



MONTHLY WATER INVENTORY REPORT FOR OHIO

April 2005

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

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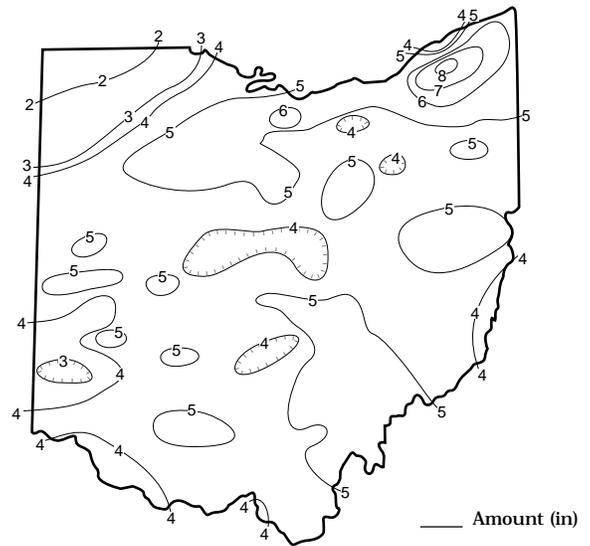
PRECIPITATION during April was above normal throughout most of the state, but below normal in extreme northwestern and areas of southwestern Ohio. The average for the state as a whole was 4.60 inches, 1.02 inches above normal. Regional averages ranged from 5.44 inches, 1.91 inches above normal, for the Northeast Region to 3.19 inches, 0.19 inch below normal, for the Northwest Region. Regionally, this was the 3rd wettest April during the past 111 years for the North Central Region, the 8th wettest for the Northeast Region and the 12th wettest for the Northeast Hills Region. Chardon (Geauga County) reported the greatest amount of April precipitation, 8.17 inches. Montpelier (Williams County) reported the least amount, 1.59 inches.

Most of the precipitation for April fell during the first 2 days and last 11 days of the month. Widespread precipitation fell throughout the state on April 1 and 2 with amounts of 1-2 inches reported across the eastern two-thirds of the state while less than 0.50 inch fell in the western third. This precipitation fell as mainly rain throughout most of the state but as a wintry mix across northeastern Ohio. Generally 3-10 inches of snow fell across northeastern Ohio with more than a foot reported in the snowbelt counties. The weight of the heavy, wet snow toppled trees, broke branches and brought down power lines across areas of northeastern Ohio, leaving several thousand people without power. Dry weather prevailed during the next 17 days with less than 0.25 inch of precipitation reported across most of the state. Precipitation returned to the state on April 20 and continued on and off for the remainder of the month. Precipitation amounts during this period were generally 1.5-3.0 inches statewide. The precipitation fell as mainly rain throughout most of this period, but on April 24, wintry weather returned to Ohio. The northern half of the state received around 4-8 inches of snow with a foot or more reported in northeastern Ohio (see Notes and Comments Section on the last page of this report). Once again, the weight from the heavy, wet snow toppled trees, broke branches and brought down power lines across areas of northeastern Ohio.

Precipitation for the 2005 calendar year is above normal statewide. The average for the state as a whole is 16.04 inches, 4.46 inches above normal. Regional averages range from 18.34 inches, 6.00 inches above normal, for the Southeast Region to 12.24 inches, 2.33 inches above normal, for the Northwest Region.

Precipitation for the 2005 water year is also above normal statewide. The average for the state as a whole is 25.71 inches, 5.92 inches above normal. Regional averages range from 28.31 inches, 7.69 inches above normal, for the Southeast Region to 20.40 inches, 2.90 inches above normal, for the Northwest Region.

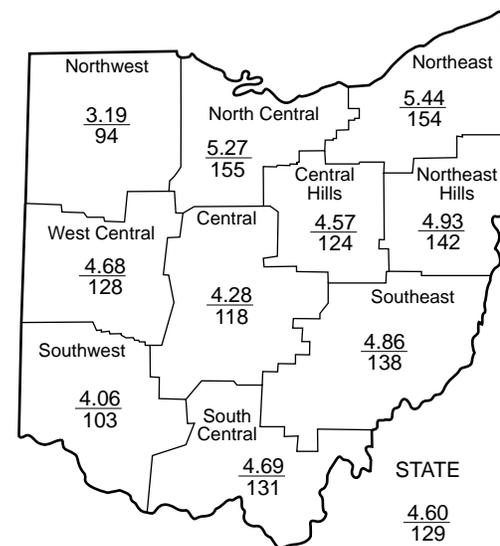
PRECIPITATION APRIL



PRECIPITATION

Region	This Month	DEPARTURE FROM NORMAL (IN.) Base period 1951-2000				Palmer Drought Severity Index*
		Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	-0.19	-1.19	+3.29	+8.69	+13.50	+2.1
North Central	+1.88	+0.49	+5.93	+11.65	+19.55	+4.2
Northeast	+1.91	+1.04	+6.06	+11.75	+24.34	+4.4
West Central	+1.02	-0.13	+8.80	+11.22	+24.63	+3.0
Central	+0.65	-0.16	+7.06	+13.67	+25.05	+3.4
Central Hills	+0.89	-0.53	+6.05	+15.01	+24.78	+3.8
Northeast Hills	+1.47	-0.14	+5.31	+19.60	+33.58	+5.0
Southwest	+0.10	-1.24	+3.94	+6.25	+14.98	+1.9
South Central	+1.10	-0.18	+3.31	+9.10	+22.17	+2.6
Southeast	+1.35	+1.00	+6.94	+19.63	+33.42	+4.8
State	+1.02	-0.08	+5.67	+12.66	+23.55	+4.8

*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	3,208	218	130	155	156
Great Miami River at Hamilton	3,630	6,534	112	102	163	147
Huron River at Milan	371	1,255	210	153	221	222
Killbuck Creek at Killbuck	464	1,129	143	111	150	157
Little Beaver Creek near East Liverpool	496	1,346	146	106	155	194
Maumee River at Waterville	6,330	7,847	74	88	140	146
Muskingum River at McConnsville	7,422	17,890	106	168	240	171
Scioto River near Prospect	567	1,196	131	105	184	194
Scioto River at Higby	5,131	13,300	174	134	194	185
Stillwater River at Pleasant Hill	503	1,145	156	108	184	150

STREAMFLOW during April was above normal across most of the state with only northwestern Ohio basins having below normal flows. Flows were high enough to be considered excessive throughout much of the state, especially in the eastern half of Ohio. April flows were greater than the flows recorded during March in nearly all drainage basins in the state.

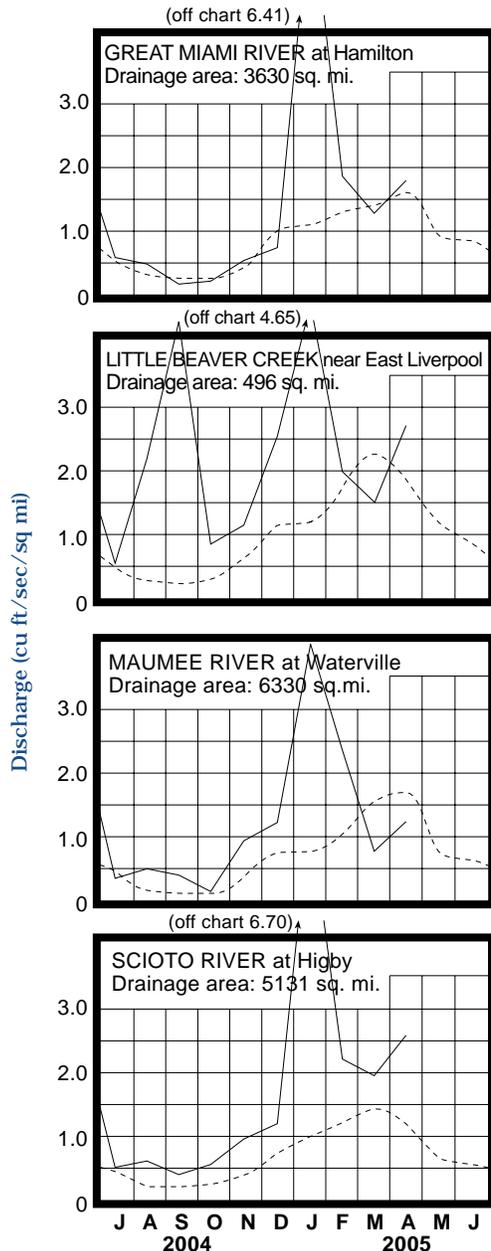
Streamflow at the beginning of April was below normal across most of Ohio. Flows increased statewide the first few days of the month in response to the precipitation that fell during April 1- 2. Greatest flows for the month across northern and eastern Ohio occurred during April 3-6 as a result of this precipitation.

Flows declined during the next 2 1/2 weeks as much drier weather conditions prevailed with the lowest flows for the month occurring statewide between April 19 and 21. Flows began to increase on April 20 as precipitation returned to the state. Rapid rises were observed following the precipitation that fell during April 22-24. Greatest flows for the month in southwestern Ohio occurred on April 24 and in central Ohio on April 27. Minor flooding of small streams and low-lying areas was observed at many locations, especially across central and northern Ohio. Although flows declined from these peaks during the last few days of April, they remained above normal nearly statewide at the end of the month.

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

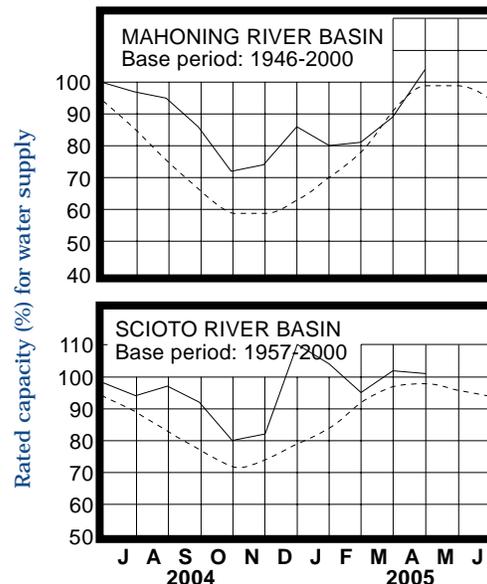
Reservoir storage at the end of April in the Mahoning basin index reservoirs was 104 percent of rated capacity for water supply compared with 89 percent for last month and 106 percent for April 2004. Month-end storage in the Scioto basin index reservoirs was 101 percent of rated capacity for water supply compared with 102 percent for last month and 106 percent for April 2004. Surface water supplies continue to remain at favorable levels throughout the state.

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 April rose in most aquifers throughout the state. Generally, net positive improvements were less than usually observed. Levels in most aquifers rose or were stable during the first week of the month, declined during the next 2 weeks and rose during the last week of April.

Ground water supplies continue to remain in good condition statewide. Ground water levels are above normal across much of the state, but generally below normal in southwestern Ohio. Current levels continue to be higher than they were a year ago across most of the state, reflecting an adequate recharge season to this point. Although nearing the end of the 2005 water year recharge season, current soil conditions favor the potential for some additional improvement to ground water supplies. The Ohio Agricultural Statistics Service reports that at the end of April soil moisture was rated as being adequate in 31 percent of the state and surplus in 69 percent of the state. With near-normal precipitation and other climatic conditions during the next few months, ground water supplies should remain in a favorable position.

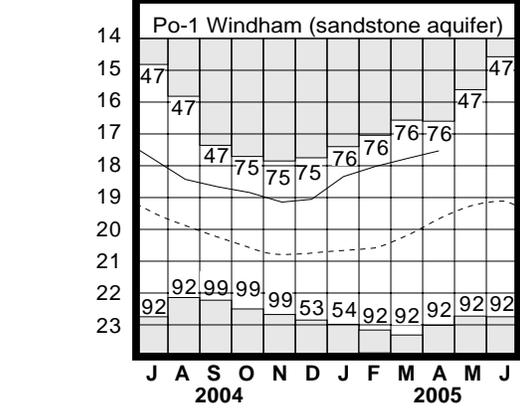
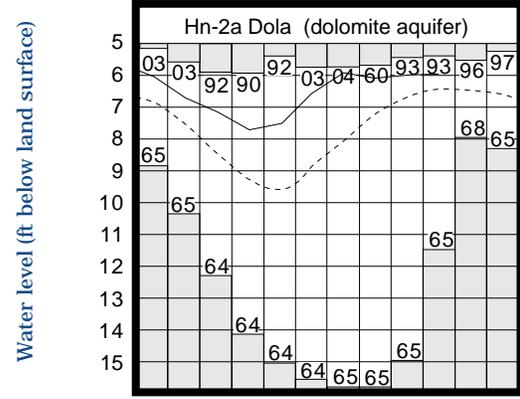
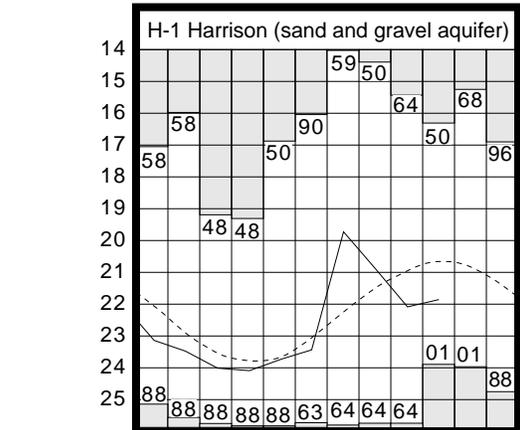
LAKE ERIE level rose during April. The mean level was 572.15 feet (IGLD-1985), 0.30 foot higher than last month's mean level and 0.56 foot above normal. This month's mean level is 0.89 foot higher than the April 2004 level and 2.95 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during April averaged 3.28 inches, which is 0.12 inch above normal. For the entire Great Lakes basin, April precipitation averaged 2.16 inches, which is 0.36 inch below normal. For calendar year 2005 through April, the Lake Erie basin has averaged 11.35 inches, 0.89 inch above normal, while the entire Great Lakes basin has averaged 7.81 inches, 0.85 inch 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 above its long-term average through mid-summer. Deviations from the anticipated weather patterns could result in the level of Lake Erie ranging from as high as 8 inches above to as much as 9 inches below the normal seasonal average.

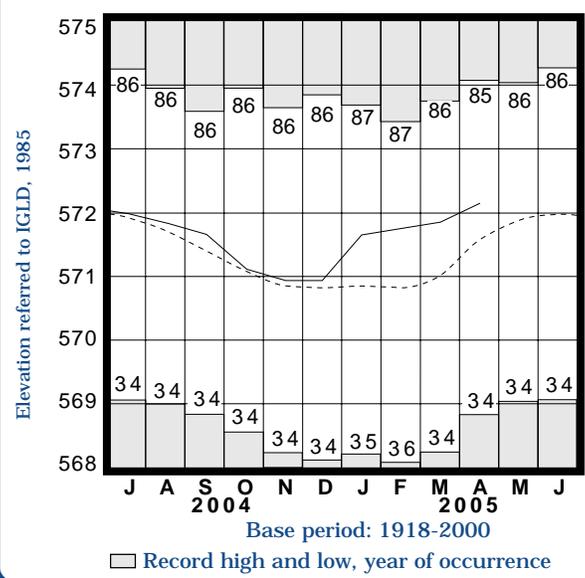
Index Well	Location	Aquifer	Mean This Month	Departure From Normal	Change in feet from:	
					Last Month	Year Ago
F-1	W. Rushville, Fairfield Co.	Sandstone	10.21	+2.48	+0.51	+0.82
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.76	-0.93	+0.15	+0.13
Fr-10	Columbus, Franklin Co.	Gravel	42.10	+0.17	+0.25	+1.18
H-1	Harrison, Hamilton Co.	Gravel	21.86	-1.19	+0.23	+0.80
Hn-2a	Dola, Hardin Co.	Dolomite	5.95	+0.48	+0.05	+0.28
Po-1	Windham, Portage Co.	Sandstone	17.53	+2.13	+0.23	-0.66
Tu-1	Strasburg, Tuscarawas Co.	Gravel	11.60	-0.44	-1.10	-0.09

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



Normal - - - - Current ———

SUMMARY

Precipitation during April was above normal throughout most of the state, but below normal in extreme northwestern and areas of southwestern Ohio. Streamflow was above normal across most of the state. Reservoir storage increased in the Mahoning River basin, decreased slightly in the Scioto River basin and was above normal in both basins. Ground water levels rose throughout most of the state. Lake Erie level rose 0.30 foot and was 0.56 foot above the long-term April average.

NOTES AND COMMENTS

Strong Winter Storms Leave Mark On Ohio

The 2004-2005 winter season will be remembered for several strong storms and noticeably above normal snowfall in northern Ohio, with record or near-record snow amounts across areas of northeastern Ohio, especially along Ohio's snowbelt region. The first significant snow of the season fell across northeastern Ohio during December 13-14 with 10-24 inches reported across the area. A strong winter storm on December 22 and 23 brought rain to southeastern Ohio and snow or freezing rain to the remainder of the state. A band of heavy snow fell from western through north-central Ohio with amounts of 1-2 feet reported. In a narrow band just southeast of this line the snow changed to a long period of freezing rain. The accumulation of ice toppled trees, broke branches and snapped power lines, leaving thousands of people without power over the Christmas holiday. Record December snowfall totals were recorded at the Cleveland-Hopkins International Airport (Cuyahoga County), 35.1 inches; Mansfield Lahm Municipal Airport (Richland County), 28.7 inches; and Cox Dayton International Airport (Montgomery County), 17.0 inches. A series of strong storms during the first 13 days of January brought several inches of precipitation to the state. The greatest amount of precipitation fell across the central-third of Ohio with generally 5-10 inches of rain reported. Runoff from this precipitation produced some of the worst flooding several areas of the state have experienced in many years. While most of this precipitation fell as rain in the southern two-thirds of the state, the northern third received a mix of precipitation with heavy snow falling at times. Freezing rain during January 5-6 fell across a large area from west-central through north-central Ohio. The weight from this ice also toppled trees, broke branches and downed power lines, leaving thousands in the dark for several days. The remainder of the month was much drier with most of the precipitation falling as snow. Heavy snow fell across the northern third of the state on January 22, with amounts of 6-12 inches reported. For the month of January, 2-3 feet of snow fell across the northern-third of Ohio. Snowfall during February was below normal across most of the state while during March it was above normal across most of the state. April snow totals, which were above normal throughout most of the northern half of Ohio, were notably above normal in the northeastern quarter of the state. Heavy, wet snow fell across northeastern Ohio during April 1 and 2 and again on April 24. The heavy, wet snow toppled trees, broke branches and brought down power lines during both of these storms across areas of northeastern Ohio. Chardon (Geauga County), located in the northeastern Ohio snowbelt, received a record 25.5 inches of snow for the month of April. Other record April snowfall totals were 19.0 inches at Cleveland-Hopkins International Airport, 18.1 inches at Mansfield Lahm Municipal Airport and 14.8 inches at Youngstown-Warren Regional Airport (Trumbull County). The 19 inches of snow that Cleveland-Hopkins International Airport received during April brought their seasonal snow total to a record 117.9 inches, surpassing the previous record of 101.1 inches set during the 1995-1996 season. Chardon received 154.5 inches of snow for the season, well above the average of 105 inches and just short of the record of 161.5 inches (1959-1960 season).

50-Year Anniversary

During the past 12 months, several memorable climatological and other events from the past 50 years previously mentioned in this report have been highlighted in this section. We hope you have enjoyed reading and reminiscing about these events. There are many other significant natural phenomena that have occurred in the state during the past 50 years. Additional information on many of these events can be found in past issues of the *Monthly Water Inventory Report For Ohio*. Issues of this report published since September 1997 can be viewed online at: <http://www.dnr.state.oh.us/water/pubs/newsltrs/mwirmain.htm>. For paper copies of issues prior to September 1997, contact Scott Kirk at (614) 265-6742 or e-mail scott.kirk@dnr.state.oh.us. To learn more about natural phenomena occurrences in Ohio, please visit your local library or one of the many websites that can provide this type of information.

The main purpose of this report is to disseminate current hydrologic and other pertinent data in a timely manner and in a brief format which are sufficiently representative of current water conditions to permit an evaluation of the statewide water supply situation. This has been the main purpose of this report for the past 51 years and will continue to be for many more years to come. Once again, many thanks to you, the readers, who have taken an interest in the data and information provided in this report. As always, your comments and suggestions are welcome.

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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