



MONTHLY WATER INVENTORY REPORT FOR OHIO

October 2005

<http://www.dnr.state.oh.us/water/pubs/newsltrs/mwirmain.html>

Compiled By David H. Cashell and Scott Kirk

Hydrologists
Water Inventory Unit

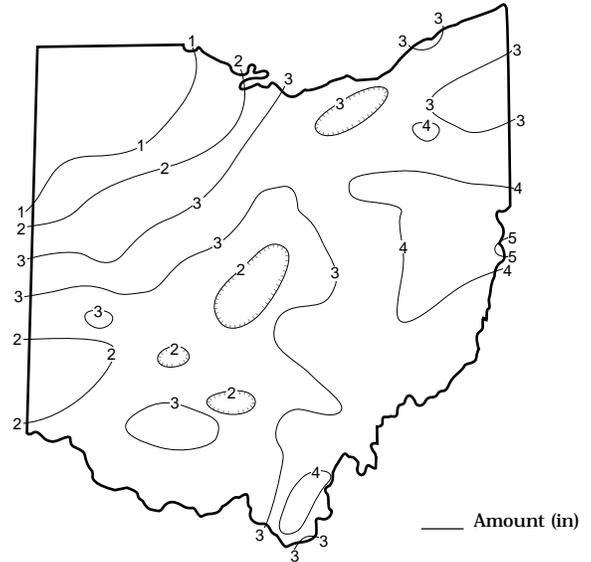
PRECIPITATION during October was above normal across much of the state, but below normal in northwestern and southwestern Ohio as well as in some areas of central Ohio. The average for the state as a whole was 2.81 inches, 0.34 inch above normal. Regional averages ranged from 4.03 inches, 1.50 inches above normal, for the Northeast Hills Region to 0.76 inch, 1.61 inches below normal, for the Northwest Region. This was the 8th driest October during the past 111 years for the Northwest Region. Conversely, it was the 20th wettest for the Northeast Hills Region. Steubenville (Jefferson County) reported the greatest amount of October precipitation, 5.39 inches. Montpelier (Williams County) reported the least amount, 0.17 inch. Several stations in northwestern Ohio reported less than 1 inch of October precipitation.

Most of the October precipitation fell during 2 periods. Showers across much of Ohio during October 7 and 8 produced 0.50-1.0 inch of precipitation in northeastern Ohio, less than 0.25 inch across northwestern and southwestern Ohio, and between 0.25 and 0.50 inch elsewhere. The wettest period was October 20-25, during which precipitation fell every day at many locations in the state, with most areas receiving between 1.0 and 2.5 inches. One notable exception was across northwestern Ohio, where less than 0.25 inch of precipitation was reported during this period. Additional showers across northeastern Ohio during October 26-28 generally produced less than 0.25 inch of precipitation.

Precipitation for the 2005 calendar year is above normal across most of the state, but below normal in northwestern and south-central Ohio. The state average is 35.73 inches, 3.45 inches above normal. Regional averages range from 39.36 inches, 7.99 inches above normal, for the West Central Region to 28.64 inches, 0.42 inch below normal, for the Northwest Region.

The 2006 water year (October 1, 2005-September 30, 2006) is off to an adequate start throughout most of the state as far as precipitation is concerned. The one exception is across northwestern Ohio where October precipitation was notably below normal. Near-normal precipitation and other climatic conditions during the next several months should provide adequate recharge to water supplies.

PRECIPITATION OCTOBER

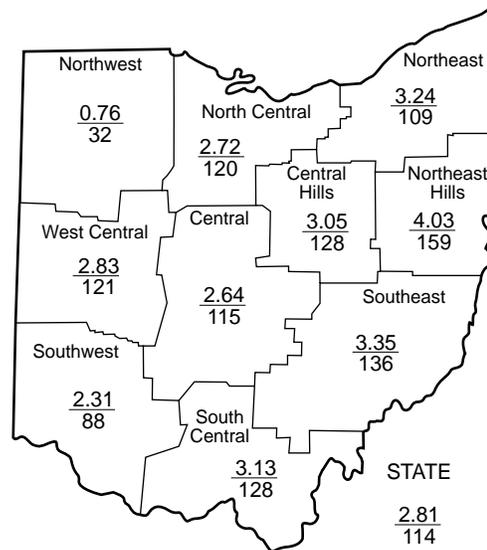


PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.) Base period 1951-2000					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	-1.61	-0.29	-2.43	+0.64	+1.19	-0.6
North Central	+0.45	+3.07	+1.87	+7.59	+13.22	+1.5
Northeast	+0.26	+2.30	+0.92	+7.00	+13.90	+3.4
West Central	+0.50	+4.67	+0.90	+9.80	+11.78	+2.3
Central	+0.35	+3.50	-0.96	+5.97	+14.95	+0.7
Central Hills	+0.66	+3.52	+0.85	+6.60	+16.59	+2.8
Northeast Hills	+1.50	+3.62	-0.14	+5.19	+21.74	+0.8
Southwest	-0.31	+1.22	-3.32	+0.60	+2.57	-0.1
South Central	+0.69	+0.13	-4.22	-0.97	+8.06	-2.3
Southeast	+0.88	+1.46	-2.87	+4.32	+20.95	-1.1
State	+0.34	+2.32	-0.94	+4.67	+12.50	

*Above +4 = Extreme Moist Spell
3.0 To 3.9 = Very Moist Spell
2.0 To 2.9 = Unusual Moist Spell
1.0 To 1.9 = Moist Spell
0.5 To 0.9 = Incipient Moist Spell
0.4 To -0.4 = Near Normal

-0.5 To -0.9 = Incipient Drought
-1.0 To -1.9 = Mild Drought
-2.0 To -2.9 = Moderate Drought
-3.0 To -3.9 = Severe Drought
Below -4.0 = Extreme Drought



Average (in)
Percent of normal

MEAN STREAM DISCHARGE

River and Location	Drainage Area (Sq. Mi.)	Mean Discharge (CFS)	% of Normal	This Month		
				% of Normal Past		
				3 Mos.	6 Mos.	12 Mos.
Grand River near Painesville	685	608	253	101	84	141
Great Miami River at Hamilton	3,630	2,360	245	133	87	133
Huron River at Milan	371	317	746	140	69	184
Killbuck Creek at Killbuck	464	266	199	101	82	127
Little Beaver Creek near East Liverpool	496	226	143	78	68	124
Maumee River at Waterville	6,330	1,292	167	76	54	112
Muskingum River at McConnelsville	7,422	3,916	154	191	133	126
Scioto River near Prospect	567	720	2,647	345	101	156
Scioto River at Higby	5,131	2,494	197	99	74	153
Stillwater River at Pleasant Hill	503	407	648	153	78	142

STREAMFLOW during October was above normal statewide. Flows were high enough to be considered excessive across much of Ohio. Streamflow during October was greater than the September flows across most of the state.

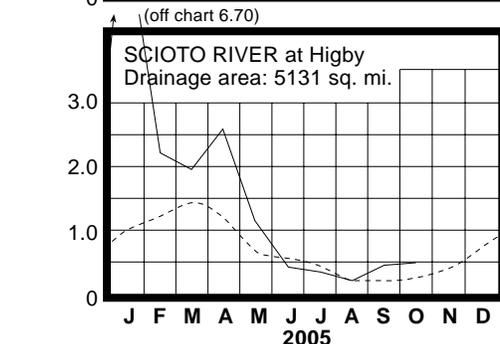
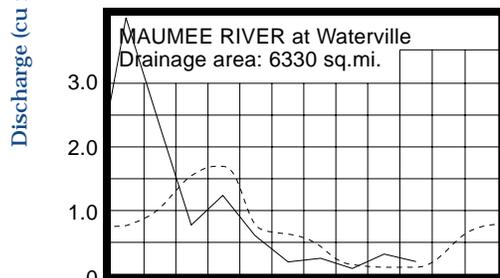
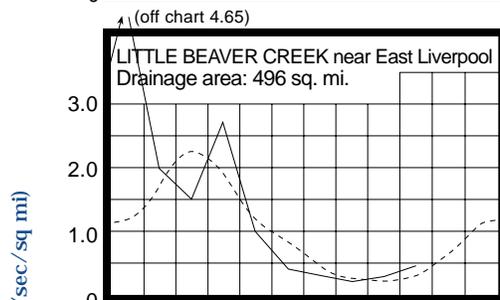
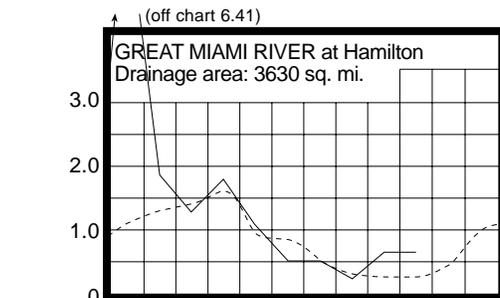
Flows at the beginning of October were above normal throughout most of Ohio. Greatest flows for the month occurred in some northwestern Ohio basins near the beginning of October. Except for some temporary increases recorded around October 7 through 11, flows decreased steadily the first 3 weeks of the month. Low flows for the month occurred between October 18 and 21 across most of the state. Flows increased noticeably during the next week due to several days of precipitation. Greatest flows for the month in

most areas of Ohio occurred during October 25-28. Flows decreased from these peaks the last few days of the month but remained above normal statewide.

RESERVOIR STORAGE during October decreased slightly in the Mahoning River basin and increased in the Scioto River basin. Storage remained above normal in both basins.

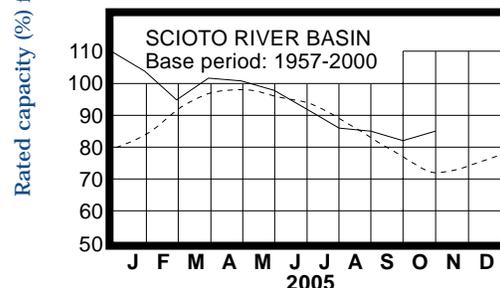
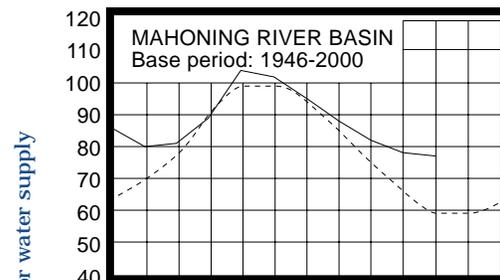
Reservoir storage at the end of October in the Mahoning basin index reservoirs was 77 percent of rated capacity for water supply, compared with 78 percent for last month and 72 percent for October 2004. Month-end storage in the Scioto basin index reservoirs was 85 percent of rated capacity for water supply, compared with 82 percent for last month and 80 percent for October 2004. Surface water supplies are favorable throughout the state as the start of the 2006 water year recharge season approaches.

MEAN STREAM DISCHARGE



Base period for all streams: 1971-2000

RESERVOIR STORAGE FOR WATER SUPPLY



Normal - - - - Current ———

GROUND-WATER LEVELS

Based on daily lowest level in feet below land-surface datum

GROUND WATER levels during October declined seasonally across most of the state. Net declines during October were less than normally expected in most aquifers.

Current ground water levels are lower than they were a year ago nearly statewide ranging up to more than 3 feet below the October 2004 level. In spite of this, ground water supplies continue to remain adequate throughout the state. Levels range from nearly 1.5 feet above normal to about 2.5 feet below normal. Generally, ground water levels remain below normal in unconsolidated aquifers across the state, but are above normal in most consolidated aquifers. Ground water supplies are in a favorable position as the 2006 water year recharge season approaches. The Ohio Agricultural Statistics Service reports that near the end of October, soil moisture was rated as being short in 8 percent of the state, adequate in 63 percent of the state and surplus in 29 percent of the state. These conditions combined with near-normal precipitation and other climatic conditions during the next several months should favor improvement in ground water storage.

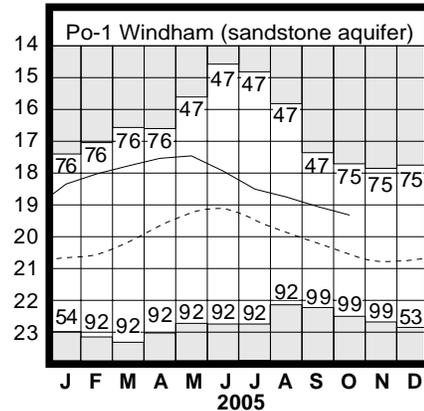
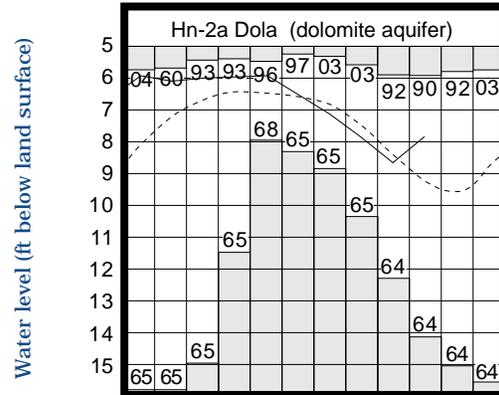
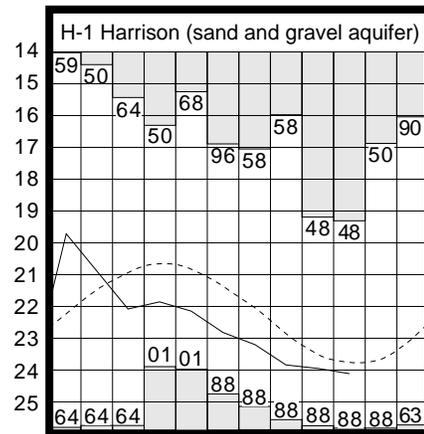
LAKE ERIE level declined during October. The mean level was 570.90 feet (IGLD-1985), 0.23 foot lower than last month's mean level and 0.20 foot below normal. This month's mean level is 0.20 foot lower than the October 2004 level and 1.70 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during October averaged 1.21 inches, 1.53 inches below normal. For the entire Great Lakes basin, October precipitation averaged 2.68 inches, 0.15 inch below normal. For calendar year 2005 through October, the Lake Erie basin has averaged 26.75 inches of precipitation, 2.84 inches below normal, while the entire Great Lakes basin has averaged 23.98 inches, 3.36 inches below normal.

In addition, the USACE reports that based on the current condition of the Great Lakes basin and anticipated weather conditions, the level of Lake Erie should remain below normal for the foreseeable future. Deviations from the anticipated weather patterns could result in the level of Lake Erie ranging from about 4 inches above, to as much as 16 inches below the normal seasonal average.

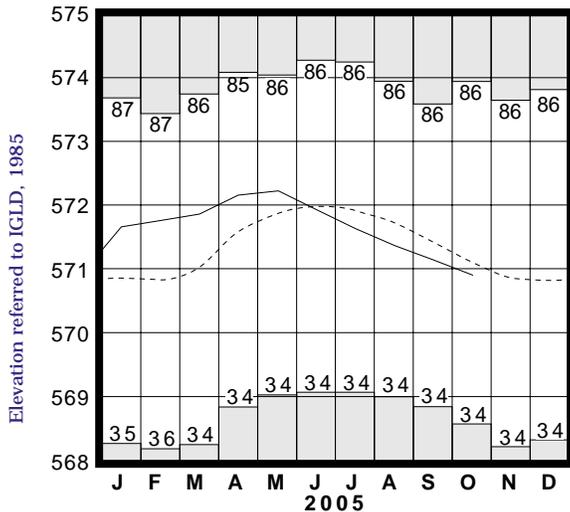
Index Well	Location	Aquifer	Mean This Month	Departure From Normal	Change in feet from:	
					Last Month	Year Ago
F-1	W. Rushville, Fairfield Co.	Sandstone	16.74	+0.70	0	-3.12
Fa-1	Jasper Mill, Fayette Co.	Limestone	11.66	-2.58	-0.74	-2.65
Fr-10	Columbus, Franklin Co.	Gravel	44.91	-0.68	-0.13	+0.07
H-1	Harrison, Hamilton Co.	Gravel	24.11	-0.35	-0.16	-0.05
Hn-2a	Dola, Hardin Co.	Dolomite	7.84	+1.39	+0.83	-0.14
Po-1	Windham, Portage Co.	Sandstone	19.31	+1.24	-0.24	-0.47
Tu-1	Strasburg, Tuscarawas Co.	Gravel	14.47	-0.51	-0.11	-1.69

GROUND-WATER LEVELS



Base periods: H-1, 1951-2000. Hn-2a, 1955-2000.
Po-1, 1947-2000 □ Record high and low, year of occurrence

LAKE ERIE LEVELS



Base period: 1918-2000

□ Record high and low, year of occurrence

Normal - - - - Current ———

SUMMARY

Precipitation during October was above normal across much of the state, but below normal in northwestern, southwestern and areas of central Ohio. Streamflow was above normal statewide and high enough to be considered excessive across much of Ohio. Reservoir storage decreased slightly in the Mahoning River basin and increased in the Scioto River basin. Reservoir storage remains above normal in both basins. Ground water levels declined across most of the state. Lake Erie mean level declined 0.23 foot and was 0.20 foot below the long-term October average.

NOTES AND COMMENTS

Construction To Begin On Salt Fork Lake Dam

Construction to repair a malfunctioning drainage system at Salt Fork Lake Dam is expected to begin during November. Ohio Department of Natural Resources Director Sam Speck has signed a contract with the Great Lakes Construction Company of Hinckley, Ohio for the \$1,980,000 dam rehabilitation project. Completion of the project is expected to be sometime during spring 2006. Construction is not anticipated to impact any of the other activities at the park. Water levels at the 3,000-acre lake will be maintained at about 5 feet below normal pool during construction. This will ensure that excessive seepage will not occur at the toe of the dam during construction. After the repairs are complete, the lake will be allowed to return to its normal pool through natural means.

On February 15, 2005, the Division of Water's Dam Safety Engineering Program received a call from the maintenance manager for Salt Fork State Park reporting a large seepage boil at the downstream toe of the dam. A weighted filter berm consisting of sand and gravel materials was immediately constructed on the downstream toe of the dam over the boil. An engineering consulting company hired to evaluate the overall safety of the dam determined that the dam's toe drainage system, which collects seepage through and under the dam, was not functioning properly and needed to be replaced.

Division Of Water Has Moved

The Ohio Department of Natural Resources, Division of Water (DOW) has moved to Building B of the Morse Road campus. The Division occupies most of the first and all of the second floors of Building B. The Water Inventory, Dam Safety, and Hydraulic/Canal Operations Units are located on the first floor while the Administration, Floodplain Management, Water Planning, Ground Water Mapping, and Technical Services Units occupy the second floor. Phone numbers and e-mail addresses remain the same. The new address for the DOW is 2045 Morse Road, Building B-2, Columbus, OH, 43229-6605. If you have any questions please call the Division at (614) 265-6717.

ACKNOWLEDGMENTS

This report has been compiled from Division of Water data and from information supplied by the following:

Precipitation data:

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service; The Miami Conservancy District; U.S. Army Corps of Engineers, Muskingum Area.

Streamflow and reservoir storage data:

U.S. Geological Survey, Water Resources Division.

Lake Erie level data:

U.S. Army Corps of Engineers, Detroit District.

Palmer Drought Severity Index:

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service.



An Equal Opportunity Employer-M/F/H



Division of Water
2045 Morse Road
Columbus, Ohio 43229-6693

Bob Tate
Governor

Samuel W. Speck
Director

Dick Bartz
Chief

