



# MONTHLY WATER INVENTORY REPORT FOR OHIO

March 1998

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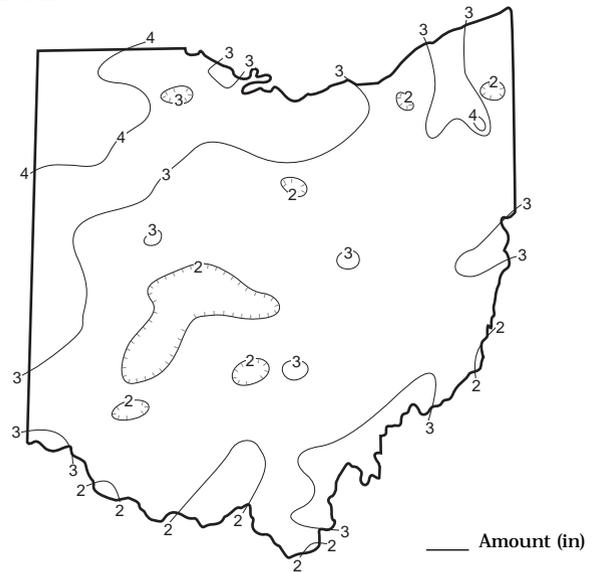
**PRECIPITATION** during March was below normal throughout most of the state, but above normal in the Northwest and North Central regions. The state average was 2.80 inches, 0.58 inch below normal. Regional averages ranged from 3.76 inches, 0.89 inch above normal, for the Northwest Region to 2.20 inches, 1.17 inches below normal, for the Central Region. Montpelier (Williams County) reported the greatest amount of precipitation for the month, 4.76 inches. Spring Valley Wildlife Area (Warren County) reported the least amount, only 1.18 inches.

Precipitation during March fell as both rain and snow, but snow amounts continued to average below normal across the state except in northeastern Ohio where they were near normal. Precipitation fell during many of the first 10 days of the month. Most areas of the state received around 1 inch during this period with the greatest amounts falling on March 9-10. Some areas in northwestern Ohio received more than 1 inch on these dates alone. Precipitation returned to the state on March 17 and continued to fall on and off through March 23 with the greatest amounts generally falling on March 20-21. Once again, most areas received around 1 inch of precipitation during this period and some areas, especially in southern and western Ohio, reported more than 1 inch.

Precipitation for the 1998 calendar year is above normal in many areas of Ohio, but below normal in some central, western and southwestern areas of the state. The state average is 8.81 inches, 0.44 inch above normal. Regional averages range from 10.95 inches, 0.71 inch above normal, for the South Central Region to 7.37 inches, 1.02 inches below normal, for the Central Region (see Precipitation table, departure from normal, past 3 months column).

Precipitation for the first half of the 1998 water year is below normal throughout most of Ohio, but above normal in the Northwest and North Central regions. The state average is 15.16 inches, 0.79 inch below normal. Regional averages range from 17.47 inches, 0.74 inch below normal, for the South Central Region to 13.47 inches, 1.94 inches below normal, for the West Central Region (see Precipitation table, departure from normal, past 6 months column). Although precipitation during the 1998 water year recharge season has been below normal in many areas of the state, water supplies have not been adversely impacted and are adequate at this time. Near-normal climatic conditions should produce some additional recharge during the next month or two which would help maintain this favorable position.

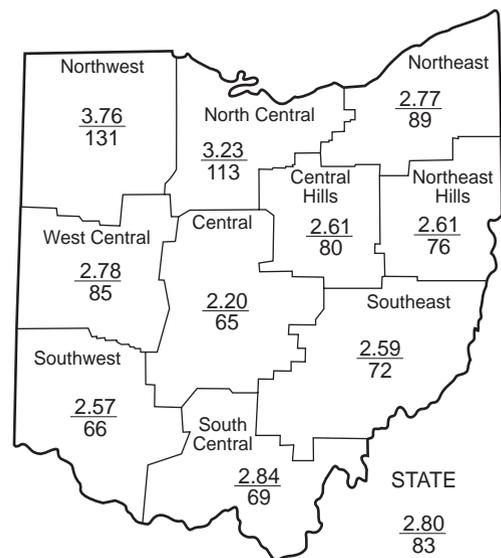
## PRECIPITATION MARCH



## PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	+0.89	+2.46	+1.22	+6.77	+11.44	+5.0
North Central	+0.37	+2.59	+1.48	+5.05	+14.41	+3.4
Northeast	-0.34	+0.59	-0.65	-0.15	+13.28	+1.3
West Central	-0.48	-0.18	-1.94	-2.48	+7.81	+0.4
Central	-1.17	-1.02	-1.83	-0.25	+8.02	+1.1
Central Hills	-0.65	-0.17	-1.64	-0.17	+8.18	+1.2
Northeast Hills	-0.84	+0.03	-0.75	-1.32	+6.77	+1.0
Southwest	-1.35	-1.76	-3.06	-4.45	+11.74	-0.1
South Central	-1.25	+0.71	-0.74	-2.98	+9.33	+1.2
Southeast	-1.03	+0.98	-0.08	+1.14	+9.82	+2.3
State	-0.58	+0.44	-0.79	+0.03	+10.09	

\*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

This Month

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	1,345	70	95	81	90
Great Miami River at Hamilton	3,630	4,966	84	89	72	89
Huron River at Milan	371	918	131	164	168	165
Killbuck Creek at Killbuck	464	574	61	82	81	87
Little Beaver Creek near East Liverpool	496	955	81	113	119	104
Maumee River at Waterville	6,330	14,368	112	157	155	148
Muskingum River at McConnelsville	7,422	11,250	69	101	95	97
Scioto River near Prospect	567	820	84	116	94	96
Scioto River at Higby	5,131	6,662	73	92	98	115
Stillwater River at Pleasant Hill	503	804	97	78	63	88

**STREAMFLOW** during March was below normal in most areas of Ohio, but above normal in the northwestern and north-central areas of the state. Flows in some areas of central Ohio were low enough or very near low enough to be considered deficient. Although March flows were below normal, they were greater than the flows recorded during February in most drainage basins.

Flows at the beginning of the month were noticeably below normal throughout most of the state. Flows decreased during the first week of March and many basins in the central and western areas of the state had their lowest flows for the month on March 7-8. Streamflows then increased following precipitation that fell during March 8-10 with most northern

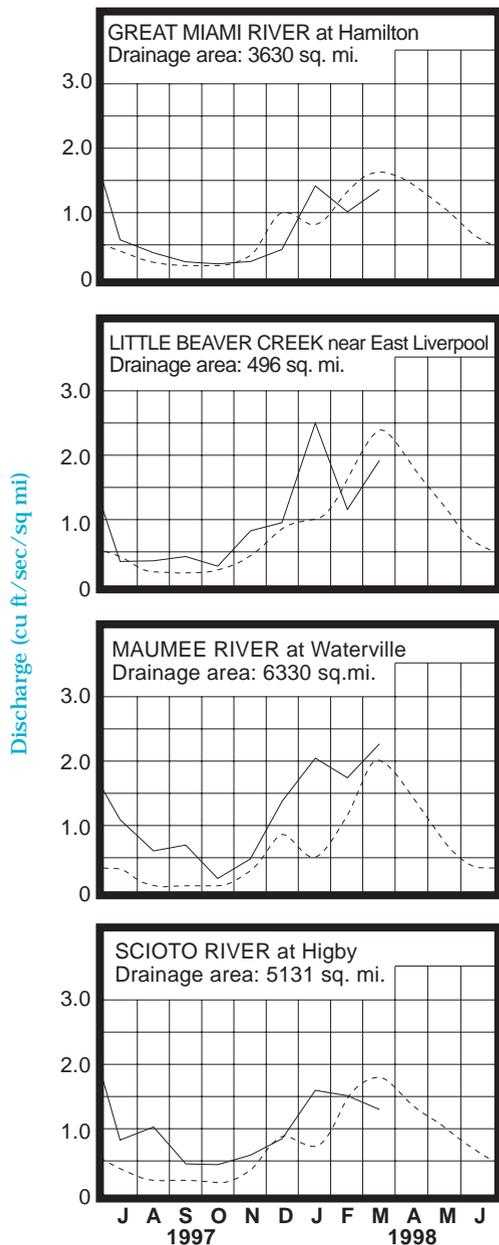
Ohio drainage basins having their greatest March flows on March 10. After these peaks, flows declined through the middle of the month with basins in north-central Ohio having their lowest flows on March 17. Flows increased sharply following several days of precipitation which started on March 17 with flows in the southern-two thirds of the state peaking sometime during March 21-23. Flows declined during the last week of the month and basins in northeastern Ohio had their lowest flows for March on the last day of the month. At the end of the month, flows were noticeably below normal in all areas of the state except northwestern Ohio where they were above normal.

**RESERVOIR STORAGE** for water supply during March increased in the Mahoning River basin and was unchanged in the Scioto River basin. Storage continued to remain above normal in both basins.

Reservoir storage at the end of March in the Mahoning basin index reservoirs was 96 percent of rated capacity for water supply compared with 85 percent for last month and 95 percent for March 1997. Month-end storage in the Scioto basin index reservoirs was 106 percent of rated capacity for water supply compared with the same for last month and 105 percent for March 1997.

Surface-water supplies are in good condition across the state. Recreational reservoirs are at or will soon be filling to summer pool levels. Off-stream reservoir operators have been able to do some filling during the late winter and early spring months and will continue to look for pumping opportunities to reach and maintain reservoir capacities.

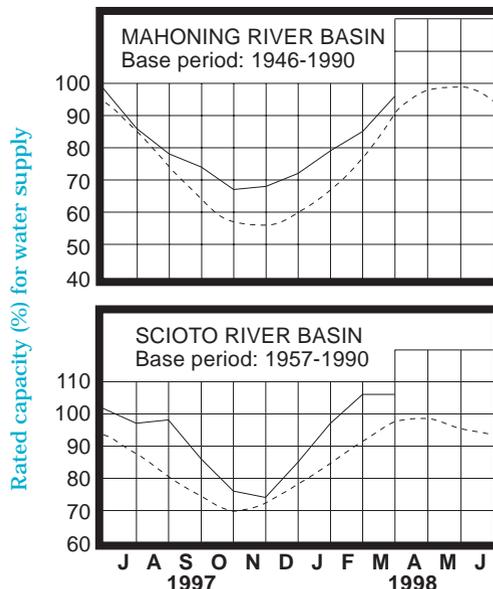
## MEAN STREAM DISCHARGE



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

**GROUND WATER** levels during March showed some improvement in nearly all aquifers across the state. However, net changes during March from last month's levels were less than usually observed, a direct result of the below normal precipitation in most areas of the state. Generally, levels were stable or declined during the first half of the month and rose during the second half following the several days of precipitation that started on March 17.

Ground water levels in consolidated aquifers and deeper, unconsolidated aquifers are generally above normal in central and northwestern Ohio and below normal elsewhere. Levels in most shallow, unconsolidated aquifers are below normal throughout the state. In either case, current levels are lower than they were a year ago. The 1998 water year recharge period up to this date has been good, but not outstanding. Although ground-water supplies are adequate throughout the state, additional recharge during the next month or two would go a long way toward maintaining that favorable position throughout the summer and autumn months. The Ohio Agricultural Statistics Service reports that, as of the end of March (April 3, 1998), topsoil moisture was rated as being short in 5 percent of the state, adequate in 76 percent of the state and surplus in 19 percent of the state.

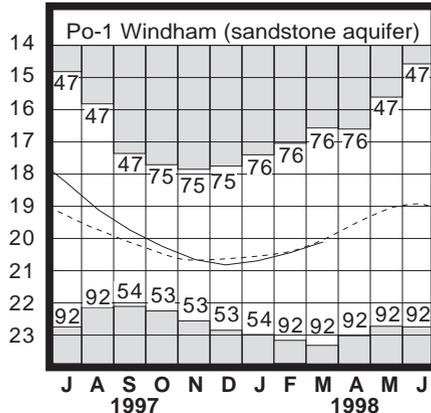
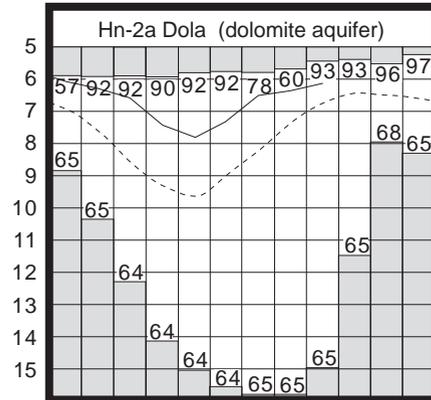
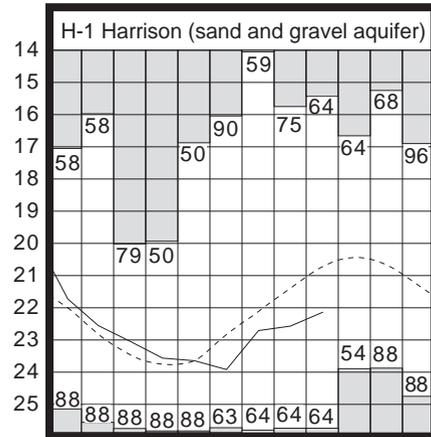
**LAKE ERIE** level rose during March. The mean level was 573.39 feet (IGLD-1985), 0.29 foot above last month's mean level and 2.52 feet above normal. This month's level is 0.13 foot lower than the March 1997 level and 4.19 feet above Low Water Datum.

The U. S. Army Corps of Engineers predicts that, based on the present condition of the Great Lakes basin and anticipated future weather conditions, the level of Lake Erie should remain above the long-term average for the foreseeable future. However, levels are expected to be lower than the near record-high levels recorded during 1997.

The Corps also reports that precipitation in the Lake Erie basin during March averaged 3.9 inches, 1.1 inches above normal. The entire Great Lakes basin averaged 3.8 inches of precipitation during March, 1.6 inches above normal. For calendar year 1998 through March, the Lake Erie basin has averaged 10.2 inches of precipitation, 2.9 inches above normal, and the entire Great Lakes basin has averaged 8.4 inches, 2.3 inches above normal.

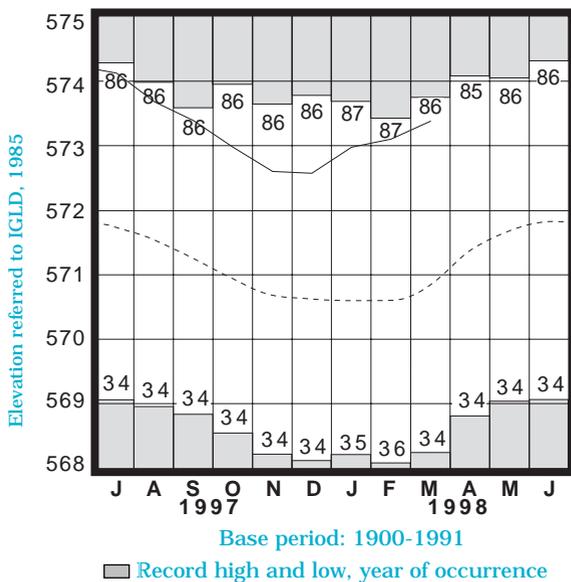
Index Well	Location	Aquifer	Mean This Month	Departure From Normal	Change in feet from:	
					Last Month	Year Ago
F-1	W. Rushville, Fairfield Co.	Sandstone	13.15	+0.16	+0.96	-0.43
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.12	-0.27	-0.01	-0.13
Fr-10	Columbus, Franklin Co.	Gravel	42.13	+0.54	+0.26	-0.91
H-1	Harrison, Hamilton Co.	Gravel	22.14	-1.43	+0.43	-2.77
Hn-2a	Dola, Hardin Co.	Dolomite	6.14	+0.64	+0.23	-0.21
Po-1	Windham, Portage Co.	Sandstone	20.12	-0.09	+0.33	-1.72
Tu-1	Strasburg, Tuscarawas Co.	Gravel	14.09	-2.69	+0.78	-2.16

## GROUND-WATER LEVELS



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

## LAKE ERIE LEVELS at Fairport



## SUMMARY

Precipitation was below normal throughout most of Ohio, but above normal in the northwestern and north-central areas of the state. Streamflow followed a similar trend as precipitation. Reservoir storage increased in the Mahoning basin reservoirs and was unchanged in the Scioto basin reservoirs. Reservoir storage remained above normal throughout most areas of the state. Ground water levels showed improvement in nearly all aquifers and are generally above normal in central and northwestern Ohio and below normal elsewhere. Lake Erie level rose 0.29 foot and was 2.52 feet above the long-term March average.

## NOTES AND COMMENTS SUBSCRIPTION RENEWAL

If you have not returned the subscription renewal notice and wish to continue receiving this report through the mail, you must do so immediately. This is the last issue of the "Monthly Water Inventory Report For Ohio," you will receive through the mail unless you have returned the notice.

## OWWA WELL CONFERENCE

The Ohio Water Well Association (OWWA) will be holding its 1998 Well Conference on June 4-5, 1998 at Heidelberg College in Tiffin, Ohio. The program for June 4 is intended as an education day for state and local government officials and consultants with educational seminars in the morning and field demonstrations in the afternoon. The educational seminars will include presentations entitled: State Well Construction Standards; Vulnerability Factors for Private Well Contamination by Nitrates; Agriculture and Water Quality - Surface and Ground Water Issues; and Source Water Protection for Public Water Supplies Using Ground Water. Field demonstrations will be conducted on the afternoon of June 4, and during the day on June 5. They will include a demonstration of horizontal drilling, installation and pump testing using an inflatable packer, drilling an 8 inch well, and the installation of a high capacity pump.

For more registration and program information, contact Dan Schlosser, Executive Director, Ohio Water Well Association, P.O. Box 310, Caledonia, Ohio 43314-0310, phone (419) 845-2023, fax (419) 845-2026, or e-mail: [assnhq@gte.net](mailto:assnhq@gte.net).

## AKRON PROPOSAL GETS APPROVAL

A City of Akron proposal to extend drinking water service into Springfield, Coventry, and Copley townships in Summit County has recently obtained the approval of all the governors of the states in the Great Lakes basin (Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin). This approval was needed because the township areas proposed for new service are in the Ohio River basin while Akron's water sources are in the Lake Erie basin and, under federal statute, transfers of water out of the Great Lakes basin are not allowed without approval of the governors of each of the basin's states. Returning water to the Lake Erie basin was incorporated into the proposal. This will be implemented in part through use of the state-owned Ohio & Erie Canal according to provisions specified in a recently-signed water lease agreement between the City of Akron and the Ohio Department of Natural Resources.

## 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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