



# MONTHLY WATER INVENTORY REPORT FOR OHIO

August 2000

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

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**PRECIPITATION** during August was above normal across much of the state, but below normal in some areas especially in central, northeastern, southwestern and southeastern Ohio. The state average was 3.89 inches, 0.41 inch above normal. Regional averages ranged from 5.04 inches, 1.38 inches above normal, for the Central Hills Region to 3.16 inches, 0.68 inch below normal, for the Southeast Region. Charles Mill Dam (Ashland County) reported the greatest amount of August precipitation, 7.38 inches. Other stations reporting more than 7 inches of precipitation for August include Ashland (Ashland County) and Sidney (Shelby County), 7.06 inches at each. Chippewa Lake (Medina County) reported the least amount of precipitation for the month, 1.60 inches.

August precipitation fell in a typical summer pattern as scattered showers and thunderstorms. Precipitation fell during several of the first 10 days of the month. Most of the rain during August 1-4 was light and scattered, but a few isolated locations, especially in northern and west-central Ohio, received heavier amounts. Occasional showers and thunderstorms fell across the state from August 5-10. Some of the thunderstorms were strong especially on August 9, causing some minor damage. The northern half of the state received the greatest amount of rain during the 10 day period with totals ranging from 2-3 inches, while precipitation in the southern half of Ohio ranged from 0.5-2.0 inches. Dry weather prevailed during the next week. Showers and thunderstorms associated with a cold front moved across the state during August 17-18. Rain totals from these storms ranged from 0.25-0.50 inch across the northern half of the state to 0.50-1.0 inch in the southern half. However, a few isolated locations in central and extreme southwestern Ohio reported nearly 2 inches of rain from these storms. After a few dry days, rain returned to the state around August 23 and continued on and off through August 27. Most of the state received between 0.5-1.0 inch of rain during this period with some locations reporting 2 or more inches, especially in areas of north-central, northeastern and south-central Ohio. An area in north-central Ohio received notably heavy rainfall during August 23-24. Preliminary estimates from radar imagery indicates the area received between 6-12 inches of rain. Hardest hit were Huron and Seneca counties.

Precipitation for the 2000 calendar year is above normal across most of the state, but slightly below normal in some areas of southeastern Ohio. The average for the state as a whole is 29.85 inches, 2.85 inches above normal. Regional averages range from 32.21 inches, 2.07 inches above normal, for the South Central Region to 26.97 inches, 3.03 inches above normal, for the Northwest Region. The Southeast Region average is 28.59 inches, 0.32 inch below normal for the year.

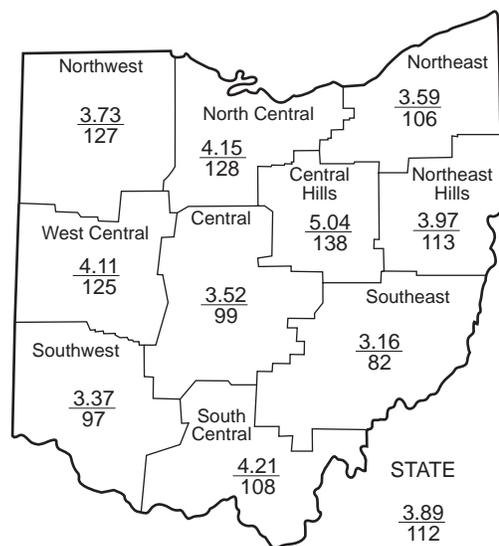
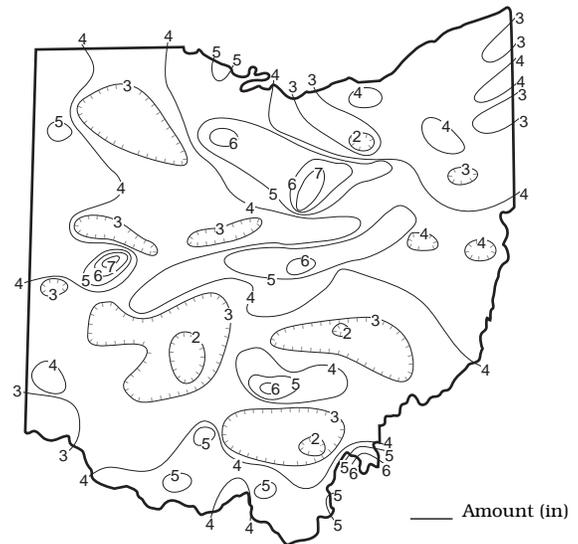
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## PRECIPITATION

Region	DEPARTURE FROM NORMAL (IN.)					Palmer Drought Severity Index*
	This Month	Past				
		3 Mos.	6 Mos.	12 Mos.	24 Mos.	
Northwest	+0.80	+2.72	+3.78	+0.59	-3.38	+0.5
North Central	+0.92	+4.73	+5.88	+5.85	+0.26	+1.0
Northeast	+0.19	+2.08	+3.86	+5.14	+1.13	-0.2
West Central	+0.81	+0.74	+1.08	-2.06	-6.81	-0.8
Central	-0.03	-0.33	+1.18	+1.21	-5.27	-2.5
Central Hills	+1.38	+0.56	+3.02	+2.83	-1.24	-0.6
Northeast Hills	+0.45	+1.36	+3.00	+2.02	-0.76	-1.0
Southwest	-0.10	+0.65	+0.24	-1.16	-9.65	-1.0
South Central	+0.32	+0.93	+0.16	+2.00	-6.17	-0.1
Southeast	-0.68	-2.47	-1.63	-0.87	-5.30	-1.1
State	+0.41	+1.11	+2.06	+1.55	-3.74	

\*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 AUGUST



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	102	162	143	89	82
Great Miami River at Hamilton	3,630	1,166	126	117	73	64
Huron River at Milan	371	346	721	448	152	125
Killbuck Creek at Killbuck	464	134	105	105	88	80
Little Beaver Creek near East Liverpool	496	170	163	140	82	78
Maumee River at Waterville	6,330	1,683	252	317	105	71
Muskingum River at McConnelsville	7,422	2,709	103	106	86	82
Scioto River near Prospect	567	47	115	168	78	76
Scioto River at Higby	5,131	1,402	120	125	77	76
Stillwater River at Pleasant Hill	503	63	108	202	79	61

**STREAMFLOW** during August was above normal across the state. Flows were high enough to be considered excessive in some northwestern and north-central Ohio basins. August flows decreased seasonally from the July flows across most of Ohio.

Streamflow at the beginning of the month was near normal across most of the state. Rainfall early in the month combined with runoff from late July rains increased streamflow statewide. Greatest flows for the month across most of Ohio were observed during the first 9 days of August due to precipitation during this period. Flows generally declined after August 9 for the next week or so as drier

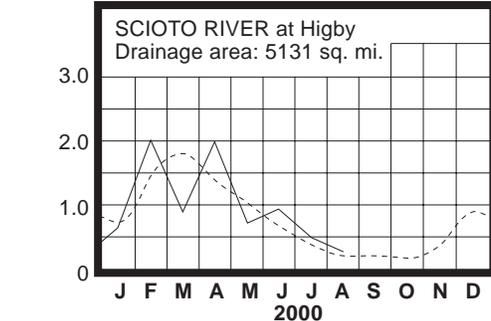
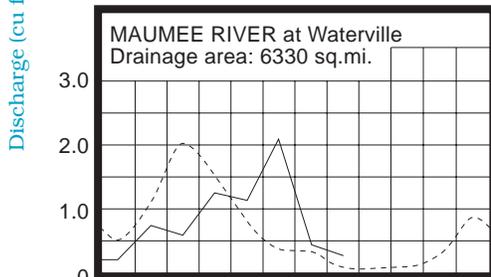
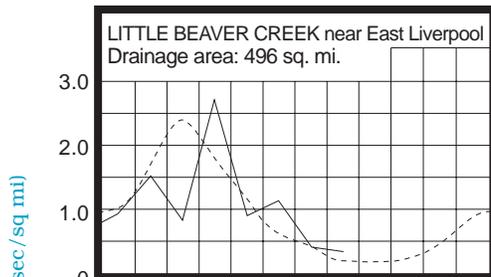
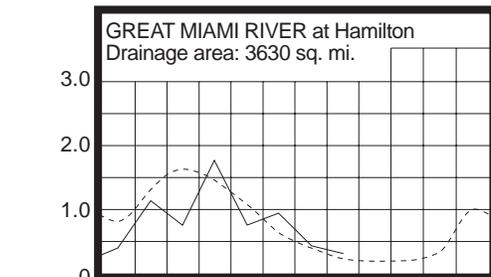
conditions prevailed across the state. Lowest flows for the month were reached primarily between August 17-23, just prior to the return of wetter weather. Several days with precipitation during August 17-27 increased streamflow statewide. Greatest flows in the Central Hills and Southeast regions occurred around August 24-26 as a result of this weather pattern. After these rises, flows declined through the end of the month and had fallen to below normal across most of the state, but remained above normal in some northwestern and north-central basins.

**RESERVOIR STORAGE** for water supply during August declined seasonally in both the Mahoning and Scioto river basins. Storage remained above normal in the Mahoning River basin and slightly below normal in the Scioto River basin.

Reservoir storage at the end of August in the Mahoning basin index reservoirs was 86 percent of rated capacity for water supply compared with 97 percent for last month and 70 percent for August 1999. Month-end storage in the Scioto basin index reservoirs was 79 percent of rated capacity for water supply compared with 87 percent for last month and 67 percent for August 1999.

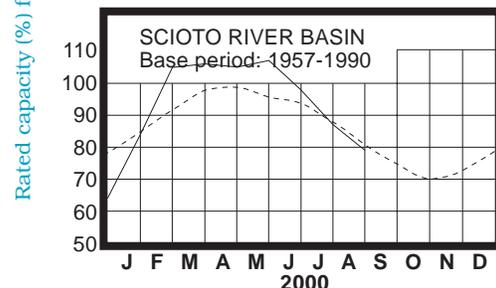
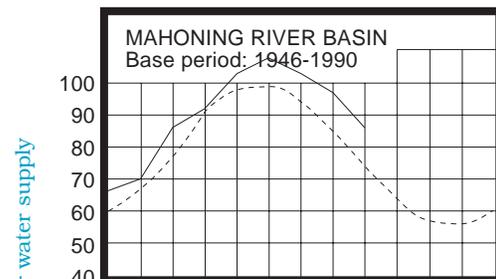
Reservoir storage remains adequate throughout Ohio. Adequate rainfall during the summer high-use period has helped to reduce demands on surface-water supplies.

## 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

**GROUND WATER** levels declined statewide during August. Net declines during August from July's levels were near what is usually observed. Levels declined steadily the entire month except for some slight temporary rises in unconsolidated aquifers.

Adequate precipitation during the summer months has reduced demands on ground water supplies. However, except in some northwestern Ohio carbonate aquifers, ground water levels continue to be below normal across most of the state, ranging to nearly 2.5 feet below the normal seasonal levels. Current levels in most aquifers remain near or above where they were a year ago, ranging up to 2 feet above the August 1999 levels. With continued near-normal precipitation and other climatic factors in the coming months, ground water supplies should remain adequate across the state. The Ohio Agricultural Statistics Service reports that near the end of August, soil moisture was rated as being short or very short in 16 percent of the state, adequate in 80 percent of the state and surplus in 4 percent of the state.

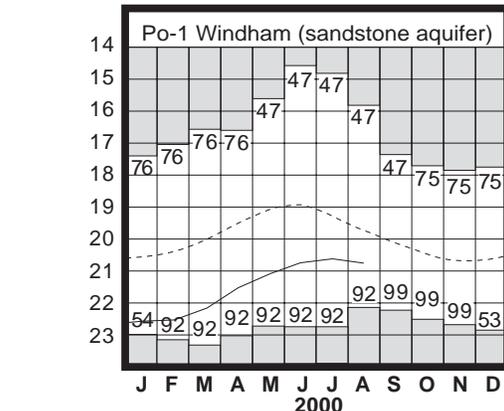
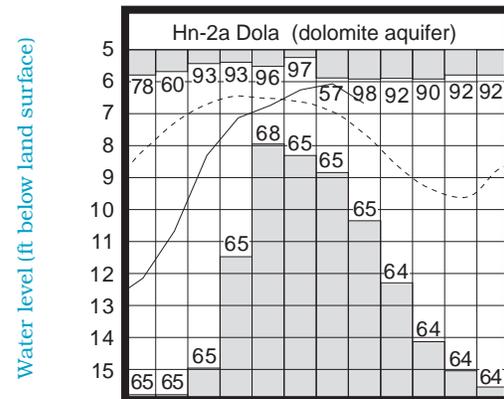
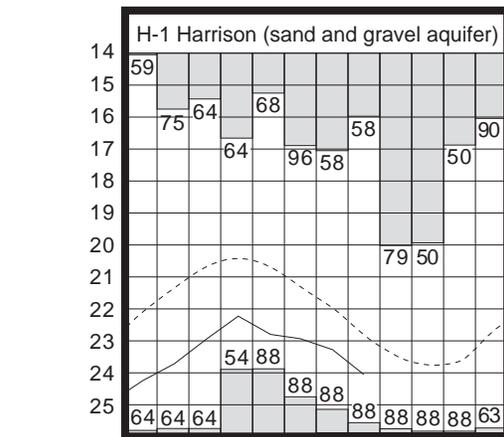
**LAKE ERIE** level declined seasonally during August, but the decline was less than usually observed for this time of year. The mean level was 571.69 feet (IGLD-1985), 0.13 foot lower than last month's level and 0.13 foot above normal. This month's level is 0.27 foot higher than the August 1999 level and 2.49 feet above Low Water Datum.

The U.S. Army Corps of Engineers (USACE) reports that precipitation in the Lake Erie basin during August averaged 3.78 inches, 0.59 inch above normal. The entire Great Lakes basin averaged 3.31 inches during August, 0.17 inch above normal. For calendar year 2000 through August, the Lake Erie basin has averaged 27.40 inches, 3.77 inches above normal, and the entire Great Lakes basin has averaged 22.95 inches, which is 1.92 inches above normal.

In addition, based on the current condition of the Great Lakes basin and anticipated future weather conditions, the USACE predicts that the level of Lake Erie should range from near to about 1.5 feet below the long-term average for the foreseeable future.

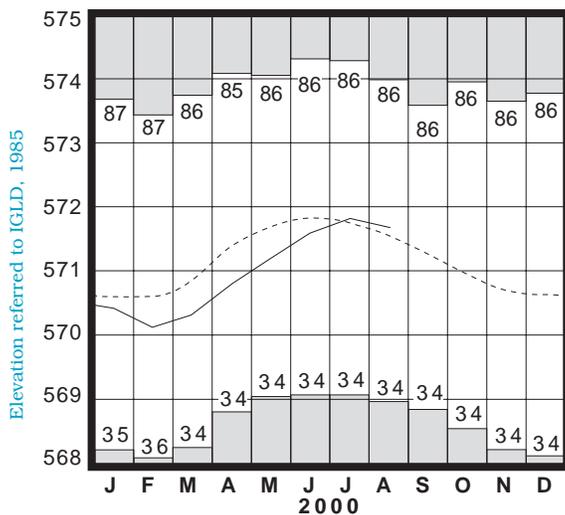
Index Well	Location	Aquifer	Mean This Month	Departure From Normal	Change in feet from:	
					Last Month	Year Ago
F-1	W. Rushville, Fairfield Co.	Sandstone	17.50	-1.71	-1.13	+1.89
Fa-1	Jasper Mill, Fayette Co.	Limestone	8.34	-0.06	-0.49	+2.01
Fr-10	Columbus, Franklin Co.	Gravel	46.33	-2.31	-0.49	+0.17
H-1	Harrison, Hamilton Co.	Gravel	24.05	-1.24	-0.78	-0.18
Hn-2a	Dola, Hardin Co.	Dolomite	6.67	+0.99	-0.60	+1.84
Po-1	Windham, Portage Co.	Sandstone	20.75	-1.03	-0.14	+0.87
Tu-1	Strasburg, Tuscarawas Co.	Gravel	14.86	-1.77	-0.50	+0.69

## GROUND-WATER LEVELS



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

## 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 2000 water year is above normal across most of Ohio, except in scattered locations of west-central Ohio where it is slightly below normal. The state average is 37.20 inches, 2.63 inches above normal. Regional averages range from 41.86 inches, 3.75 inches above normal, for the South Central Region to 32.58 inches, 1.61 inches above normal, for the Northwest Region. The West Central Region average is 33.54 inches, 0.22 inch below normal for the water year.

#### **SUMMARY**

Precipitation during August was above normal across much of the state, but below normal in parts of central, northeastern, southwestern and southeastern Ohio. Streamflow was above normal statewide and was high enough to be considered excessive in some northwestern and north-central Ohio drainage basins. Reservoir storage declined seasonally and remained above normal in the Maioning River basin and slightly below normal in the Scioto River basin. Ground water levels declined statewide during the month and remained below normal across most of Ohio. Lake Erie level declined 0.13 foot and was 0.13 foot above the long-term August average.

#### **NOTES AND COMMENTS**

#### **A MESSAGE FROM ODNR DIRECTOR SPECK CLEAN OHIO FUND**

This fall, Ohioans will be reading and hearing about the Clean Ohio Fund, a \$400 million conservation and revitalization bond issue proposed by Governor Bob Taft with strong support from state legislators, local government leaders and a broad cross-section of Ohio business, labor and conservation organizations. Retired U.S. Senator John Glenn has joined Governor Taft as co-chair of the campaign to pass this ballot issue in November.

As proposed, the Fund would invest in state and local efforts to preserve and protect green space — including river corridors, lakes, forests, farmland, wetlands and other natural areas throughout Ohio. The Fund could also provide local matching dollars to attract significant federal and private support to create or preserve wildlife habitat and to protect the diverse fish, animal and plant species that thrive there.

Proposed bond issue investments to clean up and redevelop contaminated urban sites known as brownfields could also contribute to green space preservation by easing development pressure on rural and suburban areas. Another portion of bond issue funding would help to expand Ohio's system of recreational trails.

Under the Governor's proposal, bond issue investments would protect and improve water quality in Ohio lakes, rivers and streams by reducing non-point source pollution and erosion, cleaning up waterways and protecting stream corridors. All these efforts would benefit the work of ODNR and its many partners to protect Ohio's natural resources, enhance the diversity of those resources and create more opportunities for Ohioans to enjoy outdoor recreation.

This initiative would not replace the existing NatureWorks bond issue, passed in 1993, but rather would complement the important projects made possible through that ongoing program.

Ohioans will have an opportunity to vote on this proposal in November. I encourage you and all friends of Ohio's natural resources to look and listen for information on all sides of this important issue so you can make an informed decision when you vote on November 7.

*Sam Speck, Director  
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.*



**Bob Taft**  
*Governor*

**Samuel W. Speck**  
*Director*

**James R. Morris P.E.**  
*Chief*

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