MONTHLY WATER INVENTORY REPORT FOR OHIO

May 2003

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

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Precipitation during May was notably above normal statewide. The average for the state as a whole was 6.66 inches, 2.75 inches above normal. Regional averages ranged from 7.80 inches, 3.64 inches above normal, for the South Central Region to 5.87 inches, 1.87 inches above normal, for the West Central Region. For the state as a whole this was the 3rd wettest May during the past 121 years. Regionally, this ranked as the 2nd wettest May of record for the Northeast Region, the 3rd wettest for the Northeast Hills Region, 4th wettest for the Northwest and North Central regions, 5th wettest for the Central and Central Hills regions, 6th wettest for the South Central Region, 7th wettest for the Southwest Region, 12th wettest for the West Central Region and 15th wettest for the Southeast Region. Greenup Locks and Dam (Scioto County) reported the greatest amount of May precipitation, 10.78 inches; South Point (Lawrence County) reported 10.34 inches. Several stations reported in excess of 9 inches for the month. Sandusky (Erie County) reported the least amount of May precipitation, 3.75 inches.

Seasonally cool and wet weather prevailed during May, with showers and thunderstorms occurring every week of the month. Locally severe storms were common on several days. Many areas of the state reported around 20 days with measurable precipitation. Storms on May 1 brought 0.50-1.0 inch of rain across much of northern Ohio with amounts decreasing to less than 0.25 inch in southeastern Ohio. The next series of showers and thunderstorms began late on the 4th in southern Ohio and spread into northern Ohio on the 5th, bringing generally 1-2 inches of rain across all but northeastern Ohio where around 0.50 inch was reported. Showers and thunderstorms from May 7-11 produced 1.5-3.0 inches of rain statewide, including amounts in excess of 2 inches during May 9-10 in southern Ohio. Rain early in the day of May 15 brought generally 0.25-0.50 inch to the western half of the state. However, during the evening hours, a series of isolated, but slow moving thunderstorms with drenching rains moved across central and northeastern Ohio, with some areas receiving 2-4 inches of rain. Most of the precipitation during the second half of the month fell on 4 days. Rain on May 17 brought 0.25-0.50 inch of precipitation to the southern half of the state. Showers and thunderstorms on May 20 were most numerous in the eastern half of Ohio with rain amounts of 0.50-1.0 inch common, decreasing to less than 0.25 inch in western Ohio. Showers and some thunderstorms with locally heavy downpours on May 23 produced 0.25-1.0 inch of precipitation in northeastern Ohio, but little elsewhere. Finally, showers and thunderstorms on May 31 brought 1-2 inches of rain to northern Ohio, decreasing to less than

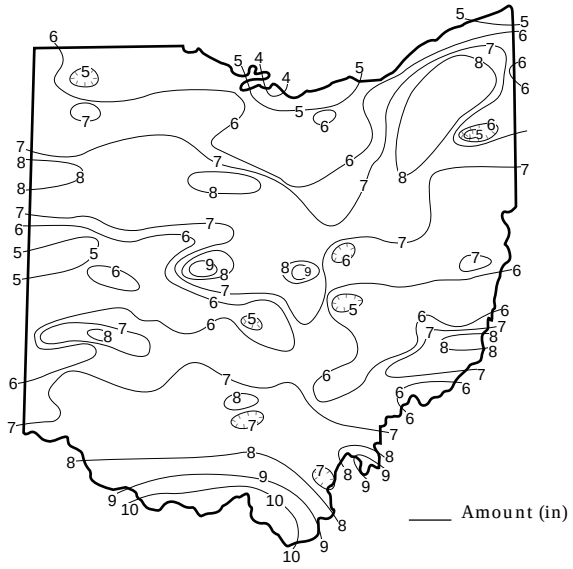
(continued on back)

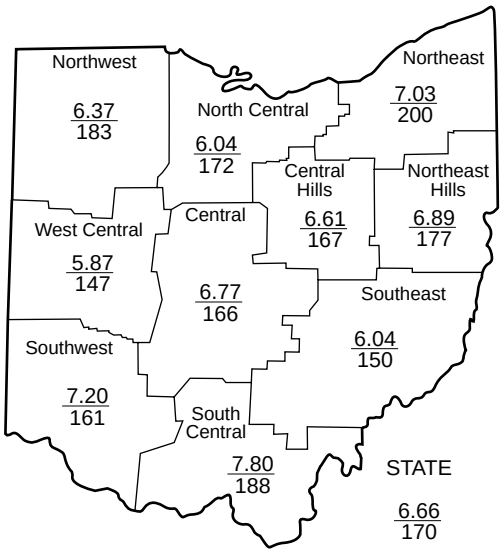
PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.) Base period 1951-2000					Palmer Drought Severity Index*
	This Month	Past 3 Mos.	Past 6 Mos.	Past 12 Mos.	Past 24 Mos.	
Northwest	+2.88	+1.45	+0.37	-4.16	+0.38	+0.1
North Central	+2.53	+1.10	+0.22	-2.14	+0.93	+0.8
Northeast	+3.52	+1.87	+2.10	-1.75	-1.20	+1.6
West Central	+1.87	+0.53	+0.74	-2.76	+6.50	+0.2
Central	+2.70	+0.91	+0.45	+0.95	+2.14	+0.8
Central Hills	+2.65	+0.81	-0.12	-2.63	-1.90	+0.4
Northeast Hills	+2.99	+0.55	+0.03	-2.48	-3.43	+1.2
Southwest	+2.72	-0.19	+0.14	+0.81	+11.36	+1.0
South Central	+3.64	+1.07	+2.40	+4.16	+3.73	+2.4
Southeast	+2.02	-1.00	-0.60	-0.02	+1.05	+1.0
State	+2.75	+0.71	+0.56	-1.02	+1.92	

*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

PRECIPITATION MAY





MEAN STREAM DISCHARGE

This Month

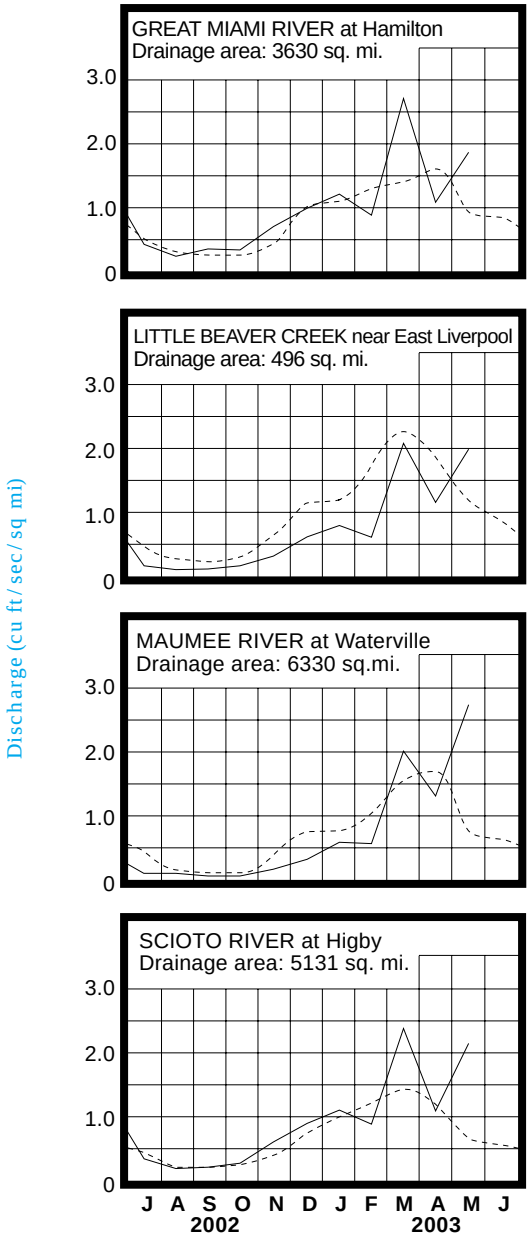
River and Location	Drainage Area (Sq. Mi.)	Mean Discharge (CFS)	% of Normal	% of Normal Past		
				3 Mos.	6 Mos.	12 Mos.
Grand River near Painesville	685	1,576	304	189	121	96
Great Miami River at Hamilton	3,630	6,770	199	123	105	99
Huron River at Milan	371	547	249	186	144	121
Killbuck Creek at Killbuck	464	1,020	222	122	86	79
Little Beaver Creek near East Liverpool	496	988	169	99	74	64
Maumee River at Waterville	6,330	17,340	359	139	98	78
Muskingum River at McConnelsville	7,422	14,380	156	144	115	71
Scioto River near Prospect	567	1,410	377	167	129	105
Scioto River at Higby	5,131	11,010	260	121	99	93
Stillwater River at Pleasant Hill	503	584	150	108	81	64

STREAMFLOW during May was above normal and high enough to be considered excessive statewide. Flows at the beginning of the month were below normal throughout the state. Low flows for the month occurred across most of Ohio at this time. Flows began to rise after the rain that fell on the first day of the month, ultimately peaking across most of the state during May 10-11 following the rains of May 7-11. Flows declined during the next week and then rose again in response to the rains of May 15-16. Greatest flows for the month occurred on May 17 in basins across southeastern Ohio. Flows declined briefly, but rose statewide in response to rainfall around May 20 before they gradually declined the remainder of the month, ending below normal across most of the state by month's end. In spite of the much above normal rainfall and excessive streamflow during May, only minor flooding of low-lying, flood prone areas was observed.

RESERVOIR STORAGE during May increased in both the Mahoning and Scioto river basins. Storage at the end of the month was above normal in both basins.

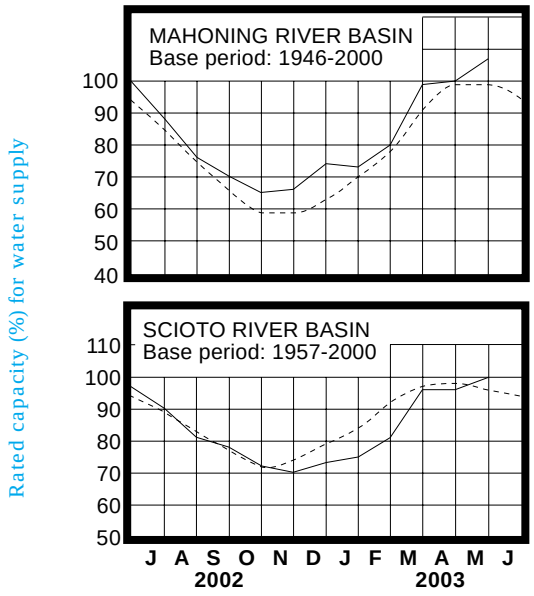
Reservoir storage at the end of May in the Mahoning basin index reservoirs was 107 percent of rated capacity for water supply compared with 100 percent for last month and 102 percent for May 2002. Month-end storage in the Scioto basin index reservoirs was 100 percent of rated capacity for water supply compared with 96 percent for last month and 101 percent for May 2002. Surface-water supplies are in a favorable condition as the summer high use and recreation period begins.

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

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	13.46	-0.24	-1.07	-1.02
Fa-1	Jasper Mill, Fayette Co.	Limestone	7.89	-0.82	+0.12	-0.39
Fr-10	Columbus, Franklin Co.	Gravel	44.36	-2.02	+0.13	-0.27
H-1	Harrison, Hamilton Co.	Gravel	22.40	-1.57	+0.47	-2.75
Hn-2a	Dola, Hardin Co.	Dolomite	6.18	+0.31	+0.50	-0.31
Po-1	Windham, Portage Co.	Sandstone	19.73	-0.47	+0.51	-0.42
Tu-1	Strasburg, Tuscarawas Co.	Gravel	13.31	-1.88	+0.20	-0.27

GROUND WATER levels during May rose across most of the state. Positive net changes from April's levels were generally greater than normally expected. Levels in most consolidated aquifers were relatively stable or rose steadily during the month. Other than temporary declines noted between precipitation events, levels in unconsolidated aquifers generally rose throughout the month except in some southern Ohio aquifers where they rose during the first half of the month before declining during the second half.

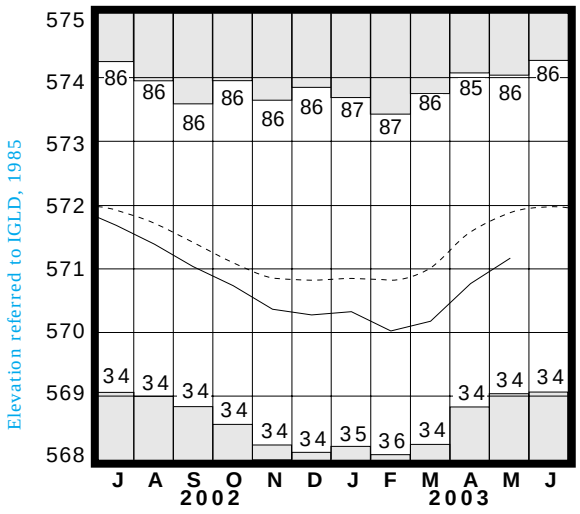
Although the notably above normal precipitation during May was beneficial for ground water storage throughout the state, ground water levels continue to average below normal across most of Ohio. Current levels statewide are also lower than they were a year ago. However, ground water supplies remain adequate across the state, and because of the excessive rainfall during May the prospects for an extended recharge season are favorable. The Ohio Agricultural Statistics Service reports that at the end of May, soil moisture was reported as being short in 1 percent of the state, adequate in 60 percent of the state, and surplus in 39 percent of the state.

LAKE ERIE level rose during May. The mean level was 571.16 feet (IGLD-1985), 0.39 foot higher than last month's mean level and 0.72 foot below normal. This month's mean level is 0.72 foot lower than the May 2002 level and 1.96 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during May averaged 5.36 inches, which is 2.08 inches above normal. The entire Great Lakes basin averaged 3.85 inches, which is 0.90 inch above normal. For calendar year 2003 through May, the Lake Erie basin has averaged 13.19 inches of precipitation, 0.49 inch below normal, while the entire Great Lakes basin has averaged 11.21 inches, 0.36 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 range between 8-11 inches below the long-term seasonal average for the foreseeable future. Deviations from the anticipated weather patterns could result in the level of Lake Erie ranging from as high as 2 inches below normal to as much as 18 inches below the normal seasonal level.

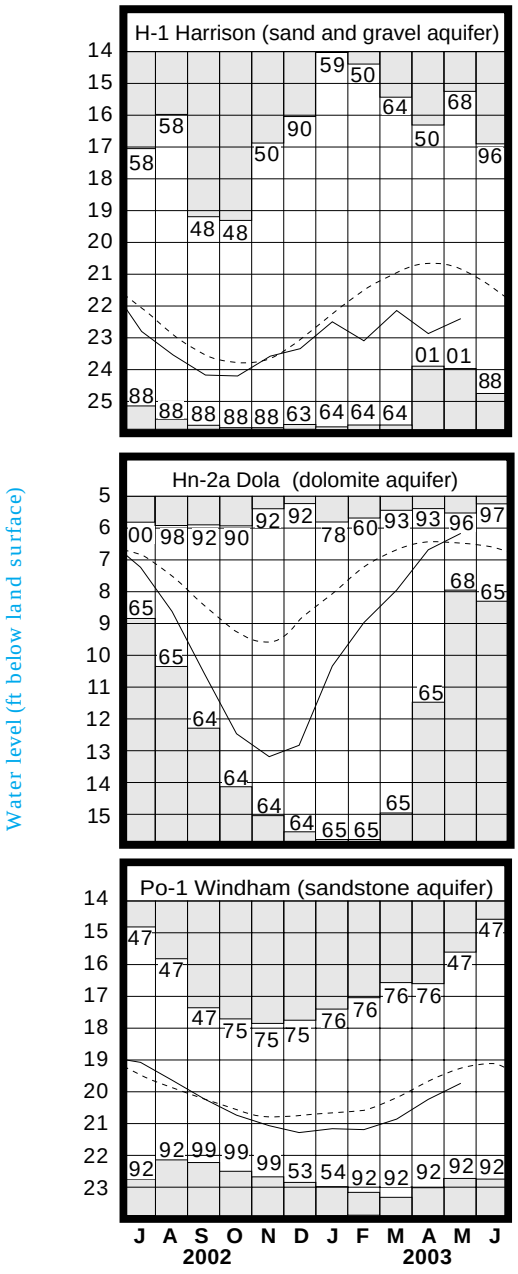
LAKE ERIE LEVELS



Base period: 1918-2000

Record high and low, year of occurrence

GROUND-WATER LEVELS



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

Record high and low, year of occurrence

Normal– – – – Current———

(Precipitation continued from front)

0.25 inch of precipitation in extreme southern Ohio.

Precipitation for the 2003 calendar year is above normal across most of the state, but below normal in areas of southwestern and southeastern Ohio. The average for the state as a whole is 16.11 inches, 0.62 inch above normal. Regional averages range from 19.70 inches, 2.24 inches above normal, for the South Central Region to 13.96 inches, 0.29 inch above normal, for the North Central Region.

Precipitation for the 2003 water year is above normal across much of the state, but below normal in northwestern Ohio. The average for the state as a whole is 24.63 inches, 0.93 inch above normal. Regional averages range from 30.61 inches, 4.74 inches above normal, for the South Central Region to 20.56 inches, 0.43 inch below normal, for the Northwest Region. The above normal precipitation during May has been beneficial for water supplies, but has had negative impacts on agricultural concerns. Many planted fields were damaged by heavy rain or standing water and any planting or replanting has been delayed.

SUMMARY

Precipitation during May was notably above normal statewide, ranking as the 3rd wettest May for the state as a whole during the past 121 years. Streamflow was excessive throughout Ohio. Reservoir storage increased and was above normal statewide. Ground water levels rose across most of the state, but remained below normal. Lake Erie level rose 0.39 foot and was 0.72 foot below the long-term May average.

NOTES AND COMMENTS

Staff Reassignments in the Water Resources Section

The Water Resources Section (WRS), one of two sections within the Division of Water, has assigned new roles and activities to some of its staff. Mike Hallfrisch and Paul Spahr, who were part of the Ground Water Resources Mapping and Characterization Unit, are now part of the Water Planning Unit. Mike will assume the supervisory role in the unit while Paul will bring his wealth of GIS knowledge to the unit. Jim Raab has shifted his supervisory role from the Technical Services Unit to the Ground Water Resources Mapping and Characterization Unit, and Dennis Crist has taken over the supervisory role in the Technical Services Unit. Dennis is relatively new to the WRS. He has been with the division for about two years now, but he has been with ODNR for 23 years. Twenty-one of those years were spent with the Division of Oil and Gas (now within the Division of Mineral Resources Management). While at the Division of Oil and Gas, Dennis was most recently supervisor of the central Ohio region, and also coordinated the statewide underground injection control program. Dennis, an Ohio University graduate in geology, lives in Circleville with his wife Barb and three children.

While the transition into new roles for staff will be gradual, these changes will provide more support for water planning activities and the Great Lakes initiatives relating to the Great Lakes Charter Annex. The changes will also better integrate the division's ground and surface water resources management activities. For contact information, please visit the Division's web site at: http://www.dnr.state.oh.us/water/aboutdiv/mastfone.htm.

Miami And Erie Canal Booklet Available

A booklet revealing detailed points of interest along the Miami & Erie Canal from Delphos (Allen County) south to Piqua (Miami County) was recently completed. The 28-page booklet was a collaborative effort between The Ohio Department of Natural Resources (ODNR), Division of Water and the Miami & Erie Canal Corridor Association. The booklet also provides a brief historic description for each of the points of interest along the 55-mile long canal corridor. A copy of the booklet can be obtained by contacting the Miami & Erie Canal Corridor Association, Ben Richard, Executive Director, 2355 Ada Road, Lima Ohio, 45801, phone (419) 221-1232. The booklet will be available for viewing in the near future on ODNR's website at: http://www.dnr.state.oh.us/water/canals.

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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