



MONTHLY WATER INVENTORY REPORT FOR OHIO

March 2006

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

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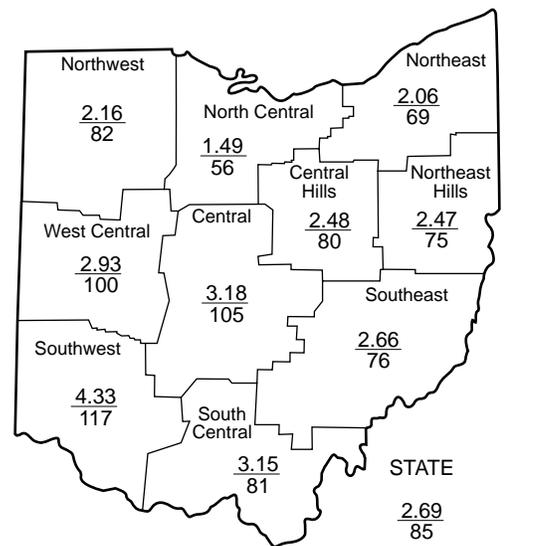
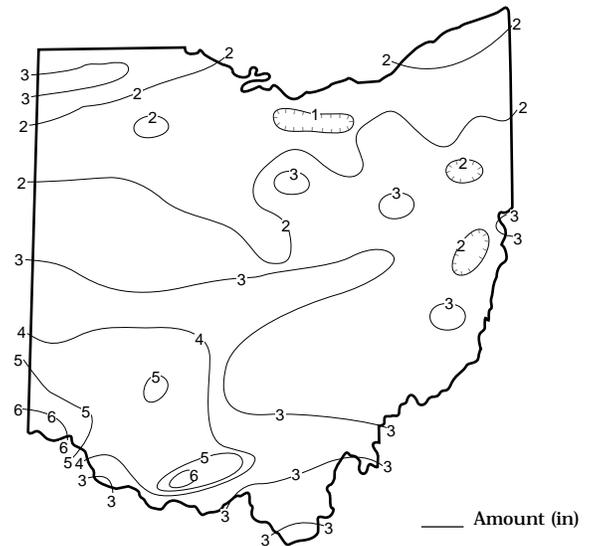
PRECIPITATION during March was below normal across most of the state, but above normal in the southwestern quarter of Ohio. The state average was 2.69 inches, 0.48 inch below normal. Regional averages ranged from 4.33 inches, 0.62 inch above normal, for the Southwest Region to 1.49 inches, 1.18 inches below normal, for the North Central Region. This was the 14th driest March during the past 112 years for the North Central Region and the 18th driest for the Northeast Region. Fernbank (Hamilton County) reported the greatest amount of precipitation in March, 6.29 inches. LaGrange (Lorain County) reported the least amount, 0.89 inch.

Precipitation during March fell as both rain and snow. Snow amounts were below normal across most of the state. Precipitation amounts for the month were greatest in southwestern Ohio and generally diminished to the north and east. The first week of March was rather dry across the state. Most of the month's precipitation fell during March 8-14. Rain during March 8-9 was heaviest in southern Ohio. Nearly 2 inches of rain fell in southwestern Ohio tapering to only about 0.25 inch in northeastern Ohio. The most significant precipitation of the month occurred during March 12-13. Precipitation from showers and thunderstorms was again heaviest in southwestern Ohio where as much as 3.5 inches of rain was reported. Precipitation diminished to the northeast to less than 1 inch of rain in northeastern Ohio. The precipitation was enough to bring some streams out of their banks across the southern half of the state, but only minor low land flooding occurred. The remainder of the month was rather dry with only scattered showers falling on a few days. The only other notable precipitation occurred on March 21 when light snow fell across the southern half of the state, bringing 1-3 inches of snow to the area.

Precipitation for the 2006 calendar year is below normal across all but northwestern Ohio. The average for the state as a whole is 7.47 inches, 0.53 inch below normal. Regional averages range from 8.71 inches, 0.57 inch below normal, for the Southwest Region to 6.14 inches, 0.63 inch below normal, for the North Central Region.

Precipitation for the 2006 water year is below normal across much of the state, but above normal in central, west-central and northwestern Ohio. The average for the state as a whole is 15.65 inches, 0.56 inch below normal. Regional averages range from 16.88 inches, 0.23 inch below normal, for the Southeast Region to 13.71 inches, 0.70 inch below normal, for the North Central Region (see Precipitation table, departure from normal, past 6 months column).

PRECIPITATION MARCH



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	-0.49	+0.35	+0.26	-1.01	+5.34	+1.0
North Central	-1.18	-0.63	-0.70	+2.59	+11.28	+1.9
Northeast	-0.93	-0.34	-1.33	+1.24	+11.45	+0.8
West Central	0.00	-0.45	+0.54	+2.10	+11.04	+1.7
Central	+0.14	-0.36	+0.24	-0.42	+12.33	+1.1
Central Hills	-0.62	-0.14	-0.85	-0.12	+13.70	+0.3
Northeast Hills	-0.81	-0.71	-0.19	-0.36	+18.94	+0.2
Southwest	+0.62	-0.57	-1.39	-4.30	+1.54	+0.8
South Central	-0.74	-1.45	-1.98	-5.79	+2.99	-0.8
Southeast	-0.82	-0.99	-0.23	-2.47	+16.83	-0.5
State	-0.48	-0.53	-0.56	-0.85	+10.56	

*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

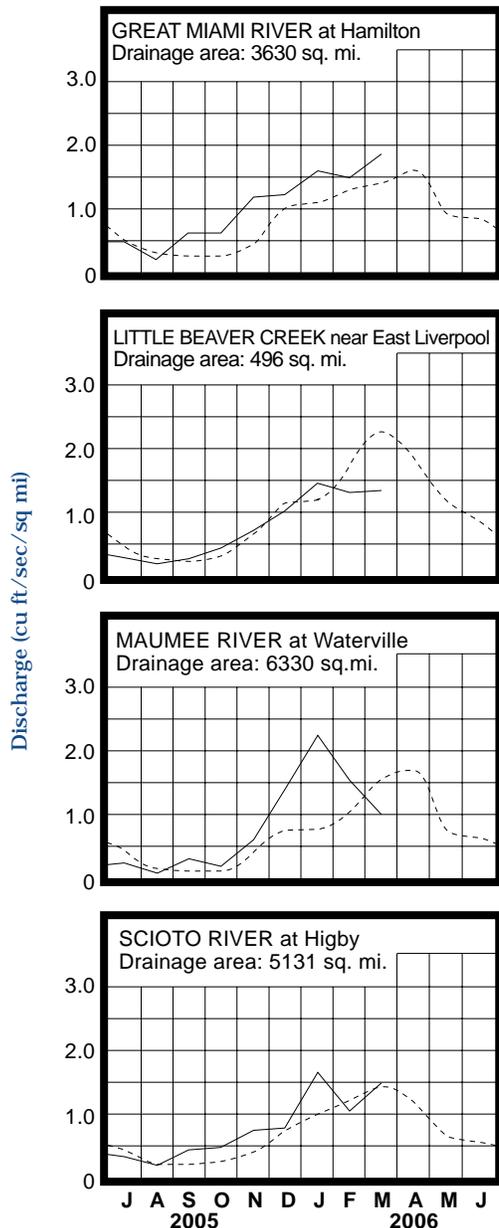
River and Location	Drainage Area (Sq. Mi.)	Mean Discharge (CFS)	% of Normal	This Month		
				% of Normal Past		
				3 Mos.	6 Mos.	12 Mos.
Grand River near Painesville	685	863	52	110	116	122
Great Miami River at Hamilton	3,630	6,783	133	114	125	105
Huron River at Milan	371	236	39	92	104	107
Killbuck Creek at Killbuck	464	592	66	92	89	91
Little Beaver Creek near East Liverpool	496	659	59	77	79	81
Maumee River at Waterville	6,330	6,307	64	112	114	90
Muskingum River at McConnelsville	7,422	9,312	60	122	128	81
Scioto River near Prospect	567	575	63	103	133	112
Scioto River at Higby	5,131	7,650	84	91	91	93
Stillwater River at Pleasant Hill	503	878	122	106	131	106

STREAMFLOW during March was below normal in most drainage basins in Ohio but above normal in west-central and southwestern areas of the state where precipitation was above normal. Flows were low enough to be considered deficient across northern and eastern Ohio.

Flows at the beginning of the month were below normal throughout the state. Generally, flows declined during the first week of March. Drainage basins across most of Ohio had their lowest flows for the month during this period. Flows increased following widespread precipitation during the second week of the month. Drainage basins throughout the state had their greatest flows for the month during March 13-15. After peaking, flows declined for the remainder of the month with drainage basins in northeastern Ohio having their lowest March flows at or near

the end of the month. Flows at the end of March were below normal statewide.

MEAN STREAM DISCHARGE

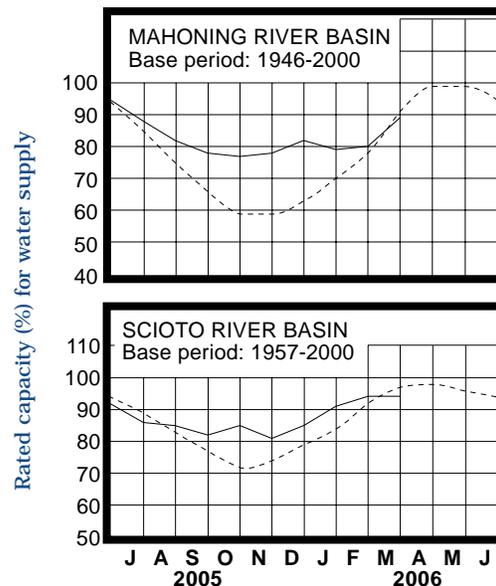


Base period for all streams: 1971-2000

RESERVOIR STORAGE during March increased in the Mahoning River basin and decreased slightly in the Scioto River basin. Storage was slightly below normal in both basins.

Reservoir storage at the end of March in the Mahoning basin index reservoirs was 89 percent of rated capacity for water supply compared with 80 percent for last month and 89 percent for March 2005. Month-end storage in the Scioto basin index reservoirs was 94 percent of rated capacity for water supply, compared with the same for last month and 102 percent for March 2005. Surface water supplies continue to remain adequate throughout Ohio in spite of falling below normal for the first time in several months.

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 March showed mixed responses across the state. Generally, unconsolidated aquifers in the south-western quarter of the state showed improvement, reflecting the above normal precipitation the area received. Most of the other aquifers across the state had a net decline for March, which is counter to the normal seasonal trend. Even in the aquifers in which levels rose during the month, net positive changes from last month's levels were less than usually observed. Typically, levels in all aquifers continue to rise during March. Most aquifers declined during the first week of the month and then showed some improvement during the second week responding to the month's heaviest and most widespread precipitation. Levels during the remainder of the month declined in most aquifers across the state.

To date, the 2006 water year recharge season has been good, but not exceptional. In spite of the below normal precipitation across much of the state during February and March, which limited the amount of recharge many aquifers received, ground water supplies continue to be adequate throughout Ohio. Ground water levels in most consolidated aquifers are above normal while levels in unconsolidated aquifers are below normal. Current levels are lower than they were a year ago throughout nearly the entire state. The potential for recharge still exists for the next month or two in most aquifers, and with near normal precipitation and other climatic conditions, some recharge can be expected. The Ohio Agricultural Statistics Service reports that at the end of March, soil moisture was rated as being short in 11 percent of the state, adequate in 75 percent of the state and surplus in 14 percent of the state.

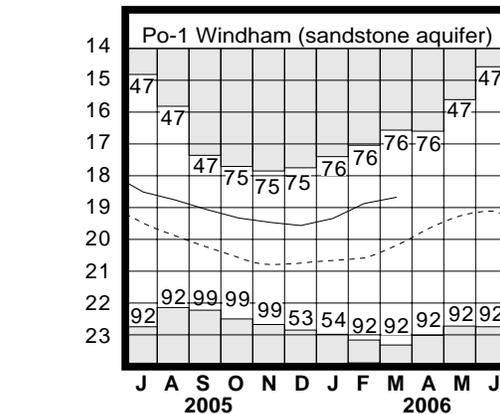
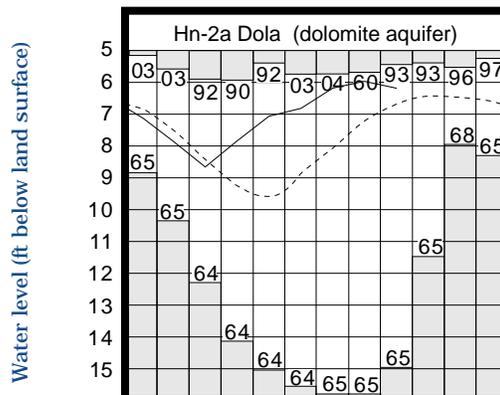
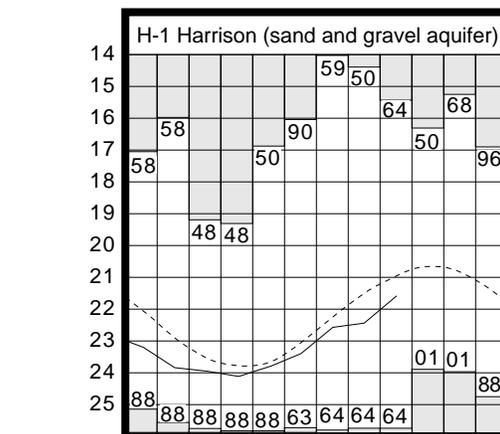
LAKE ERIE level rose during March. The mean level was 571.29 feet (IGLD-1985), 0.19 foot higher than last month's mean level and 0.19 foot above normal. This month's mean level is 0.56 foot lower than the March 2005 level and 2.09 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during March was 2.67 inches, 0.09 inch below normal. For the entire Great Lakes basin, March precipitation averaged 2.13 inches, 0.04 inch below normal. For calendar year 2006 through March, the Lake Erie basin has averaged 8.07 inches, 0.77 inch above normal, while the entire Great Lakes basin has averaged 6.74 inches, 0.60 inch above 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 range from slightly above normal to about 6 inches below normal for the foreseeable future. Deviations from the anticipated weather patterns could result in the level of Lake Erie ranging from about 3 inches above to as much as 15 inches below the normal seasonal average.

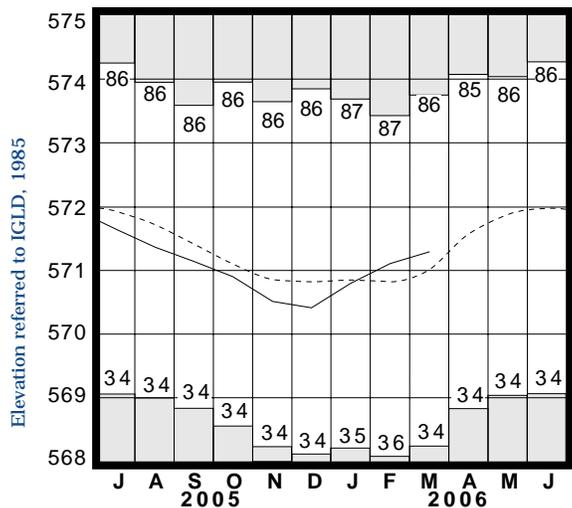
Index Well	Location	Aquifer	Mean This Month	Departure From Normal	Change in feet from:	
					Last Month	Year Ago
F-1	W. Rushville, Fairfield Co.	Sandstone	11.82	+1.50	-0.63	-1.10
Fa-1	Jasper Mill, Fayette Co.	Limestone	8.32	-1.40	-0.08	-0.41
Fr-10	Columbus, Franklin Co.	Gravel	43.57	-1.04	+0.22	-1.22
H-1	Harrison, Hamilton Co.	Gravel	21.58	-0.64	+0.86	+0.51
Hn-2a	Dola, Hardin Co.	Dolomite	6.19	+0.51	-0.20	-0.19
Po-1	Windham, Portage Co.	Sandstone	18.67	+1.52	+0.21	-0.91
Tu-1	Strasburg, Tuscarawas Co.	Gravel	12.92	-1.25	-0.13	-2.42

GROUND-WATER LEVELS



Base periods: H-1, 1951-2000. Hn-2a, 1955-2000.
Po-1, 1947-2000

LAKE ERIE LEVELS



Base period: 1918-2000

□ Record high and low, year of occurrence

Normal - - - - Current ———

SUMMARY

Precipitation during March was below normal across most of the state, but above normal in the southwestern quarter of Ohio. Streamflow was below normal in most drainage basins, but above normal in west-central and southwestern areas of the state. Reservoir storage increased in the Mahoning River basin and decreased slightly in the Scioto River basin. Storage was slightly below normal in both basins. Ground water levels showed mixed responses across the state. Lake Erie mean level rose 0.19 foot and was 0.19 foot above the long-term March average.

NOTES AND COMMENTS

Division Of Water Staff Complete OCPM

Two members of the Division of Water management team recently graduated from the Ohio Certified Public Manager (OCPM) program. Those earning this certification were Jim Raab, Ground Water Mapping Program supervisor, and Rick Archer, Dam Safety Engineering Program manager. With these two graduates, the Division now has a total of nine (64%) supervisors who have completed the program.

OCPM is a nationally accredited, 2-year management development program for public managers in Ohio. It is designed to enhance the management skills of administrative and supervisory employees and requires participants to complete extensive coursework and two major projects (one individual and one team). Currently, 21 states and the District of Columbia participate in the program.

For more information about the OCPM program, please visit their web site at: <http://das.ohio.gov/hrd/ocpm/>.

Salt Fork Lake Dam Update

Repair work on a malfunctioning drainage system at Salt Fork Lake Dam is nearing completion. The lake drain sluice gates have been closed and the lake level has returned to its normal pool elevation through natural means. Only minor construction items remain to be completed.

The first sign of a problem at the dam was discovered on February 15, 2005 when an employee of Salt Fork State Park noticed 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 firm hired to evaluate the overall safety of the dam determined that the dam's toe drain system, which collects natural seepage through, around and under the earthen embankment, was not functioning properly and needed to be replaced. Construction replacing the drainage system began during November 2005. Water levels at the 3,000-acre lake were maintained about 5 feet below normal pool during construction to ensure that excessive seepage did not occur at the toe of the dam. Total cost of the repair project was about \$3.2 million.

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.



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