

# Watershed MANAGEMENT



## Drought Information Center

January 16, 2001

For the month of December 2000, 42 Pennsylvania counties had below normal precipitation. Departures from normal precipitation range from -1.60 inches (Bedford County) to +2.00 inches (Pike County). The average departure from normal precipitation for the state as a whole, for the month of December, is -0.12 inches. For the cumulative departure from normal precipitation for the year 2000, 38 Pennsylvania counties had below normal rainfall. Cumulative precipitation departures range from -6.50 inches (Cambria County) to +6.40 inches (Susquehanna County). The average cumulative departure from normal precipitation, for Pennsylvania for the year 2000, is -0.52 inches. Cumulative rainfall for the year 2000 ranged from 34.0 inches (Bedford County) to 49.6 inches (Philadelphia County). For the first 15 days of January, all Pennsylvania counties have below normal precipitation, with average rainfall for the period being approximately 0.25 inches.

Compared to December 12, the Delaware River Basin shows an overall improvement in flows, however the flows remain below the long term median. Flow enhancements are seen on every major watershed in the Basin. The mainstem Delaware River is up from 3,410 to 5,440 cfs. at Trenton. The Lackawaxen River is up from 201 to 326 cfs. at Hawley. The Lehigh River is up from 787 to 1,280 cfs. at Bethlehem. The Schuylkill River is up from 731 to 1,410 cfs. at Philadelphia and the Brandywine Creek is up from 177 to 367 cfs. at Chadds Ford. The New York City Delaware River Basin storage (January 12) is 21.24% above normal and 124.20 billion gallons above the drought warning level. It should be noted that at this time of year any stream gauge in Pennsylvania can be affected by ice at any given time.

Over the past four weeks, the main stem of the Susquehanna River Basin showed an improvement in flows. The Wapwallopen Creek, Penns Creek, East Mahantango Creek, Condoquinet Creek, Yellow Breeches Creek, Swatara Creek, West Conewago Creek, Codorus Creek, Conestoga River, Towanda Creek and Tunkannock Creek Basins also improved. However, most flows in these Basins remain below the long-term median flow. The Chemung, Lackawanna, and Juniata Basins had a mixed bag of flows. The West Branch Susquehanna River Basin showed an overall downward trend in flows. The Fishing Creek Basin also had a decrease in flow. The mainstem Susquehanna River is up slightly from 3,850 to 3,970 cfs. at Towanda, up from 5,360 to 6,130 cfs. at Wilkes-Barre, and up from 10,300 to 26,500 cfs. at Harrisburg. The West Branch Susquehanna River is up from 1,690 to 2,070 cfs. at Lock Haven, but down from 2,850 to 2,400 cfs. at Williamsport, and down from 3,020 to 2,640 cfs. at Lewisburg. The Juniata River is up from 1,250 to 2,880 cfs. at Newport and the Conestoga River is up from 157 to 247 cfs. at Conestoga. It should be noted that flows throughout the Susquehanna River Basin are below the long-term median flows.

Compared to mid-December, in the Ohio River Basin, the Allegheny River, Kinzua Creek, Conewango

Creek, French Creek, Clarion River, Redbank Creek, Mahoning Creek, Crooked Creek, Kiskiminetas River, Buffalo Creek, Pine Creek, and Chartiers Creek basins, as well as the mainstem Ohio River, show flow recessions. Flow enhancements occurred in Oswayo Creek, Brokenstraw Creek, Oil Creek, Beaver River, and Raccoon Creek basins while the Monongahela River Basin was mixed. The Allegheny River is down from 10,700 to 7,440 cfs. at Natrona. The mainstem Ohio River is down from 20,600 to 12,800 cfs. at Sewickley. The Kiskiminetas River is down from 1,730 to 856 cfs. at Vandergrift. The Monongahela River is down from 4,310 to 3,680 cfs. at Braddock and the Beaver River is up from 1,580 to 2490 cfs. at Beaver Falls. Most of the stream gauges in the Ohio River Basin are at below normal flow for today's date.

For December 2000, 21 of 28 available stream gauging stations in Pennsylvania had a monthly mean discharge at or above average for the month of December.

Since December 12, 28 counties with monitoring wells show water level rises for 16 counties and drops for 12. Increases range from 0.08 to 27.77 ft. (Carbon County) with an average rise of 2.91 ft. Decreases range from 0.05 to 5.02 ft. (Potter County) with an average drop of 0.99 ft. USGS December 2000 end-of-month summary figures showing percent of wells where water level is above average, have decreased for the Delaware, Susquehanna and Ohio River Basins. The percent above average in the Ohio River Basin dropped significantly from 53% in November to 33% in December. The percent of wells where water level is above average is about 15%, 20% and 33% for the Delaware, Susquehanna and Ohio River basins, respectively.

For the next five days, approximately 1.5 to 2.0 inches of precipitation is expected for the mid and lower Delaware River Basin. The upper Delaware River Basin and lower Susquehanna is to receive and estimated 1.0 to 1.5 inches of precipitation while the remainder of the state is forecast to receive 0.5 to 1.0 inches. For the period January 21 to 26, the Ohio River Basin is expected to receive 0.1 to 0.25 inches of precipitation with the far northwest corner receiving 0.25 to 0.5 inches. Temperatures for the next ten days are expected to be normal to slightly below normal.

Based on the available information, snow water equivalents range from 0 to 0.4 inches in the lower and middle Delaware and Susquehanna River Basins and from 0.2 to 1.2 inches in the upper Delaware and Susquehanna River Basins. The snow water equivalent is relied upon to help replenish groundwater during the non-growing season. Current indications are that there is not enough snow pack at this time to provide any significant replenishment of groundwater. The remainder of January and February and March will be key in determining if adequate replenishment of the groundwater will occur.