- BCI Municipal Authority (PWSID 6170052), Clearfield County
- Duncannon Water System (PWSID 7500019), Perry County
- Driftwood Borough (PWSID 6120001), Cameron County
- Jersey Shore Area Joint Water Authority (PWSID 4410156), Lycoming County
- Lock Haven (PWSID 4180048), Clinton County
- Palmerton Municipal Water Authority (PWSID 3130012), Carbon County
- Pennsylvania American Water Company – Bangor District (PWSID 3480038), Carbon County
- Tower City Borough Authority (PWSID 3540045), Clinton County
- South Renovo Water System (PWSID 4180059), Clinton County

The following PWSs are implementing mandatory measures:

- Galeton Borough Water Authority (PWSID 6350010), Potter County
- Porter Township Municipal Authority (PWSID 4180055), Clinton County
- Veolia Water Pa Overbrook (PWSID 2400082), Luzern County
- Waterville Water Association (PWSID 4410187), Lycoming County

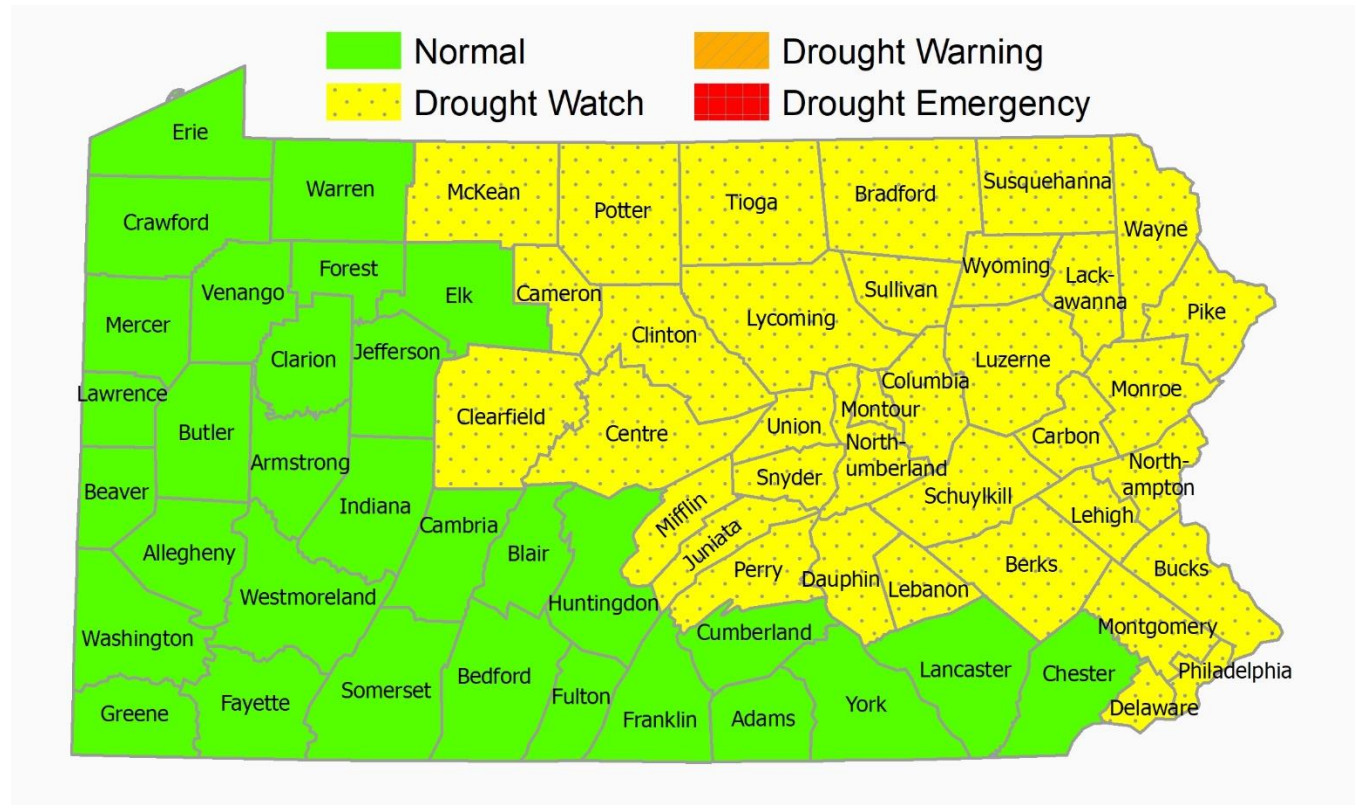
*Forecast* – The 7-day forecast indicates approximately 0.02 to 0.4 inches of precipitation for the state, with the highest amounts in the eastern portion of the state and the lowest values in the southwestern portion of the state. The 8 to 14-day forecast indicates 0.02 to 1 inches of precipitation for the state, with the southern portion of the state receiving the most precipitation and the western portion receiving the least.

*Summary* – The 90-day precipitation departures are showing 4 counties in drought “Watch”, 6 counties in “Warning” condition. Instantaneous streamflow varies across the Commonwealth, however, there is 1 gage showing instantaneous flow at less than the 10th percentile. The 30-day moving average streamflow indicators are showing 3 counties in “Watch” condition. The 30-day moving average groundwater well levels are showing 8 counties in “Watch”, four counties in “Warning”, and three counties in “Emergency” condition. The 8 counties showing “Watch” indicators for groundwater are based on five wells, the four counties in “Warning” are based on two wells, and the three counties in “Emergency” are based on two wells since several counties have groundwater monitoring indicators that reference a neighboring county.

A set of slides including maps and a summary of the data contained in this report is attached.

A Drought Task Force meeting has been scheduled for Wednesday, September 13<sup>th</sup> at 1pm. Conditions will continue to be closely monitored.

Below is a map of the current drought declarations:



**Susan K Weaver, PE, 717.783.8055**  
**Commonwealth Drought Coordinator**