



MONTHLY WATER INVENTORY REPORT FOR OHIO

May 1998

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

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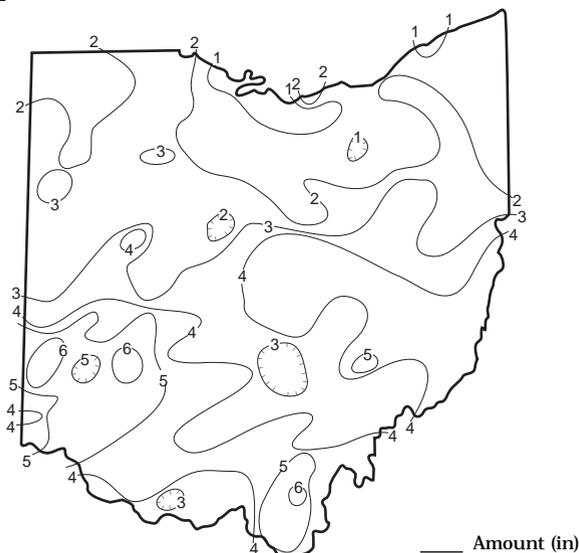
PRECIPITATION during May was above normal in the southern half of Ohio and below normal in the northern half. The state average was 3.16 inches, 0.59 inch below normal. Regional averages ranged from 4.97 inches, 1.05 inches above normal, for the Southwest Region to 1.26 inches, 2.25 inches below normal, for the North Central Region. This was the fifth driest May of record for the North Central Region and ties with 1954 as the seventh driest May for the Northeast Region. Eaton (Preble County) reported the greatest amount of precipitation for the month, 6.71 inches. Florence (Erie County) reported the least amount, only 0.36 inch.

Precipitation during May varied greatly across the state in amounts received and also in how it was distributed during the month. Although many areas did receive some precipitation during every week in May, much of the northern one-third of the state was very dry during the last three weeks of the month. Early May continued in a weather pattern similar to that of April with wet and cool conditions prevalent. Storms during May 1-2 produced some minor local flooding in eastern Ohio with some areas receiving more than 1.5 inches of rain. A few additional storms crossed the state during May 3-4 when much lighter amounts of precipitation fell. The next precipitation fell during May 7-9 with the heaviest rain, around 1 inch, falling in southern Ohio. Only light showers and sprinkles fell in northeastern Ohio and that would be the end of measurable precipitation in some locations there until near the end of the month. On Mother's Day, soils were still on the wet side and farmers across the state were beginning to get nervous about delays in spring planting activities. However, conditions changed abruptly and the next two weeks of the month were dry in nearly every area of the state. The precipitation pattern became more summer-like with a few widely scattered storms, some locally severe with high winds and hail. Dry conditions continued in northern Ohio during the last week of the month, but portions of southwestern, western, and south-central Ohio reported from 1 to more than 2 inches of rain during May 23-24. A few widely scattered, locally severe storms crossed the southern two-thirds of the state just before the end of the month.

Precipitation for the 1998 calendar year is above normal throughout the state. The state average is 17.50 inches, 1.85 inches above normal. Regional averages range from 21.53 inches, 3.62 inches above normal, for the South Central Region to 15.57 inches, 0.30 inch above normal, for the Central Hills Region.

Precipitation for the 1998 water year is above normal throughout most of Ohio, but slightly below normal in some western and central areas of the state. The state average is 23.84 inches, 0.63 inch above normal. Regional averages range from 28.05 inches, 2.17 inches above normal, for the South Central Region to 21.44 inches, 1.17 inches below normal, for the Central Hills Region.

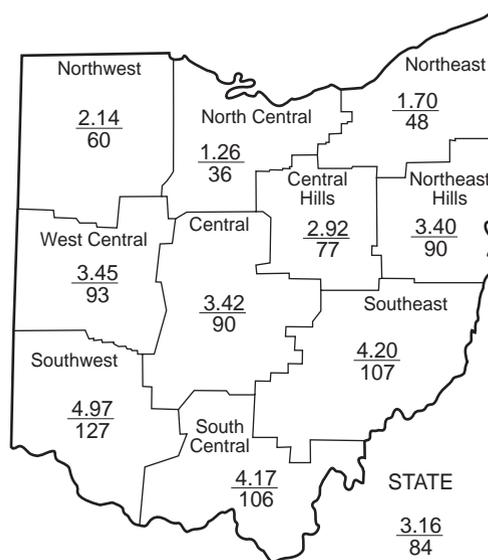
PRECIPITATION MAY



PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	-1.40	+0.46	+1.82	+5.08	+9.83	+1.4
North Central	-2.25	-0.11	+2.18	+2.95	+11.55	-1.2
Northeast	-1.83	+0.57	+1.38	+0.20	+11.34	-1.7
West Central	-0.27	+0.83	+0.68	+0.01	+2.76	-0.3
Central	-0.39	+0.62	+0.45	+2.93	+3.59	-0.5
Central Hills	-0.85	-0.18	-0.16	-0.76	+4.47	-1.9
Northeast Hills	-0.38	+0.52	+0.77	-0.47	+5.24	-1.8
Southwest	+1.05	+3.59	+2.95	+1.07	+5.81	+0.7
South Central	+0.24	+1.66	+2.99	+2.45	+6.94	+0.8
Southeast	+0.26	+0.46	+1.58	+3.80	+6.94	+0.5
State	-0.59	+0.84	+1.47	+1.72	+6.85	

*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	544	88	106	99	95
Great Miami River at Hamilton	3,630	6,279	160	107	98	111
Huron River at Milan	371	228	85	125	147	161
Killbuck Creek at Killbuck	464	582	118	90	84	93
Little Beaver Creek near East Liverpool	496	639	110	106	122	116
Maumee River at Waterville	6,330	4,871	96	119	140	152
Muskingum River at McConnelsville	7,422	16,088	164	100	104	112
Scioto River near Prospect	567	412	98	94	97	109
Scioto River at Higby	5,131	8,905	168	114	113	138
Stillwater River at Pleasant Hill	503	469	122	94	79	100

STREAMFLOW during May was above normal in the southern two-thirds of the state and below normal in the northern third. Flows in some of the larger drainage basins in the southern half of the state were high enough to be considered excessive, a direct result of the high flows early in the month. May flows were less than those recorded during April in nearly all drainage basins.

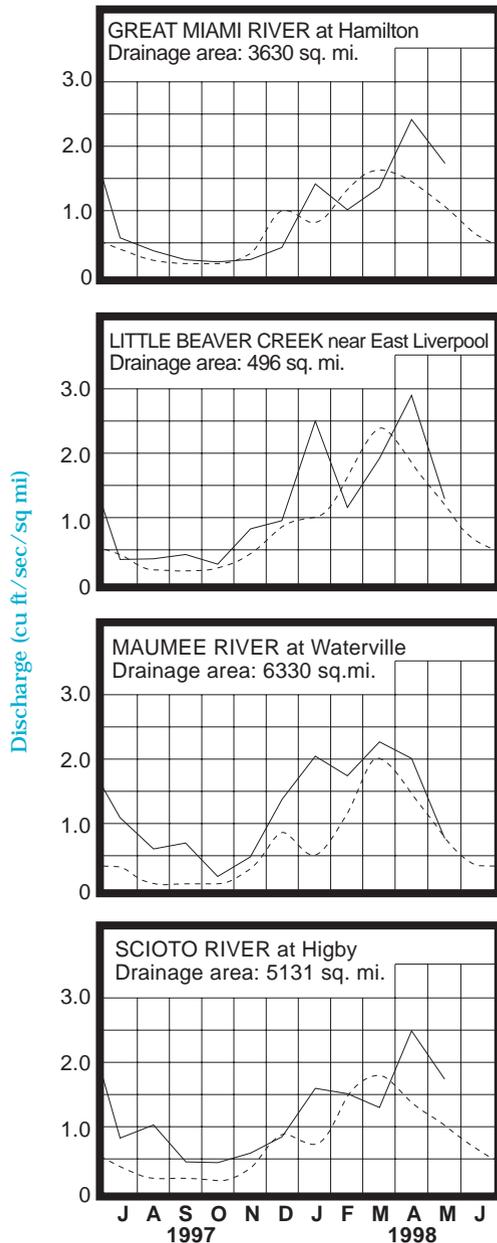
Flows at the beginning of the month were noticeably above normal in most areas of the state as a result of the above normal precipitation falling throughout April. The exception was in northwestern Ohio where flows were slightly below normal. Highest flows for the month occurred during the first week following the greatest local precipitation and

generally occurring on May 3 in eastern Ohio, May 5 in northern Ohio, and May 8 in western Ohio. Flows declined during much of the remainder of the month responding to much drier conditions as precipitation became more isolated and scattered. Some small increases in flow were noted after May 20 in southwestern Ohio and just before the end of the month in a few northeastern and southern areas. Flows at the end of the month were noticeably below normal throughout the state.

RESERVOIR STORAGE for water supply during May decreased in both the Mahoning and Scioto river basins. Storage fell to slightly below-normal levels in the Mahoning basin reservoirs but remained at above-normal levels in the Scioto basin reservoirs.

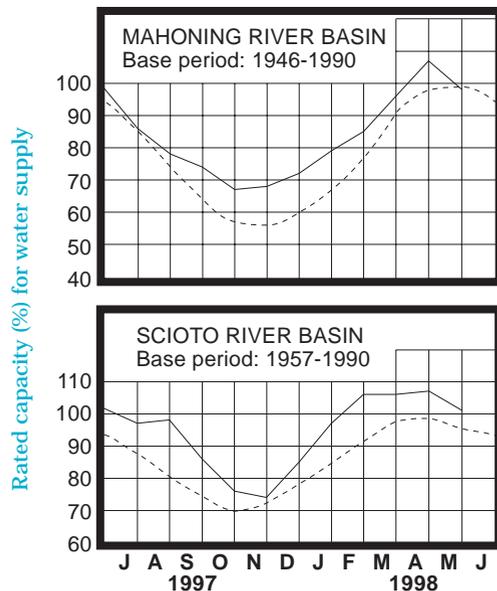
Reservoir storage at the end of May in the Mahoning basin index reservoirs was 98 percent of rated capacity for water supply compared with 107 percent for last month and 116 percent for May 1997. Month-end storage in the Scioto basin index reservoirs was 101 percent of rated capacity for water supply compared with 107 percent for last month and 115 percent for May 1997. Surface-water supplies remain in a favorable position throughout the state.

MEAN STREAM DISCHARGE



Base period for all streams: 1961-1990

RESERVOIR STORAGE FOR WATER SUPPLY



Normal - - - - Current ———

GROUND-WATER LEVELS

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

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	13.09	-0.37	+0.10	+2.65
Fa-1	Jasper Mill, Fayette Co.	Limestone	6.84	+0.18	+0.15	+0.74
Fr-10	Columbus, Franklin Co.	Gravel	41.58	+1.05	+0.19	-0.24
H-1	Harrison, Hamilton Co.	Gravel	20.74	-0.06	+0.26	+0.92
Hn-2a	Dola, Hardin Co.	Dolomite	6.16	+0.37	-0.26	+0.10
Po-1	Windham, Portage Co.	Sandstone	19.13	-0.04	+0.55	-1.36
Tu-1	Strasburg, Tuscarawas Co.	Gravel	12.99	-1.86	+1.12	-0.05

GROUND WATER levels during May showed net improvement from April's levels in nearly all aquifers across the state. Generally, ground water levels rose during the first half of the month and then declined during the second half responding to the lack of precipitation and resulting drier conditions and reduced recharge. Levels are near or above normal in most aquifers throughout Ohio, but are below normal in some eastern areas of the state. Ground water supplies continue to remain in a favorable position as the growing season and peak water-use period begins.

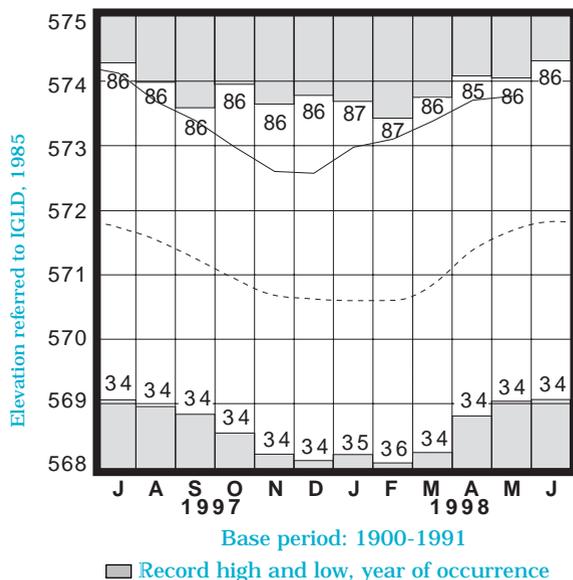
The above normal precipitation during April resulted in sustained recharge to ground-water supplies that continued through the first half of May. However, the recharge season appears to have come to an abrupt end as conditions turned noticeably drier during the second half of the month. Current levels are higher than they were a year ago in most aquifers, and with near normal climatic conditions during the next several months, ground water supplies should be able to maintain that favorable position.

At the end of May the Ohio Agricultural Statistics Service reports that soil moisture was reported as being short or very short in 30 percent of the state, adequate in 58 percent of the state and surplus in 12 percent of the state.

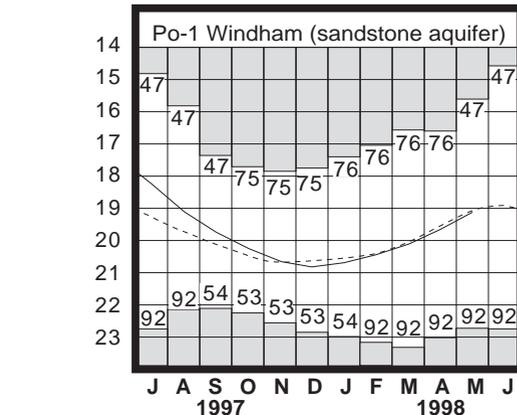
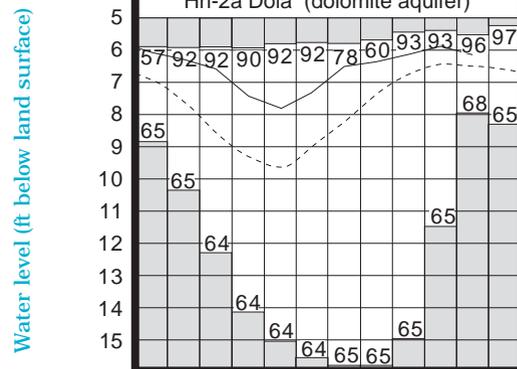
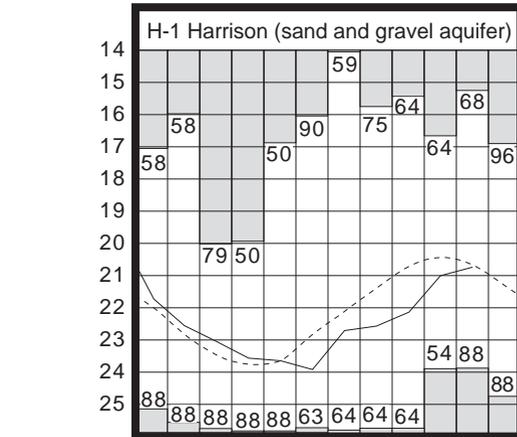
LAKE ERIE level rose slightly during May. The mean level was 573.79 feet (IGLD-1985) which is 0.07 foot above last month's mean level and 2.10 feet above normal. This month's level is 0.10 foot above the May 1997 level and 4.59 feet above Low Water Datum.

The U. S. Army Corps of Engineers reports that precipitation in the Lake Erie basin during May averaged 2.3 inches, 1.0 inch below normal. The entire Great Lakes basin averaged 2.1 inches of precipitation during May, 0.9 inch below normal. For calendar year 1998 through May, the Lake Erie basin has averaged 16.7 inches of precipitation, 3.0 inches above normal, and the entire Great Lakes basin has averaged 12.6 inches, 1.0 inch above normal.

LAKE ERIE LEVELS at Fairport



GROUND-WATER LEVELS



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

SUMMARY

Precipitation was above normal in the southern half of the state and below normal in the northern half. Streamflow was above normal in most drainage basins. Reservoir storage declined and was near the normal seasonal levels. Ground water levels showed net improvement, but began their seasonal decline during the second half of the month. Lake Erie level rose 0.07 foot and was 2.10 feet above the long-term May average.

NOTES AND COMMENTS

The purpose of this report is to disseminate current hydrologic and other pertinent data in a timely manner and in a brief format. Observation points have been selected which are considered to be sufficiently representative of the hydrologic conditions across the state to permit a cursory evaluation of the water-supply situation. These key observation points offer the best available data based on: accuracy, length of record, minimal artificial effects on data, and availability of records.

Data from these stations are collected by various agencies at the end of each month and processed immediately. Because of the time limitations involved, all data presented in this report must be considered preliminary and may be subject to revision before publication in regular form by the agencies involved. The author is indebted to the various agencies and individuals who make these data available.

The remarks in this report include the writer's opinions of the cause and significance of the phenomena reported therein. The reader is urged to examine the data and formulate their own evaluation. The author wishes to acknowledge the Division of Water staff that assist with the preparation of this report including Scott Kirk with his help with the data preparation, Margo Fulmer for her editing and review, and David Orr who takes care of the design, layout and publication. The author also wishes to express his appreciation to the current and previous Division of Water and the Department of Natural Resources administrations that have supported the publication of this report for more than 44 years.

More complete and detailed information regarding water resources can be obtained by contacting the Division of Water. Comments and suggestions regarding this report are always welcome.

CORRECTION: The percent of normal precipitation for the Northwest and North Central regions as shown on the regional precipitation map in the April 1998 issue of this report were incorrect. The correct percentages are 129 for the Northwest Region and 154 for the North Central Region. Please correct your copy of the report or download an updated copy from the Division of Water's web page at: [http://www.dnr.state.oh.us/odnr/water/pubs/newsletters/mwirrmain.html](http://www.dnr.state.oh.us/odnr/water/pubs/newsletters/newsletters/mwirrmain.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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