

Drought Report September 20, 2016

Preface

This report summarizes the various indicators utilized in drought monitoring. Each parameter (groundwater, surface water, precipitation, 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 declarations are determined by the Commonwealth Drought Coordinator, with support of the Drought Task Force, and given final approval by the Governor.

Summary

The rainfall the Commonwealth received on September 19 with greatest depths in the northeast, resulted in minor improvements to streamflow. Instantaneous flows on most streams have already begun to fall or remain below normal with variation of depths across the state based on local rainfall depths. No one region of the state has instantaneous stream flows exceptionally worse or better than any other. However, over the 30-day average, stream flows are declining in 10 counties.

Despite modest rainfall this past week, precipitation departures, recorded through September 19, increased during the last 7 days in the lower half of the Susquehanna River Basin where departures were up to -0.7 inches. However, groundwater levels remained consistent with last week with improvement in one county moving to “Normal” and 1 county decreased from “Normal” to “Watch” over the last seven days.

7-day forecasts call for minimal precipitation of approximately 0.1 to 0.25 inches with the northwest have the greatest potential for rainfall of a little over 0.25 inches.

The Delaware River Basin Commission had been making releases to supplement streamflow in the lower portion of the basin. Based on local rainfall they ceased directing releases from Beltzville and Blue Marsh reservoirs over the weekend.

Potter County remains in Drought Warning with the following counties in Drought Watch: Armstrong, Bedford, Berks, Blair, Bradford, Cameron, Carbon, Center, Chester, Clarion, Clearfield, Clinton, Cumberland, Dauphin, Elk, Forest, Fulton, Huntingdon, Indiana, Jefferson, Juniata, Lawrence, Lebanon, Lehigh, Lycoming, McKean, Mercer, Mifflin, Northampton, Perry, Philadelphia, Schuylkill, Snyder, Sullivan, Tioga, Union, and Venango.

The next Commonwealth Drought Task Force meeting is scheduled for October 5th at PEMA.

Drought Report Details

Precipitation –Over the last 7 days, there was varying precipitation across the state, county average rainfall was from 0.3 inches in southcentral area to 2.3 inches in the northeast. The more significant rainfall occurred in the eastern part of the state and the northwest corner. The 90-day precipitation deficit shows counties ranging from 50% below to 25% above normal precipitation.

The precipitation indicators based on a 90-day departure are showing 14 counties in “Watch” (Adams, Bedford, Cameron, Chester, Clinton, Delaware, Fulton, Huntingdon, Northumberland, Perry, Philadelphia, Potter, Tioga and Union) and 5 counties in “Warning” (Blair, Juniata, Mifflin, Montgomery and Snyder) and no counties in “Emergency” status. There was improvement in 7 counties for precipitation and 3 counties declined from last week.

Surface Water- Instantaneous streamflow across the Commonwealth ranged from above normal to much below normal. For this date there are 5 gages with instantaneous flow at less than the 10th percentile, compared to 17 gages last week. There were no gages recording record low instantaneous flows.

The 30-day running average streamflow indicators are showing 17 counties in drought “Watch” (Bedford, Berks, Bucks, Carbon, Chester, Clinton, Cumberland, Delaware, Franklin, Lehigh, Monroe, Northumberland, Perry, Potter, Snyder, Union and York), 5 counties in “Warning” (Adams, Huntingdon, Juniata, Northampton and Tioga) and 2 counties in “Emergency” (Juniata and Philadelphia). Since our last report, there were no counties showing improvement with 10 counties declining.

Groundwater – The 30-day moving average indicators for groundwater levels are showing 17 counties in drought “Watch” (Bedford, Carbon, Centre, Chester, Clinton, Cumberland, Delaware, Elk, Franklin, Fulton, Lackawanna, Lancaster, Monroe, Montour, Philadelphia, Pike and Union); 7 counties in “Warning” (Berks, Dauphin, Lebanon, Lehigh, McKean, Northampton and Potter) and 2 counties in “Emergency” (Lawrence and Mercer). Since our last report, one county improved and one county declined.

Palmer Drought Severity Index – now appearing for this report period, all 67 counties of the Commonwealth now fall into at least one of three national level drought severity index classifications– “moderate”, “severe” or “extreme” drought. For Pennsylvania drought monitoring purposes, these classifications are identified as “watch”, “Warning” and “Emergency”.

The Palmer soil moisture indicator is showing 37 counties in “Watch” (Adams, Berks, Bradford, Bucks, Carbon, Chester, Clarion, Crawford, Cumberland, Dauphin, Delaware, Erie, Forest, Franklin, Jefferson, Lackawanna, Lancaster, Lebanon, Lehigh, Luzerne, McKean, Mercer, Monroe, Montgomery, Northampton, Philadelphia, Pike., Potter, Schuylkill, Sullivan, Susquehanna, Tioga, Venango, Warren, Wayne, Wyoming and York), 19 counties in “Warning” (Bedford, Blair, Cambria, Cameron, Centre, Clearfield, Clinton, Columbia, Elk, Fulton, Huntingdon, Juniata, Lycoming, Mifflin, Montour, Northumberland, Perry, Snyder and Union) and for the first time during this drought period 11 counties are in “Emergency” (Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Somerset, Washington and Westmoreland). No counties showed improvement from the last report with 15 counties declining.

