

November 29, 2022

Drought Report

Summary: November 22 – November 29

Preface

This report summarizes the various indicators utilized in drought monitoring; it is current to noon on November 29th, 2022. Each parameter (precipitation, surface, 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.

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Precipitation – Over the past week, there was varying precipitation across the state, ranging from 0.2 to 1.0 inches. The 90-day precipitation departures show counties ranging from 25% below up to 50% above normal precipitation.

There were varying degrees of precipitation throughout the state which still benefits from surplus precipitation in prior weeks. As a result, the 90 day precipitation departures still show healthy surpluses in many counties of the commonwealth. Though conditions are stable, there are lingering deficits in the south-central region of the state. Every county shows “Normal” for this indicator.

Surface Water – For this date, there are three gages that show instantaneous flow at less than the 10th percentile. There are no changes in this indicator since the last report with all counties reading “Normal”.

Groundwater – Groundwater has been more varied than other indicators throughout the commonwealth and is typically a lagging indicator. Several counties (15) in the commonwealth read “Watch”, none “Warning”, and only one now reading “Emergency”. There was improvement throughout the state with several counties returning to “Normal” and others exiting “Warning” returning to “Watch” for this indicator. Despite improvements one county (Clarion) declined from “Normal” to “Watch” condition. This indicator is reflective of longer-term deficits that will require sustained rain to restore to “Normal” percentiles. With much of the state reliant on groundwater, this indicator will be closely monitored, and the reporting of Public Water Suppliers weighed considerably.

Palmer Drought Severity Index – The Palmer Drought Severity Index (PDSI) yielded no changes compared to last week’s report. This indicator is currently viewed with some skepticism, as a result, complex hard data such as precipitation, groundwater, restriction declarations by public water suppliers, and surface water data are the favored drought indicators in decision making.

Public Water Supply Agencies (PWSAs) – Presently, DEP is aware of 10 PWSAs on voluntary water use restrictions and three on mandatory water use restrictions. Waterville Water Association (Lycoming

County) recently returned to normal operations. Despite further improvements in recent weeks this ground truth remains a critical resource in assessing drought conditions in the state.

The following PWSs implementing voluntary measures:

- BCI Municipal Authority (PWSID 6170052), Clearfield County
- Driftwood Borough (PWSID 6120001), Cameron County
- Galetton Borough Water Authority (PWSID 6350010), Potter County
- Jersey Shore Area Joint Water Authority (PWSID 4410156), Lycoming County
- Mahanoy Township Authority (PWSID 3540011), Schuylkill County
- North Heidelberg Water System, (PWSID 3060115), Berks County
- Palmerton Municipal Water Authority (PWSID 3130012), Carbon County
- Pennsylvania American Water Company – Bangor District (PWSID 3480038), Carbon County
- South Renovo Water System (PWSID 4180059), Clinton County
- Tower City Borough Authority (PWSID 3540045), Clinton County

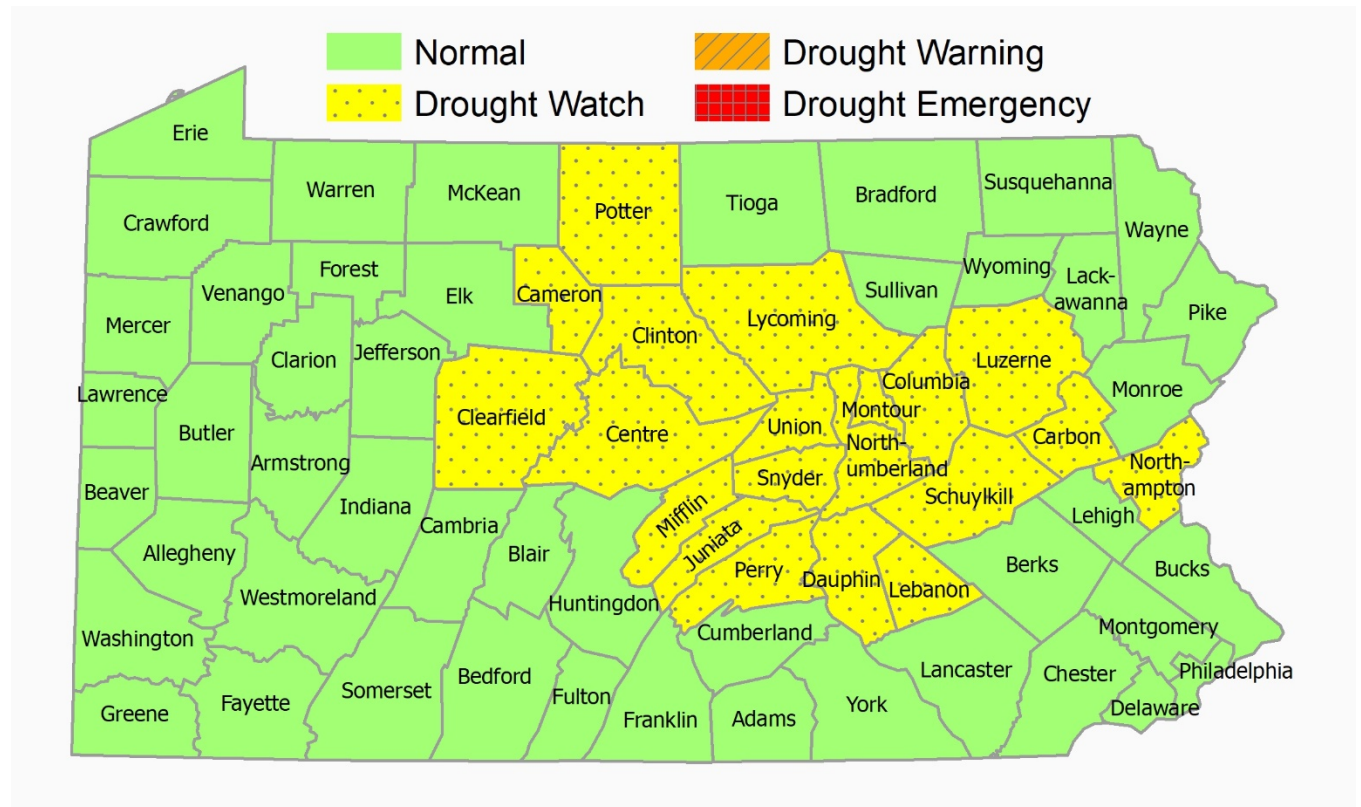
The following PWSs are implementing mandatory measures:

- Hazleton City Authority (PWS 2408001), Luzerne County
- Porter Township Municipal Authority (PWSID 4180055), Clinton County
- Roulette Township Water Authority (PWSID 6530007), Potter County

Forecast – The 7-day forecast indicates approximately 0.83 to 2.33 inches of precipitation for the state, with the highest amounts concentrated in the north of the state and the lowest in the southcentral portion of the state. The 8 to 14-day forecast indicates 0.2 to 2.0 inches of precipitation for the state, with precipitation concentrated western and southern portions of the state and the northwestern portion of the state receiving the least.

Summary – This week saw more precipitation than the prior report which allowed prior weeks' gains to solidify with lagging indicators, like groundwater, beginning to catch up. Despite gains there remain consistent deficits with groundwater. This lagging indicator remains problematic for several water suppliers throughout the state who continue to operate under voluntary or mandatory restrictions often citing well levels as the key driver in their decision making. Groundwater plays a critical role in water supply throughout Pennsylvania with many public water suppliers relying on wells as a primary or supplemental source. While rain is forecast in the coming weeks it will need to be sustained consistently to see lasting improvement.

Below is a map of the current drought declarations:



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