

**September 20, 2022**

## **Drought Report**

**Summary: September 13 – September 20**

### **Preface**

This report summarizes the various indicators utilized in drought monitoring; it is current to noon on September 20<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* – Over the past week, there was varying precipitation across the state, ranging from zero to 1.2 inches. The 90-day precipitation departures show counties ranging from 50% below up to 75% above normal precipitation.

The precipitation indicators based on a 90-day departure show seven counties in drought “Watch” (Bucks, Dauphin, Montour, Northampton, Perry, Snyder, and Union), 1 county in “Warning” (Philadelphia), and none in “Emergency” condition. Since the last report, five counties have improved from “Warning” to “Watch” (3) or from “Watch” to “Normal” (2) condition. These changing indicators reflect an improvement in precipitation conditions within the last week until Saturday, September 18, 2022.

*Surface Water* – For this date, three gages show instantaneous flow at less than the 10th percentile. The 30-day moving average streamflow indicators show one county in drought “Watch” (Berks), and no counties in “Warning” or “Emergency” condition. Since the last report, two counties have improved from “Watch” to “Normal” (2) condition. Surface water is following similar patterns to the precipitation indicators throughout the state with some improvements.

*Groundwater* – The 30-day moving average indicators for groundwater levels are showing eight counties in drought “Watch” (Franklin, Lancaster, Lawrence, Monroe, Northampton, Schuylkill, Susquehanna, and Wayne), 6 counties in “Warning” (Dauphin, Lebanon, McKean, Montour, Potter, and Union), and one county in “Emergency” (Fulton) condition. Since the last report, 11 counties have remained the same, two counties have declined from “Normal” to “Watch” condition, and two counties have improved from “Watch” to “Normal” condition. Though the recent rains have improved conditions statewide for precipitation and surface water gages, there has yet to be a broader improvement in groundwater. However, since groundwater is a lagging indicator, these conditions are likely 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 displays 11 counties in drought “Watch” (Allegheny, Armstrong, Deaver, Butler, Fayette, Greene, Indiana, Lawrence, Somerset, Washington, and Westmoreland), and 10 counties in drought “Warning” (Clarion, Crawford, Erie, Forest, Jefferson, McKean, Mercer, Potter, Venango, and Warren). Since the last report, 11 counties have declined from “Normal” to “Watch,” and ten counties have remained the same in “Warning” condition throughout the state. The Palmer Drought Severity Index (PDSI) is currently viewed with some skepticism, as a result, complex data such as precipitation, groundwater, and surface water data are the favored drought indicators in decision making.

*Public Water Supply Agencies (PWSAs)* – Presently, DEP is aware of nine PWSs on voluntary water use restrictions and five 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
- Hazleton City Authority (PWS 2408001), Luzerne County
- Porter Township Municipal Authority (PWSID 4180055), Clinton County
- Veolia Water Pa Overbrook (PWSID 2400082), Luzerne County
- Waterville Water Association (PWSID 4410187), Lycoming County

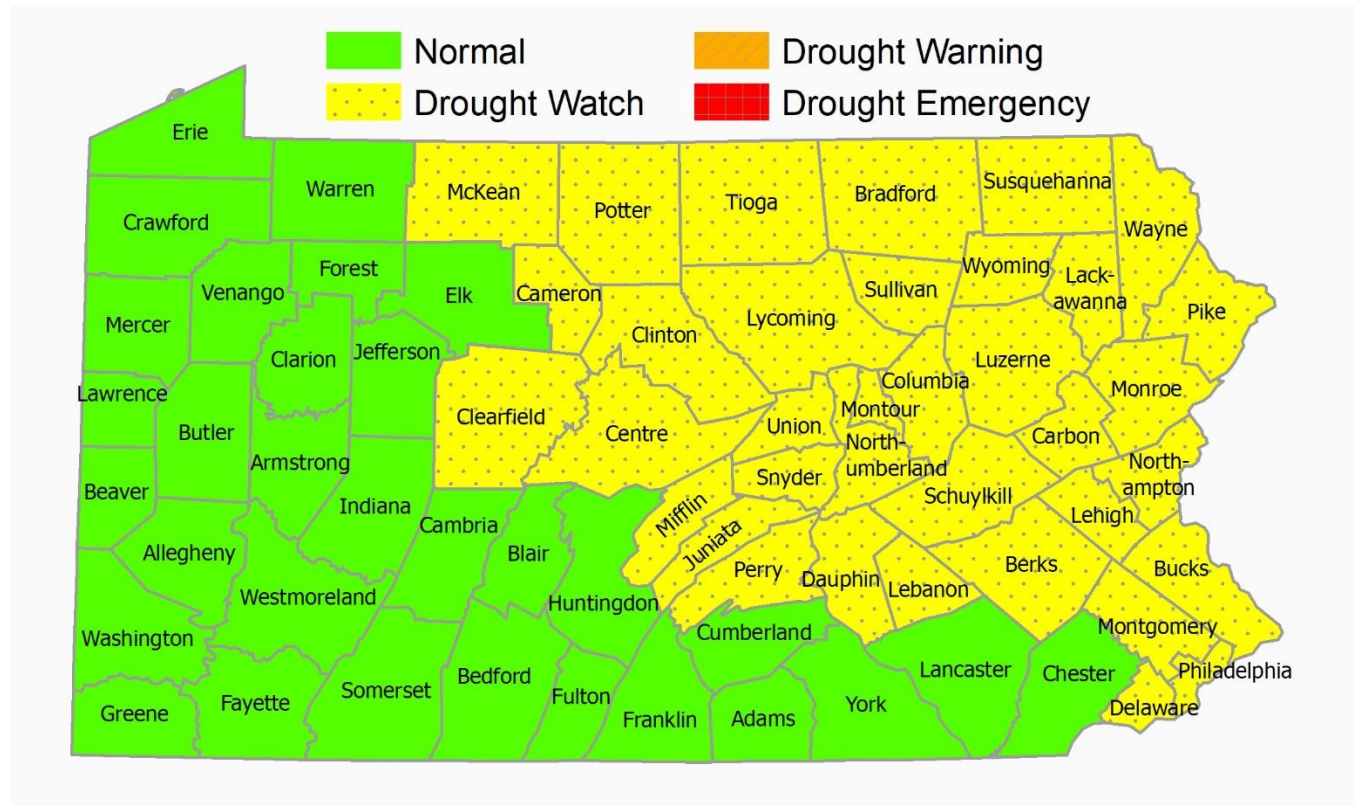
*Forecast* – The 7-day forecast indicates approximately 1 to 2 inches of precipitation for the state, with the highest amounts in the northwestern portion and the lowest values in the southcentral part of the state. The 8 to 14-day forecast indicates 0.2 to 1.5 inches of precipitation for the state, with the southern part receiving the most precipitation and the northcentral portion receiving the least.

*Summary* – The 90-day precipitation departures show seven counties in drought “Watch” and one in “Warning” condition. Instantaneous streamflow varies across the commonwealth; however, there are three gages (2 in NJ) showing instantaneous flow at less than the 10th percentile. The 30-day moving average streamflow indicators show one county in “Watch” condition. The 30-day moving average groundwater well levels are showing eight counties in “Watch,” six counties in “Warning,” and one county in “Emergency” condition. The eight counties showing “Watch” indicators for groundwater are based on four wells, the six counties in “Warning” are based on three wells, and the one county in “Emergency” is based on one well 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 Monday, September 26<sup>th</sup> at 1pm. Conditions will continue to be closely monitored.

Below is a map of the current drought declarations:



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