

December 20, 2022

Drought Report

Summary: December 13 – December 20

Preface

This report summarizes the various indicators utilized in drought monitoring; it is current to noon on December 20th, 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 these declarations are voluntary and informational in nature. “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 0.4 to 2.0 inches. The 90-day precipitation departures show counties ranging from 25% below up to 50% above normal precipitation.

This last week yielded high surpluses in precipitation throughout the state. This rain was concentrated in counties that most needed it in the south-central portion of the state. As a result, all “Watch” and “Warning” condition for this indicator have ceased, returning eight counties to ‘Normal’ condition. Sustained precipitation, like that of this last week, will be needed to fully eliminate persistent deficits in groundwater.

Surface Water – For this date, there are two gages that show instantaneous flow at less than the 10th percentile. The recent rain eliminated much of the surface water deficits throughout the state though Indiana has changed from “Normal” to “Watch”. Note that this gage, among others, is impacted by freezing which will make the results somewhat less reliable.

Groundwater – Groundwater has been more varied than other indicators throughout the commonwealth and is typically a lagging indicator. Eight counties, down from eleven in the previous week, read “Watch” for this indicator signaling improvement throughout the state. This indicator is reflective of longer-term deficits that will require sustained precipitation to fully restore statewide indicators 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. Note that Elk County’s observation well recently suffered a modem failure and is not reporting presently. The last time it was read it showed healthy surpluses and read “Normal” condition. As a result, this well is understood to have retained that status for the purposes of this report.

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 seven PWSAs on voluntary water use restrictions and two on mandatory water use restrictions. There are no changes from the prior week’s report. 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
- 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

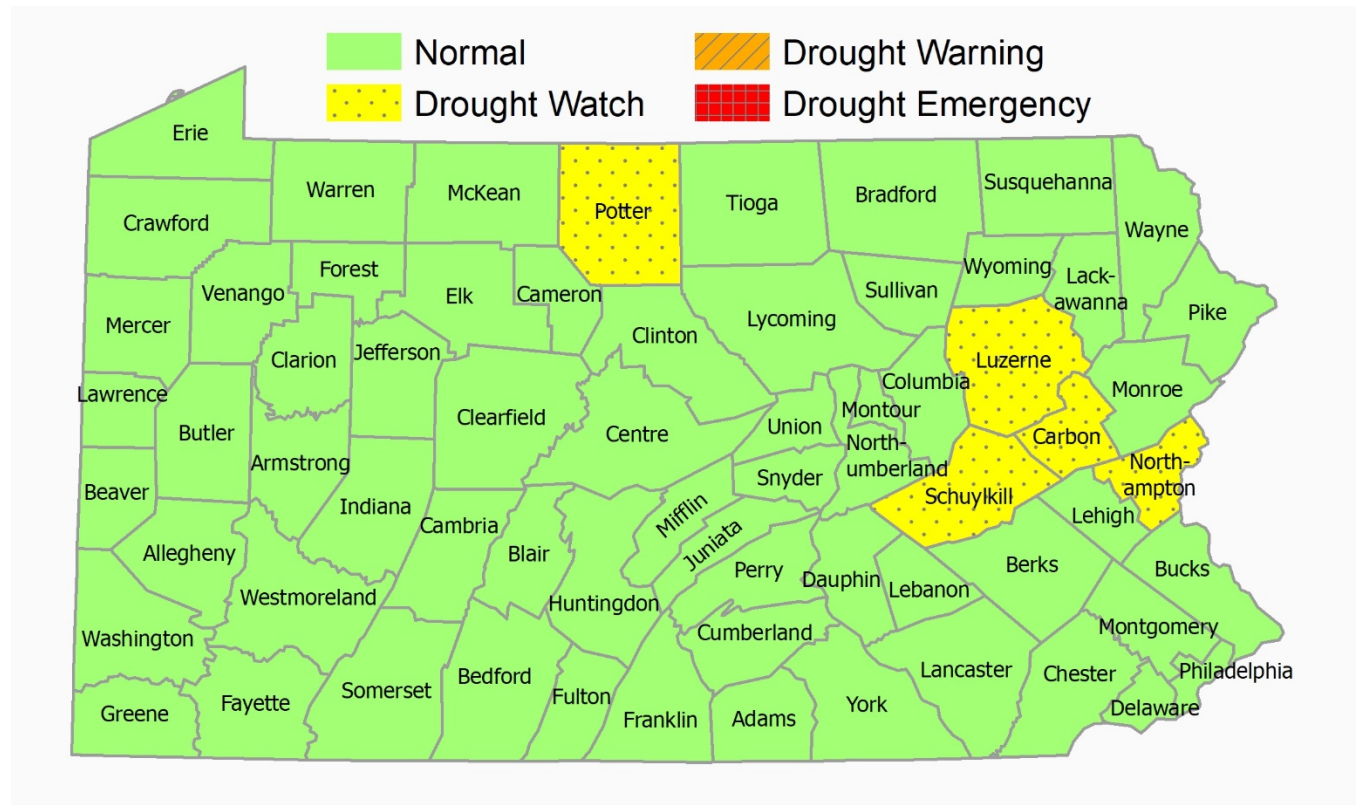
The following PWSs are implementing mandatory measures:

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

Forecast – The 7-day forecast indicates approximately 1.5 to 3.5 inches of precipitation for the state, with the highest amounts concentrated in the east of the state and the lowest in the western portion of the state. The 8 to 14-day forecast indicates 1.25 to 2.33 inches of precipitation for the state, with precipitation dispersed evenly across the state averaging at approximately 1.5 inches.

Summary – Healthy quantities of precipitation have fallen throughout the state since the last report and this has yielded gains in all indicators (precipitation, surface water, and groundwater). Despite this, there remain some persistent deficits with some observation wells in “Watch” condition as well as groundwater supplied public water suppliers employing restrictions. 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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