



MONTHLY WATER INVENTORY REPORT FOR OHIO

May 2001

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

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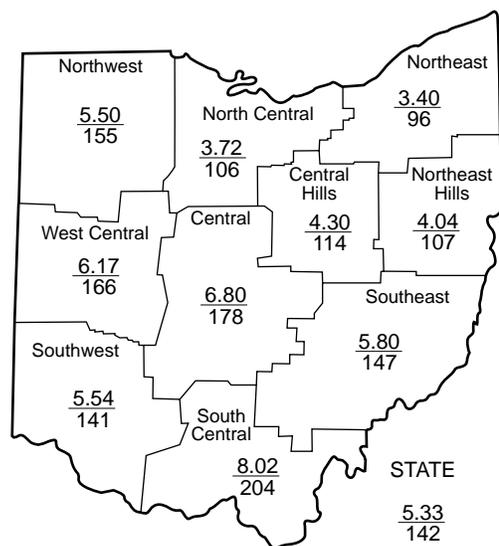
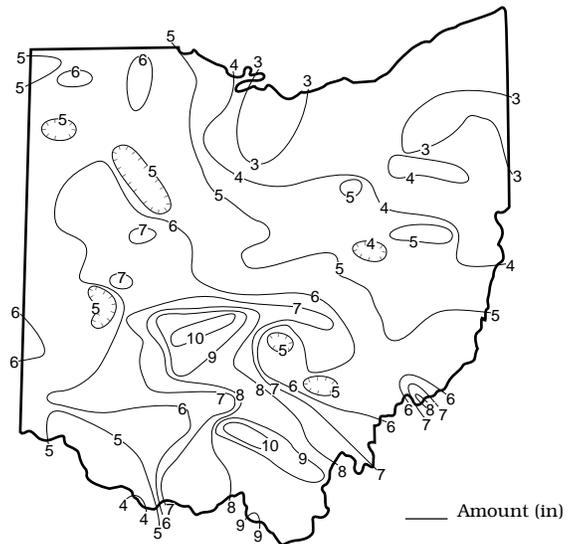
PRECIPITATION during May was above normal across most of the state, except for a few locations in north-central and northeastern Ohio where it was below normal. The state average was 5.33 inches, 1.58 inches above normal. For the state as a whole, this month tied for the 17th wettest May during the past 119 years. Regional averages ranged from 8.02 inches, 4.09 inches above normal, for the South Central Region to 3.40 inches, 0.13 inch below normal, for the Northeast Region. This tied as the 4th wettest May of record for the South Central Region, and it was the 5th wettest for the Central and Northwest regions and the 8th wettest for the West Central Region. The Columbus Parsons Avenue Water Plant (Franklin County) reported the greatest amount of May precipitation, 10.65 inches. Other stations reporting in excess of 10 inches include Sedalia (Madison County), Jackson (Jackson County) and Waverly (Pike County). Florence (Erie County) reported the least, 2.59 inches.

Precipitation during May fell as showers and thunderstorms as a series of slow moving weather systems crossed the region. Some rain fell every week of the month, but the heaviest and most widespread rain fell during the second half of May. The month got off to a rather dry start in many areas of the state with the exception of some light showers with a few locally heavier downpours that fell across the eastern half of the state on May 1. The next precipitation did not occur until the evening of the 6th in southwestern Ohio and continued statewide through May 8. Generally, 0.5-1.0 inch of rain fell in the southwestern half of the state and 0.25-0.50 inch fell elsewhere. Scattered showers affected Ohio on May 11-12 with 0.25-0.50 inch reported across most of the state with a few isolated locations receiving around 1 inch. Showers and thunderstorms returned on May 14 and continued on and off through May 19. Rain amounts were the greatest in the southwestern two-thirds of the state where storm totals of 2-4 inches were common and several locations in central and south-central Ohio received nearly 6 inches. Urban and small stream flooding was reported with the worst occurring in the central and south-central areas of Ohio where the greatest amounts of rain fell. Lesser amounts of precipitation fell elsewhere including areas in northeastern and east-central Ohio where very little rain occurred during this period. Rain returned to the state on May 21 and for the next 9 days the state received periods of showers and thunderstorms producing another 1 to 3 inches of rain across most of Ohio. Once again, the greatest amounts occurred in the southwestern half of the state.

Precipitation for the 2001 calendar year is below normal across most of the state, except in some areas of southeastern Ohio where it is above normal. The average for the state as a whole is 13.57 inches, 2.07 inches below normal. Regional averages range from 17.15 inches, 0.59 inch above normal, for the Southeast Region to 10.34 inches, 3.45 inches below normal, for the North Central Region.

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PRECIPITATION MAY



PRECIPITATION

Region	This Month	DEPARTURE FROM NORMAL (IN.)				Palmer Drought Severity Index*
		Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	+1.96	+0.23	-0.01	+3.37	-0.64	+1.1
North Central	+0.21	-1.55	-3.41	+1.70	+1.96	+0.1
Northeast	-0.13	-1.83	-3.06	-0.95	+1.24	-1.3
West Central	+2.45	+0.07	-1.94	-0.29	-4.63	+0.9
Central	+2.99	+1.97	+0.49	+0.86	-1.37	+1.4
Central Hills	+0.53	-0.84	-2.07	-1.82	-1.72	-0.3
Northeast Hills	+0.26	-0.18	-1.96	-1.19	-3.41	-0.4
Southwest	+1.62	-1.49	-4.24	-3.27	-8.80	+0.4
South Central	+4.09	+1.60	-0.67	-1.13	-3.18	+1.9
Southeast	+1.86	+2.53	+0.99	-1.44	-2.91	+1.4
State	+1.58	+0.05	-1.59	-0.42	-2.36	

*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	% of Normal Past		
				3 Mos.	6 Mos.	12 Mos.
Grand River near Painesville	685	252	41	56	78	77
Great Miami River at Hamilton	3,630	5,435	139	61	68	81
Huron River at Milan	371	90	34	51	86	129
Killbuck Creek at Killbuck	464	321	65	60	72	75
Little Beaver Creek near East Liverpool	496	315	54	57	71	70
Maumee River at Waterville	6,330	8,964	177	77	93	105
Muskingum River at McConnelsville	7,422	8,194	84	69	78	83
Scioto River near Prospect	567	779	185	93	81	88
Scioto River at Higby	5,131	12,010	227	93	87	91
Stillwater River at Pleasant Hill	503	687	178	58	59	73

STREAMFLOW during May was generally above normal in the southwestern two-thirds of the state and below normal elsewhere. Flows were high enough to be considered excessive in many basins in the western half of the state. Conversely, many basins in northeastern Ohio were low enough to be considered deficient. Flows for May increased from the April flows in the western half of Ohio while May flows decreased in the eastern half.

Streamflow at the beginning of the month was below normal statewide. Generally, flows declined during the first two weeks of the month with minor rises noted following local precipitation. Lowest flows for the month occurred during this period. Flows increased statewide around the 14th as wet conditions

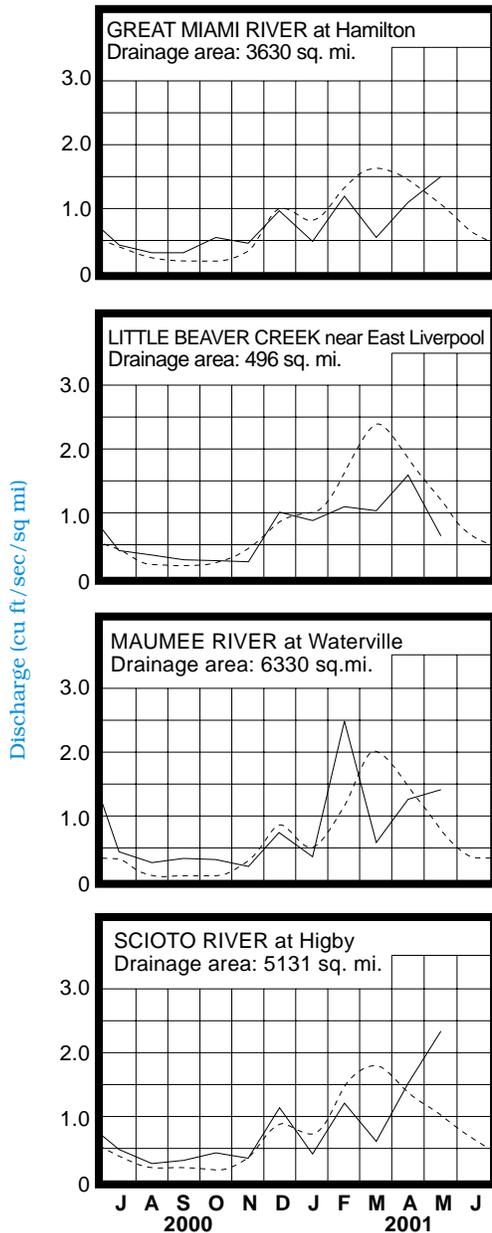
prevailed through the remainder of the month. Greatest flows for the month occurred generally between May 19-23 in the southern half of the state and between May 28-29 in the northern half. Small stream and urban flooding occurred in several areas throughout the southwestern two-thirds of the state especially between May 19-23. The worst of the flooding occurred in the central and south-central areas of the state with areas in Ross and Scioto counties among the hardest hit. Streamflow remained high in the southwestern two-thirds of the state for the remainder of the month as rain fell on several more days on saturated ground. Flows were beginning to recede statewide the last couple days of May, but remained higher than they were at the beginning of the month across most of Ohio. Streamflow at the end of the month was above normal in the southwestern two-thirds of the state, but below normal in the northeastern third.

RESERVOIR STORAGE for water supply during May decreased slightly in the Mahoning River basin and increased in the Scioto River basin. Month-end storage was below normal in the Mahoning River basin and above normal in the Scioto River basin.

Reservoir storage at the end of May in the Mahoning basin index reservoirs was 95 percent of rated capacity for water supply, compared with 96 percent for last month and 108 percent for May 2000. Month-end storage in the Scioto basin index reservoirs was 106 percent of rated capacity for water supply, compared with 103 percent for last month and 107 percent for May 2000. Surface water supplies continue to be in good condition across the state as we enter the summer high use period.

GROUND WATER levels during May showed mixed responses throughout the state. Although it appeared the recharge season had ended for many aquifers in the state, the above normal rainfall during May extended the recharge season in some areas. Levels in most aquifers in the state declined during the first half of the month and then rose steadily during the second half of May in response to widespread precipitation. About half of the aquifers in the state had a net improvement during May greater than expected while the other half had a net improvement from April's levels less than usually expected.

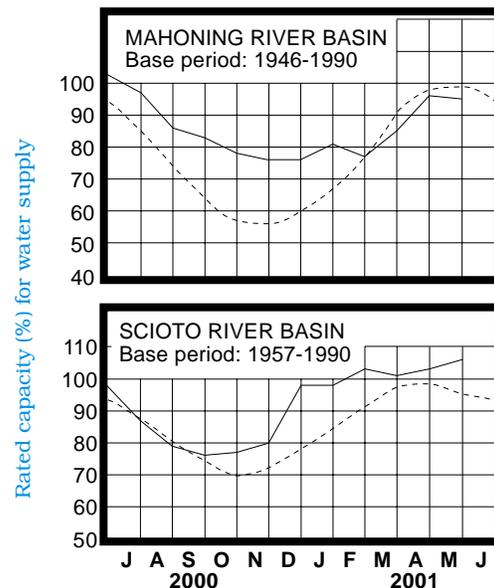
MEAN STREAM DISCHARGE



Base period for all streams: 1961-1990

Normal - - - - Current ———

RESERVOIR STORAGE FOR WATER SUPPLY



GROUND-WATER LEVELS

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

In spite of favorable precipitation, ground water levels remain below normal across most of the state ranging from about 1 to almost 3 feet below the average May levels. However, some carbonate aquifers in north-western Ohio continue at slightly above-normal levels. Levels in many aquifers are higher than they were a year ago, but in central, southwestern and northeastern Ohio aquifers, levels are lower than they were during May 2000. May precipitation was beneficial for ground water supplies by providing some recharge, significantly improving soil moisture conditions and reducing overall demand. The Ohio Agricultural Statistics Service reports that at the end of May soil moisture was rated as being adequate in 41 percent of the state and surplus in 59 percent of the state. Currently, ground water supplies are adequate across the state. However, water supply managers with ground water sources should continue to monitor their respective situations closely throughout the summer months.

Correction: Mean monthly ground water levels for observation well PO-1 as published in the January 2001-April 2001 issues of this report were incorrect due to equipment problems. The corrected mean levels for 2001 are: January, 21.45 ft.; February, 21.08 ft.; March, 20.71 ft.; April, 20.18 ft. Corrections to the charts and tables have been made in the respective issues on the Division of Water web page.

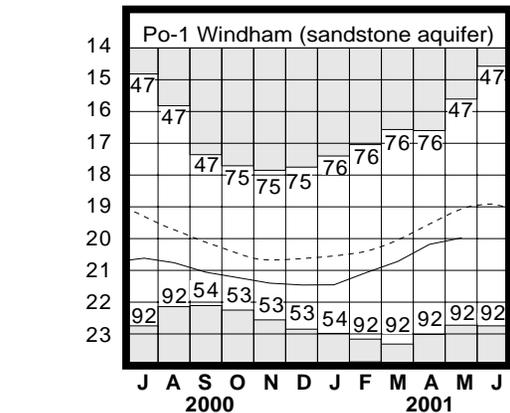
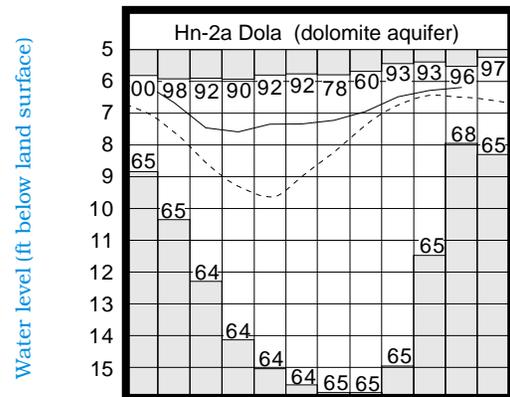
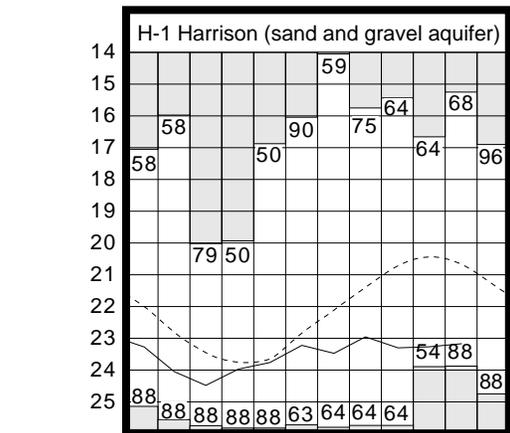
LAKE ERIE level rose during May, but the rise was less than usually expected. The mean level was 571.10 feet (IGLD-1985), 0.07 foot higher than last month's mean level and 0.59 foot below normal. This month's mean level is 0.09 foot lower than the May 2000 level and 1.90 feet above Low Water Datum.

The U. S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during May averaged 4.04 inches, 0.76 inch above normal. The entire Great Lakes basin averaged 3.85 inches, 0.90 inch above normal. For calendar year 2001 through May, the Lake Erie basin has averaged 12.35 inches of precipitation which is 1.34 inches below normal and the entire Great Lakes basin has averaged 12.46 inches, 0.89 inch above normal.

Also, the USACE predicts that, based on the current condition of the Great Lakes basin and anticipated future weather conditions, the level of Lake Erie should range from 10-12 inches below the long-term seasonal average for the summer and autumn 2001 months. However, deviations from the expected weather patterns could result in the lake level ranging from about 4 inches to nearly 1.5 feet below normal seasonal levels throughout the current boating season. Lake levels this summer should range from 5-10 inches lower than they were during the 2000 boating season. The Ohio Department of Natural Resources always advises boaters to use charts when navigating unfamiliar waters. Boaters should be especially cautious around the islands in the western basin and when nearing shore. Areas that may have been safe to pass over in the past may have an underwater hazard in low-water conditions. Although lower than normal, these projected water levels should remain at least 1 foot above the record low water level set in the mid 1930's.

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	13.93	-1.21	-0.57	+1.19
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.85	-0.83	-0.02	+0.16
Fr-10	Columbus, Franklin Co.	Gravel	44.59	-1.96	-0.17	-0.04
H-1	Harrison, Hamilton Co.	Gravel	23.16	-2.48	+0.11	-0.46
Hn-2a	Dola, Hardin Co.	Dolomite	6.19	+0.34	+0.08	+0.47
Po-1	Windham, Portage Co.	Sandstone	19.99	-0.90	+0.19	+1.10
Tu-1	Strasburg, Tuscarawas Co.	Gravel	14.01	-2.88	+0.06	-0.84

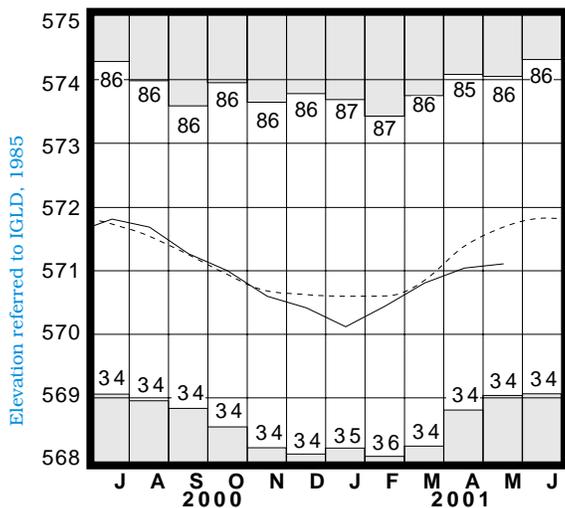
GROUND-WATER LEVELS



Base periods: H-1, 1951-1990. Hn-2a, 1955-1990.
Po-1, 1947-1990

Record high and low, year of occurrence

LAKE ERIE LEVELS at Fairport



Base period: 1900-1991

Record high and low, year of occurrence

Normal - - - - Current - - - -

(Precipitation continued from front)

Precipitation for the 2001 water year is below normal across most of the state, but slightly above normal at some locations in central Ohio. The average for the state as a whole is 20.74 inches, 2.47 inches below normal. Regional averages range from 23.83 inches, 0.42 inch below normal, for the Southeast Region to 16.59 inches, 4.05 inches below normal, for the North Central Region.

SUMMARY

Precipitation was above normal across most of the state with only a few stations in north-central and northeastern Ohio receiving below normal rainfall. Streamflow was above normal in the southwestern two-thirds of the state and below normal elsewhere. Reservoir storage decreased in the Mahoning River basin and increased in the Scioto River basin. Month-end storage was below normal in the Mahoning River basin and above normal in the Scioto River basin. Ground water levels showed mixed responses during May and remained below normal across most of the state. Lake Erie level rose 0.07 foot and was 0.59 foot below the long-term May average.

NOTES AND COMMENTS

WMAO Endowment Fund Established

The Water Management Association of Ohio (WMAO) has announced the development of an endowment fund to support a scholarship program for WMAO members and their families. The fund will be set up within WMAO's tax-exempt corporation, the Water Resources Foundation of Ohio. The initial fundraising event for the new endeavor will be the First Annual WMAO Golf Scramble to be held on Friday, July 27, 2001 at 10:00am at the Darby Creek Golf Course in Marysville, Ohio. The cost for this event is \$60.00 per person, which includes greens fees, cart, range balls prior to the round, beverages, a cookout after the round and lots of prizes. The fundraiser portion of the event will be through a hole sponsorship, which is \$75.00 or event sponsorship, which is \$150.00 (does not include cost for golf). Hole sponsors will have a sign with their company name and logo on one or more of the 18 holes and all sponsors will be recognized at the opening and closing ceremonies. Or you can make a donation in any amount and it is tax deductible. All sponsorship moneys go directly into the endowment fund. More details and registration confirmation will be made available on the WMAO web site: www.ohiowater.org/wmao. Contact Dave Straub at (614) 430-7744 or Ralph Haefner at (614) 430-7751 if you have any questions about the event. Deadline for registration is June 30, 2001.

Floodplain Management Conference

On August 29th and 30th, 2001, the Ohio Department of Natural Resources, Federal Emergency Management Agency and the Ohio Floodplain Management Association will be sponsoring "Floodplain Management in Ohio - Statewide Conference 2001." The conference will be held at the Ramada Plaza Hotel and Conference Center in Columbus, Ohio. Concurrent conference sessions will address a wide range of topics under the categories of Basic Floodplain Management, Advanced Floodplain Management, and Engineering in Floodplain Management. The Association of State Floodplain Manager's Certified Floodplain Manager Exam will also be offered during the conference. The deadline for conference registration (without late fee) is August 3rd. For additional information, please contact the Division of Water at 614-265-6750, email: alicia.silverio@dnr.state.oh.us or visit the web site at: <http://www.dnr.state.oh.us/odnr/water/floodpln/conf2001.html>.

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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